DRAFT ENVIRONMENTAL IMPACT REPORT

FOR THE

PARADISE POINTE BUSINESS PARK PROJECT
(SCH # 2025050796)

JANUARY 2026

Prepared for:

City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

Prepared by:

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De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

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DRAFT EIR

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INTRODUCTION

The City of Tracy has determined that the Paradise Pointe Business Park Project is a "Project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the Project, description of the environmental setting, identification of Project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of Project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the Notice of Preparation (NOP) were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

The Project site includes three distinct planning boundaries defined below. The following terms are used throughout this document to describe the planning boundaries within the Project site:

- **Project Site** – totals 52.7 acres and includes the whole of the Project, including the Remediation Area and the Development Area.
- **Development Area** – includes approximately 52.3 acres which would be developed with two (2) industrial warehouse type uses as part of the Project.
- **Remediation Area** – includes approximately 10.2 acres along the southern site boundary which contains soils that will be removed and remediated as part of the Project. Following remediation, the Remediation Area will be developed as part of the Development Area with two industrial warehouse type uses; and a portion of the Remediation Area will be dedicated to the City of Tracy for the future extension of Chrisman Road.

The proposed project would include development of two general light industrial warehouse buildings totaling 718,165 square feet (sf). Building A would be 466,977 sf and Building B would be 251,188 sf. One-hundred-and-six dock doors would be located along the east and west sides of Building A (38 dock doors on each side) and the east side of Building B (30 dock doors).

Parking would be provided throughout the Development Area, including 322 automobile stalls, 247 trailer stalls, and 22 bicycle parking stalls. Landscaping, including trees, street frontage plantings, accent shrubs and groundcover plantings, native shrub and grass mixes, and screening shrubs would be provided throughout the Development Area. Temporary landscaping would be placed between Building B and Chrisman Road. An exterior amenity area for employees would be included in the northern portion of the Development Area between the proposed warehouse buildings. The amenity area would include outdoor seating, picnic areas, bike parking, and landscaping. The

eastern-most corner of the Project site will continue to be utilized as agricultural land until future roadway improvements are completed (by others).

In addition to the proposed industrial warehouses and supportive circulation, parking, and utility improvements, the project includes remediation of the approximately 10.2-acre Remediation Area in the southern portion of the Project site. The soil remediation will occur prior to development of the industrial uses.

The principal objective of the proposed Project is the remediation of the Remediation Area and development of the Development Area with two general light industrial warehouse buildings totaling 718,165 sf and associated circulation and utility improvements.

For more information, see Chapter 2.0, Project Description.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Project that are known to the City of Tracy, were raised during the NOP process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with air quality, greenhouse gas emissions, hazards and hazardous materials, noise, and transportation and circulation.

The City of Tracy received six written comment letters on the NOP for the proposed Project from the agencies listed below. Copies of those NOP comment letters are provided in Appendix A of this Draft EIR. The City also held a public scoping meeting on June 11, 2025. The verbal comments provided at that scoping meeting are summarized in Appendix A.

- California Department of Conservation, Division of Land Resource Protection (June 13, 2025);
- California Department of Conservation, Geologic Energy Management Division (June 10, 2025);
- California Department of Fish and Wildlife (June 10, 2025);
- California Department of Transportation (June 16, 2025);
- Central Valley Regional Water Quality Control Board (June 11, 2025);
- San Joaquin Valley Air Pollution Control District (June 17, 2025).

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid significant impacts, and which could feasibly accomplish the basic objectives of the proposed Project. Three alternatives to the proposed Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition and not be annexed into the City.
- **No Remediation Alternative:** Under this alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 20 percent and the amount of developed land would decrease by 20 percent. The proposed remediation would not occur and the Remediation Area would not be developed under this alternative.
- **Reduced Project Alternative:** Under this alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 25 percent and the amount of developed land would decrease by 25 percent.

Alternatives are described in detail in Chapter 5.0. Table ES-1 provides a comparison of the alternatives using a qualitative matrix that compares each alternative relative to the other Project alternatives. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the No Remediation Alternative and Reduced Project Alternative both rank higher than the proposed Project. The No Remediation Alternative would have reduced impacts in all five areas. The Reduced Project Alternative would have slightly less impacts in one area and less impacts in four areas. Therefore, the No Remediation Alternative would be the next environmentally superior alternative. It is noted that the No Remediation Alternative would not fully meet all of the Project objectives. See Section 5.4 in Chapter 5.0 below for a comparative evaluation of the objectives for each alternative.

TABLE ES-1: COMPARISON SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*NO REMEDIATION ALTERNATIVE*	*REDUCED PROJECT ALTERNATIVE*
Air Quality	Less (Best)	Less (2nd Best)	Less (3rd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Less (2nd Best)	Less (3rd Best)
Hazards and Hazardous Materials	Less (Best)	Less (2nd Best)	Slightly Less (3rd Best)
Noise	Less (Best)	Less (2nd Best)	Less (3rd Best)
Transportation and Circulation	Less (Best)	Less (2nd Best)	Less (3rd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines define a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental

conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
AIR QUALITY			
Impact 3.1-1: Project operation would conflict or obstruct implementation of the District's air quality plan.	PS	***Mitigation Measure 3.1-1:*** *During Project operation, operators of heavy-duty trucks that travel to and from the Project site are required to use trucks that have 2010 model year or newer engines that meet the CARB's 2010 engine emission standards of 0.01 g/bhp-hr for particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions, or newer, cleaner trucks and equipment.* ***Mitigation Measure 3.1-2****: The Project applicant shall ensure that diesel generators, if needed, shall not be used on site during project operations, except in emergency situations, in which case such generators shall have Best Available Control Technology (BACT) that meets CARB's final Tier IV emission standards.* ***Mitigation Measure 3.1-3****: The Project applicant shall install and maintain perimeter landscaping that includes vegetation and a tree canopy (which may include structural solar canopies).* ***Mitigation Measure 3.1-4****: The Project applicant shall install Energy Star certified appliances or equivalent.* ***Mitigation Measure 3.1-5****: The Project applicant shall install energy efficient lighting that meets or exceeds Title 24 requirements.* ***Mitigation Measure 3.1-6****: The Project applicant shall devise and implement a property maintenance plan during Project operation that includes sweeping parking lots regularly to remove road dust, tire wear, brake dust, and other contaminants.* ***Mitigation Measure 3.1-7****: The Project applicant shall take reasonable measures to restrict truck idling (during construction) onsite to a maximum of two minutes, and in no instance shall idling exceed five minutes consistent with the requirements established by the California Air Resources Board. To achieve this limit, the developer shall inform drivers and*	SU

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		operators of idling time limits by including highly visible signage at key points onsite, such as at docks and delivery areas. During Project operation, anti-idling signs indicating a 3-minute diesel truck engine idling restriction shall be posted at the project facilities along entrances to the Project site and in the dock areas. ***Mitigation Measure 3.1-8**: The Project applicant shall train managers and employees on efficient scheduling and load management to minimize queuing and idling of trucks.* ***Mitigation Measure 3.1-9**: The Project applicant shall ensure that all landscape equipment used on-site shall be electric or zero-emission vehicles. The Project applicant shall provide on-site electrical charging facilities to adequately service such electric vehicles.* ***Mitigation Measure 3.1-10**: The Project applicant shall install conduit as infrastructure for electric vehicle charging stations onsite to allow for truck docks to charge electric trucks in the future. Such conduit shall be provided on the site to serve a minimum of 50% of the number of truck docking stations, with the location of conduit at the discretion of the developer (e.g., truck trailer parking spaces or other locations).* ***Mitigation Measure 3.1-11**: The Project applicant shall provide priority parking for employee carpool vehicles.* ***Mitigation Measure 3.1-12**: The Project shall incorporate daylighting within the warehouses to minimize energy consumption associated with lighting.* ***Mitigation Measure 3.1-13**: The Project applicant shall, during construction, use super compliant architectural coatings that have a maximum of 10 grams per liter. This will apply to the majority of flat and nonflat coatings. Exemptions to this requirement will be limited to specialty coatings that do not have a super compliant VOC content option. A list of manufacturers that provide architectural coatings with 10 grams per liter of VOCs can be found at: https://www.aqmd.gov/home/rules-compliance/compliance/vocs/architectural-coatings/super-compliant-coatings.*	

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
Impact 3.1-2: The proposed Project would result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard.	PS	*Implement* ***Mitigation Measure 3.1-1 through Mitigation Measure 3.1-13.***	SU
Impact 3.1-3: The proposed Project would not expose sensitive receptors to substantial pollutant concentrations.	LS		--
Impact 3.1-4: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people.	LS		--
GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY			
Impact 3.7-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	LS		--
Impact 3.7-2: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LS		--

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.3-1: The proposed Project, with mitigation, would not create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	PS	***Mitigation Measure 3.3-1****: In the event that hazardous materials are encountered during construction, a Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.* ***Mitigation Measure 3.3-2****: Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to San Joaquin County Environmental Health Department (CUPA) for review and approval. If during the construction process the applicant or its subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).* ***Mitigation Measure 3.3-3****: Prior to the issuance of grading permits, the applicant shall hire a qualified consultant to perform site-specific soil sampling in areas of the Project site located outside of the Remediation Area to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. In order to achieve this, a soil sampling and analysis workplan shall be submitted for approval by the San Joaquin County Department of Environmental Health prior to the work. The sampling and analysis plan shall meet the requirements of the Department of Toxic Substances Control Interim Guidance for Sampling Agricultural Properties (2008).* *If the sampling results indicate the presence of agrichemicals that exceed commercial screening levels in areas of the Project site located outside of the Remediation Area, a removal action workplan shall be prepared in coordination with San Joaquin County Department of Environmental Health. The removal action workplan shall include a detailed*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		engineering plan for conducting the removal action, a description of the onsite contamination, the goals to be achieved by the removal action, and any alternative removal options that were considered and rejected and the basis for that rejection. A no further action letter shall be issued by San Joaquin County Department of Environmental Health upon completion of the removal action. The removal action shall be deemed complete when the confirmation samples exhibit concentrations below the commercial screening levels, which will be established by the agencies.	
Impact 3.3-2: The proposed Project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, the Project could create a significant hazard to the public or the environment.	NI		--
NOISE			
Impact 3.4-1: The proposed Project would not generate a substantial permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LS		--
Impact 3.4-2: The proposed Project, with mitigation, would not generate a substantial temporary increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	PS	***Mitigation Measure 3.4-1:*** *The City shall establish the following as conditions of approval for any permit that results in the use of construction equipment:* • *Construction shall be limited to 7:00 a.m. to 7:00 p.m.* • *All construction equipment powered by internal combustion engines shall be properly muffled and maintained.* • *"Quiet" construction equipment, particularly air compressors, are to be selected whenever possible.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		• *All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.* • *Unnecessary idling of internal combustion engines is prohibited.* • *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.* *These requirements shall be noted on the Project improvement plans*.	
Impact 3.4-3: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels.	LS		--
TRANSPORTATION AND CIRCULATION			
Impact 3.5-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).	PS	***Mitigation Measure 3.5-1:*** *Prior to commencement of any operational activities, the Project proponent shall implement a combination of TDM measures plus a VMT Mitigation Banking Fee for the Project to achieve 15% VMT reductions (assuming the VMT Mitigation Banking Fee Program is adopted by the time the proposed Project is ready to apply for permits). See Table 3.5-2 of Section 3.5, Transportation and Circulation, of the Draft EIR, for the proposed list of TDM measures under this option.* *The TDM Plan shall be submitted to the City for review prior to approval of improvement plans, and the effectiveness of the TDM Plan shall be evaluated, monitored, and revised, if determined necessary by the City. The TDM Plan shall include the TDM strategies that will be implemented during the lifetime of the proposed Project and shall outline the anticipated effectiveness of the strategies. The anticipated effectiveness of the TDM Plan may be monitored through annual surveys to determine employee travel mode split and travel*	SU

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
		distance for home-based work trips, and/or the implementation of technology to determine the amount of traffic generated by and home-based work miles traveled by employees, which shall be determined in coordination with the City. The frequency and duration of the anticipated effectiveness would depend on the ultimate strategy determined in coordination with the City. Additionally, the Project applicant shall pay any VMT banking fee in effect at the time of building permit issuance to secure VMT credits of a total of 15 percent for the subject building, taking into account the stated percent efficacy for the TDM measures above.	
Impact 3.5-2: Project implementation, with mitigation, would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	PS	***Mitigation Measure 3.5-2:*** *The Project applicant shall provide an exhibit showing the proposed site plan overlaid on the planned I-205/Chrisman Road Interchange and ultimate Chrisman Road improvements. The Project shall install ADA-accessible path(s) between both Buildings A and B to the existing sidewalk along the north side Chrisman Road. The exhibit shall be submitted to the City of Tracy Planning Division for review. The Project's proposed right of way dedication and access to the planned pedestrian facilities shall be reviewed with this exhibit. The Project applicant shall be responsible for constructing the pedestrian facilities shown on the exhibit.*	LS
Impact 3.5-3: Project implementation would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	PS	***Mitigation Measure 3.5-3:*** *The Project applicant shall work with the City of Tracy and Caltrans to implement signal timing modifications and/or ramp improvements at the I-205 WB Off-Ramp & MacArthur Drive and I-205 EB Off-Ramp & MacArthur Drive intersections. The applicant shall be financially responsible for their fair share of the costs to complete the signal timing modifications and/or ramp improvements. This requirement shall be noted on the Project improvement plans, subject to review and approval by the City of Tracy.*	SU
Impact 3.5-4: Project implementation, with mitigation, would not result in inadequate emergency access.	PS	***Mitigation Measure 3.5-4:*** *The Project applicant shall provide an exhibit which shows the emergency vehicle turn templates for the Project site. The emergency vehicle templates shall meet City standards. The exhibit shall be submitted to the City of Tracy Planning Division for review. The Project's proposed emergency vehicle turn templates shall be reviewed with this exhibit. The Project applicant shall be responsible for constructing the roadways and access points shown on the exhibit.*	LS

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ENVIRONMENTAL IMPACT	*LEVEL OF SIGNIFICANCE WITHOUT MITIGATION*	*MITIGATION MEASURE*	*RESULTING LEVEL OF SIGNIFICANCE*
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Impact on the Region's Air Quality	PS		SU and CC
Impact 4.2: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions	LS		--
Impact 4.3: Cumulative Impact Related to Hazards and Hazardous Materials	LS		--
Impact 4.4: Cumulative Exposure of Existing Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development	LS		--
Impact 4.5: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)	PS		CC and SU
Impact 4.6: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian, bicycle, or transit facilities	LS		--

CC – cumulatively considerable *LCC – less than cumulatively considerable* *LS – less than significant*

PS – potentially significant *B – beneficial impact* *SU – significant and unavoidable*

1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Tracy (City), as the lead agency, determined that the proposed Paradise Pointe Business Park Project is a "Project" within the definition of CEQA. CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its significant adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development.

The City has prepared this Draft EIR to provide the decisionmakers, the public and the responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the proposed Project. The environmental review process enables interested parties to evaluate the proposed Project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potentially significant adverse impacts, and to consider a reasonable range of alternatives to the proposed Project. This EIR will be used by the City to determine whether to approve, modify, or deny the proposed Project and associated approvals in light of the Project's environmental effects. The EIR will be used as the primary environmental document to evaluate full development, all associated infrastructure improvements, and permitting actions associated with the proposed Project. All of the actions and components of the proposed Project are described in detail in Chapter 2.0, Project Description.

1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Project-level EIR, described in State CEQA Guidelines § 15161 as: "The most common type of EIR (which) examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation." The project-level analysis considers the broad environmental effects of the proposed Project.

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the proposed Project or an aspect of the proposed Project (CEQA Guidelines Section 15381). For the purpose of CEQA, a "Trustee" agency has jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California (CEQA Guidelines Section 15386).

The following agencies are considered "Responsible Agencies" or "Trustee Agencies" for the proposed Project, and may be required to issue permits or approve certain aspects of the proposed Project:

- California Department of Toxic Substances Control (DTSC) – Oversee the soil remediation and removal, consistent with the approved Scope of Work/Soil Removal Workplan;
- California Environmental Protection Agency (Cal EPA) – Oversee the soil remediation and removal, consistent with the approved Scope of Work/Soil Removal Workplan;
- Regional Water Quality Control Board (RWQCB) – Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Approval of construction-related air quality permits;
- San Joaquin Council of Governments (SJCOG) - Review of project application to determine consistency with the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP).

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION AND INITIAL STUDY

The City circulated an Initial Study (IS) and Notice of Preparation (NOP) of an EIR for the proposed Project on May 16, 2025 to the State Clearinghouse, State Responsible Agencies, State Trustee Agencies, Other Public Agencies, Organizations and Interested Persons. A public scoping meeting was held on June 11, 2025 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The IS, NOP, and comments received on the NOP by interested parties are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed Project, description of the environmental setting, identification of project impacts, and describes mitigation measures for impacts found to be potentially significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City filed the Notice of Completion (NOC) with the State Clearinghouse of the Governor's Office of Land Use and Climate Innovation (LCI). to begin the public review period. Additionally, the City filed the Notice of Availability with the County Clerk and had it published in a newspaper of regional circulation to begin the local public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City provided a public notice of availability for the Draft EIR, and invited comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR are accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Victoria Lombardo, Senior Planner
City of Tracy, Planning Division
333 Civic Center Plaza
Tracy, CA 95376
(209) 831-6428
Victoria.Lombardo@cityoftracy.org

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. Consistent with Section 15132 of the CEQA Guidelines, the Final EIR shall consist of:

a) The Draft EIR or a revision of the draft.
b) Comments and recommendations received on the Draft EIR either verbatim or in summary.
c) A list of persons, organizations, and public agencies commenting on the Draft EIR.
d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
e) Any other information added by the lead agency.

The Final EIR will respond to written comments received during the public review period and to oral comments received at any public hearing that may be held during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City will review and consider the Final EIR. If the City finds that the Final EIR is "adequate and complete", the City will certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

1) The EIR shows a good faith effort at full disclosure of environmental information; and
2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Following review and consideration of the Final EIR, the City may take action to approve, modify, or disapprove the proposed Project. If approved, a Mitigation Monitoring and Reporting Program, as described below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the proposed Project to reduce or avoid significant effects on the environment. This Mitigation Monitoring and Reporting Program will be designed to ensure that these measures are carried out during project implementation, in a manner that is consistent with the EIR.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the project and its environmental setting, an environmental impact analysis, mitigation measures, alternatives, a discussion of any significant irreversible environmental changes that may result from the project, a discussion of the project's potential growth-inducing impacts, and a discussion of the project's cumulative impacts. The scope of the environmental issues addressed in the Draft EIR was established through review of environmental and planning documentation developed for the proposed Project, environmental and planning documentation prepared for recent projects located within the City, applicable local and regional planning documents, and responses to the Notice of Preparation (NOP).

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

The Executive Summary summarizes the characteristics of the proposed project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the proposed Project's potential environmental impacts and possible mitigation measures. The Executive Summary also identifies certain alternatives that may reduce or avoid at least one significant environmental effect of the proposed Project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background environmental conditions and information, the physical and technical characteristics of the proposed project, including the decisions subject to CEQA, related improvements, and a list of related agency action requirements.

CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addresses a topical area and is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the proposed Project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which the severity of potential impacts are determined, a description of potential project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact, both before and after the implementation of the described mitigation measures.

The following environmental topics are addressed in this section:

- Air Quality
- Greenhouse Gases, Climate Change, and Energy
- Hazards and Hazardous Materials
- Noise
- Transportation and Circulation

It is noted that the Initial Study for the Project (see Appendix A) concluded that impacts related to Aesthetics, Agricultural Resources, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Land Use and Planning, Mineral Resources, Population and Housing, Public Services, Recreation, Tribal Cultural Resources, Utilities, and Wildfire were determined to be less than significant and, as a result, are not addressed in this Draft EIR. Appendix A explains the bases for those determinations and why those topics were not included in the Draft EIR's analyses.

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative impacts, and significant and unavoidable environmental effects.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the proposed Project, which could feasibly attain the basic objectives of the proposed Project and avoid and/or lessen any significant environmental effects of the proposed Project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the proposed Project and the selected alternatives.

CHAPTER 6 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analyses.

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City received six written comment letters on the NOP for the proposed Project from the agencies listed below. Copies of those NOP comment letters are provided in Appendix A of this Draft EIR. The commenting agency/citizen is provided below. The City also held a public scoping meeting on June 11, 2025.

- California Department of Conservation, Division of Land Resource Protection (June 13, 2025);
- California Department of Conservation, Geologic Energy Management Division (June 10, 2025);
- California Department of Transportation (June 16, 2025);
- California Department of Wildlife (June 10, 2025);
- Central Valley Regional Water Quality Control Board (June 11, 2025);
- San Joaquin Valley Air Pollution Control District (June 17, 2025).

1.7 POTENTIAL AREAS OF CONCERN

Aspects of the proposed project that were identified during the NOP comment period as potentially being of public concern include the following:

- The location of any potential oil, gas, or geothermal wells;
- Impacts on any current and future agricultural operations in the vicinity;
- Potential impacts to surface and groundwater;
- Impacts related to State roadway facilities;
- Impacts to special-status species and associated potential habitat;
- Toxic Air Contaminants impact on sensitive receptors.

2.1 PROJECT LOCATION

The Project site consists of approximately 52.7 acres located at the northwest corner of Chrisman Road and Paradise Avenue in the northeast quadrant of the City of Tracy, adjacent to State Route 205 (SR-205) to the north. The Project site is located on Assessor Parcel Numbers (APNs) 213-06-012 and 213-06-013. The Project's regional location is shown in Figure 2.0-1. The Project vicinity is shown in Figure 2.0-2.

2.2 PROJECT SITE DEFINED

The Project site includes three distinct planning boundaries defined below. The following terms are used throughout this document to describe the planning boundaries within the Project site:

- **Project Site** – totals 52.7 acres and includes the whole of the Project, including the Remediation Area and the Development Area.
- **Development Area** – includes approximately 52.3 acres which would be developed with two (2) industrial warehouse type uses as part of the Project.
- **Remediation Area** – includes approximately 10.2 acres along the southern site boundary which contains soils that will be removed and remediated as part of the Project. Following remediation, the Remediation Area will be developed as part of the Development Area with two industrial warehouse type uses; and a portion of the Remediation Area will be dedicated to the City of Tracy for the future extension of Chrisman Road.

2.3 PROJECT SETTING

EXISTING SITE CONDITIONS

The majority of the Project site is currently agricultural land (Development Area), with an approximately 10.2-acre strip of vacant land that was previously used as a crop-dusting airstrip, as discussed further below. The approximately 10.2-acre portion of the Project site that is slated for remediation (Remediation Area) is generally void of vegetation. The existing vegetation in the Remediation Area appears to have burned in the past. There are also remnant concrete slabs and other concrete structures that are associated with the former airstrip in the southeastern corner of the Project site. An existing pump station with a screen wall and a catch basin are currently located on the south side of the project adjacent to the roadway access point along Chrisman Road at the southeast corner of the Project site.

The approximately 10.2-acre soil Remediation Area was previously an agricultural airstrip from 1951 to roughly 1989. This airstrip engaged in frequent crop dusting of surrounding agricultural uses, leading to significant soil contamination that requires remediation, as discussed above. Following the 1980s the site was reportedly occupied by various businesses including a trucking company, tomato packing company, and a truck repair company. The property was seemingly destroyed by a fire in 2018 and has remained vacant. Figure 2.0-3 shows an aerial view of the entire Project site, including the Development Area and the Remediation Area.

SITE TOPOGRAPHY

The Project site is relatively flat with a natural gentle slope increasing from north to south. The Project site topography ranges in elevation from approximately 30 to 36 feet above sea level.

EXISTING SURROUNDING USES

The Project site is located in an industrial area within the City's Northeast Industrial Specific Plan area. The surrounding area adjacent to the Project site includes light industrial, agricultural areas, and SR-205. The Project site and the areas to the north, east, south, and west are designated Industrial by the City's General Plan. The area to the northeast, north of SR-205, is designated for agricultural land uses by San Joaquin County. The City of Tracy has zoned the parcels to the west as light industrial (M-1) and the parcels to the south as Northeast Industrial Specific Plan Zone (NEI).

2.4 PROJECT GOALS AND OBJECTIVES

Consistent with the California Environmental Quality Act (CEQA) Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed Project shall be discussed. The principal objective of the proposed Project is the remediation of the Remediation Area and development of the Development Area with two general light industrial warehouse buildings totaling 718,165 square feet (sf) and associated circulation and utility improvements.

The City and the Project applicant have identified the following objectives:

- Construct and operate two industrial warehouse buildings containing ground-level shipping and receiving truck loading docks that is of sufficient size to efficiently operate for the future tenant(s).
- Develop the site with industrial uses, consistent with the City's General Plan land use designation for the site.
- Locate an industrial Project in an area with nearby access to a regional roadway network.
- Ensure that the industrial area within the Northeast Industrial Specific Plan Area continues to be developed in a visually pleasing manner.
- Increase contributions to the City's tax base.
- Complete remediation of the contaminated soils in the Remediation Area in order to provide right of way for the extension of Chrisman Road to a future interchange at Interstate 205.
- Complete the Project on schedule and within budget.

2.5 PROJECT CHARACTERISTICS AND DESCRIPTION

PROJECT CHARACTERISTICS

The proposed project would include development of two general light industrial warehouse buildings totaling 718,165 square feet (sf). Building A would be 466,977 sf and Building B would be 251,188 sf. One-hundred-and-six dock doors would be located along the east and west sides of Building A (38 dock doors on each side) and the east side of Building B (30 dock doors).

Figure 2.0-4 displays the proposed site plan layout for the Development Area. Parking would be provided throughout the Development Area, including 322 automobile stalls, 247 trailer stalls, and 22 bicycle parking stalls. Landscaping, including trees, street frontage plantings, accent shrubs and groundcover plantings, native shrub and grass mixes, and screening shrubs would be provided throughout the Development Area. Temporary landscaping would be placed between Building B and Chrisman Road. An exterior amenity area for employees would be included in the northern portion of the Development Area between the proposed warehouse buildings. The amenity area would include outdoor seating, picnic areas, bike parking, and landscaping. The eastern-most corner of the Project site will continue to be utilized as agricultural land until future roadway improvements are completed (by others).

BEST MANAGEMENT PRACTICES

The Project would incorporate the following sustainability features:

Construction

- Time limitations for off-road diesel-powered equipment will be implemented during construction. Each piece of off-road diesel-powered equipment used during project construction shall be prohibited from being in the "on" position for more than 10 hours per day.
- Use Tier IV-compliant engines or better for all off-road construction vehicles/equipment.
- Through the use of construction worker training and/or signage, applicant(s) shall limit heavy duty construction equipment idling to no more than 2 minutes, and in no instance shall such idling exceed 5 minutes, and will maintain vehicle speeds on unpaved roads to less than 15 miles-per-hour (mph).
- Electric hookups will be provided to reduce the need for diesel generators for electric construction equipment and, should diesel generators be needed, all such diesel generators will be equipped with emission control technology verified by Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB) to reduce particulate matter (PM) emissions by a minimum of 85 percent.
- All construction diesel hauling trucks shall be model year 2010 or later.
- On-site meal options will be provided for construction workers.

Site

- A substantial amount of the proposed plant material used for landscaping and stormwater features will be native and drought tolerant and will use less water than other common species. Site perimeter and parking lot landscaping will provide vegetated buffers that will include trees, tree canopies and other vegetation.
- Irrigation systems for new facilities will include the use of deep root watering bubblers for parking lot trees to minimize water usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the City's requirements.

- Dust, tire wear, brake dust and other parking lot contaminants will be minimized through regular sweeping/cleaning of parking lots.
- Electrical vehicle charging stations will be provided per code.

Building

- All truck entries will be located on designated truck routes.
- New and renewable building materials are typically extracted and manufactured within the region. Materials such as concrete and concrete masonry units shall be purchased locally, to the extent available and commercially practicable, for the proposedproject, minimizing the transport distances and resultant effects to road networks and regional air quality.
- Renewable Energy: Project operations shall consider opportunities to utilize renewable energy, which may include solar power, power from Ava Energy (Ava), and/or a combination thereof, as follows. (1) Building roofs shall be constructed to be able to support solar panels; however, the scope and extent to which installation and utilization of solar panels occurs for the subject individual development proposal shall be at the discretion of the relevant owner(s) in collaboration with the tenant(s). (2) At a minimum, owner(s) shall provide solar and battery storage to offset consumption from the conditioned office space areas of each individual building using the CBECC T24 compliant energy model. (3) The relevant owner shall also consider opportunities to purchase power from Ava to serve as the primary source (rather than Pacific Gas and Electric Company [PG&E] as the primary source) for the subject individual development proposal and shall purchase power from Ava under the following circumstances:
    - If Ava has the confirmed capacity to serve all of the power needs of the subject individual development proposal with 100 percent clean energy from their program at a commercially reasonable rate, the relevant owner and/or tenant shall purchase from Ava sufficient capacity to serve the subject individual development proposal, minus the amount of any renewable energy that would be provided via solar power to the extent pursued.
    - If Ava has the confirmed capacity to serve some but not all of the power needs of the subject individual development proposal with 100 percent clean energy from their program at a commercially reasonable rate, the relevant owner and/or tenant shall purchase from Ava the amount of confirmed capacity to partially serve the subject individual development proposal, minus the amount of any renewable energy that would be provided via solar power to the extent pursued.
    - If Ava does not have the confirmed capacity to serve any of the power needs of the subject individual development proposal from their program, the relevant owner and/or tenant shall purchase power from PG&E, minus the amount of any renewable energy that would be provided via solar power to the extent pursued.
- All building roofs will have a minimum Solar Reflectance Index of 0.80, lessening heat gain. Reflective cool roof materials are used to lower heat absorption, subsequently lowering energy requirements during the hot summer months. Roof material will meet the requirements for

EPA's Energy Star energy efficiency program. Building management systems will monitor performance and energy usage of HVAC systems.

- HVAC comfort systems will be controlled by a computerized building management system to maximize efficiency. HVAC units will be high efficiency units.
- Mechanical systems are site specifically commissioned and designed and field tested to ensure that the HVAC systems are performing to high efficiency standards. HVAC systems will be all-electric and will use High Efficiency Particulate Air (HEPA) filters.
- To facilitate the installation of future electric charging stations for heavy-heavy duty (HHD) trucks, the plans will identify an area for future HHD truck charging stations and the developer will install conduit from the power source to the identified area.
- High-efficiency restroom fixtures will be used, which conserves water by achieving a 40 percent decrease over U.S. standards.
- Each applicant, prior to issuance of a building permit for vertical construction in connection with a specific individual development proposal, shall submit language to the City for inclusion in future lease provisions that reflects a prohibition on diesel-powered generators during project operation unless and until any additional required CEQA review is conducted, except for those diesel-powered generators that are used as part of a building's fire suppression system (i.e., fire pumps) which shall be permitted, if required by the City's Fire Department.
- Overall, the site's building energy efficiency will exceed Title 24 Building Envelope Energy Efficiency Standards by at least 1 percent.
- All appliances to be installed will meet or exceed Title 24 requirements.
- All building coatings and paints will be low-VOC coatings.
- Gas water heaters will be direct vent and 94 percent efficient or greater.
- Construction waste will be recycled whenever feasible.
- Lighting systems will be designed with employee controllability in mind. Lighting will be controlled by timers, but over-ride switches will be provided for employee use.

Operations

- Anti-idling signs indicating a 3-minute diesel truck engine idling restriction shall be posted at the project facilities along entrances to the project site and in the dock areas.
- All exclusively onsite vehicles (i.e., forklifts, yard goats, pallet jacks, etc.) will be electric or zero-emission vehicles.
- Bicycle parking will be provided, per the City of Tracy code.
- During project operations, each building manager shall use diligent and good faith efforts to encourage at least two food truck vendors to serve project employees by inviting available vendors on-site on a regular basis.
- Building organic waste (i.e., green waste, wood waste, food waste and fibers such as paper and cardboard) will be recycled to the maximum extent possible and in full compliance with Senate Bill 1383.

Additional Best Management Practices

- Each applicant, in connection with the construction of the relevant specific individual development proposal, shall provide information on available transit and ridesharing programs and services to construction employees.
- Owners, operators or tenants shall enroll and participate the in SmartWay program for eligible businesses, which is a voluntary public-private program developed by the U.S. EPA that provides a system for tracking, documenting and sharing information about fuel use and freight emissions across supply chains and helps companies identify and select more efficient carriers, transportation modes, and equipment; this requirement shall apply to vehicles owned and controlled by the Project owners, operators or tenants.
- Owners, operators or tenants shall ensure that any outdoor areas allowing smoking are at least 25 feet from the nearest property line.
- Buildings shall achieve LEED Certification and meet the California Green Building Standards Code.

WAREHOUSE ARCHITECTURE

The proposed warehouse design would be contemporary in style and would use a variety of massing and materials appropriate for the scale of the buildings. Varied architectural textures and horizontal and vertical orientations would be used, while varying parapet cap heights would break up the long elevations both horizontally and vertically. The parapets will also assist in concealing rooftop-mounted mechanical equipment.

Figures 2.0-5a and 2.0-5b show the building elevations for the proposed warehouses.

LANDSCAPE AND STORMWATER PLAN

The landscape plan includes a mix of drought-tolerant shrubs and grasses, and a variety of shade trees appropriate for the climate in Tracy would be used throughout the parking lots and along the Project perimeter. Stormwater treatment/detention basins and stormwater bioretention treatment planters would be located throughout the Project site.

Figure 2.0-6 shows the preliminary grading plan. Figure 2.0-7 shows the preliminary landscape plan. Figure 2.0-8 shows the preliminary stormwater quality control plan.

CIRCULATION, TRANSPORTATION, AND PARKING

As shown in Figure 2.0-4, site access would be provided by three new driveways: one from the southwest, off of Pescadero Avenue; and two from Chrisman Road (one in the south-central and one in the southeast). In the future, Caltrans plans to construct an I-205 interchange in the eastern portion of the Project site. Additionally, proposed vehicle parking areas would be located in the southern, eastern, and northern portions of the site. The trailer parking areas would be located along the eastern and western sides of the proposed buildings.

UTILITIES

The proposed Project would connect to existing City infrastructure to provide water, sewer, and storm drainage utilities. Existing storm drain, sewer, water, and gas lines/pipes are currently located along Pescadero Avenue and Chrisman Road.

The Project would be served by the following existing service providers:

1. City of Tracy for water;
2. City of Tracy for wastewater collection and treatment;
3. City of Tracy for stormwater collection;
4. Pacific Gas and Electric Company (PG&E) for gas and electricity.

Utility lines within the Project site and adjacent roadways would be extended throughout the Project site. Wastewater, water, and storm drainage lines would be connected via existing lines along Pescadero Avenue and Chrisman Road. The project would also connect to PG&E's existing electrical and natural gas infrastructure in the project vicinity.

Thirteen stormwater bioretention treatment planters would be located throughout the project site, mainly in perimeter of the site. Stormwater runoff from each of the drainage areas would be routed to a series of on-site stormwater bioretention treatment planters and treatment/detention basins.

Best management practices (BMPs) will be applied to the proposed development to limit the concentrations of constituents in any site runoff to acceptable levels. Stormwater flows from the Project site would be directed to the proposed stormwater treatment basins, treatment planters, and bioretention areas by a new stormwater conveyance system on the Project site. Stormwater runoff would not be allowed to discharge directly to the existing storm drains in West Schulte Road without first discharging to the bioretention areas. The landscaping plan includes stormwater treatment plantings in the treatment/detention basins. Additionally, erosion and sediment control measures would be implemented during construction.

SOIL REMOVAL AND REMEDIATION

In addition to the proposed industrial warehouses and supportive circulation, parking, and utility improvements, the project includes remediation of the approximately 10.2-acre Remediation Area in the southern portion of the Project site. The soil remediation will occur prior to development of the industrial uses.

The area that will undergo soil remediation (referred to as "Remediation Area") is an approximately 10.2-acre site along the southern boundary of the larger 52.7 Project site, as shown in Figure 3. Investigation into past research of the site included a past soil and groundwater sampling study performed in conjunction with a Preliminary Endangerment Assessment (PEA) in 2006, a PEA Addendum in 2006 that revealed significant pesticide impacts to soils at the Remediation Area, a Phase I Environmental Site Assessment (ESA) in 2020, and a follow-up Phase II ESA in 2020 that included a groundwater investigation, a geophysical survey, and an extensive soil sampling and characterization study.

The 2020 Phase I ESA revealed that previous land uses for the site included an agricultural airstrip and crop-dusting facility, indicating a potential for contamination. The 2020 Phase I ESA for the Remediation Area showed that there were previously two underground fuel storage tanks (USTs) that were removed in 1990. Further research indicated that additional USTs may have been located on the site, beyond the two that were removed. The potential for contamination from UST is a recognized environmental condition and necessitated additional study through a Phase II ESA.

A geophysical study undergone in 2020 revealed that no additional USTs, nor any former septic tanks locations, were found on the Remediation Area. A groundwater study indicated that pesticides were located at the Remediation Area, per the conclusions of the 2006 PEA; however, the groundwater investigation report submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) stated no further action nor remediation is necessary. A soil study in the same year concluded that there were organochloride pesticides present in the tested samples that were above the Environmental Screening Levels (ESLs) for dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and toxaphene. Other chemicals that were tested for included petroleum hydrocarbons and volatile organic compounds (VOCs); however, these tested below the ESLs. Testing for metals showed that only three samples tested above ESLs for lead and planned remediation measures would be sufficient in removing the identified soil contaminants.

Remedial soil excavation is proposed for the areas where organochlorine pesticide and metals concentration exceeded commercial/industrial ESL values to adequately remove contaminants before development of the proposed project can begin. The remedial work will be performed by a licensed hazardous materials contractor in accordance with all applicable laws and regulations. Prior to initiation of any remedial soil extraction work, the property owner or remediation contractor will obtain any required permits, including a grading permit if necessary. The owner or contractor will also determine whether a Dust Control Plan is required for the remedial work and will process one, if necessary, per San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations. Stormwater controls will also be implemented as necessary to prevent any surface water or storm water that contacts exposed impacted soils from discharging from the work site or from entering storm drain or sewer systems.

Following soil excavation activities, soil samples will be collected from the limits of the soil excavation areas to verify that soils at the limits of the excavation do not contain contaminants above the clean-up levels established. Stockpiled soil samples will also be taken and tested to determine appropriate disposal methods. Once testing of removed soils is completed, all equipment that comes into contact with impacted soils would be decontaminated. The extent of future backfilling of the remedial excavations is unknown and will depend to some degree on the grading details of the development project. Much of the excavation area is anticipated to be only one-foot deep and may not necessitate backfilling.

Based on the planned remedial soil removal work, it is anticipated that remaining onsite soils will not contain the chemicals of concern at concentrations above commercial/industrial ESL values. As such, no ongoing maintenance at the Remediation Area will be necessary following successful completion of remediation work.

GENERAL PLAN LAND USE AND ZONING

General Plan

The Tracy General Plan land use designation for the Project site is Industrial (consistent with the proposed project) and the site is within the Northeast Industrial Specific Plan Area. Specific uses allowed in the Industrial land use designation category range from flex/office space to manufacturing to warehousing and distribution. According to the City's General Plan, Industrial parcels should have a maximum floor-area-ratio (FAR) of 0.5. Building A has an FAR of 0.47 while Building B has an FAR of 0.20. The average FAR of the project would be 0.34, staying below the maximum FAR of 0.5. Industrial uses are located to provide proper truck access, buffering from incompatible uses and proximity with rail corridors and transit links. Figure 2.0-9 displays the General Plan land use designation for the Project site and surrounding area.

Zoning

The Project site is currently zoned Northeast Industrial Specific Plan. The Northeast Industrial Specific Plan addresses 870 acres in the northeast corner of the City. Anticipated land uses include a mixture of manufacturing, warehousing, and distribution uses including rail-dependent industries and "flex-tech" light industrial. Figure 4 also displays the zoning designation for the Project site and surrounding area.

2.6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed Project.

CITY OF TRACY

The City of Tracy is the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050. If the City Council certifies the EIR in accordance with CEQA requirements, the City may use the EIR to support the following actions:

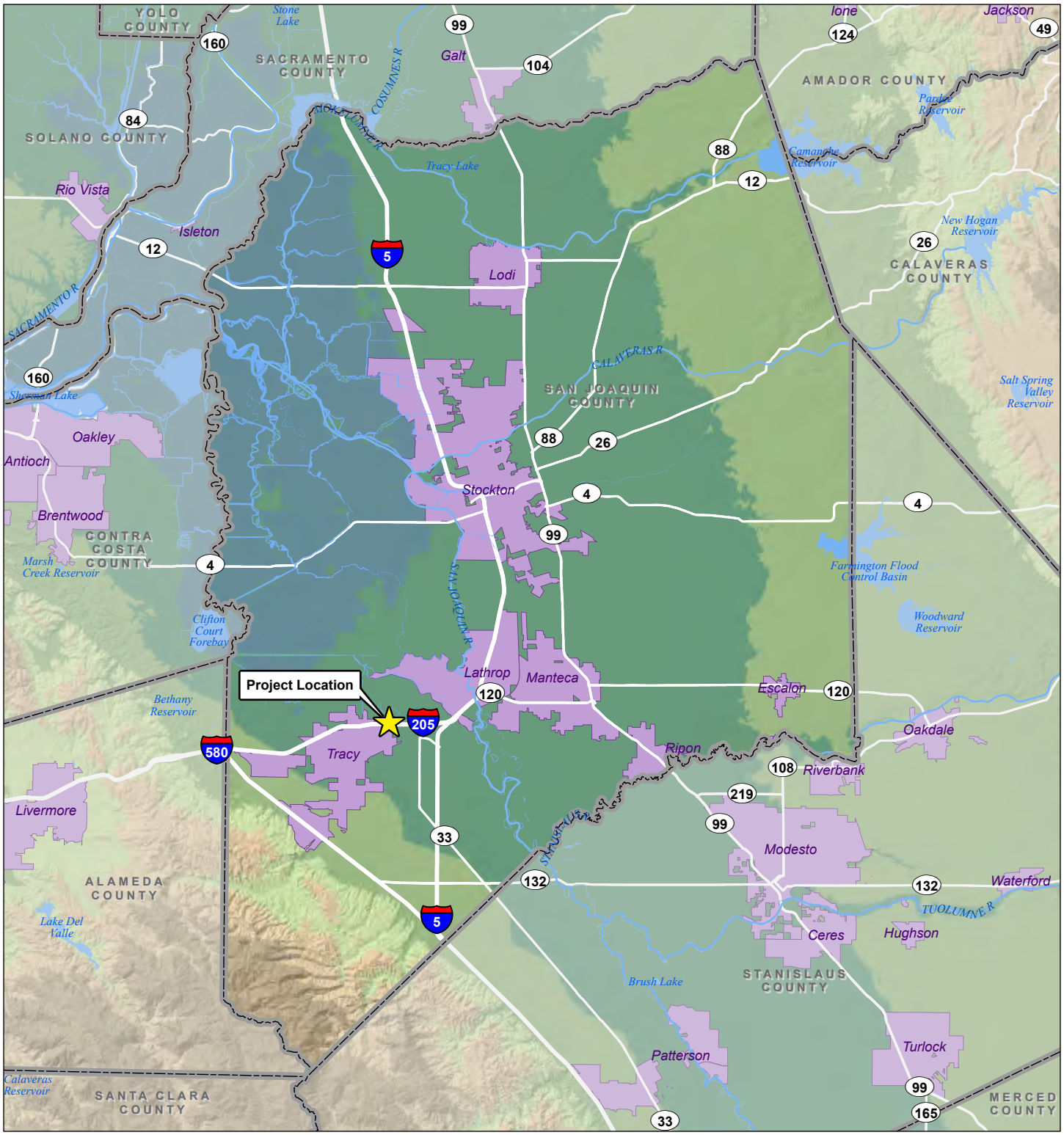
- Development Review;
- Variance from the I-205 Overlay Zone land use and building siting requirements;
- Approval of the Site Plan;
- Building, grading, and other permits as necessary for Project construction;
- Adopting a Mitigation Monitoring and Reporting Program (MMRP);
- Adoption of a Statement of Overriding Considerations (should any significant and unavoidable impacts result from the Project).

OTHER GOVERNMENTAL AGENCY APPROVALS

The following agencies may rely on the certified EIR to issue permits or approve certain aspects of the proposed Project:

- California Department of Toxic Substances Control (DTSC) – Oversee the soil remediation and removal, consistent with the approved Scope of Work/Soil Removal Workplan;

- California Environmental Protection Agency (Cal EPA) – Oversee the soil remediation and removal, consistent with the approved Scope of Work/Soil Removal Workplan;
- Regional Water Quality Control Board (RWQCB) – Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities;
- San Joaquin Valley Air Pollution Control District (SJVAPCD) – Approval of construction-related air quality permits;
- San Joaquin Council of Governments (SJCOG) – Review of project application to determine consistency with the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP).



LEGEND

Incorporated Area

County Boundary

PARADISE POINTE BUSINESS PARK

Figure 2.0-1. Regional Project Location

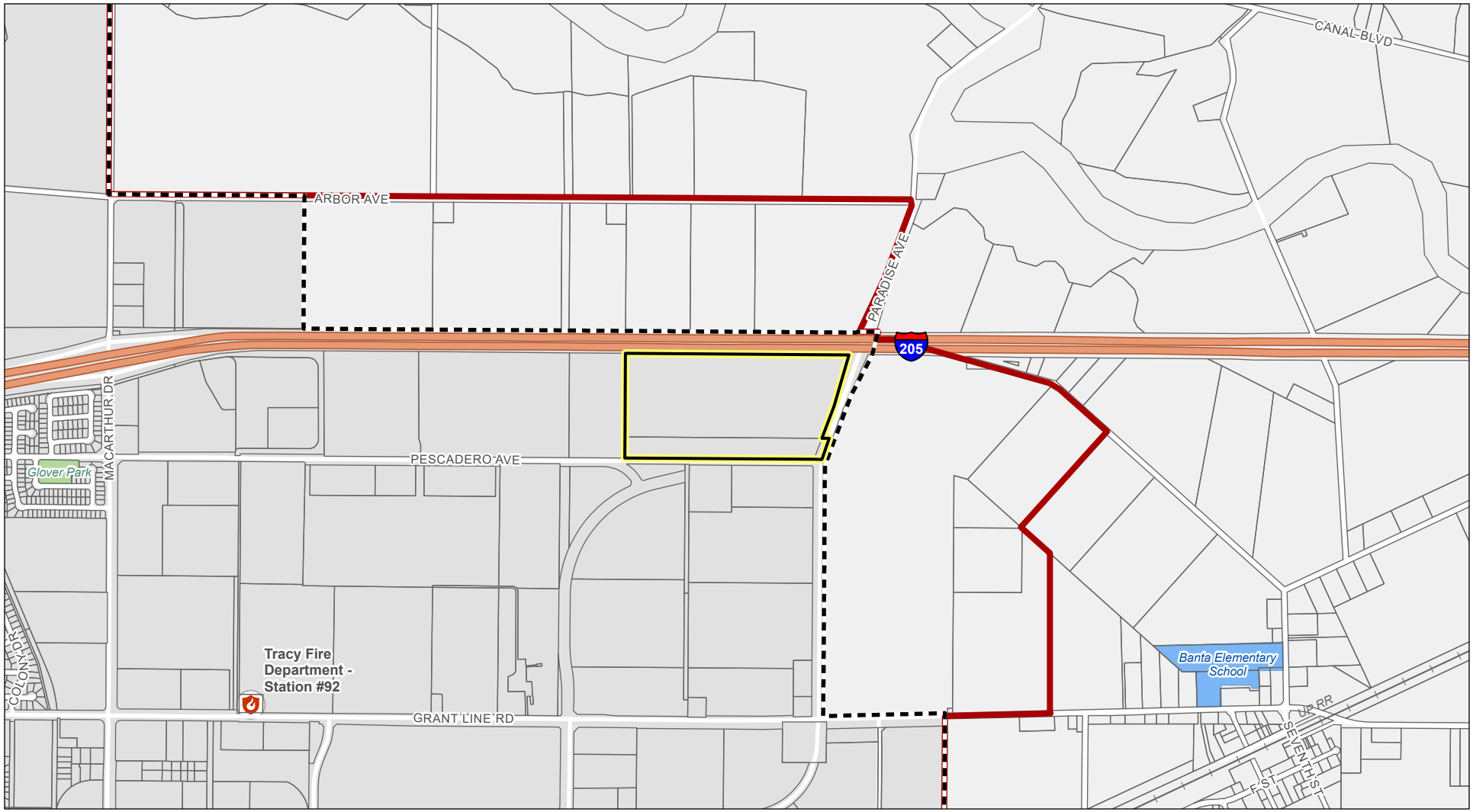
0 2.5 5 Miles

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Sources: San Joaquin County GIS. Map date: November 1, 2024.

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LEGEND

- Project Site
- Tracy City Limits
- Tracy SOI
- Tracy Fire Department Stations
- Parks
- Public Schools

PARADISE POINTE BUSINESS PARK

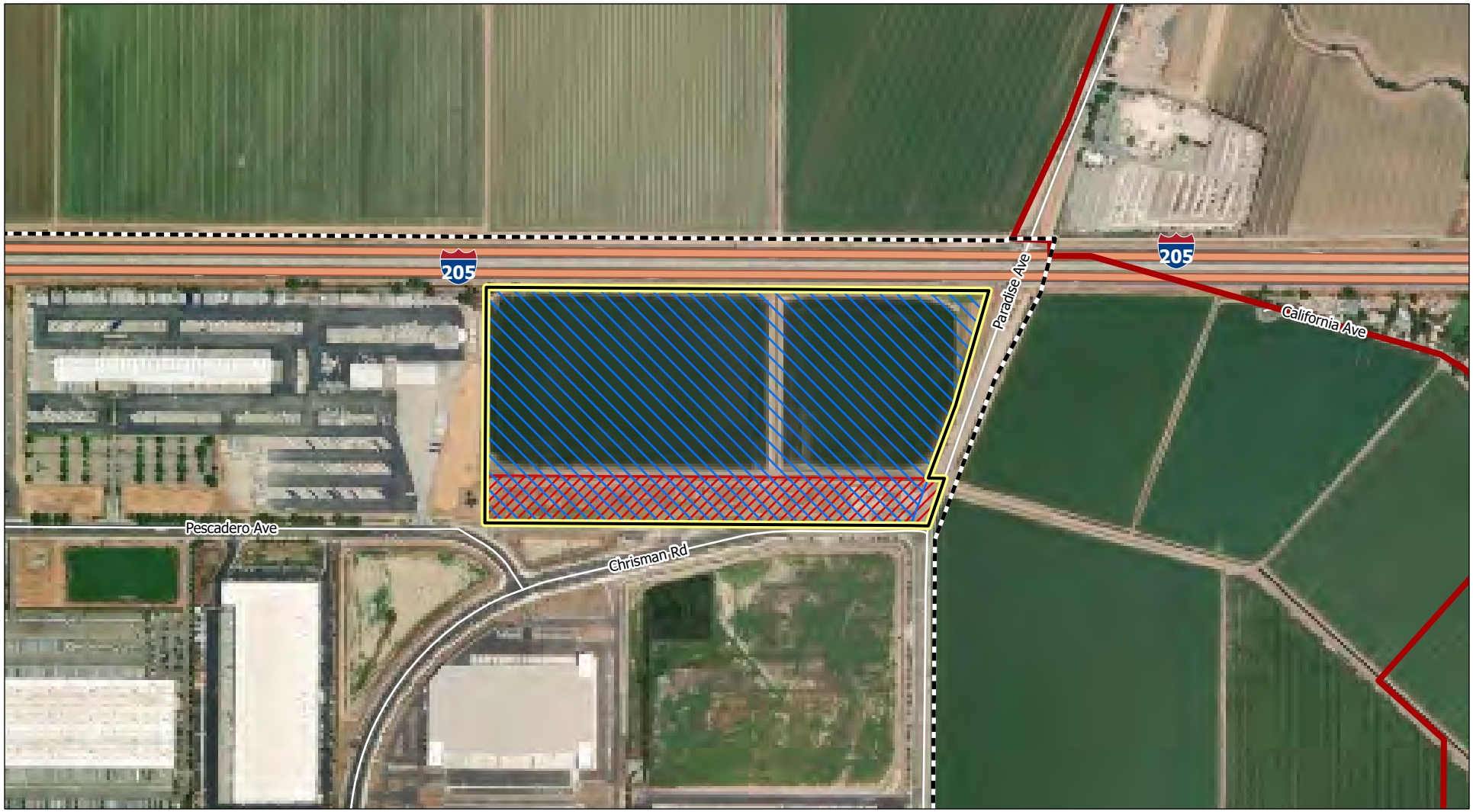
Figure 2.0-2. Project Vicinity Map

0 250 500
US Feet

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Sources: San Joaquin County GIS. Map date: June 6, 2025.

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LEGEND

- Project Site
- Development Area
- Remediation Area
- Tracy City Limits
- Tracy SOI

PARADISE POINTE BUSINESS PARK

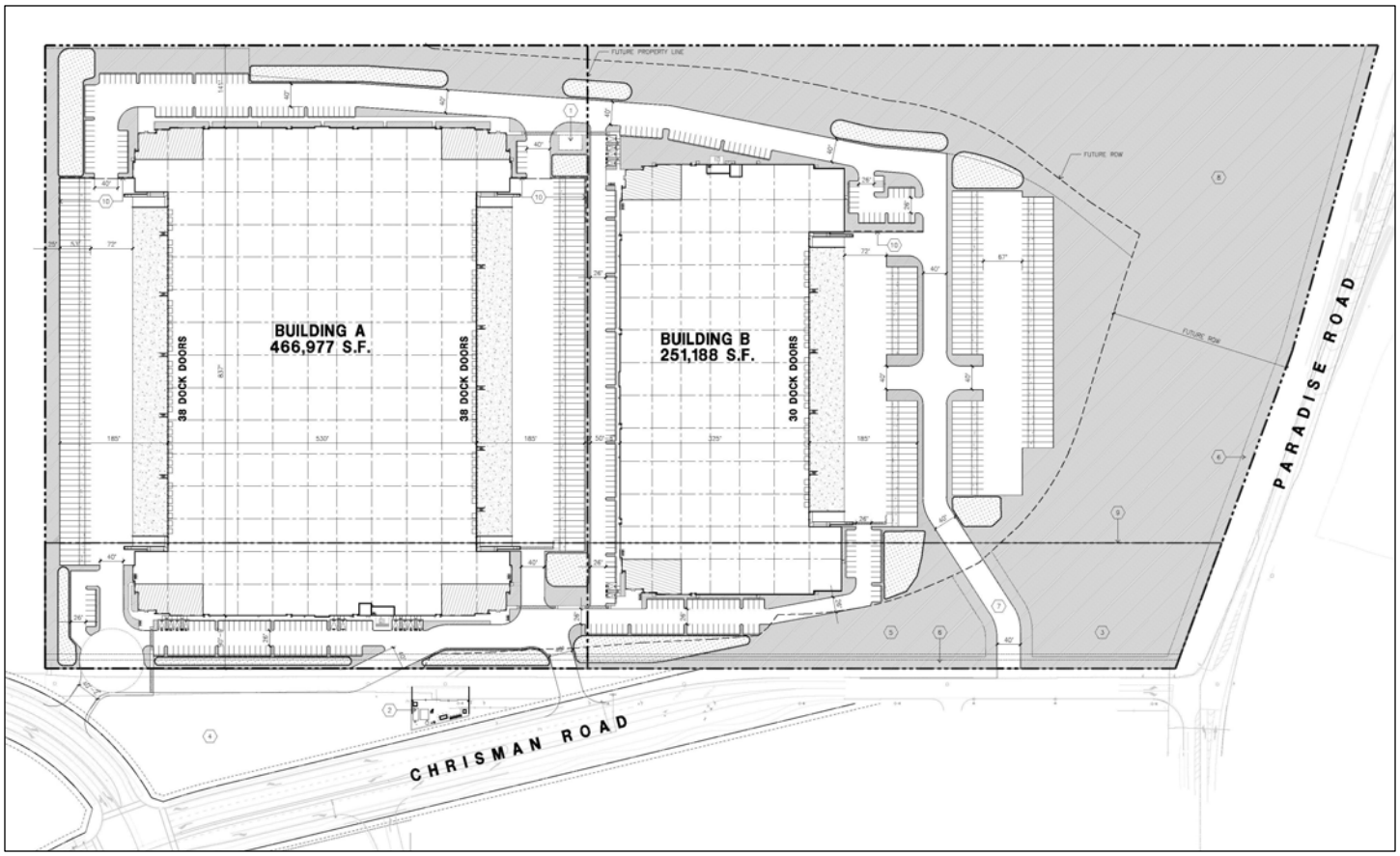
Figure 2.0-3. Aerial View

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US Feet

Sources: ArcGIS Map Service; San Joaquin County GIS. Map date: November 20, 2024.

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PROJECT DATA

SITE AREA	BLDG. A	BLDG . B	TOTAL	
in s.f.	994,005	1,275,456	**2,269,461**	s.f.
in acres	22.8	29.3	**52.1**	ac
BUILDING AREA				
office	10,000	7,000	**17,000**	s.f.
warehouse	456,977	244,188	**701,165**	s.f.
TOTAL	**466,977**	**251,188**	**718,165**	s.f.
FLOOR AREA RATIO				
maximum	0.50	0.50		
actual	0.47	0.20		
AUTO PARKING REQUIRED				
office @ 1/250 s.f.	40	28	**68**	stalls
warehouse 1st 20K @ 1/1,000 s.f.	20	20	**40**	stalls
2nd 20K @ 1/2,000 s.f.	10	10	**20**	stalls
above 40K @ 1/4,000 s.f.	104	51	**155**	stalls
TOTAL	**174**	**109**	**283**	stalls
AUTO PARKING PROVIDED				
Standard (9' x 18' -6")	148	174	**322**	stalls
Total Accessible Parking				
Accessible parking (9' x 18' -6")	4	2	**6**	stalls
Accessible Van (9' x 18'-6" + 5' Aisle)	4	2	**6**	stalls
Total Clean air/ Van pool (12%)				
Standard Clean Air Parking (2%)	4	4	**8**	stalls
Total EV Charging (10%)				
Standard EV Charging	16	18	**34**	stalls
Accessible Standard EV Charging	1	1	**2**	stalls
Accesible Van EV Charging	1	1	**2**	stalls
Accesible EV Ambulatory	0	0	**0**	stalls
TOTAL	177	202	**379**	stalls
TRAILER PARKING PROVIDED				
trailer (10'x58')	126	121	**247**	stalls
BICYCLE PARKING REQUIRED				
Short term (5% of total stalls)	9	11	**20**	stalls
Long term (5% of total stalls)	9	11	**20**	stalls
BICYCLE PARKING PROVIDED				
Short term (5% of total stalls)	10	12	**22**	stalls
Long term (5% of total stalls)	10	12	**22**	stalls
ZONING ORDINANCE FOR THE CITY				
Zoning Designation - Northeast Industrial Specific Plan				
SETBACKS				
Building	Landscape			
front / Street - 25'	15'			
side & rear (non street) - 15'	5'			

SITE PLAN KEYNOTES

1. EXTERIOR AMENITY AREA
2. (E) PUMP STATION WITH SCREEN WALL
3. FUTURE PUBLIC ART
4. BASIN BY SEEFRIED DEVELOPMENT
5. TEMPORARY LANDSCAPE
6. TEMPORARY PERIMETER LANDSCAPING
7. TEMPORARY ACCESS; FULL MOVEMENT INTERSECTION, SEE CIVIL DWG
8. THIS AREA WILL CONTINUE TO BE FARMED UNTIL THE FUTURE ROAD IMPROVEMENTS ARE CONSTRUCTED
9. EXISTING PARCEL LINE
10. EXTEND OF SCREEN WALL, SEE SCREEN WALL EXHIBIT

PARADISE POINTE BUSINESS PARK

Figure 2.0-2. Site Plan

Sources: HPA Architecture. Map date: November 1, 2024.

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PARADISE POINTE BUSINESS PARK

Figure 2.0-5a. Building Elevations

0 250 500
US Feet

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Sources: Ridge Capital Group. Map date: June 6, 2025.

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PARADISE POINTE BUSINESS PARK

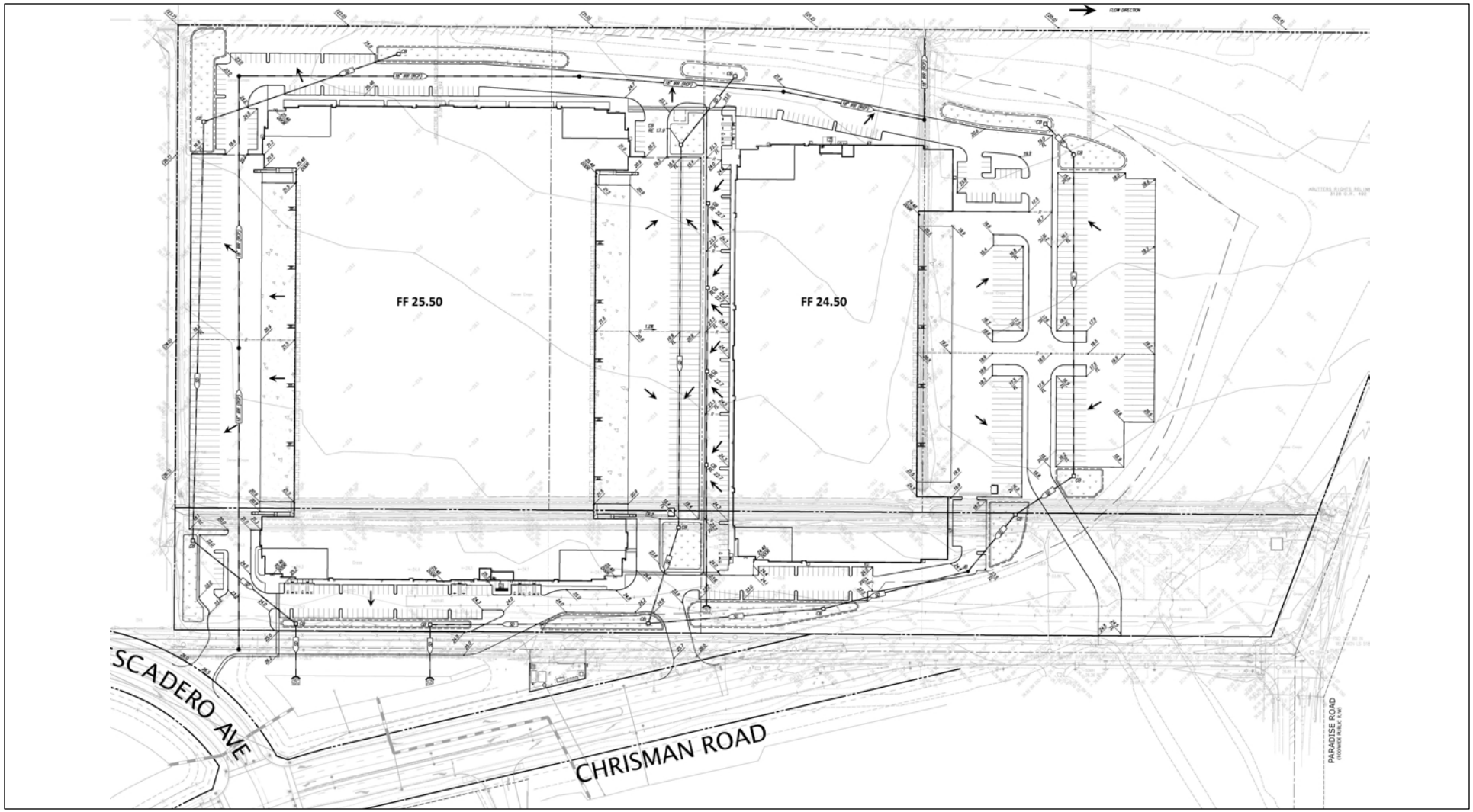
Figure 2.0-5b. Building Elevations

0 250 500
US Feet

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Sources: Ridge Capital Group. Map date: June 6, 2025.

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PARADISE POINTE BUSINESS PARK

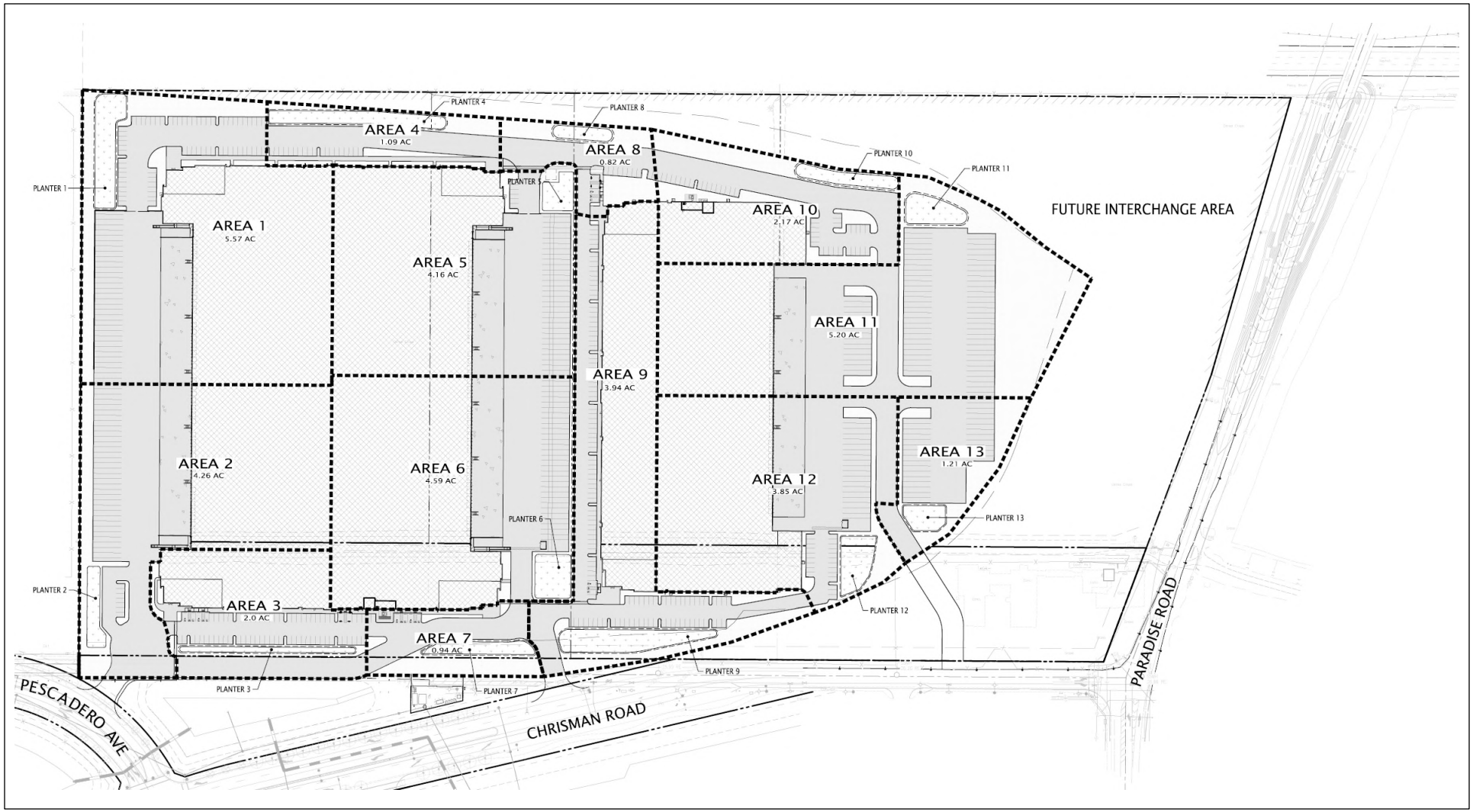
Figure 2.0-6. Preliminary Grading Plan

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US Feet

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Sources: Ridge Capital Group. Map date: June 6, 2025.

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PARADISE POINTE BUSINESS PARK

LEGEND

- TRIBUTARY AREA LIMITS
- LANDSCAPE AREA
- IMPERVIOUS ROOFTOP DRAINING TO BIO-SWALE
- IMPERVIOUS PAVEMENT DRAINING TO BIO-SWALE
- BIO-RETENTION TREATMENT AREA

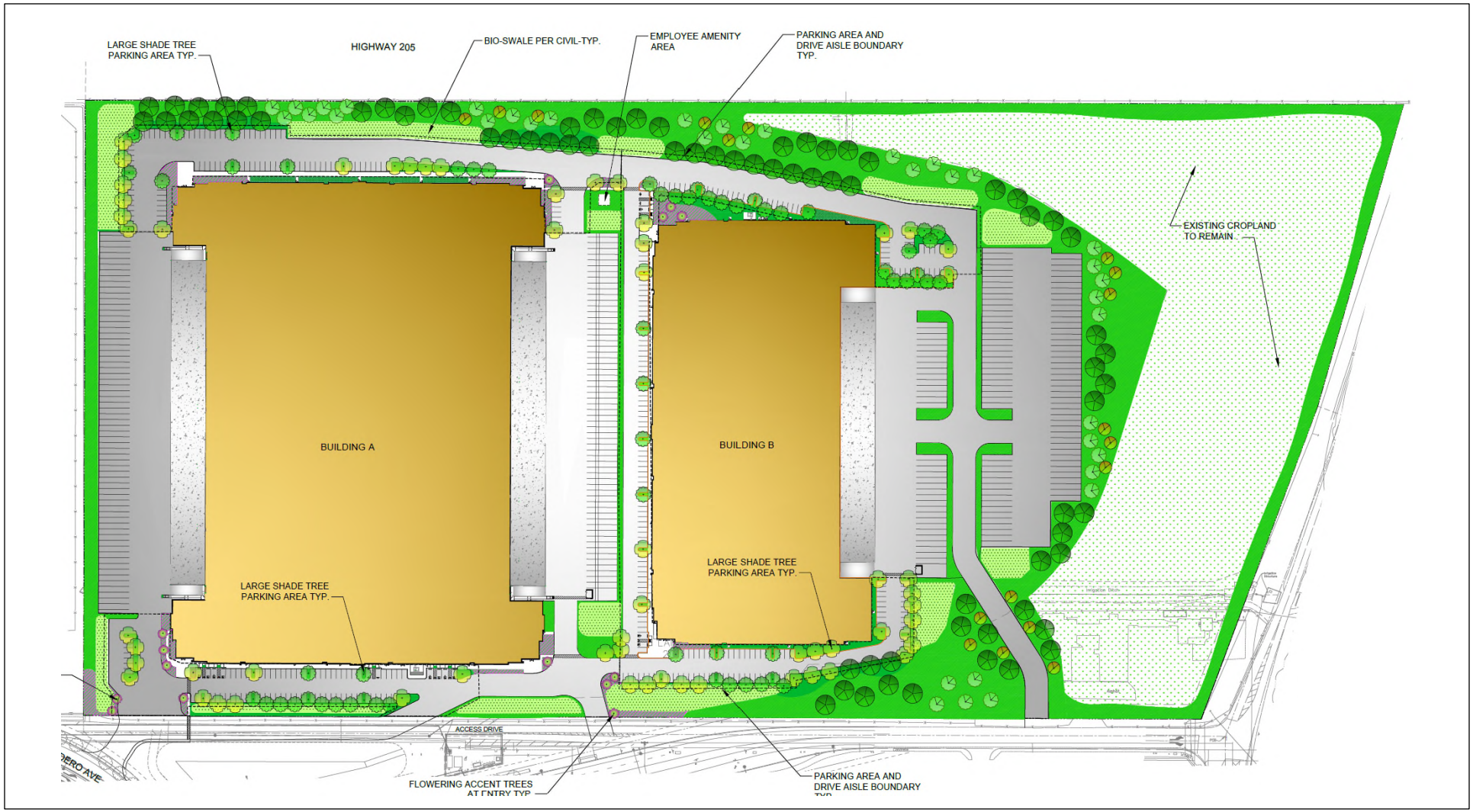
Figure 2.0-7. Preliminary Stormwater Quality Control

0 250 500
US Feet

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Sources: Ridge Capital Group. Map date: June 6, 2025.

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PARADISE POINTE BUSINESS PARK

LANDSCAPE LEGEND

- LARGE EVERGREEN CONIFER
- COLUMNAR DECIDUOUS ACCENT TREE
- LARGE DECIDUOUS TREE
- MEDIUM BROADLEAF EVERGREEN TREE
- FLOWERING ACCENT TREE
- LOW TO MEDIUM SHRUBS FLOWERING w/ ACCENT PERENNIALS & GRASSES
- PROJECT ACCENT PLANTING FLOWERING SHRUBS & GROUND-COVERS, PERENNIAL ACCENT
- SCREEN PLANTING TALL SCREEN SHRUBS 8' +
- FOUNDATION PLANTING LARGE SHRUBS WITH LOW SHRUB OR GROUNDCOVER ACCENT
- SEEDED PER NATIVE SHRUBS & GRASSES HYDROSEED MIX
- EXISTING CROPLAND TO REMAIN

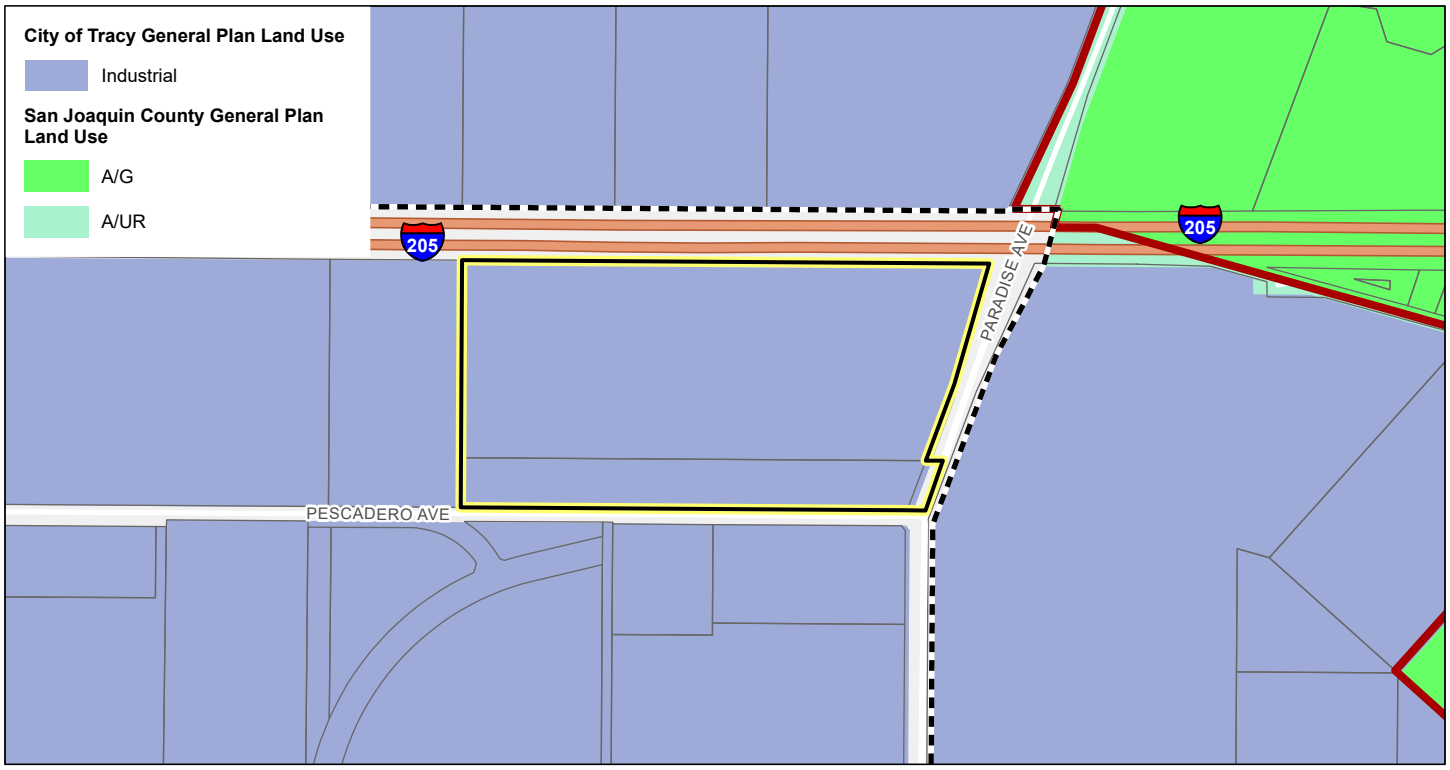
Figure 2.0-8. Preliminary Landscape Plan

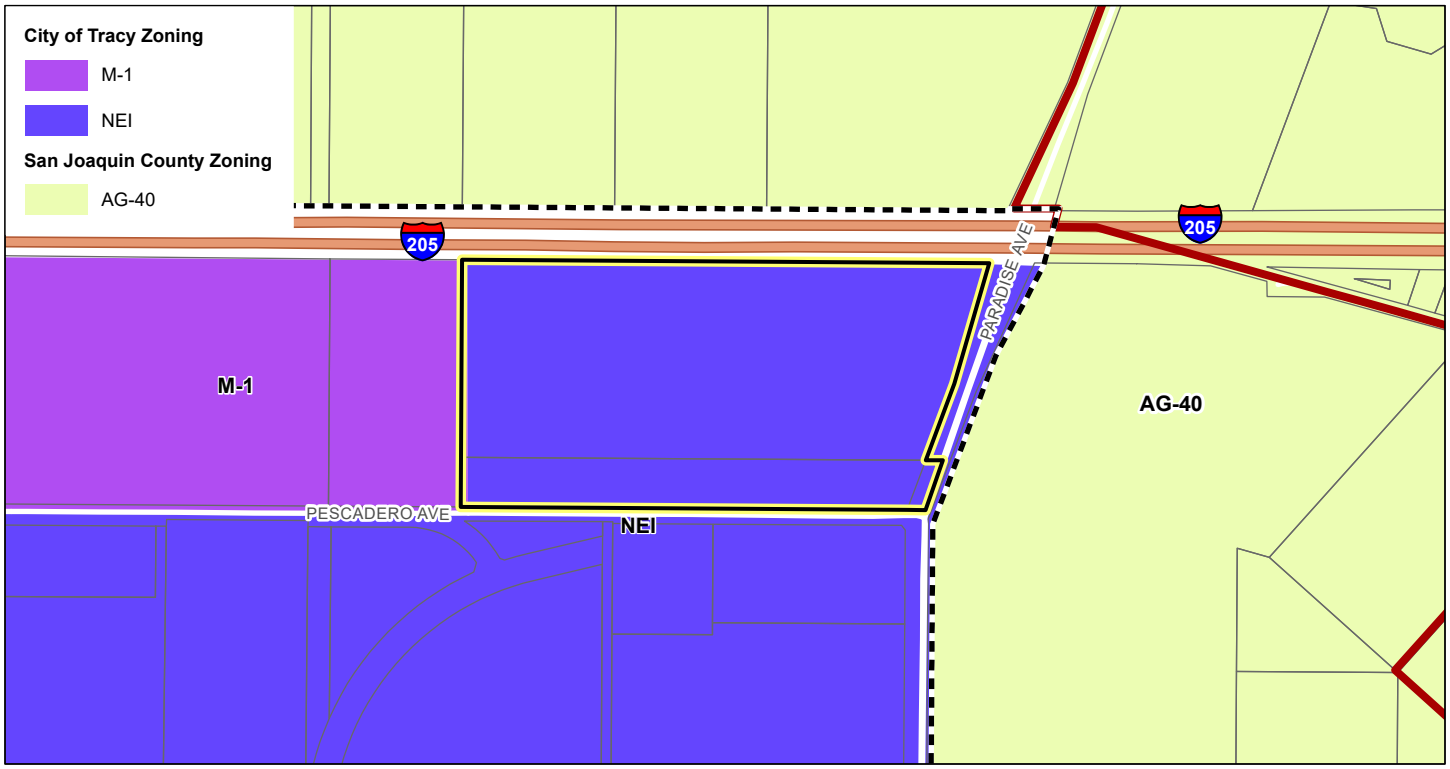
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Sources: Ridge Capital Group. Map date: June 6, 2025.

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LEGEND

- Project Site
- Tracy City Limits
- Tracy SOI

PARADISE POINTE BUSINESS PARK

Figure 2.0-9. Land Use and Zoning Designations

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US Feet

Sources: City of Tracy; San Joaquin County GIS. Map date: November 1, 2024.

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This section describes the regional air quality, current attainment status of the air basin, local sensitive receptors, emission sources, and impacts that are likely to result from Project implementation. The analysis contained in this section is intended to be at a project-level, and covers impacts associated with the conversion of the entire site to urban uses. Following this discussion is an assessment of consistency of the proposed Project with applicable policies and local plans. The Greenhouse Gases, Climate Change, and Energy analysis is located in a separate section of this document (*see* Chapter 3.2 – Greenhouse Gases, Climate Change and Energy). This air quality section is based in part on the following technical studies: *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board [CARB], 2007), *Guide for Assessing and Mitigation Air Quality Impacts* (San Joaquin Valley Air Pollution Control District [SJVAPCD], 2002), *Guidance for Assessing and Mitigating Air Quality Impacts - 2015* (SJAVPCD, 2015), and CalEEMod *(v.2022.1)*.

There was one comment received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the SJVAPCD (June 17, 2025). Full comments received are included in Appendix A.

3.1.1 ENVIRONMENTAL SETTING

SAN JOAQUIN VALLEY AIR BASIN

The City of Tracy (City) is in the northern portion of the San Joaquin Valley Air Basin (SJVAB). The SJVAB consists of eight counties: Fresno, Kern (western and central), Kings, Tulare, Madera, Merced, San Joaquin, and Stanislaus. Air pollution from significant activities in the SJVAB includes a variety of industrial-based sources as well as on- and off-road mobile sources. These sources, coupled with geographical and meteorological conditions unique to the area, stimulate the formation of unhealthy air.

The SJVAB is approximately 250 miles long and an average of 35 miles wide. It is bordered by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south. There is a slight downward elevation gradient from Bakersfield in the southeast end (408 feet elevation) to sea level at the northwest end where the valley opens to the San Francisco Bay at the Carquinez Straits. At its northern end is the Sacramento Valley, which comprises the northern half of California's Central Valley. The bowl-shaped topography inhibits movement of pollutants out of the valley (SJVAPCD, 2015).

Climate

The SJVAB is in a Mediterranean climate zone and is influenced by a subtropical high-pressure cell most of the year. Mediterranean climates are characterized by sparse rainfall, which occurs mainly in winter. Summers are hot and dry. Summertime maximum temperatures often exceed 100°F in the valley.

The subtropical high-pressure cell is strongest during spring, summer, and fall and produces subsiding air, which can result in temperature inversions in the valley. A temperature inversion can act like a lid, inhibiting vertical mixing of the air mass at the surface. Any emissions of pollutants can

be trapped below the inversion. Most of the surrounding mountains are above the normal height of summer inversions (1,500 to 3,000 feet).

Winter-time high pressure events can often last many weeks, with surface temperatures often lowering into the 30°F. During these events, fog can be present and inversions are extremely strong. These wintertime inversions can inhibit vertical mixing of pollutants to a few hundred feet (SJVAPCD, 2015).

Wind Patterns

Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing and transporting it to other locations.

Especially in summer, winds in the San Joaquin Valley most frequently blow from the northwest. The region's topographic features restrict air movement and channel the air mass towards the southeastern end of the valley. Marine air can flow into the basin from the San Joaquin River Delta and over Altamont Pass and Pacheco Pass, where it can flow along the axis of the valley, over the Tehachapi pass, into the Southeast Desert Air Basin. This wind pattern contributes to transporting pollutants from the Sacramento Valley and the Bay Area into the SJVAB. Approximately 27 percent of the total emissions in the northern portion, 11 percent of total emissions in the central region, and 7 percent of total emission in the south valley of the SJVAB are attributed to air pollution transported from these two areas. The Coastal Range is a barrier to air movement to the west and the high Sierra Nevada range is a significant barrier to the east (the highest peaks in the southern Sierra Nevada reach almost halfway through the Earth's atmosphere). Many days in the winter are marked by stagnation events where winds are very weak. Transport of pollutants during winter can be very limited. A secondary but significant summer wind pattern is from the southeast and can be associated with nighttime drainage winds, prefrontal conditions, and summer monsoons.

Two significant diurnal wind cycles that occur frequently in the valley are the sea breeze and mountain-valley upslope and drainage flows. The sea breeze can accentuate the northwest wind flow, especially on summer afternoons. Nighttime drainage flows can accentuate the southeast movement of air down the valley. In the mountains during periods of weak synoptic scale winds, winds tend to be upslope during the day and downslope at night. Nighttime and drainage flows are especially pronounced during the winter when flow from the easterly direction is enhanced by nighttime cooling in the Sierra Nevada. Eddies can form in the valley wind flow and can recirculate a polluted air mass for an extended period.

Temperature

Solar radiation and temperature are particularly important in the chemistry of ozone formation. The SJVAB averages over 260 sunny days per year. Photochemical air pollution (primarily ozone) is produced by the atmospheric reaction of organic substances (such as volatile organic compounds) and nitrogen dioxide under the influence of sunlight. Ozone concentrations are very dependent on the amount of solar radiation, especially during late spring, summer, and early fall. Ozone levels typically peak in the afternoon. After the sun goes down, the chemical reaction between nitrous oxide and ozone begins to dominate. This reaction tends to scavenge and remove the ozone in the

metropolitan areas through the early morning hours, resulting in the lowest ozone levels, possibly reaching zero at sunrise in areas with high nitrogen oxides emissions. At sunrise, nitrogen oxides tend to peak, partly due to low levels of ozone currently and due to the morning commuter vehicle emissions of nitrogen oxides.

Generally, the higher the temperature, the more ozone is formed, since reaction rates increase with temperature. However, extremely hot temperatures can "lift" or "break" the inversion layer. Typically, if the inversion layer does not lift to allow the buildup of contaminants to be dispersed, the ozone levels will peak in the late afternoon. If the inversion layer breaks and the resultant afternoon winds occur, the ozone will peak in the early afternoon and decrease in the late afternoon as the contaminants are dispersed or transported out of the SJVAB.

Ozone levels are low during winter periods when there is much less sunlight to drive the photochemical reaction (SJVAPCD, 2015).

Precipitation, Humidity, and Fog

Precipitation and fog may reduce or limit some pollutant concentrations. Ozone needs sunlight for its formation, and clouds and fog can block the required solar radiation. Wet fogs can cleanse the air during winter as moisture collects on particles and deposits them on the ground. Atmospheric moisture can also increase pollution levels. In fogs with less water content, the moisture acts to form secondary ammonium nitrate particulate matter. The winds and unstable air conditions experienced during the passage of winter storms result in periods of low pollutant concentrations and excellent visibility. Between winter storms, high pressure and light winds allow cold moist air to pool on the SJVAB floor. This creates strong low-level temperature inversions and very stable air conditions, which can lead to tule fog. Wintertime conditions favorable to fog formation are also conditions favorable to high concentrations of particulate matter (PM), including PM that have a diameter of less than 2.5 micrometers ($PM_{2.5}$) and 10 micrometers PM_{10} (SJVAPCD, 2015).

Inversions

The vertical dispersion of air pollutants in the San Joaquin Valley can be limited by persistent temperature inversions. Air temperature in the lowest layer of the atmosphere typically decreases with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. The height of the base of the inversion is known as the "mixing height." This is the level to which pollutants can mix vertically. Mixing of air is minimized above and below the inversion base. The inversion base represents an abrupt density change where little air movement occurs.

Inversion layers are significant in determining pollutant concentrations. Concentration levels can be related to the amount of mixing space below the inversion. Temperature inversions that occur on the summer days are usually 2,000 to 2,500 feet above the valley floor. In winter months, overnight inversions occur 500 to 1,500 feet above the valley floor (SJVAPCD, 2015).

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (U.S. EPA) uses six "criteria pollutants" as indicators of air quality and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS). California law does not require that the CAAQS be met by a specified date as is the case with NAAQS.

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.1-1) are set to protect public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act [FCAA]). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the Project are discussed below.

Ozone (O_3) is a photochemical oxidant and the major component of smog. While O_3 in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O_3 at ground level are a major health and environmental concern. O_3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O_3 levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops and other sources using solvents.

The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function, and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but affect healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (U.S. EPA, 2025a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone

concentration reaches 80 parts per billion (U.S. EPA, 2025b). The average background level of ozone in California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total ozone in the western region of the U.S. (NASA, 2015).

In addition to human health effect, ozone has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. O_3 can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects. Exposure to CO at high concentrations can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects to ambient CO (CARB, 2025c).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina. Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen Dioxide (NO_2) is a brownish, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO_2 is the increased likelihood of respiratory problems. Under ambient conditions, NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O_3) and acid rain and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO_2 may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly, are generally at greater risk for the health effects of NO_2.

Sulfur dioxide (SO_2) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO_2 emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO_2 is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO_2 affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children, and the elderly. SO_2 is also a primary contributor to acid deposition, or acid rain, which causes acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO_2 results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills and from nonferrous smelters.

Short-term exposure to ambient SO_2 has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO_2 and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO_2 reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter ($PM_{2.5}$). Inhalation exposure to $PM_{2.5}$ has been associated with various cardiovascular and respiratory health effects (U.S. EPA, 2017). Increased ambient SO_2 levels would lead to increased risk of such effects.

SO_2 emissions that lead to high concentrations of SO_2 in the air generally also lead to the formation of other sulfur oxides (SOx). SOx can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke, and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires, and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO_2 and VOCs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM_{10} is particulate matter 10 micrometers or less in diameter (known as respirable particulate matter), and $PM_{2.5}$ is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO_2) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. Small particulate pollution causes health impacts even at very low concentrations – indeed, no threshold has been identified below which no damage to health is observed.

Respirable particulate matter (PM_{10}) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. PM_{10} is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities,

fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM_{10} causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

$PM_{2.5}$ consists of fine particles that are less than 2.5 microns in size. Like PM_{10}, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM_{10}, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the U.S. EPA created new Federal air quality standards for $PM_{2.5}$.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. PM_{10} and $PM_{2.5}$ also impacts soils and damages materials and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in $PM_{2.5}$ results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high PM levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. EPA, 2025c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil, or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive Pb exposure can cause seizures, mental retardation, and/or behavioral disorders. Low doses of Pb can lead to central nervous system damage. Studies have also shown that Pb may be a factor in high blood pressure and subsequent heart disease (Tsoi, M.F., 2021).

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations

of lead are usually found near lead smelters. As a result of the U.S. EPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (U.S. EPA, 2025d). Based on this reduction of lead in the air over this period, and since most new developments do not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the California Air Resources Board (CARB).

AMBIENT AIR QUALITY STANDARDS

Both the U.S. EPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.1-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes were aimed at avoiding health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, $PM_{2.5}$, and PM_{10}. The U.S. EPA signed a final rule for the federal ozone eight-hour standard of 0.070 parts per million (ppm) on October 1, 2015, which was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

TABLE 3.1-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	*AVERAGING TIME*	*FEDERAL PRIMARY STANDARD*	*STATE STANDARD*
Ozone	1-Hour 8-Hour	-- 0.070 ppm	0.09 ppm 0.070 ppm
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 35.0 ppm	9.0 ppm 20.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.053 ppm 0.100 ppm	0.03 ppm 0.18 ppm
Sulfur Dioxide	Annual 24-Hour 1-Hour	0.03 ppm 0.14 ppm 0.075 ppm	-- 0.04 ppm 0.25 ppm
PM_{10}	Annual 24-Hour	-- 150 ug/m^3	20 ug/m^3 50 ug/m^3
$PM_{2.5}$	Annual 24-Hour	12 ug/m^3 35 ug/m^3	12 ug/m^3 --
Lead	30-Day Avg. 3-Month Avg.	-- 0.15 ug/m^3	1.5 ug/m^3 --

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2025A.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less ($PM_{2.5}$) were adopted for 24-hour and annual averaging periods. The existing PM_{10} standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria

pollutants. Unlike criteria pollutants, TACs are regulated based on risk rather than specification of safe levels of contamination.

Existing air quality concerns within San Joaquin County and the entire air basin are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles, which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as "does not meet the primary standards," "cannot be classified," or "better than national standards." For sulfur dioxide, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

San Joaquin County has a State designation Attainment or Unclassified for all criteria pollutants except for ozone, PM_{10}, and $PM_{2.5}$. San Joaquin County has a national designation of either Unclassified or Attainment for all criteria pollutants except for ozone and $PM_{2.5}$. Table 3.1-2 presents the state and national attainment status for San Joaquin County.

TABLE 3.1-2: STATE AND NATIONAL ATTAINMENT STATUS IN SAN JOAQUIN COUNTY[A,B,C,D,E,F]

CRITERIA POLLUTANTS	*FEDERAL DESIGNATIONS[A]*	*STATE DESIGNATIONS[B]*
Ozone (O_3)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment

CRITERIA POLLUTANTS	*FEDERAL DESIGNATIONS*[A]	*STATE DESIGNATIONS*[B]
Sulfur Dioxide (SO_2)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	
Ozone (O_3)	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment

[A] SEE 40 CFR PART 81

[B] SEE CCR TITLE 17 SECTIONS 60200-60210

[C] ON SEPTEMBER 25, 2008, EPA REDESIGNATED THE SAN JOAQUIN VALLEY TO ATTAINMENT FOR THE PM10 NATIONAL AMBIENT AIR QUALITY STANDARD (NAAQS) AND APPROVED THE 2007 PM10 MAINTENANCE PLAN.

[D] THE VALLEY IS DESIGNATED NONATTAINMENT FOR THE 1997 PM2.5 NAAQS. EPA DESIGNATED THE VALLEY AS NONATTAINMENT FOR THE 2006 PM2.5 NAAQS ON NOVEMBER 13, 2009 (EFFECTIVE DECEMBER 14, 2009).

[E] THOUGH THE VALLEY WAS INITIALLY CLASSIFIED AS SERIOUS NONATTAINMENT FOR THE 1997 8-HOUR OZONE STANDARD, EPA APPROVED VALLEY RECLASSIFICATION TO EXTREME NONATTAINMENT IN THE FEDERAL REGISTER ON MAY 5, 2010 (EFFECTIVE JUNE 4, 2010).

[F] EFFECTIVE JUNE 15, 2005, THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) REVOKED THE FEDERAL 1-HOUR OZONE STANDARD, INCLUDING ASSOCIATED DESIGNATIONS AND CLASSIFICATIONS. EPA HAD PREVIOUSLY CLASSIFIED THE DISTRICT AS EXTREME NONATTAINMENT FOR THIS STANDARD. EPA APPROVED THE 2004 EXTREME OZONE ATTAINMENT DEMONSTRATION PLAN ON MARCH 8, 2010 (EFFECTIVE APRIL 7, 2010). THE DISTRICT GOVERNING BOARD ADOPTED THE 2023 MAINTENANCE PLAN AND REDESIGNATION REQUEST AND SUBMITTED TO EPA IN JUNE OF 2023. ALTHOUGH THE STANDARD IS REVOKED, ANTI-BACKSLIDING PROVISIONS CAN BE TERMINATED UPON FINAL APPROVAL OF THE MAINTENANCE PLAN FROM EPA.

SOURCE: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT, 2025.

San Joaquin County Air Quality Monitoring

The SJVAPCD and the CARB maintain air quality monitoring sites throughout San Joaquin County that collect data for ozone and $PM_{2.5}$. In addition, air quality monitoring sites for PM_{10} are located throughout the San Joaquin Valley (though not in San Joaquin County). The closest air quality monitoring station to the Project site is the Tracy-Airport location. It is important to note that while the State retains the one-hour ozone standard, the federal ozone 1-hour standard was revoked by the U.S. EPA and is no longer applicable for federal standards. Best available data obtained from the monitoring sites between 2017 and 2020 (latest year of data available) is shown in Table 3.1-3, Table 3.1-4, and Table 3.1-5.

TABLE 3.1-3 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (TRACY-AIRPORT)* - OZONE

YEAR	*DAYS > STANDARD*				*1-HOUR OBSERVATIONS*			*8-HOUR AVERAGES*				*YEAR COVERAGE*	
	STATE		*NATIONAL*			*STATE*	*NAT'L*	*STATE*		*NATIONAL*			
	1-HR	*8-HR*	*1-HR*	*8-HR*	*MAX.*	*D.V.*[1]	*D.V.*[2]	*MAX.*	*D.V.*[1]	*MAX.*	*D.V.*[2]	*MIN*	*MAX*
2022	0	1	0	1	0.082	0.08	0.084	0.074	0.075	0.074	0.066	95	97
2021	0	3	0	3	0.089	0.09	0.087	0.078	0.077	0.077	0.068	96	98
2020	0	3	0	3	0.086	0.09	0.092	0.078	0.082	0.078	0.070	95	96
2019	1	3	0	3	0.095	0.09	0.092	0.080	0.082	0.079	0.073	97	99
2018	1	8	0	8	0.099	0.10	0.099	0.082	0.085	0.081	0.076	98	99
2017	0	7	0	5	0.093	0.10	0.105	0.082	0.086	0.082	0.077	93	95

*NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. THE NATIONAL 1-HOUR OZONE STANDARD WAS REVOKED IN JUNE 2005 AND IS NO LONGER IN EFFECT. STATISTICS RELATED TO THE REVOKED STANDARD ARE SHOWN IN ITALICS. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2] = NATIONAL DESIGN VALUE. *TRACY-AIRPORT REPRESENTS THE CLOSEST MONITORING STATION TO THE PROJECT SITE.*

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR iADAM) AIR POLLUTION SUMMARIES.

TABLE 3.1-4: AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN VALLEY)* – PM_{10}

YEAR	EST. DAYS > STD.		ANNUAL AVERAGE		HIGH 24-HR AVERAGE		YEAR COVERAGE
	NAT'L	STATE	NAT'L	STATE	NAT'L	STATE	
2022	3.8	171.2	56.7	54.9	250.8	251.6	0 – 10
2021	16.3	151.7	54.9	52.8	437.5	439.3	0 - 97
2020	38.7	157.0	64.5	60.5	517.2	359.0	0 - 100
2019	16.2	129.7	55.6	55.6	652.2	664.2	0 – 100
2018	9.6	164.4	54.5	53.0	250.2	250.4	0 – 100
2017	7.7	145.5	55.3	48.4	298.4	210.0	0 – 100

*NOTES: THE NATIONAL ANNUAL AVERAGE PM_{10} STANDARD WAS REVOKED IN DECEMBER 2006 AND IS NO LONGER IN EFFECT. AN EXCEEDANCE IS NOT NECESSARILY A VIOLATION. STATISTICS MAY INCLUDE DATA THAT ARE RELATED TO AN EXCEPTIONAL EVENT. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. NATIONAL STATISTICS ARE BASED ON STANDARD CONDITIONS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. *THIS DATA REPRESENTS THE HIGHEST VALUES IDENTIFIED WITHIN SAN JOAQUIN VALLEY AS A WHOLE. DATA FOR THE NEAREST MONITORING SITE (TRACY-AIRPORT), AS WELL AS FOR SAN JOAQUIN COUNTY, HAD INSUFFICIENT DATA.*

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

TABLE 3.1-5 AMBIENT AIR QUALITY MONITORING DATA SUMMARY (SAN JOAQUIN COUNTY)* - $PM_{2.5}$

YEAR	EST. DAYS > NAT'L '06 STD.	ANNUAL AVERAGE		NAT'L ANN. STD. D.V.[1]	STATE ANNUAL D.V.[2]	NAT'L '06 STD. 98TH PERCENTILE	NAT'L '06 24-HR STD. D.V.[1]	HIGH 24-HOUR AVERAGE		YEAR COVERAGE	
		NAT'L	STATE					NAT'L	STATE	MIN	MAX
2022	6.2	10.2	10.2	*	15	35.2	54	51.9	51.9	72	96
2021	11.3	11.7	*	*	15	39.9	52	58.7	58.7	14	100
2020	24.0	14.8	14.8	13.8	17	91.6	72	140.0	140.0	98	99
2019	6.4	9.3	6.2	13.0	17	32.9	56	50.1	50.1	77	95
2018	25.0	17.6	17.4	13.8	17	96.9	56	188.0	257.5	96	100
2017	16.9	12.1	11.0	12.2	13	44.2	39	53.7	53.7	94	99

*NOTES: ALL CONCENTRATIONS EXPRESSED IN PARTS PER MILLION. STATE AND NATIONAL STATISTICS MAY DIFFER FOR THE FOLLOWING REASONS: STATE STATISTICS ARE BASED ON CALIFORNIA APPROVED SAMPLERS, WHEREAS NATIONAL STATISTICS ARE BASED ON SAMPLERS USING FEDERAL REFERENCE OR EQUIVALENT METHODS. STATE AND NATIONAL STATISTICS MAY THEREFORE BE BASED ON DIFFERENT SAMPLERS. STATE CRITERIA FOR ENSURING THAT DATA ARE SUFFICIENTLY COMPLETE FOR CALCULATING VALID ANNUAL AVERAGES ARE MORE STRINGENT THAN THE NATIONAL CRITERIA. D.V. [1] = STATE DESIGNATION VALUE. D.V. [2]= NATIONAL DESIGN VALUE. *THIS DATA REPRESENTS THE HIGHEST VALUES IDENTIFIED WITHIN SAN JOAQUIN COUNTY AS A WHOLE. DATA FOR THE NEAREST MONITORING SITE (TRACY-AIRPORT) HAS INSUFFICIENT DATA.*

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the

same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, and schools. The closest sensitive receptors to the Project are located as follows:

- Various rural residences located north of the Project site, along Arbor Avenue;
- Residences located at the intersection of Arbor Avenue and Paradise Road, northeast of the Project site;
- Residential receptors located along California Avenue, east of the Project site;
- Residential receptors located along Grant line Road, south and southeast of the Project site;
- Banta Elementary School, located along Grant Line Road, southeast of the Project site;
- An additional residence, located southeast of the Project site, off of Banta Road and Grante Line Road.

3.1.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The FCAA was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The U.S. EPA is responsible for administering the FCAA. The FCAA requires the U.S. EPA to set NAAQS for several air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and $PM_{2.5}$ ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing.

Federal Hazards Air Pollutants Program

The 1977 CAA Amendments required the USEPA to identify National Emissions Standards for Hazardous Air Pollutants (NESHAPs) to protect the public health and welfare. Hazardous air pollutants include certain VOCs, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals. Under the 1990 CAA Amendments, which expanded the control program for hazardous air pollutants, 189 substances and chemical families were identified as hazardous air pollutants.

Federal Heavy-duty Engines and Vehicles Fuel Efficiency Standards

In 2010, President Obama issued a memorandum directing federal agencies to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and National Highway Traffic Safety Administration (NHTSA) proposed stringent, coordinated federal GHG and fuel economy standards for model year 2017–2025 light-duty vehicles.

STATE

California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation and required additional actions beyond the federal mandates. The CARB administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 State air pollutants are the six pollutants subject to federal standards listed above as well as visibility reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The U.S. EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA. Generally, the planning requirements of the federal CAA are less stringent than the CCAA; therefore, consistency with the CCAA will also demonstrate consistency with the federal CAA.

CARB Mobile-Source Regulation

The State of California is responsible for controlling emissions from the operation of motor vehicles in the State. Rather than mandating the use of specific technology or the reliance on a specific fuel, the CARB motor vehicle standards specify the allowable grams of pollution per mile driven. In other words, the regulations focus on the reductions needed rather than on the way they are achieved. Towards this end, the CARB has adopted regulations that require auto manufacturers to phase in less-polluting vehicles.

California Air Quality Standards

Although NAAQS are determined by the U.S. EPA, states can set standards that are more stringent than the federal standards. As such, California established more stringent ambient air quality standards (i.e. CAAQS), which include the NAAQS as well as visibility reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. However, both federal and state ambient air quality standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, suspended particulates and lead. In addition, California has created standards for pollutants that are not covered by federal standards. Although there is some variability among the health effects of the CAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. The existing state and federal primary standards for major pollutants are shown in Table 3.1-1.

Tanner Air Toxics Act (TACs)

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted U.S. EPA's list of Hazardous Air Pollutants

(HAPs) as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

Toxic Air Contaminants Health Effects

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the 10 TACs that pose the most substantial health risk in California based on available data. The 10 TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

Transportation Control Measures

The State Implementation Plan (SIP) describes the infrastructure (authorities, resources, and programs) California has in place to implement, maintain, and enforce the NAAQS. One aspect of the development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use.

Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

Omnibus Low-NOx Rule

CARB approved the Omnibus Low-NOx Rule on August 28, 2020, which will require engine NOx emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty trucks and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NOx Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that require manufacturers to convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

Low Emission Vehicle Program

The CARB first adopted Low Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan (SIP). In 2012, the CARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program, include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and greenhouse gas (GHG) emissions for new passenger vehicles.

On September 23, 2020, Governor Gavin Newsom issued Executive Order N-79-20 establishing a goal that 100 percent of new passenger cars and trucks sold in California shall be zero-emission by 2035. The Executive Order also sets a goal that, where feasible, all operations include zero-emission medium- and heavy-duty trucks by 2045, and drayage trucks by 2035. Off-road vehicles have a goal to transition to 100 percent zero-emission vehicles by 2035, where feasible.

On-Road Heavy-Duty Vehicle Program

The CARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, and test procedures. The CARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others. Further, the CARB has also adopted the Advanced Clean Trucks Regulation and the Advanced Clean Fleets Regulation. The Advanced Clean Trucks Regulation is a manufacturers ZEV sales requirement and a one-time reporting requirement for large entities and fleets. Similarly, the Advanced Clean Fleets

Regulation will help advance the introduction of zero-emission technologies into California's truck and bus fleets, requiring fleets that are well suited for electrification to transition to zero-emission vehicles (ZEV) through requirements to phase in the use of ZEVs for targeted fleets and requirements that manufacturers only manufacture ZEV trucks starting in the 2036 model year.

California Air Resources Board Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the CARB adopted a regulation to reduce DPM and NOx emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The CARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NOx emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The California Air Resources Board (CARB) approved amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation) on November 17, 2022, aimed at further reducing emissions from the off-road sector.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks.[1]

Diesel Risk Reduction Plan

The CARB's Diesel Risk Reduction Plan has led to the adoption of new State regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020.[2]

LOCAL

City of Tracy General Plan

The City of Tracy General Plan includes several goals, objectives, and policies that are relevant to air quality. General Plan policies applicable to the Project are identified below:

[1] California Air Resources Board (CARB). 2025. Truck and Bus Regulation. Website: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed July 16, 2025.

[2] California Air Resources Board (CARB). 2021. Diesel Risk Reduction Plan. Website: https://ww2.arb.ca.gov/our-work/programs/diesel-risk-reduction-plan. Accessed August 5, 2025

POLICIES: AIR QUALITY ELEMENT

- AQ-1.1-P1. The City shall promote land use patterns that reduce the number and length of motor vehicle trips.
- AQ-1.1-P2. To the extent feasible, the City shall maintain a balance and match between jobs and housing.
- AQ-1.1-P4. Employment areas should include a mix of support services to minimize the number of trips.
- AQ-1.2-P1. The City shall assess air quality impacts using the latest version of the CEQA Guidelines and guidelines prepared by the San Joaquin Valley Air Pollution Control District.
- AQ-1.2-P2. The City shall assess through the CEQA process any air quality impacts of development projects that may be insignificant by themselves, but cumulatively significant.
- AQ-1.2-P3. Developers shall implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.
- AQ-1.2-P4. New development projects should incorporate energy efficient design features for HVAC, lighting systems and insulation that exceed Title 24.
- AQ-1.2-P5. Use of solar water and pool heaters is encouraged.
- AQ-1.2-P6. Installation of solar voltaic panels on new homes and businesses shall be encouraged.
- AQ-1.2-P7. Trees should be planted on the south- and west-facing sides of new buildings or buildings undergoing substantial renovation in order to reduce energy usage.
- AQ-1.2-P9. New developments shall follow the current requirements of the SJVAPCD with respect to wood burning fireplaces and heaters.
- AQ-1.2-P10. Stationary air pollutant emission sources (e.g. factories) shall be located an appropriate distance away and down-wind from residential areas and other sensitive receptors.
- AQ-1.2-P12. New sources of toxic air pollutants shall prepare a Health Risk Assessment as required under the Air Toxics “Hot Spots” Act and, based on the results of the Assessment, establish appropriate land use buffer zones around those areas posing substantial health risks.
- AQ-1.2-P13. Dust control measures consistent with San Joaquin Valley Air Pollution Control District rules shall be required as a condition of approval for subdivision maps, site plans, and all grading permits.
- AQ-1.2-P14. Developments that significantly impact air quality shall only be approved if all feasible mitigation measures to avoid, minimize or offset the impact are implemented.
- AQ-1.2-P15. Encourage businesses to electrify loading docks or implement idling-reduction systems so that trucks transporting refrigerated goods can continue to power cab cooling elements during loading, layovers, and rest periods.
- AQ-1.2-P16. Encourage the use of Best Management Practices in agriculture and animal operations.
- AQ-1.3-P1. The City shall continue to work with the San Joaquin Council of Governments on regional transportation solutions.

- AQ-1.3-P3. The City shall encourage employers to establish Transportation Demand Management programs.
- AQ-1.3-P5. The City shall require direct pedestrian and bicycle linkages from residential areas to parks, schools, retail areas, high-frequency transit facilities and major employment areas.

POLICIES: CIRCULATION ELEMENT

- CIR-1.1-P3: The City shall continue to apply traffic mitigation fee programs to fund transportation infrastructure, based on a fair share of facility use.
- CIR-1.1-P6: The Roadway Master Plan update shall identify necessary improvements to various intersections on I-205 and I-580 based on land use designations and with particular attention to Terminal Access Routes in accordance with Surface Transportation Assistance Act of 1982 (STAA).
- CIR-1.2-P3: New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.
- CIR-1.2-P5: New development shall be designed with a grid or modified grid pattern to facilitate traffic flows and to provide multiple connections to arterial streets.
- CIR-3.1-P6: New development shall include pedestrian and bicycle facilities internal to the development and that connect to citywide facilities, such as parks, schools and recreational corridors, as well as adjacent development and other services.
- CIR-3.1-P7: New development sites for commercial, employment, educational, recreational and park-and-ride land uses shall provide bicycle parking and/or storage facilities.

POLICIES: ECONOMIC DEVELOPMENT ELEMENT

- ED-1.2-P1: The City shall encourage businesses that use green practices.
- ED-1.2-P2: The City shall conduct public education and outreach to support employment opportunities that minimize the need for automobile trips, such as live/work, telecommuting, satellite work centers, and home occupations, in addition to mixed-use development strategies.

San Joaquin Valley Air Pollution Control District

The primary role of SJVAPCD is to develop plans and implement control measures in the SJVAB to control air pollution. These controls primarily affect stationary sources such as industry and power plants. Rules and regulations have been developed by SJVAPCD to control air pollution from a wide range of air pollution sources. SJVAPCD also provides uniform procedures for assessing potential air quality impacts of proposed projects and for preparing the air quality section of environmental documents.

AIR QUALITY PLANNING

The U.S. EPA requires states that have areas that do not meet the National AAQS to prepare and submit air quality plans showing how the National AAQS will be met. If the states cannot show how

the National AAQS will be met, then the states must show progress toward meeting the National AAQS. These plans are referred to as the SIP. In October 2018, the CARB adopted the 2018 Updates to the California State Implementation Plan.

In addition, the CARB requires regions that do not meet California AAQS for ozone to submit clean air plans (CAPs) that describe measures to attain the standard or show progress toward attainment. To ensure federal CAA compliance, SJVAPCD is currently developing plans for meeting new National AAQS for ozone and $PM_{2.5}$ and the California AAQS for PM_{10} in the SJVAB (for California CAA compliance). The following describes the air plans prepared by the SJVAPCD.

8-HOUR OZONE PLAN

The SJVAPCD's Governing Board adopted the 2007 Ozone Plan on April 30, 2007. This far-reaching plan, with innovative measures and a "dual path" strategy, assures expeditious attainment of the federal 8-hour ozone standard as set by U.S. EPA in 1997. The CARB approved the plan on June 14, 2007. The U.S. EPA approved the 2007 Ozone Plan effective April 30, 2012. SJVAPCD adopted the 2016 Ozone Plan to address the federal 2008 8-hour ozone standard, which must be attained by end of 2031.[3,4] More recently, a new ozone attainment plan is under development. Specifically, the 2022 Ozone Plan for the Attainment of the 2015 Federal 8-hour Ozone Standard was adopted on December 15, 2022.

PM_{10} PLAN

Based on PM_{10} measurements from 2003 to 2006, the U.S. EPA found that the SJVAB has reached federal PM_{10} standards. On September 21, 2007, the SJVAPCD's Governing Board adopted the 2007 PM_{10} Maintenance Plan and Request for Redesignation. This plan demonstrated that the valley would continue to meet the PM_{10} standard. U.S. EPA approved the document and on September 25, 2008, the SJVAB was redesignated to attainment/maintenance (SJVAPCD, 2015).

PM2.5 PLAN

The SJVAPCD adopted the 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards on November 15, 2018.[5] This plan addresses the U.S. EPA federal 1997 annual $PM_{2.5}$ standard of 15 µg/m³ and 24-hour $PM_{2.5}$ standard of 65 µg/m³; the 2006 24-hour $PM_{2.5}$ standard of 35 µg/m³; and the 2012 annual $PM_{2.5}$ standard of 12 µg/m³. This plan demonstrates attainment of the federal $PM_{2.5}$ standards as expeditiously as practicable (SJVAPCD, 2025).

[3] SJVAPCD. Ozone Plans. https://ww2.valleyair.org/rules-and-planning/air-quality-plans/ozone-plans/2022-ozone-plan-for-the-san-joaquin-valley/, accessed July 16, 2025.

[4] SJVAPCD. 2016 Plan for the 2008 8-Hour Ozone Standard, https://www.valleyair.org/rules-and-planning/air-quality-plans/ozone-plans/2016-plan-for-the-2008-8-hour-ozone-standard/, accessed July 16, 2025.

[5] SJVAPCD. Particulate Matter Plans. https://ww2.valleyair.org/rules-and-planning/air-quality-plans/particulate-matter-plans/, accessed July 16, 2025.

All the above-referenced plans include measures (i.e., federal, state, and local) that would be implemented through rule making or program funding to reduce air pollutant emissions in the SJVAB. Transportation control measures are part of these plans.

SJVAPCD RULES AND REGULATIONS

SJVAPCD Indirect Source Review

On December 15, 2005, SJVAPCD adopted the Indirect Source Review Rule (ISR or Rule 9510) to reduce ozone precursors (i.e., ROG and NOx) and PM_{10} emissions from new land use development projects. Specifically, Rule 9510 targets the indirect emissions from vehicles and construction equipment associated with these projects and applies to both construction and operational-related impacts. The rule applies to the proposed Project since it proposes more than 25,000 square feet of light industrial uses.

This rule requires the applicants of certain development projects which equal or exceed established applicability thresholds to apply to the SJVAPCD when applying for the development's last discretionary approval. Projects subject to the rule are required to quantify indirect emissions (mobile source emissions), area source emissions and construction exhaust emissions and to mitigate a portion of these emissions. The Indirect Source Rule was adopted December 2005 and last amended December 2017. Rule 9510 was adopted to reduce the impacts of growth in emissions from all new development in the San Joaquin Valley. Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases through on-site measures or pay off-site mitigation fees. One hundred percent of all off-site mitigation fees are used by the SJVAPCD to fund emission reduction projects through its Incentive Programs, achieving emission reductions on behalf of the project. The emission reduction expected from the rule allow the SJVAPCD to achieve attainment of the federal air quality standards for ozone by 2031.

The rule requires all subject, nonexempt projects to mitigate both construction and operational period emissions by (1) applying feasible SJVAPCD-approved mitigation measures, or (2) paying any applicable fees to support programs that reduce emissions. Off-site emissions reduction fees (off-site fees) are required for projects that do not achieve the required emissions reductions through on-site emission reduction measures. Phased projects can defer payment of fees in accordance with an Off-site Emissions Reduction Fee Deferral Schedule (FDS) approved by the SJVAPCD.

To determine how an individual project would satisfy Rule 9510, each project would submit an air quality impact assessment (AIA) to the SJVAPCD as early as possible, but no later than prior to the project's final discretionary approval, to identify the project's baseline unmitigated emissions inventory for indirect sources: on-site exhaust emissions from construction activities and operational activities from mobile and area sources of emissions (excludes fugitive dust and permitted sources). Rule 9510 requires the following reductions, which are levels that the SJVAPCD has identified as necessary, based on its air quality management plans, to reach attainment for ozone and particulate matter:

Construction Equipment Emissions

The exhaust emissions for construction equipment greater than 50 horsepower (hp) used or associated with the development project shall be reduced by the following amounts from the statewide average as estimated by CARB:

- 20 percent of the total NOx emissions
- 45 percent of the total PM_{10} exhaust emissions

AIA mitigation strategies may include those that reduce construction emissions on-site by using less polluting construction equipment, which can be achieved by utilizing add-on controls, cleaner fuels, or newer, lower emitting equipment.

Operational Emissions

- NOx Emissions. Applicants shall reduce 33.3 percent of the project's operational baseline NOx emissions over a period of 10 years as quantified in the approved AIA.
- PM_{10} Emissions. Applicants shall reduce 50 percent of the project's operational baseline PM_{10} emissions over a period of 10 years as quantified in the approved AIA.

These requirements listed above can be met through any combination of on-site emissions reduction measures. If a project cannot achieve the above standards through imposition of mitigation measures, then the project would be required to pay the applicable off-site fees. These fees are used to fund various incentive programs that cover the purchase of new equipment, engine retrofit, and education and outreach.

Fugitive PM_{10} Prohibitions

SJVAPCD controls fugitive PM_{10} through Regulation VIII, Fugitive PM_{10} Prohibitions. The purpose of this regulation is to reduce ambient concentrations of PM_{10} and $PM_{2.5}$ by requiring actions to prevent, reduce, or mitigate anthropogenic (human caused) fugitive dust emissions.

- Regulation VIII, Rule 8021 applies to any construction, demolition, excavation, extraction, and other earthmoving activities, including, but not limited to, land clearing, grubbing, scraping, travel on-site, and travel on access roads to and from the site.
- Regulation VIII, Rule 8031 applies to the outdoor handling, storage, and transport of any bulk material.
- Regulation VIII, Rule 8041 applies to sites where carryout or trackout has occurred or may occur on paved roads or the paved shoulders of public roads.
- Regulation VIII, Rule 8051 applies to any open area having 0.5 acre or more within urban areas or 3.0 acres or more within rural areas, and contains at least 1,000 square feet of disturbed surface area.
- Regulation VIII, Rule 8061 applies to any new or existing public or private paved or unpaved road, road construction project, or road modification project.
- Regulation VIII, Rule 8071 applies to any unpaved vehicle/equipment traffic area.
- Regulation VIII, Rule 8081 applies to off-field agricultural sources.

Sources regulated are required to provide Dust Control Plans that meet the regulation requirements. Under Rule 8021, a Dust Control Plan is required for any residential project that will include 10 or more acres of disturbed surface area, a nonresidential project with 5 or more acres of disturbed surface area, or a project that relocates 2,500 cubic yards per day of bulk materials for at least three days. The Dust Control Plan is required to be submitted to SJVAPCD prior to the start of any construction activity. The Dust Control Plan must also describe fugitive dust control measures to be implemented before, during, and after any dust-generating activity.

Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations

If asphalt paving will be used, then paving operations of the proposed Project will be subject to Rule 4641. This rule applies to the manufacture and use of cutback asphalt, slow cure asphalt and emulsified asphalt for paving and maintenance operations.

Nuisance Odors

SJVAPCD controls nuisance odors through implementation of Rule 4102, Nuisance. Pursuant to this rule, "a person shall not discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health, or safety of any such person or the public or which cause or have a natural tendency to cause injury or damage to business or property."

Employer Based Trip Reduction Program

SJVAPCD has implemented Rule 9410, Employer Based Trip Reduction. The purpose of this rule is to reduce VMT from private vehicles used by employees to commute to and from their worksites to reduce emissions of NOx, ROG, and particulate matter (PM_{10} and $PM_{2.5}$). The rule applies to employers with at least 100 employees. Employers are required to implement an Employer Trip Reduction Implementation Plan (ETRIP) for each worksite with 100 or more eligible employees to meet applicable targets specified in the rule. Employers are required to facilitate the participation of the development of ETRIPs by providing information to their employees explaining the requirements and applicability of this rule. Employers are required to prepare and submit an ETRIP for each worksite to the District. The ETRIP must be updated annually. Under this rule, employers shall collect information on the modes of transportation used for each eligible employee's commutes both to and from work for every day of the commute verification period, as defined in using either the mandatory commute verification method or a representative survey method. Annual reporting includes the results of the commute verification for the previous calendar year along with the measures implemented as outlined in the ETRIP and, if necessary, any updates to the ETRIP.

Visible Emissions

SJVAPCD controls visible emissions through Rule 4101, Visible Emissions. The purpose of this regulation is to prohibit visible air contaminants in the atmosphere. This rule requires that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant, other than uncombined water vapor, for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

- As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.
- Of such opacity as to obscure an observer's view to a degree equal to or greater than the smoke described in Section 5.1 of this rule.

Architectural Coatings

The purpose of SJVAPCD Rule 4601 is to limit VOC emissions from architectural coatings. This rule specifies architectural coatings storage, cleanup, and labeling requirements. This rule is applicable to any person who supplies, markets, sells, offers for sale, applies, or solicits the application of any architectural coating, or who manufactures, blends, or repackages any architectural coating for use within the District.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with air quality if it will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

APPROACH TO ANALYSIS

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, the SJVAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project would exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable SJVAPCD thresholds and methodologies are contained under each impact statement below, as the City, in its discretion, has determined to utilize these thresholds and methodologies, which are based on scientific and factual data.

This analysis was performed consistent with the guidance and methodologies provided by the SJVAPCD's GAMAQI.[6] Based on the SJVAPCD New Source Review (NSR) offset requirements for stationary sources, the SJVAPCD has established thresholds of significance for criteria pollutant emissions, shown in Table 3.1-6. These thresholds apply to the project because these air pollutants would be generated during project construction and operation and constitute criteria pollutants or

[6] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Guidance for Assessing and Mitigating Air Quality Impact. Website: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf. Accessed August 6, 2025.

precursor emissions for criteria pollutants, which are regulated by the federal and State Clean Air Acts.

TABLE 3.1-6: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT SIGNIFICANCE THRESHOLDS

POLLUTANT	*CONSTRUCTION THRESHOLDS (TPY)*	*OPERATIONAL THRESHOLDS (TPY)*
ROG	10	10
NOx	10	10
CO	100	100
SOx	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15

SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WW2.VALLEYAIR.ORG/MEDIA/M2ECYXIW/1-CMS-FORMAT-CEQA-AIR-QUALITY-THRESHOLDS-OF-SIGNIFICANCE-CRITERIA-POLLUTANTS.PDF ACCESSED AUGUST 6, 2025.

The SJVAPCD has also established significance thresholds to assess the impacts of project-related construction and operational emissions on regional and local ambient air quality. Table 3.1-7 shows the daily mass emissions screening criteria for construction and operation as adopted by the SJVAPCD for CAP and TAC emissions. The analysis summarized in this report estimates project-related construction and operational mass emissions and compares the emissions to these significance thresholds.

TABLE 3.1-7: SJVAPCD DAILY MASS EMISSIONS SCREENING CRITERIA

POLLUTANT	*CONSTRUCTION THRESHOLDS (POUNDS PER DAY)*	*OPERATIONAL THRESHOLDS (POUNDS PER DAY)*
ROG	100	100
NOx	100	100
CO	100	100
SOx	100	100
PM_{10}	100	100
$PM_{2.5}$	100	100

SOURCES: SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT (SJVAPCD). 2015. GUIDANCE FOR ASSESSING AND MITIGATING AIR QUALITY IMPACT. WEBSITE: HTTPS://WWW.VALLEYAIR.ORG/TRANSPORTATION/CEQA%20RULES/GAMAQI%20JAN%202002%20REV.PDF ACCESSED AUGUST 6, 2025.

The daily mass emissions screening criteria provided in Table 3.1-7 represent screening-level thresholds that can be used to evaluate whether project-related emissions would cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. If emissions exceed those thresholds, modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the CAAQS and NAAQS, including appropriate background levels.

CRITERIA POLLUTANT EMISSIONS MODELING

California Emission Estimator Model (CalEEMod)™ (v.2022.1), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts, was used to estimate emissions for the proposed Project. Project construction was assumed to be completed in

four phases. However, the exact timing of Project construction would depend on Project needs, availability of materials and more. The modeled construction schedule is conservative, in that it assumes buildout of the Project much earlier than when it may occur; this represents a conservative approach to modeling, since the emissions efficiency of on- and off-road construction vehicles would increase over time.

The land use assumptions for the modeling are: Unrefrigerated Warehouse – No Rail (466,977 square feet); Unrefrigerated Warehouse – No Rail (251,188 square feet); General Office Building (17,000 square feet); Parking Lot (569 spaces). Vehicle trips, vehicle miles traveled (VMT), and fleet mix estimated in the modeling are consistent with those provided by Kimley Horn in its traffic analysis (see Appendix g of the Draft EIR for further detail).

The construction phase details are provided in Table 3.1-8, below. Project construction activities were assumed to occur five days per week, per the CalEEMod default data. The Project is assumed to be constructed over the course of approximately two years (refer to Table 3.1-8 below, for the construction schedule modeled within CalEEMod, for the purposes of emissions modeling. The first construction phase was modeled and assessed against the SJVAPCD's significance thresholds since this phase represents the worst-case analysis with the highest construction vehicle engine exhaust emission rates. Future emission rates are anticipated to be greater due to the phase out of older dirtier engines and the use of cleaner more stringent engine exhaust standards. Future construction phases are anticipated to have comparable durations and equipment usage. See Appendix B of this Draft EIR for further detail.

TABLE 3.1-8: ANTICIPATED CONSTRUCTION SCHEDULE FOR THE FIRST CONSTRUCTION PHASE

CALEEMOD PHASE	*CALEEMOD PHASE START DATE*	*CALEEMOD PHASE END DATE*
Site Preparation	1/30/2026	2/13/2026
Grading	2/14/2026	4/4/2026
Building Construction	4/5/2026	9/5/2027
Paving	9/6/2027	10/4/2027
Architectural Coating	10/5/2027	11/2/2027

SOURCE: CALEEMOD (DEFAULT VALUES).

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project operation would conflict with or obstruct implementation of the District's air quality plan. (Significant and Unavoidable)

The CEQA Guidelines indicate that a significant impact would occur if the proposed Project would conflict with or obstruct implementation of the applicable Air Quality Attainment Plan (AQAP). The CARB has developed a three-step approach to determine project conformity with the applicable AQAP:

- *Determination that an AQAP is being implemented in the area where the project is being proposed.*

- *The proposed project must be consistent with the growth assumptions of the applicable AQAP.*
- *The project must contain in its design all reasonably available and feasible air quality control measures.*

The proposed Project is in conformance with the AQAP, based on these criteria, as follows:

- *Determination that an AQAP is being implemented in the area where the project is being proposed.*

The SJVAPCD has implemented the current, modified 2016 8-hour AQAP as approved by CARB and approved by USEPA for the 2008 8-hour O_3 standard.

- *The proposed project must be consistent with the growth assumptions of the applicable AQAP.*

The San Joaquin Council of Governments (SJCOG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) growth projections provide for future employment/population factors. The development of the SJVAPCD AQAP is based in part on the land use general plan projections of the various cities and counties that constitute the Air Basin. The City of Tracy General Plan Land Use Element designates the Project site as Industrial, which is intended to accommodate flex/office space, manufacturing, warehousing and distribution, and ancillary uses for workers' needs. Therefore, the proposed Project, which involves the development of light industrial, warehouse and distribution and related uses, is considered consistent with the site's General Plan land use designation and its traffic would be included in volumes projected for analysis of the General Plan. The SJVAPCD AQAP is based on the growth assumptions of the City of Tracy General Plan and SJCOG RTP/SCS. Since the Project is consistent with the SJCOG RTP/SCS, and SJCOG RTP/SCS projections are incorporated into the SIP, the Project is also consistent with the SIP.

- *The project must contain in its design all reasonably available and feasible air quality control measures.*

The Project incorporates various policy and rule-required implementation measures that would reduce related emissions, including all of the current Air District rules and regulations.[7] For example, the proposed Project would be required to implement Air District Rule 9510, which ensures that the Project would fulfill the Air District's emissions reduction commitments in the relevant PM_{10} and Ozone Attainment plans.[8] In addition, the Project would comply with all applicable stationary source permitting rules implemented by SJVAPCD, which further confirms the Project would not cause or contribute to any ambient air quality standard exceedances. Moreover, the proposed Project would also implement various mitigation measures that would reduce Project operational and construction emissions, as provided below.

[7] See here for further detail: https://www.valleyair.org/rules/1ruleslist.htm

[8] Compliance with Air District Rule 9510 is assumed under CEQA.

Nevertheless, as described in detail under Impact 3.1-2, the proposed Project would exceed the SJVAPCD's thresholds for operational criteria air pollutants for NOx (even with implementation of all feasible mitigation). Therefore, the proposed Project is required to implement Mitigation Measure 3.1-1 through Mitigation Measure 3.1-13. However, since the Project's operational emissions for NOx would remain in exceedance of the applicable criteria pollution thresholds, even with implementation of the following mitigation measures, the Project's potential impact to this environmental topic is considered ***significant and unavoidable.***

MITIGATION MEASURE(S)

Mitigation Measure 3.1-1: *During Project operation, operators of heavy-duty trucks that travel to and from the Project site are required to use trucks that have 2010 model year or newer engines that meet the CARB's 2010 engine emission standards of 0.01 g/bhp-hr for particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions, or newer, cleaner trucks and equipment.*

Mitigation Measure 3.1-2*: The Project applicant shall ensure that diesel generators, if needed, shall not be used on site during project operations, except in emergency situations, in which case such generators shall have Best Available Control Technology (BACT) that meets CARB's final Tier IV emission standards.*

Mitigation Measure 3.1-3*: The Project applicant shall install and maintain perimeter landscaping that includes vegetation and a tree canopy (which may include structural solar canopies).*

Mitigation Measure 3.1-4*: The Project applicant shall install Energy Star certified appliances or equivalent.*

Mitigation Measure 3.1-5*: The Project applicant shall install energy efficient lighting that meets or exceeds Title 24 requirements.*

Mitigation Measure 3.1-6*: The Project applicant shall devise and implement a property maintenance plan during Project operation that includes sweeping parking lots regularly to remove road dust, tire wear, brake dust, and other contaminants.*

Mitigation Measure 3.1-7*: The Project applicant shall take reasonable measures to restrict truck idling (during construction) onsite to a maximum of two minutes, and in no instance shall idling exceed five minutes consistent with the requirements established by the California Air Resources Board. To achieve this limit, the developer shall inform drivers and operators of idling time limits by including highly visible signage at key points onsite, such as at docks and delivery areas. During Project operation, anti-idling signs indicating a 3-minute diesel truck engine idling restriction shall be posted at the project facilities along entrances to the Project site and in the dock areas.*

Mitigation Measure 3.1-8*: The Project applicant shall train managers and employees on efficient scheduling and load management to minimize queuing and idling of trucks.*

Mitigation Measure 3.1-9*: The Project applicant shall ensure that all landscape equipment used on-site shall be electric or zero-emission vehicles. The Project applicant shall provide on-site electrical charging facilities to adequately service such electric vehicles.*

Mitigation Measure 3.1-10*: The Project applicant shall install conduit as infrastructure for electric vehicle charging stations onsite to allow for truck docks to charge electric trucks in the future. Such conduit shall be provided on the site to serve a minimum of 50% of the number of truck docking stations, with the location of conduit at the discretion of the developer (e.g., truck trailer parking spaces or other locations).*

Mitigation Measure 3.1-11*: The Project applicant shall provide priority parking for employee carpool vehicles.*

Mitigation Measure 3.1-12*: The Project shall incorporate daylighting within the warehouses to minimize energy consumption associated with lighting.*

Mitigation Measure 3.1-13*: The Project applicant shall, during construction, use super compliant architectural coatings that have a maximum of 10 grams per liter. This will apply to the majority of flat and nonflat coatings. Exemptions to this requirement will be limited to specialty coatings that do not have a super compliant VOC content option. A list of manufacturers that provide architectural coatings with 10 grams per liter of VOCs can be found at: https://www.aqmd.gov/home/rules-compliance/compliance/vocs/architectural-coatings/super-compliant-coatings.*

Impact 3.1-2: The proposed Project would result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard. (Significant and Unavoidable)

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically exceeded the ambient air quality standard. It follows that if a Project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

The Air Basin is in nonattainment for PM_{10}, $PM_{2.5}$, and ozone. Therefore, if the proposed Project exceeds the regional thresholds for PM_{10}, or $PM_{2.5}$, then it would contribute to a cumulatively considerable impact for those pollutants. If the proposed Project exceeds the regional threshold for NOx or VOC (which are precursors to ozone), then it follows that the proposed Project would result in a cumulatively considerable contribution and thus result in a significant cumulative impact for ozone.

Regional emissions include those generated from all on-site and off-site activities. Regional significance thresholds have been established by the SJVAPCD because emissions from projects in the Air Basin can potentially contribute to the existing emission burden and possibly affect the attainment and maintenance of ambient air quality standards. Projects within the Air Basin with

regional emissions that exceed any of the thresholds presented previously are considered to have a significant regional air quality impact.

CONSTRUCTION EMISSIONS

Emissions from construction activities represent temporary impacts that are typically short in duration, depending on the size, phasing, and type of project. Construction-related activities would result in Project-generated emissions from site preparation, grading, paving, building construction, and architectural coatings. CalEEMod™ (v.2022.1) was used to estimate construction emissions for the proposed Project. Table 3.1-9, below, provides the construction criteria pollutant emissions and thresholds associated with implementation of the proposed Project. It should be noted that the SJVAPCD recommends the same criteria pollutant thresholds for both construction and operational emissions, as provided within the *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts* (2015). If the proposed Project's emissions exceed the SJVAPCD's threshold of significance for construction-generated emissions, the proposed Project would have a significant impact on air quality. As shown in Table 3.1-9, the proposed Project would not exceed the SJVAPCD thresholds of significance for construction-related criteria pollutant emissions and consequently would not result in significant impact on regional air quality.

TABLE 3.1-9: CONSTRUCTION PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
THRESHOLD	**100**	**10**	**10**	**27**	**15**	**15**
YEAR 2026	3	2	<1	<1	<1	<1
YEAR 2027	2	1	2.01	<1	<1	<1
YEAR 2028	<1	<1	<1	<1	<1	<1
YEAR 2029	<1	<1	<1	<1	<1	<1
YEAR 2030	<1	<1	<1	<1	<1	<1
MAXIMUM EMISSIONS	**3**	**2**	**2**	**<1**	**<1**	**<1**
EXCEEDS THRESHOLD?	**N**	**N**	**N**	**N**	**N**	**N**

SOURCES: CALEEMOD (V.2022.1)

Additionally, the SJVAPCD has developed daily mass emissions screening criteria for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ to determine whether project emissions would result in a violation of an AAQS. Because the NAAQS and CAAQS are concentration-based standards, Project emissions were evaluated using the SJVAPCD mass emissions screening approach, which provides a preliminary assessment to determine whether a project would contribute to a violation of an AAQS. The screening is conducted by evaluating daily Project emissions against a 100 pound per day threshold for each criteria air pollutant. The following table (Table 3.1-10) provides the proposed Project's construction emissions in pounds per day in comparison to these screening thresholds.

TABLE 3.1-10: CONSTRUCTION PROJECT GENERATED EMISSIONS (MAXIMUM POUNDS PER DAY)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
MAXIMUM UNMITIGATED EMISSIONS	33	47	179	<1	13	6
THRESHOLD (POUNDS/DAY)	100	100	100	100	100	100
EXCEEDS THRESHOLD?	**No**	**No**	**Yes**	**No**	**No**	**No**
MAXIMUM MITIGATED EMISSIONS	36	20	42	<1	12	5
THRESHOLD (POUNDS/DAY)	100	100	100	100	100	100
EXCEEDS THRESHOLD?	**No**	**No**	**No**	**No**	**No**	**No**

SOURCES: CALEEMOD (V.2022.1)

NOTE: TO PROVIDE A CONSERVATIVE ANALYSIS, TOTAL EMISSIONS ARE SHOWN, ALTHOUGH THE SJVAPCD GUIDANCE RECOMMENDS THAT ONLY THOSE EMISSIONS THAT ARE "ON-SITE" FOR THE PURPOSES OF DAILY MASS EMISSIONS SCREENING. REGARDLESS, EMISSIONS ARE BELOW THE APPLICABLE THRESHOLDS.

As shown in Table 3.1-10, under the unmitigated scenario, the proposed Project would not exceed the daily mass screening criteria thresholds during Project construction, except for ROG emissions result from the application of architectural coatings. Mitigation Measure 3.1-13 requires the Project to use super compliant coatings of 10 grams per liter.[9] Implementation of this mitigation would measure reduce ROG emissions below the SJVAPCD's significance thresholds. Therefore, with implementation of the mitigation measures provided under Impact AQ-1, the Project's construction-related criteria pollutant emissions would have a ***less than significant*** impact.

OPERATIONAL EMISSIONS

The SJVAPCD is tasked with implementing programs and regulations required by the FCAA and the CCAA. In that capacity, the SJVAPCD has prepared plans to attain Federal and State ambient air quality standards. To achieve attainment with the standards, the SJVAPCD has established thresholds of significance for criteria pollutant emissions in its *Guidance for Assessing and Mitigating Air Quality Impacts* (2015). Projects with emissions below the thresholds of significance for criteria pollutants would be determined to "Not conflict or obstruct implementation of the District's air quality plan," and to not have a cumulatively considerable net increase of a criteria pollutant for which the project region is in non-attainment. If the proposed Project's emissions exceed the SJVAPCD's threshold of significance for operational-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation measures must be implemented to reduce emissions.

Mobile source emissions will be generated by the Project due to the vehicle travel expected to occur to and from the Project site. According to the Traffic Analysis (Kimley Horn) (as provided in Appendix G of the Draft EIR), the proposed Project is anticipated to generate approximately 1,084 total trips per day. Of these, it is estimated that there would be 290 truck trips per day. It should also be noted

[9]See: https://www.aqmd.gov/home/rules-compliance/compliance/vocs/architectural-coatings/super-compliant-coatings

that the air quality analysis is based on the warehouse, distribution, and manufacturing uses have average trip length for passenger vehicles of 29.3 miles, medium trucks 32.3 miles, and heavy trucks have 41.8 miles. This reflects the average truck trip length within the *San Joaquin Countywide Warehousing Data Collection and Travel Behavior Study* completed by Fehr & Peers in 2021.

CalEEMod™ (v.2022.1) was used to model operational emissions of the proposed Project. Table 3.1-11 shows the proposed Project emissions as provided by CalEEMod, in tons per year and pounds per day, respectively. As shown in Table 3.1-10 below, total Project operational emissions would exceed the SJVACPD threshold of significance for NOx in terms of tons per day (primarily due to vehicle trips). Mitigation Measures 3.1-1 through 3.1-13 would reduce operations phase emissions to the degree feasible. However, since most emissions are associated with vehicular trips associated with worker commutes and truck deliveries, emissions would still exceed the SJVAPCD's significance thresholds, even with implementation of all mitigation measures, this impact would remain significant and unavoidable.

TABLE 3.1-11: OPERATIONAL PROJECT GENERATED EMISSIONS (TONS PER YEAR)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
MOBILE	39	19	3	<1	14	4
AREA	3	<1	4	<1	<1	<1
ENERGY	<1	<1	<1	<1	<1	<1
WATER	0	0	0	0	0	0
WASTE	0	0	0	0	0	0
REFRIG.	0	0	0	0	0	0
TOTAL	**42**	**19**	**6**	**<1**	**14**	**4**
THRESHOLD	100	10	10	27	15	15
EXCEEDS THRESHOLD?	**No**	**Yes**	**No**	**No**	**No**	**No**

SOURCES: CALEEMOD (V.2022.1)

The SJVAPCD has also developed daily mass emissions screening criteria for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ to determine whether project emissions would result in a violation of an AAQS. Because the NAAQS and CAAQS are concentration-based standards, Project emissions were evaluated using the SJVAPCD mass emissions screening approach, which provides a preliminary assessment to determine whether a project would contribute to a violation of an AAQS. The screening is conducted by evaluating daily Project emissions against a 100 pound per day threshold for each criteria air pollutants. The following table (Table 3.1-12) provides the proposed Project's operational emissions in pounds per day in comparison to these screening thresholds. As shown in Table 3.1-12, the proposed Project's operational emissions would not exceed any of the daily mass screening criteria thresholds. Overall, emissions would be less than the SJVAPCD's significance thresholds and consequently result in less than significant localized emissions.

TABLE 3.1-12: OPERATIONAL PROJECT GENERATED EMISSIONS (POUNDS PER DAY)

POLLUTANT	*CO*	*NOX*	*ROG*	*SOX*	*PM_{10}*	*$PM_{2.5}$*
MAXIMUM UNMITIGATED EMISSIONS	46	7	23	<1	4	1
THRESHOLD (POUNDS/DAY)	100	100	100	100	100	100
EXCEEDS THRESHOLD?	**No**	**No**	**No**	**No**	**No**	**No**
MAXIMUM MITIGATED EMISSIONS	46	7	22	<1	4	1
THRESHOLD (POUNDS/DAY)	100	100	100	100	100	100
EXCEEDS THRESHOLD?	**No**	**No**	**No**	**No**	**No**	**No**

SOURCES: CALEEMOD (V.2022.1)

NOTE: EMISSIONS ONLY INCLUDE THOSE EMISSIONS THAT ARE CONSIDERED "ON-SITE," PER SJVAPCD GUIDANCE. THIS EXCLUDES "MOBILE" EMISSIONS, EXCEPT FOR APPROXIMATELY 5% OF MOBILE EMISSIONS THAT ARE ESTIMATED TO BE ON-SITE.

REGULATORY COMPLIANCE

In accordance with SJVAPCD Rule 9510, an Air Impact Assessment (AIA) shall be prepared based on the applicability and exemption criteria of Rule 9510.[10] The rule includes general mitigation requirements for construction and/or operational emissions. Per the general mitigation requirements of Rule 9510, the Project shall reduce the project's operational baseline NOx emissions by 33.3% over a period of ten years as quantified in the approved AIA. The project shall pay any off-site fees in full by the invoice due date or prior to generating the emissions associated with the Project or any phase thereof, whichever occurs first. Those fees are in turn used by SJVAPCD to fund offsite mitigation projects throughout the Air District.

Separately, prior to the issuance of a Grading Permit for each phase of the Project, the Project Proponent shall prepare and submit a Dust Control Plan that meets all the applicable requirements of APCD Rule 8021, Section 6.3. Additionally, the Project would be required to implement dust control measures that include application of water or chemical dust suppressants to unpaved roads and graded areas, covering or stabilization of transported bulk materials, prevention of carryout or trackout of soil materials to public roads, limiting the area subject to soil disturbance, construction of wind barriers, access restrictions to inactive sites, as required by the applicable rules. The Project would also be required to, during all construction activities, implement the dust control practices identified in Tables 6-2 and 6-3 of the GAMAQI (2002).

CONCLUSION

Criteria pollutant emissions generated by the proposed Project during operation would exceed applicable thresholds after compliance with all rules and regulations, even after implementation of Mitigation Measure 3.1-1 through Mitigation Measure 3.1-13. No other feasible mitigation measure

[10] Available at: https://www.valleyair.org/media/la5eedpb/rule-9510.pdf. Accessed: July 16, 2025.

exists to reduce the applicable operational criteria pollutant impacts to below the applicable SJVAPCD thresholds. Therefore, this impact would be ***significant and unavoidable***.

MITIGATION MEASURE(S)

Implement ***Mitigation Measure 3.1-1 through Mitigation Measure 3.1-13.***

Impact 3.1-3: The proposed Project would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant)

TOXIC AIR CONTAMINANTS

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. The SJVAPCD considers a sensitive receptor to be a location that houses or attracts children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. There are no traditional sensitive receptors such as residences, convalescent facilities, or schools that are proposed as part of the proposed Project. The closest sensitive receptors to the Project are located as follows:

- Various rural residences located north of the Project site, along Arbor Avenue;
- Residences located at the intersection of Arbor Avenue and Paradise Road, northeast of the Project site;
- Residential receptors located along California Avenue, east of the Project site;
- Residential receptors located along Grant line Road, south and southeast of the Project site;
- Banta Elementary School, located along Grant Line Road, southeast of the Project site;
- An additional residence, located southeast of the Project site, off of Banta Road and Grante Line Road.

Heavy-duty trucks are a common source of Diesel Particulate Matter (DPM), in contrast to passenger vehicles (such as light-duty cars and trucks). The inhalation of DPM generates cancer and non-cancer health risks, especially where concentrations are elevated for long periods of time and for younger sensitive receptors. The SJVAPCD's GAMAQI (SJVAPCD, 2015) includes procedures for evaluating hazardous air pollutants. Based on the guidance provided in the GAMAQI, an air toxics health impact analysis has been prepared for the proposed Project to analyze the Project's anticipated impacts from diesel exhaust emitted by heavy-duty trucks operated as part of the Project.

An air toxics health risk assessment was conducted utilizing Lakes Environmental Software AERMOD and the CARB's Hotspots Analysis Reporting Program Version 2 (HARP 2) Air Dispersion, Modelling, and Risk Tool (ADMRT) for the DPM associated with the heavy-duty trucks. Operational emissions associated with truck idling, TRU (truck refrigeration unit) idling, and on-site and off-site truck travel were calculated. The maximum residential (70-year exposure) cancer, workplace (40-year exposure) cancer, chronic (non-cancer), and acute (non-cancer) risks were assessed and compared to SVJAPCD

thresholds. Furthermore, construction emissions associated with on-site off-road construction equipment were also modeled, over the duration of the construction period (of approximately two years). A Health Risk Assessment was prepared for the Project. See Appendix B of this Draft EIR for full model inputs. Table 3.1-13 presents the results of the analysis.

TABLE 3.1-13: SUMMARY OF MAXIMUM HEALTH RISKS

RISK METRIC	*MAXIMUM PROJECT RISK*	*SIGNIFICANCE THRESHOLD*	*IS THRESHOLD EXCEEDED?*
OPERATIONAL			
Residential Cancer Risk (70-year exposure)	<1 per million	20 per million	No
Workplace Cancer Risk (40-year exposure)	<1 per million	20 per million	No
Chronic (non-cancer)	<0.1	Hazard Index ≥1	No
Acute (non-cancer)	0	Hazard Index ≥1	No
CONSTRUCTION			
Residential Cancer Risk (70-year exposure)	<1 per million	20 per million	No
Workplace Cancer Risk (4-year exposure)	<1 per million	20 per million	No
Chronic (non-cancer)	<0.1	Hazard Index ≥1	No
Acute (non-cancer)	0	Hazard Index ≥1	No
TOTAL			
Residential Cancer Risk (Aggregate)	<1 per million	20 per million	No
Workplace Cancer Risk (Aggregate)	<1 per million	20 per million	No
Chronic (non-cancer)	<0.1	Hazard Index ≥1	No
Acute (non-cancer)	0	Hazard Index ≥1	No

SOURCES: AERMOD 13.0.0; AND HARP-2 AIR DISPERSION AND RISK TOOL (VERSION 22118).

Overall, the results show that the operational residential cancer risk would remain below the SJVAPCD threshold of 20 in a million at areas near the project site that contain residential receptors, at a total of less than 1 per million (at the location of maximum residential cancer risk), during Project operation. It should be noted that this is a highly conservative estimate, since the modeled results assume that the same individual has a 70-year exposure timeframe starting at the third trimester, and therefore the real risk is anticipated to be far below this risk level since the majority of people would be exposed to a much shorter period which results in lower risk levels.

Furthermore, operational workplace cancer risk would also be below the threshold, at less than 1 in a million at its peak value, for workers that may be located at or near the analyzed locations. The analysis of offsite worker exposure is also conservative since it assumes that the same individual would be at this location near the Project site for 40 years.

The results also show that construction-related cancer risks would be below the SJVAPCD's cancer risk threshold of 20 in a million. Construction-related residential cancer risk would be less than 1 in a million; and construction-related workplace cancer risk would also be less than one in a million.

Overall, as shown in Table 3.1-13, aggregate risk levels (i.e. combined operational and construction-related health risks) are estimated to not exceed 1 in a million, and is less than the 20 in a million threshold for residences and workers, consistent with SJVAPCD guidance. Receptors located further away from those included in the analysis would result in lower levels of air pollutant exposure and consequently would likewise be below the significance thresholds.

Chronic or long-term exposures and acute exposure to DPM can result in non-cancer health effects. Chronic and acute non-cancer hazards results show that the acute and chronic risk on and near the project site would remain below the hazard index of ≥1. It should be noted that DPM does not generate acute health risks, and therefore the acute health risks from the Project site would be zero.

The results of these computer models indicate that combined construction and operations phase health risks related to the proposed Project would result in cancer risk, acute, and chronic exposure that are below the significance thresholds adopted by the San Joaquin Valley Air Pollution Control District. Consequently, the Project would result in ***less than significant*** impacts to health risk from toxic air contaminants.

VALLEY FEVER

Valley Fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, Coccidioides immitis (C. immitis). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The San Joaquin Valley is considered an endemic area for Valley Fever. By geographic region, hospitalizations for Valley Fever in the San Joaquin Valley increased from 230 (6.9 per 100,000 population) in 2000 to 701 (17.7 per 100,000 population) in 2007. Within the region, Kern County reported the highest hospitalization rates, increasing from 121 (18.2 per 100,000 population) in 2000 to 285 (34.9 per 100,000 population) in 2007, and peaking in 2005 at 353 hospitalizations (45.8 per 100,000 population). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley Fever died.[11]

The distribution of C. immitis within endemic areas is not uniform and C. immitis growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for C. immitis growth. Avoidance, when feasible, of sites favorable for the

[11] The Centers for Disease Control and Prevent (CDC). 2009. Increase in Coccidioidomycosis – California, 2000-2007. February 13. Website: https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5805a1.htm. Accessed August 6, 2025.

occurrence of C. immitis is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of C. immitis:[12]

1. Rodent burrows (often a favorable site for C. immitis, perhaps because temperatures are more moderate and humidity higher than on the ground surface).
2. Prehistoric Indian campsites near fire pits.
3. Areas with sparse vegetation and alkaline soils.
4. Areas with high salinity soils.
5. Areas adjacent to arroyos (where residual moisture may be available).
6. Packrat middens.
7. Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils.
8. Sandy well aerated soil with relatively high-water holding capacities.

Sites within endemic areas less favorable for the occurrence of C. immitis include:

1. Cultivated fields
2. Heavily vegetated areas (e.g., grassy lawns)
3. Higher elevations (above 7,000 feet)
4. Areas where commercial fertilizers (e.g., ammonium sulfate) have been applied
5. Areas that are continually wet
6. Paved (asphalt or concrete) or oiled areas
7. Soils containing abundant microorganisms
8. Heavily urbanized areas where there is little undisturbed virgin soil

The Project site is relatively undeveloped and is surrounded by undeveloped, agricultural, and industrial, and land uses that are semi-rural to urban in character. Because most of the Project site and the immediately surrounding vicinity consists of urbanized development or cultivated fields, the Project site is an area that would lead to a low probability of having C. immitis growth sites and exposure from disturbed soil.

Construction activities would generate fugitive dust that could contain C. immitis spores. The proposed Project would be required to minimize the generation of fugitive dust during construction activities by complying with the SJVAPCD's District Rule 8021. District Rule 8021 requires limitation of fugitive dust emissions from construction, demolition, excavation, extraction, and other earthmoving activities, by implementing control measures such as pre-watering the Project site, phasing construction work to reduce the amount of disturbed surface at any one time, and applying water or other suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas. Therefore, this regulation would ensure that Valley Fever impacts during construction are less than significant.

[12] United States Geological Survey (USGS). 2000. Operational Guidelines (Version 1.0) for Geological Fieldwork in Areas Endemic for Coccidioidomycosis (Valley Fever). Website: https://pubs.usgs.gov/publication/ofr00348. Accessed August 6, 2025.

During operations, dust emissions are anticipated to be negligible, because the Project site would be occupied by buildings, pavement, and landscaped areas after construction is complete. Therefore, Project operations would not occur on undeveloped sites and dust emissions typically associated with activity on unpaved surfaces would be negligible. This condition would preclude the possibility of the proposed Project from generating significant fugitive dust that may contribute to Valley Fever exposure. Impacts would be ***less than significant***.

ASBESTOS AND LEAD-BASED PAINT EXPOSURE

According to a map of areas where naturally occurring asbestos in California is likely to occur, there are no such areas in the vicinity of the Project site.[13] In addition, there are no existing buildings that have lead-based paint or asbestos containing materials. Therefore, development of the proposed Project is not anticipated to expose receptors to naturally occurring asbestos, asbestos containing materials, or lead-based paint. This impact would be ***less than significant***.

Impact 3.1-4: The proposed Project would not cause exposure to other emissions (such as those leading to odors) adversely affecting a substantial number of people. (Less than Significant)

The following text addresses odors. Other emissions (including criteria pollutants and TACs) are addressed in Impacts 3.1-1 through 3.1-4.

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SJVAPCD. The general nuisance rule (Health and Safety Code §41700) is the basis for the threshold.

Examples of facilities that are known producers of odors include: Wastewater Treatment Facilities, Chemical Manufacturing, Sanitary Landfill, Fiberglass Manufacturing, Transfer Station, Painting/Coating Operations (e.g. auto body shops), Composting Facility, Food Processing Facility, Petroleum Refinery, Feed Lot/Dairy, Asphalt Batch Plant, and Rendering Plant.

If a project proposes to locate receptors and known odor sources in proximity to each other, further analysis may be warranted. However, if a project would not locate receptors and known odor sources in proximity to each other, then further analysis is not warranted. The proposed Project does not include new industrial uses that are not already present in the vicinity of the Project site. Additionally, there are new residences within 0.25 miles of the Project site. Moreover, since the proposed Project would not be a source of offensive odors, sensitive receptors located near the Project site would not be exposed by the Project to significant odors that would affect a substantial number of people. Air district Rule 402 prohibits any mobile or stationary source generating an objectionable odor, except for odors emanating from certain agricultural operations. The California

[13] United States Geological Survey (USGS). 2011. Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California. Website: https://pubs.usgs.gov/of/2011/1188/. Accessed August 6, 2025.

Health and Safety Code §41700 and Air District Rule 402 prohibit emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed Project from emitting objectionable odors. The Project does not propose uses that would create new odors that would adversely affect a substantial number of people. The proposed Project also does not introduce any new sensitive receptors. Therefore, operation of the proposed Project would not result in significant objectionable odors. Impacts associated with exposure to odors would be ***less than significant.***

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This section discusses regional greenhouse gas (GHG) emissions, climate change, and energy impacts that could result from Project implementation. The analysis contained in this section is intended to be at a Project level, and covers impacts associated with the conversion of the entire site to urban uses. This section provides a background discussion of greenhouse gases and climate change linkages and effects of global climate change. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG, climate change, and energy conservation impacts in this section focuses on the proposed Project's consistency with local, regional, and statewide climate change planning efforts and discusses the context of these planning efforts as they relate to the proposed Project. Disclosure and discussion of the Project's estimated energy usage and greenhouse gas emissions are provided.

There was one comment received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the SJVAPCD (June 17, 2025). Full comments received are included in Appendix A.

3.2.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO_2, CH_4, and N_2O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2019, concentrations of these three GHGs have increased globally by 47, 156, and 23 percent, respectively (IPCC, 2023).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2025).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 369 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2022 (California Air Resources Board, 2023).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2022, accounting for 38% of total GHG emissions in the State. This category was followed by the industrial sector (23%), the electricity generation sector (including both in-state and out of-state sources) (16%), the agriculture and forestry sector (9%), the residential energy consumption sector (8%), and the commercial energy consumption sector (6%) (California Air Resources Board, 2023).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature because of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the perturbations in climate, could also result. According to the Indicators of Climate

Change in California report (State of California OEHHA, 2022), the impacts of global warming in California are anticipated to include, but are not limited to, those discussed below.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and to 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. How much snow pack will be lost depends in part on future precipitation patterns, the projections for which remain

uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for several of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century because of increasing temperatures. The productivity of the State's forests is also expected to decrease because of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 60 percent of electricity generated by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under Senate Bill 100). The 2021 SB 100 Joint Agency Report was published in 2021, which found that the long-term goals contained in SB 100 are technically achievable through multiple pathways, although achieving 100 clean electricity would increase the total annual electricity system cost by 6% relative to the cost under the state's Renewables Portfolio Standard requirement of having at least 60 percent clean electricity by the end of 2030. These estimates will change over time as markets change, new technologies are commercialized, and additional factors such as grid reliability are included in future analyses.

Overall, in 2019, California's per capita energy usage was ranked second-lowest in the nation (U.S. EIA, 2023a). California's per capita rate of energy usage has remained relatively constant since the 1970's. Many State regulations since the 1970s, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State in check.

The consumption of non-renewable energy (i.e., fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and a very small amount of nuclear generation resources. In 2020, nearly one-half of the electricity supply came from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2025). In 2023, approximately 35 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 57 percent of the State's utility-scale net electricity generation came from renewable sources, such as solar, wind,

geothermal, hydropower, and biomass. Nuclear energy powered an additional 8 percent. The amount of electricity generated from coal was effectively zero (U.S. EIA, 2025). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2023c). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2023, electricity consumption in San Joaquin County was 5,857 GWh (California Energy Commission, 2025).

PG&E is a publicly traded utility company that, under contract with the California Public Utilities Commission (CPUC), generates, purchases, and distributes energy. PG&E's service area covers 70,000 square miles, roughly extending north to south from Eureka to Bakersfield and east to west from the Sierra Nevada to the Pacific Ocean. PG&E's electricity distribution system consists of 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines.

PG&E's electricity is generated from a combination of traditional sources, such as coal-fired plants, nuclear power plants, and hydroelectric dams, as well as newer sources of energy, such as wind turbines and photovoltaic plants, or "solar farms." "The grid," or bulk electric grid, is a network of high-voltage transmission lines that link power plants to the PG&E system. The distribution system, comprising lower-voltage secondary lines, is at the street and neighborhood level. It consists of overhead or underground distribution lines, transformers, and individual service "drops" that connect to individual customers.

In addition to its base plan, PG&E has three plan options, known as Solar Choice options and Green Saver, which give customers the option of purchasing energy from solar resources. The first Solar Choice option provides up to 50 percent of a customer's energy from solar resources, while the other option provides up to 100 percent of a customer's energy from solar resources, and the Green Saver option provides up to 90 percent of a customer's energy from solar resources.

Table 3.2-1 outlines PG&E's power mix in 2023, compared to the power mix for the state. The table identifies the renewable and non-renewable energy sources for PG&E. It should be noted that some GHG free sources are not considered renewable (e.g., nuclear is GHG free but not renewable).

TABLE 3.2-1. PG&E AND THE STATE OF CALIFORNIA POWER MIX IN 2023

ENERGY RESOURCES	*PG&E OPTION: BASE*	*PG&E OPTION: 50% SOLAR CHOICE*	*PG&E OPTION: 100% SOLAR*	*PG&E OPTION: GREEN SAVER*	*CALIFORNIA POWER MIX 2023*
Eligible Renewable	32.8%	65.5%	100%	100%	36.9%
Biomass and waste	3.4%	1.8%	0%	0%	2.1%
Geothermal	0.3%	0.2%	0%	0%	4.8%
Small hydroelectric	2.5%	1.3%	0%	0%	1.8%
Solar	20.2%	59%	100%	100%	17%
Wind	6.3%	3.2%	0%	0%	11.2%
Coal	0%	0%	0%	0%	1.8%
Large Hydroelectric	13.8%	7.1%	0%	0%	11.7%
Natural Gas	0%	0%	0%	0%	36.6%
Nuclear	53.4%	27.4%	0%	0%	9.3%
Other	0%	0%	0%	0%	0.1%
Unspecified	0%	0%	0%	0%	3.7%

SOURCE: PG&E. 2023. 2023 POWER CONTENT LABEL. AVAILABLE: HTTPS://WWW.ENERGY.CA.GOV/FILEBROWSER/DOWNLOAD/7281. ACCESSED: AUGUST 8, 2025.

[A.] ELECTRICITY FROM TRANSACTIONS THAT ARE NOT TRACEABLE TO SPECIFIC GENERATION SOURCES ARE CLASSIFIED AS UNSPECIFIED SOURCES OF POWER.

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2019, world consumption of oil had reached approximately 98 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (U.S. EIA, 2020c). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 95 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest. PG&E is the largest publicly-traded utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area. PG&E's natural gas (i.e., methane) delivery system includes 42,000 miles of natural gas distribution pipelines and 6,700 miles of transmission pipelines. PG&E's gas transmission system serves approximately 15 million energy customers in California. The system is operated under an inspection and monitoring program in real time on a 24-hour basis, with leak inspections, surveys, and patrols continuously taking place along the pipelines. Gas delivered by PG&E originates in gas fields in California, the Southwest, the Rocky Mountains, and Canada. Transmission pipelines send natural gas from the fields and storage facilities. The smaller distribution pipelines deliver gas to individual businesses or residences.

In As of March 2022, California produced 11.4 billion cubic feet of natural gas per month (U.S. EIA, 2022). PG&E is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the San Joaquin County area. In 2023, natural gas consumption in San Joaquin County was approximately 200.5 million therms (California Energy Commission, 2025).

3.2.2 REGULATORY SETTING

FEDERAL

Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: National Ambient Air Quality Standards (NAAQS) for criteria air pollutants, hazardous air pollutant standards, State attainment plans, NAAQS motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

In 2007, in the court case of *Massachusetts et al. vs. the USEPA et al*. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC Sections 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA

developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 mpg. Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Federal Climate Change Policy

According to the U.S. EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The U.S. EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs.

The following are actions taken at the federal level relating to GHG emissions.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the U.S. EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce GHG emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applies to passenger cars, light duty trucks, and medium duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to

35.5 miles per gallon if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. The U.S. EPA and the National Highway Safety Administration issued final rules on a second phase joint rulemaking, establishing national standards for light duty vehicles for model years 2017 through 2025 in August 2012.[1] The standards for model years 2017 through 2025 apply to passenger cars, light duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO2 in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The U.S. EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies adopted engine and vehicle standards that began in the 2014 model year and achieved up to a 20 percent reduction in CO2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies adopted separate gasoline and diesel truck standards, which phased in starting in the 2014 model year.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the U.S. EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the U.S. EPA.

Cap and Trade. Cap and trade refer to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap and trade.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently, only California and Quebec are participating in the cap-and-trade program.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing

[1] United States Environmental Protection Agency (EPA). 2012. EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks. Website: https://nepis.epa.gov/Exe/ZyPDF.cgi/P100EZ7C.PDF?Dockey=P100EZ7C.PDF. Accessed January 21, 2021.

the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as Executive Orders and CARB "Scoping Plans" intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Safety Code Section 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 required that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction was accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directed the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

SB 32 (Stats. 2016, ch. 249) added Section 38566 to the Health and Safety Code. It provides that "[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." In other words, SB 32 requires California, by 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

EXECUTIVE ORDERS S-3-05, B-30-15, AND B-55-18

The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger's 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Safety Code Section 38501, subd. (i).) That Executive Branch document included the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In 2015, Governor Brown issued Executive Order, B-30-15, which created a "new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is

established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050." SB 32 codified this target.

In 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to "achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter." The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals. As discussed below, the 2022 Scoping Plan lays out a path towards achieving carbon neutrality by 2045.

SB 350

Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) added to the Public Utilities Code language that puts into statute the 2050 GHG reduction target identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code states that "[t]he Legislature finds and declares [that] … [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification." Furthermore, Section 740.12(b) states that the California Public Utilities Commission (CPUC), in consultation with CARB and the California Energy Commission (CEC), must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, … and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

AB 1279

In September 2022, the Legislature enacted AB 1279 (Stats. 2022, ch. 337). The bill declares the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. Additionally, the bill requires that by 2045, statewide anthropogenic GHG emissions be reduced to at least 85% below 1990 levels.

Statutes Setting Target for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1) set aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All these entities were required to meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, Section 399.11 et seq. [subsequently amended].) SB 350, discussed below, increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, Section 399.11, subd (a); see also

Section 399.30, subd. (c)(2).) In 2018, Senate Bill 100 (Stats. 2018, ch. 312) revised the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In 2002, the Legislature enacted Assembly Bill 1493 ("Pavley Bill") (Stats. 2002, ch. 200), which directed CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health and Safety Code Section 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the "Pavley standards." In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the "Pavley II standards." (See California Code of Regulations, Title 13, Sections 1900, 1961, and 1961.1 et seq.)

In 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, Sections 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Statute Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed that demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

Climate Change Scoping Plans

2022 SCOPING PLAN UPDATE

In accordance with AB 32, the CARB developed the first Scoping Plan in 2008 to outline the State's strategy to achieve 1990 level emissions by year 2020. In May 2014, the CARB released and adopted the *First Update to the Climate Change Scoping Plan* to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012. A newer version of the Scoping Plan was then adopted by the CARB in December 2017 (entitled *California's 2017 Climate Change Scoping Plan*). Lastly, the most recent version of the Scoping Plan was adopted by the CARB in November 2022 (entitled *Final 2022 Scoping Plan for Achieving Carbon Neutrality*) (2022 Scoping Plan), which was designed consistent with the long-term GHG reduction targets embedded in AB 1279. Since adoption of the 2008 Scoping Plan and the subsequent updates in 2014, 2017, and 2022, State agencies have adopted programs identified in the plan, and the Legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the Low Carbon Fuel Standard, California Appliance Energy Efficiency regulations, California Building Standards (e.g., CALGreen and the 2022 Building and Energy Efficiency Standards), zero carbon electricity by 2045, and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars)).

Statutes Intended to Reduce Emissions of Short-lived Climate Pollutants

SB 605 AND SB 1383

SB 605 (2014) required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants in the state, and SB 1383 (2016) required CARB to approve and implement that strategy by January 1, 2018. SB 1383 also establishes specific targets for the reduction of short-lived climate pollutants (40% below 2013 levels by 2030 for methane and HFCs, and 50% below 2013 levels by 2030 for anthropogenic black carbon), and provides direction for reductions from dairy and

livestock operations and landfills. Accordingly, CARB adopted its Short-Lived Climate Pollutant Reduction Strategy (Reduction Strategy) in March 2017. The Reduction Strategy establishes a framework for the statewide reduction of emissions of black carbon, methane, and fluorinated gases.

Statute Intended to Achieve Carbon Neutrality and Foster Climate Adaptation and Resilience

ASSEMBLY BILL 1757

AB 1757 (September 2022) requires the California Natural Resources Agency (CNRA) to determine a range of targets for natural carbon sequestration, and for nature-based climate solutions that reduce GHG emissions for future years 2030, 2038, and 2045. These targets are to be determined by no later than January 1, 2024, and are established to support the state's goals to achieve carbon neutrality and foster climate adaptation and resilience.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (CCR Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

The most recent Title 24 standards are the 2022 Title 24 standards. Buildings permitted on or after January 1, 2023, must comply with the 2022 Standards. The California Energy Commission updates the standards every three years. The CEC estimates that the 2022 Title 24 standards will reduce 10 million metric tons of GHG over 30 years. When compared to the 2019 Title 24 standards, the 2022 update focuses on: encouraging electric heat pump technology and use; establishing electric-ready requirements when natural gas is installed; expanding solar photovoltaic (PV) system and battery storage standards; and strengthening ventilation standards to improve indoor air quality.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (CalGreen) (CCR Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. CalGreen, which became effective on January 1, 2011, instituted mandatory minimum environmental performance

standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- Tier I: 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- Tier II: 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

The latest version of CalGreen is the 2022 CalGreen Code, which became effective on January 1, 2023. Between 2010 and 2022, continuous updates and additions have been made to CALGreen, including water conservation and recycling, electric vehicle infrastructure and charging, and changes intended to eliminate conflicts with the California Energy Code, which is Part 6 of Title 24.

TITLE 20

CCR Title 20 requires manufacturers of appliances to meet state and federal standards for energy and water efficiency. The CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low-voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations, and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

SENATE BILL 1

SB 1 (Murray) (August 2006) established a $3 billion rebate program to support the goal of the state to install rooftop solar energy systems with a generation capacity of 3,000 megawatts through 2016.

SB 1 added sections to the Public Resources Code, including Chapter 8.8 (California Solar Initiative), that require building projects applying for ratepayer-funded incentives for photovoltaic systems to meet minimum energy efficiency levels and performance requirements. Section 25780 established that it is a goal of the state to establish a self-sufficient solar industry. The goals included establishing solar energy systems as a viable mainstream option for homes and businesses within 10 years of adoption and placing solar energy systems on 50% of new homes within 13 years of adoption. SB 1, also termed "Go Solar California," was previously titled "Million Solar Roofs."

SOLID WASTE

AB 939, AB 341, and AB 1826. In 1989, AB 939, known as the Integrated Waste Management Act (PRC Sections 40000 et seq.), was passed because of the increase in waste stream and the decrease in landfill capacity. The statute established the California Integrated Waste Management Board, which oversees a disposal reporting system. AB 939 mandated a reduction of waste being disposed where jurisdictions were required to meet diversion goals of all solid waste through source reduction, recycling, and composting activities of 25% by 1995 and 50% by 2000.

AB 341 (Chapter 476, Statutes of 2011 [Chesbro]) amended the California Integrated Waste Management Act of 1989 to include a provision declaring that it is the policy goal of the state that not less than 75% of solid waste generated be source-reduced, recycled, or composted by 2020, and annually thereafter. In addition, AB 341 required the California Department of Resources Recycling and Recovery (CalRecycle) to develop strategies to achieve the state's policy goal (CalRecycle, 2012).

AB 1826 (Chapter 727, Statutes of 2014, effective 2016) requires businesses to recycle their organic waste (i.e., food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed in with food waste) depending on the amount of waste they generate per week. This law also requires local jurisdictions across the state to implement an organic waste recycling program to divert organic waste generated by businesses, including multifamily residential dwellings that consist of five or more units. The minimum threshold of organic waste generation by businesses subject to the law decreases over time, which means an increasingly greater proportion of the commercial sector will be required to comply.

REGIONAL

PG&E adopted the 2020 Integrated Resource Plan (IRP) on September 1, 2020, to provide guidance for serving the electricity and natural gas needs of residents and businesses within its service area while fulfilling regulatory requirements. The IRP contains the following objectives that are relevant to the Project:

- Clean Energy: In 2021, PG&E delivered nearly 50 percent of its electricity from RPS-eligible renewable resources, such as solar, wind, geothermal, biomass, and small hydropower. In addition, PG&E's GHG-free energy production, which encompasses renewable resources, large hydropower, and nuclear, satisfied all PG&E's bundled retail sales in 2021.

- Reliability: PG&E's IRP analysis includes PG&E's contribution to system and local reliability, in compliance with the CPUC's resource adequacy requirements, especially as California transitions toward higher shares of GHG-free generation resources.
- Affordability: PG&E's IRP analysis selects resources to meet the state's clean energy and reliability goals and provides a system average rate forecast in compliance with the CPUC's requirements for investor-owned utilities.

SAN JOAQUIN AIR POLLUTION CONTROL DISTRICT

Climate Change Action Plan

On August 21, 2008, the Valley Air District Governing Board approved a proposal called the Climate Change Action Plan (CCAP). The CCAP began with a public process bringing together stakeholders, land use agencies, environmental groups, and business groups to conduct public workshops to develop comprehensive policies for CEQA Guidelines, a carbon exchange bank, and voluntary GHG emissions mitigation agreements for the Governing Board's consideration. The CCAP contains the following goals and actions:

- Develop GHG significance thresholds to address CEQA projects with GHG emission increases.
- Develop the San Joaquin Valley Carbon Exchange for banking and trading GHG reductions.
- Authorize use of the SJVAPCD [Valley Air District's] existing inventory reporting system to allow use for GHG reporting required by AB 32 regulations.
- Develop and administer GHG reduction agreements to mitigate proposed emission increases from new projects.
- Support climate protection measures that reduce greenhouse gas emissions as well as toxic and criteria pollutants. Oppose measures that result in a significant increase in toxic or criteria pollutant emissions in already impacted areas.

On December 17, 2009, the Valley Air District Governing Board adopted "Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA." The Valley Air District concluded that the existing science is inadequate to support quantification of the impacts that project-specific GHG emissions have on global climatic change. The Valley Air District found the effects of project-specific emissions to be cumulative.

The Valley Air District advises that the lead agency evaluate projects against performance-based standards and require the adoption of design elements, known as Best Performance Standards (BPS), to reduce GHG emissions. Since the BPS have not yet fully been established, the Valley Air District Guidance recommends that a CEQA lead agency:

> [R]equire quantification of project specific GHG emissions and demonstration that project specific GHG emissions would be reduced or mitigated by at least 29%, compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period. Projects achieving at least a 29% GHG emission reduction compared to BAU

would be determined to have a less than significant individual and cumulative impact for GHG.

BAU represents the emissions that would occur in 2020 if the average baseline emissions during the 2002–2004 period were grown to 2020 levels, without control.

Nevertheless, it should be noted that, in *Center for Biological Diversity v. Department of Fish & Wildlife*, 62 Cal. 4th 204 (2015) (also known as the Newhall Ranch case), the California Supreme Court concluded that in order for a lead agency to employ a BAU target as a threshold of significance to judge project-specific GHG emissions, such BAU threshold must be based upon substantial evidence to demonstrate what the required percentage reduction from BAU would be for an individual project as opposed to using statewide GHG figures. The court expressed skepticism that a percentage reduction goal applicable to the entire State would apply without change to an individual development project, regardless of its size or location. The Valley Air District has not updated its guidance to respond to the Supreme Court decision and to either provide evidence that its 29% BAU suggested threshold should be used or that another percentage reduction compared to BAU is supported by evidence for use to evaluate individual projects within the Air District. Therefore, the BAU analysis as identified by SJVAPCD is not employed for this EIR.

Rule 2301

While the CCAP indicated that the GHG emission reduction program would be called the San Joaquin Valley Carbon Exchange, the Valley Air District incorporated a method to register voluntary GHG emission reductions into its existing Rule 2301-Emission Reduction Credit Banking through amendments of the rule. Amendments to the rule were adopted on January 19, 2012. The purposes of the amendments to the rule include the following:

- Provide an administrative mechanism for sources to bank voluntary GHG emission reductions for later use.
- Provide an administrative mechanism for sources to transfer banked GHG emission reductions to others for any use.
- Define eligibility standards, quantitative procedures, and administrative practices to ensure that banked GHG emission reductions are real, permanent, quantifiable, surplus, and enforceable.

LOCAL

City of Tracy General Plan

The City of Tracy General Plan includes several goals, objectives, and policies that are relevant to air quality. General Plan policies applicable to the Project are identified below:

POLICIES: AIR QUALITY ELEMENT

- AQ-1.1-P1. The City shall promote land use patterns that reduce the number and length of motor vehicle trips.

- AQ-1.1-P2. To the extent feasible, the City shall maintain a balance and match between jobs and housing.
- AQ-1.1-P4. Employment areas should include a mix of support services to minimize the number of trips.
- AQ-1.2-P1. The City shall assess air quality impacts using the latest version of the CEQA Guidelines and guidelines prepared by the San Joaquin Valley Air Pollution Control District.
- AQ-1.2-P2. The City shall assess through the CEQA process any air quality impacts of development projects that may be insignificant by themselves, but cumulatively significant.
- AQ-1.2-P3. Developers shall implement best management practices to reduce air pollutant emissions associated with the construction and operation of development projects.
- AQ-1.2-P4. New development projects should incorporate energy efficient design features for HVAC, lighting systems and insulation that exceed Title 24.
- AQ-1.2-P5. Use of solar water and pool heaters is encouraged.
- AQ-1.2-P6. Installation of solar voltaic panels on new homes and businesses shall be encouraged.
- AQ-1.2-P7. Trees should be planted on the south- and west-facing sides of new buildings or buildings undergoing substantial renovation in order to reduce energy usage.
- AQ-1.2-P9. New developments shall follow the current requirements of the SJVAPCD with respect to wood burning fireplaces and heaters.
- AQ-1.2-P10. Stationary air pollutant emission sources (e.g. factories) shall be located an appropriate distance away and down-wind from residential areas and other sensitive receptors.
- AQ-1.2-P12. New sources of toxic air pollutants shall prepare a Health Risk Assessment as required under the Air Toxics “Hot Spots” Act and, based on the results of the Assessment, establish appropriate land use buffer zones around those areas posing substantial health risks.
- AQ-1.2-P13. Dust control measures consistent with San Joaquin Valley Air Pollution Control District rules shall be required as a condition of approval for subdivision maps, site plans, and all grading permits.
- AQ-1.2-P14. Developments that significantly impact air quality shall only be approved if all feasible mitigation measures to avoid, minimize or offset the impact are implemented.
- AQ-1.2-P15. Encourage businesses to electrify loading docks or implement idling-reduction systems so that trucks transporting refrigerated goods can continue to power cab cooling elements during loading, layovers, and rest periods.
- AQ-1.2-P16. Encourage the use of Best Management Practices in agriculture and animal operations.
- AQ-1.3-P1. The City shall continue to work with the San Joaquin Council of Governments on regional transportation solutions.
- AQ-1.3-P3. The City shall encourage employers to establish Transportation Demand Management programs.
- AQ-1.3-P5. The City shall require direct pedestrian and bicycle linkages from residential areas to parks, schools, retail areas, high-frequency transit facilities and major employment areas.

POLICIES: CIRCULATION ELEMENT

- CIR-1.1-P3: The City shall continue to apply traffic mitigation fee programs to fund transportation infrastructure, based on a fair share of facility use.
- CIR-1.1-P6: The Roadway Master Plan update shall identify necessary improvements to various intersections on I-205 and I-580 based on land use designations and with particular attention to Terminal Access Routes in accordance with Surface Transportation Assistance Act of 1982 (STAA).
- CIR-1.2-P3: New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.
- CIR-1.2-P5: New development shall be designed with a grid or modified grid pattern to facilitate traffic flows and to provide multiple connections to arterial streets.
- CIR-3.1-P6: New development shall include pedestrian and bicycle facilities internal to the development and that connect to citywide facilities, such as parks, schools and recreational corridors, as well as adjacent development and other services.
- CIR-3.1-P7: New development sites for commercial, employment, educational, recreational and park-and-ride land uses shall provide bicycle parking and/or storage facilities.

POLICIES: ECONOMIC DEVELOPMENT ELEMENT

- ED-1.2-P1: The City shall encourage businesses that use green practices.
- ED-1.2-P2: The City shall conduct public education and outreach to support employment opportunities that minimize the need for automobile trips, such as live/work, telecommuting, satellite work centers, and home occupations, in addition to mixed-use development strategies.

3.2.3 IMPACTS AND MITIGATION MEASURES

GREENHOUSE GAS EMISSIONS THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For individual proposed projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). However, the City of Tracy does not currently have a formal GHG emissions reduction plan or recommended emissions thresholds for determining significance associated with GHG emissions from development projects. As noted above, this EIR does not use the Air District's 2008 BAU threshold since it has not been updated in the wake of the *Newhall Ranch* decision.

Since no other local or regional Climate Action Plan is in place, the Project is assessed based on its consistency with CARB's adopted Scoping Plans, including the Project's compliance with relevant Scoping Plan measures, as well as the latest RTP/SCS for the region within which the Project is located within (i.e., the San Joaquin Council of Governments (SJCOG) 2022 RTP/SCS). It should be noted that the Scoping Plan is consistent with the AB 1279 GHG reduction targets of achieving carbon neutrality by 2045, and reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. Therefore, consistency with the CARB's most recent Scoping Plan would also demonstrate consistency with the carbon neutrality requirements encapsulated by AB 1279.

Therefore, this analysis provides a qualitative assessment of the Project's compliance with the applicable plans, policies, and regulations for the purposes of reducing greenhouse gas emissions to determine whether the project would have a significant impact on the environment relative to GHGs. Separately, disclosure of the Project's estimated construction and operation-related GHG emissions are provided for the purposes of disclosure.[2]

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: Project implementation would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment and would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Less than Significant)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the Project would contribute to increases of GHG emissions that are associated with global climate change. Estimated GHG emissions attributable to Project development would be primarily associated with increases of CO_2 and other GHG pollutants, such as methane (CH_4) and nitrous oxide (N_2O), from mobile sources and utility usage.

[2] Project GHG emissions were provided using the latest version of CalEEMod (v2022.1), which represents the Air District's recommended modeling tool for estimating emissions for projects under CEQA.

The Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)™ (v.2022.1). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO_2 equivalent units of measure (i.e., MT CO_2e), based on the global warming potential of the individual pollutants.

SHORT-TERM CONSTRUCTION GHG EMISSIONS

Estimated maximum GHG emissions associated with construction of the proposed Project are summarized in Table 3.2-2. These emissions include all worker vehicle, vendor vehicle, hauler vehicle, and off-road construction vehicle GHG emissions. For the purposes of this analysis, based on input from the Project applicant, the proposed Project is assumed to commence construction in 2026. The actual start and completion of each construction phase is speculative since it is dependent on a number of factors which include market conditions. The GHG emissions are combined for all construction phases. See Appendix A for further detail.

TABLE 3.2-2: TOTAL CONSTRUCTION GHG EMISSIONS (MT CO_2E/YEAR)

YEAR	BIO- CO_2	NON-BIO-CO_2	TOTAL CO_2	CH_4	N_2O	REFRIGERANTS	CO_2E
2026	0	925	925	<0.1	<0.1	0.7	947
2027	0	681	681	<0.1	<0.1	0.6	697
Total	**0**	**1,606**	**1,606**	**<0.1**	**<0.1**	**1.3**	**1,644**

SOURCES: CALEEMOD (V.2022.1)

As presented in the table, short-term construction emissions of GHGs are estimated to be a total of approximately 1,644 MT CO_2e.

OPERATIONAL GHG EMISSIONS

The operational GHG emissions estimate for the proposed Project includes on-site area, energy, mobile, waste, and water emissions. Estimated GHG emissions associated with operation of the proposed Project are summarized in Table 3.2-3, below. It should be noted that CalEEMod does not account for Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20), which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035; CalEEMod also does not account for the new CARB rules related to truck electrification (e.g. Advanced Clean Trucks Regulation). The new Executive Order and CARB rules are anticipated to substantially reduce the operational emissions (i.e., mobile emissions) associated with passenger vehicles and freight trucks over time. The operational emissions results provided in Table 3.2-3 are likely an overestimate for mobile emissions, given the state's ongoing effort to increase electric vehicles and trucks. As shown in the following table, the annual GHG emissions associated with the proposed Project would be approximately 24,898 MT CO_2e.

TABLE 3.2-3: OPERATIONAL GHG EMISSIONS AT BUILDOUT (METRIC TONS/YEAR)

SOURCE	*BIO- CO_2*	*NON-BIO- CO_2*	*TOTAL CO_2*	*CH_4*	*N_2O*	*REFRIG.*	*CO_2E*
Mobile	0	22,637	22,637	0.0	2.3	28.1	23,371
Area	0	10.7	10.7	0.0	0.0	0	10.8
Energy	0	1,010	1,010	0.1	0.0	0	1,019
Water	53.6	51.0	105	5.5	0.1	0	281.6
Waste	61.6	0	62	6.2	0	0	215.7
Refrig.	0	0	0	0	0	0	0
Total	**115.3**	**23,709**	**23,824**	**12.3**	**2.5**	**28.1**	**24,898**

SOURCES: CALEEMOD (V.2022.1)

CONSISTENCY WITH 2022 SCOPING PLAN

The CARB's 2022 Scoping Plan (the latest version of the Scoping Plan) provides policies that are considered needed to meet the State's mid-term and long-term GHG emissions reduction targets. Specifically, the CARB's 2022 Scoping Plan identifies that it "…lays out the sector-by-sector roadmap for California, the world's fifth largest economy, to achieve carbon neutrality by 2045 or earlier…". The Scoping Plan addresses recent legislation and direction from Governor Newsom, by extending and expanding upon the earlier Scoping Plans with a target of reducing anthropogenic emissions to 85 percent below 1990 levels by 2045, and adding carbon neutrality as a science-based guide and touchstone for California's climate work. The Scoping Plan is therefore consistent with the AB 1279 GHG reduction targets of achieving carbon neutrality by 2045, and reducing anthropogenic emissions to 85 percent below 1990 levels by 2045. The Project's consistency with the applicable 2022 Scoping Plan policies is discussed in Table 3.2-4, below.

TABLE 3.2-4: PROJECT CONSISTENCY WITH THE 2022 SCOPING PLAN

POLICY	*PROJECT CONSISTENCY*
Transportation Electrification	
Convert local government fleets to ZEVs and provide EV charging at public sites	**No Conflict.** While this goal is not applicable to an individual commercial or industrial development project, Mitigation Measure 3.1-10 requires the Project applicant to install conduit as infrastructure for electric vehicle charging stations onsite to allow for truck docks to charge electric trucks in the future. Such conduit would be provided on the site to serve a minimum of 50% of the number of truck docking stations, with the location of conduit at the discretion of the developer (e.g., truck trailer parking spaces or other locations).
Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as building standards that exceed state building codes, permit streamlining, infrastructure siting, consumer education, preferential parking policies, and ZEV readiness plans)	
VMT Reduction	
Reduce or eliminate minimum parking standards	**No Conflict.** Although this goal is not applicable to an individual commercial or industrial development project, the Project has designed the facilities with efficient transportation access and circulation within site plan, including accessible loading bays,
Implement Complete Streets policies and investments, consistent with general plan circulation element requirements	
Increase access to public transit by increasing density of development near transit, improving transit service by increasing service frequency, creating bus priority lanes, reducing or eliminating	

POLICY	*PROJECT CONSISTENCY*
fares, microtransit, etc.	and logistics management. This ensures that offsite transportation systems can facilitate industrial traffic via designated truck routes. Additionally, refer to Section 3.5: Transportation and Circulation of this EIR, for further detail.
Increase public access to clean mobility options by planning for and investing in electric shuttles, bike share, car share, and walking	
Implement parking pricing or transportation demand management pricing strategies	
Amend zoning or development codes to enable mixed-use, walkable, transit-oriented, and compact infill development (such as increasing the allowable density of a neighborhood)	
Preserve natural and working lands by implementing land use policies that guide development toward infill areas and do not convert "greenfield" land to urban uses (e.g., green belts, strategic conservation easements)	
Building Decarbonization	
Adopt all-electric new construction reach codes for residential and commercial uses	**No Conflict.** Although this goal is not applicable to an individual commercial or industrial development project, Mitigation Measure 3.1-4 requires the Project applicant to install Energy Star certified appliances or equivalent. Furthermore, Mitigation Measure 3.1-5 requires the Project applicant to install energy efficient lighting that meets or exceeds Title 24 requirements.
Adopt policies and incentive programs to implement energy efficiency retrofits for existing buildings, such as weatherization, lighting upgrades, and replacing energy-intensive appliances and equipment with more efficient systems (such as Energy Star-rated equipment and equipment controllers)	
Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings such as appliance rebates, existing building reach codes, or time of sale electrification ordinances	
Facilitate deployment of renewable energy production and distribution and energy storage on privately owned land uses (e.g., permit streamlining, information sharing)	
Deploy renewable energy production and energy storage directly in new public projects and on existing public facilities (e.g., solar photovoltaic systems on rooftops of municipal buildings and on canopies in public parking lots, battery storage systems in municipal buildings)	

SOURCE: 2022 SCOPING PLAN, TABLE 1, APPENDIX D

In addition to Project commitments discussed in Table 3.2-4, the proposed Project's operational emissions would be reduced as regulations are implemented by the CARB and other State agencies to comply with the statewide GHG reduction targets. Many of these regulations are already identified in the 2022 Scoping Plan. These statewide actions are anticipated to reduce operational GHG emissions even further below those identified in Table 3.2-2 and Table 3.2-3. For example, the proposed Project's transportation emissions would be expected to decline as vehicle efficiency standards are implemented beyond the Advanced Clean Cars II program and the Low Carbon Fuel Standard is strengthened. Furthermore, CalEEMod does not account for Governor Newsom's Zero-Emission by 2035 Executive Order (N-79-20) or CARB's subsequent regulations, which requires that all new cars and passenger trucks sold in California be zero-emission vehicles by 2035 and that heavy duty truck emissions be reduced by greater truck electrification. These programs are anticipated to substantially reduce the operational emissions (i.e., mobile emissions) associated with passenger vehicles and freight trucks further, over time.

Overall, the proposed Project would not conflict with the 2022 Scoping Plan. The proposed Project incorporates a wide array of construction- and operation-related Project features that reduce Project emissions, as provided previously (see the list of Project features under the *Project*

Sustainability Features discussion, above). Therefore, the Project would be considered consistent with the 2022 Scoping Plan. Since the proposed Project would be consistent with the CARB's 2022 Scoping Plan*,* buildout of the proposed Project would not interfere with the main programs the CARB has identified to support its conclusions that the State is on a trajectory to meet the 2045 GHG target. Overall, the proposed Project would not impede the 2022 Scoping Plan and would help the State to progress towards this target.

CONSISTENCY WITH SJCOG'S 2022 RTP/SCS

The SJCOG's 2022 RTP/SCS includes eight policies with corresponding implementation strategies for conserving energy, maximizing mobility and accessibility, increasing safety and security, preserving the transportation system, supporting economic development, promoting interagency cooperation and public participation, maximizing cost effectiveness, and improving quality of life for residents. These strategies include similar measures to the 2022 Scoping Plan, such as supporting energy and water efficiency. The Project's consistency with the applicable 2022 RTP/SCS strategies is discussed in Table 3.2-5, below.

TABLE 3.2-5: PROJECT CONSISTENCY WITH THE SJCOG'S 2022 RTP/SCS

POLICY/STRATEGY	*PROJECT CONSISTENCY*
Policy 1: Enhance the Environment for Existing and Future Generations and Conserve Energy	No Conflict. The Project would utilize electricity provided by Pacific Gas & Electric (PG&E) which is required to meet the future year renewable portfolio performance standards. In addition, future development associated with Project implementation would be required to meet the applicable requirements of the 2022 (or more current) Title 24 Building Energy Efficiency Standards.
Strategy No. 1: Encourage efficient development patterns that maintain agricultural viability and natural resources.	No Conflict. While the Project is located on land that was formerly used for agricultural activities, the Project represents an efficient use of land, and is located an in area that has been planned for industrial and commercial development. Therefore, the Project provides for an efficient development pattern that does not notably disrupt agricultural viability and natural resources. To offset any potential long-term impacts to the agricultural vitality of the region, the Tracy Municipal Code (Chapter 13.28) establishes the City's Agricultural Mitigation Fee Program, which authorizes the collection of development fees to offset costs associated with the loss of productive agricultural lands converted to urban uses (including residential, commercial, industrial, or other urban uses) within the City by permanently protecting agricultural lands planned for agricultural use and by working with farmers who voluntarily wish to sell or restrict their land in exchange for fair compensation. Agricultural mitigation fees are collected by the City at the time that building permits are issued and may be used to conserve existing agricultural land by securing farmland conservation easements, farmland deed restrictions, or other agreements.
Strategy No. 2: Encourage preservation of natural resources.	No Conflict. The Project would not eliminate or notably reduce access to natural resources.
Strategy No. 3: Enhance the connection between land use and transportation choices through projects supporting energy and water efficiency.	No Conflict. The Project would be consistent with the latest version of the Title 24 Energy efficiency standards, which would greatly support energy and water efficiency.
Strategy No. 4: Improve air quality by reducing transportation-related emissions.	No Conflict. The Project includes a wide array of sustainability features that would greatly limit air quality impacts by reducing transportation-related emissions.

POLICY/STRATEGY	*PROJECT CONSISTENCY*
Policy 2: Maximize Mobility and Accessibility	No Conflict. The Project would support EV-ready charging spaces, consistent with the requirements of the latest version of the Title 24 Building Energy Efficiency Standards. In addition, although this Project is not a transportation improvement project, the Project is located in a city where regional transit improvements are planned. Moreover, the proposed Project would include many project features that improve mobility and accessibility, including providing pedestrian network improvements, providing bicycle parking, and providing rideshare employees to employees.
Strategy No. 5: Optimize the public transportation system to provide efficient and convenient access for users of all income levels.	Not Applicable. The proposed Project is not a transportation project.
Strategy No. 6: Encourage infill developments and development near transit, including transit-oriented development to maximize existing transit investments.	Not Applicable. The proposed Project would be a warehouse project located in an area that is not currently in use. Such projects do not lend themselves well to transit.
Strategy No. 7: Provide transportation improvements to facilitate nonmotorized travel, including incorporation of complete streets elements as appropriate.	No Conflict. The proposed Project is a warehouse project that would include development of additional features that would facilitate nonmotorized travel.
Strategy No. 8: Improve freight access to key economic centers.	Not Applicable. The Project is not a transportation project and therefore this strategy would not apply to the Project.
Strategy No. 9: Promote safe and efficient strategies to improve the movement of goods by water, rail, and truck.	No Conflict. Although the Project is not a transportation project, is would not conflict with this strategy, since it would develop a warehouse that would facilitate the movement of goods.
Policy 3: Increase Safety and Security	No Conflict. The Project would be developed using the latest State and local requirements relating to safety and security. Development of the Project site would include other uses to support and complement the proposed residential development include public utility infrastructure, public and private roadways, curb/gutters/sidewalks, other pedestrian facilities, private parking, street lighting, and street signage, which would enhance the safety and security of the site and it surroundings, by connecting to existing development.
Strategy No. 10: Facilitate projects that reduce the number and severity of traffic incidents.	No Conflict. The Project would be developed according to applicable City and State traffic standards. Moreover, the Project is located in an area of the City that is designed for industrial and commercial projects. Therefore, the Project is anticipated to be consistent with this strategy.
Strategy No. 11: Support local and state efforts for transportation network resiliency, reliability and climate adaptation.	No Conflict. The Project includes various sustainability features, which would help to minimize the Project's impact on the transportation network and reliability.
Policy 4: Preserve the Efficiency of the Existing Transportation System	Not Applicable. This is not a transportation improvement project and is therefore not applicable. The Project would not interfere with the efficiency of any existing transportation system.
Strategy No. 12: Prioritize projects that make more efficient use of the existing road network.	No Conflict. The Project would make highly efficient use of the nearby road network, as the Project is located near to the existing freeways, which would minimize the amount of local roads utilized to transport good to and from the Project site.
Strategy No. 13: Support the continued maintenance and preservation of the existing transportation system.	No Conflict. The Project is required to pay applicable transportation fees and therefore would help to maintain and preserve the existing transportation system.
Strategy No. 14: Promote electric power, alternative fuels and autonomous technologies for freight and agriculture.	No Conflict. The Project would support EV-ready charging spaces, consistent with the requirements of the latest version of the Title 24 Building Energy Efficiency Standards. In addition, Mitigation Measure

POLICY/STRATEGY	*PROJECT CONSISTENCY*
	3.1-9 requires the Project applicant to ensure that all landscape equipment used on-site is to be electric or zero-emission vehicles. Additionally, the Project applicant is required to provide on-site electrical charging facilities to adequately service such electric vehicles. Additionally, Mitigation Measure 3.1-10 requires the Project applicant to install conduit as infrastructure for electric vehicle charging stations onsite to allow for truck docks to charge electric trucks in the future.
Strategy No. 15: Manage the adoption of electric vehicles and private connected and autonomous vehicles.	No Conflict. The Project would support EV-ready charging spaces, consistent with the requirements of the latest version of the Title 24 Building Energy Efficiency Standards. In addition, Mitigation Measure 3.1-9 requires the Project applicant to ensure that all landscape equipment used on-site is to be electric or zero-emission vehicles. Additionally, the Project applicant is required to provide on-site electrical charging facilities to adequately service such electric vehicles. Additionally, Mitigation Measure 3.1-10 requires the Project applicant to install conduit as infrastructure for electric vehicle charging stations onsite to allow for truck docks to charge electric trucks in the future.
Strategy No. 16: Promote electric power, alternative fuels and autonomous technologies for public transit.	Not Applicable. The proposed Project is not a transportation project.
Policy 5: Support Economic Vitality	No Conflict. The proposed Project would create local jobs as well as enhance the availability of goods within the local area.
Strategy No. 17: Support transportation improvements that improve economic competitiveness, revitalize commercial corridors and strategic economic centers, and enhance travel and tourism opportunities.	No Conflict. The Project would provide economic development to the City of Tracy, help promote economic competitiveness in the region, and would pay its fair share of traffic improvements.
Strategy No. 18: Support workforce training across industries, particularly transportation-related industries.	No Conflict. The Project would include workforce training.
Strategy No. 19: Encourage and/or strengthen small business, while supporting large employer recruitment.	No Conflict. The Project would not meaningfully conflict with this strategy.
Strategy No. 20: Invest in high-speed internet infrastructure to support e-business and reduce commuting.	No Conflict. The Project is not an infrastructure project. Nevertheless, the Project would not conflict with this strategy.
Policy 6: Promote Interagency Coordination and Public Participation for Transportation Decision-Making and Planning Efforts	Not Applicable. This is not a transportation planning or improvement project and is therefore not applicable.
Strategy No. 21: Provide equitable access to transportation planning.	Not Applicable. The Project is not a transportation project. Nevertheless, the Project would not conflict with this strategy.
Strategy No. 22: Engage the public early, clearly, and continuously.	No Conflict. The Project is subject to CEQA, including the preparation of an Environmental Impact Report. Early, clear, and continuous public engagement has been part of the entire CEQA process. Therefore, the Project does not conflict with this strategy.
Strategy No. 23: Use a variety of methods to engage the public, encouraging representation from diverse income and ethnic background.	No Conflict. The Project is subject to CEQA, including the preparation of an Environmental Impact Report. A variety of methods to engage the public have been utilized throughout the entire CEQA process. Therefore, the Project does not conflict with this strategy.
Policy 7: Maximize Cost Effectiveness	No Conflict. The proposed Project would be developed based on market demand.
Strategy No. 24: Support efforts to streamline the development process.	Not Applicable. The proposed Project is a warehouse development.
Strategy No. 25: Support the use of state	Not Applicable. The proposed Project is a warehouse development.

POLICY/STRATEGY	*PROJECT CONSISTENCY*
and federal grants to supplemental local funding and pursue discretionary grant funding opportunities from outside the region.	
Strategy No. 26: Support projects that maximize cost effectiveness.	No Conflict. The proposed Project is a warehouse development that would support economic competitiveness in the region. The proposed Project would not conflict with this strategy.
Strategy. No 27: Maximize funding of existing transportation options.	No Conflict. The proposed Project is a warehouse development that would pay its fair share of transportation fees. The proposed Project would not conflict with this strategy.
Policy: Improve the Quality of Life for Residents	No Conflict. The proposed Project would provide warehousing that would allow for additional shopping options for local and regional residents, thereby improving the quality of life for residents.
Strategy No. 28: Promote a broader range of housing types.	Not Applicable. The Project is not a residential project and therefore this strategy is not applicable.
Strategy No. 29: Support the development of a regional trust fund dedicated to addressing housing issues.	Not Applicable. The Project is not a residential project and therefore this strategy is not applicable.
Strategy No. 30: Enhance public health through active transportation projects.	Not Applicable. The Project is not a transportation project and therefore this strategy is not applicable.

SOURCE: SJCOG 2022 RTP/SCS

As shown in Table 3.2-5, above, the Project would not conflict with any of the GHG emissions reduction strategies contained in the SJCOG's 2022 RTP/SCS. Therefore, the Project is considered to be consistent with SJCOG's 2022 RTP/SCS.

EXECUTIVE ORDER S-3-05

The Executive Order S-3-05 2050 target has not been codified by legislation. However, studies have shown that, to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the project's impacts further relative to the 2050 goal is speculative for purposes of CEQA.[3]

The CARB recognizes that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, the CARB's First Update to the Scoping Plan "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by the CARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

[3] California Air Resources Board (CARB). 2014. First Update to the Climate Change Scoping Plan. Website: http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm. Accessed July 16, 2025.

- Energy Sector: Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.
- Transportation Sector: Anticipated deployment of improved vehicle efficiency, zero-emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.
- Water Sector: The project's emissions level will be reduced because of further utilization of water conservation technologies.
- Waste Management Sector: Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

In his January 2015 inaugural address, Governor Brown expressed a commitment to achieve "three ambitious goals" that he wanted to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

These expressions of executive branch policy may be manifested in adopted legislative or regulatory action through the State agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change.[4]

Further, studies show that the State's existing and proposed regulatory framework will allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analyzed in the studies could allow the State to meet the 2050 target.[5]

Given the proportional contribution of mobile source-related GHG emissions to the State's inventory, recent studies also show that relatively new trends—such as the increasing importance of web-based shopping, the emergence of different driving patterns, and the increasing effect of web-based applications on transportation choices—are beginning to substantially influence transportation choices and the energy used by transportation modes. These factors have changed

[4] Brown, Edmund G. Jr. 2015. Press Release: California Establishes Most Ambitious Greenhouse Gas Goal in North America. April 29.
Website: https://archive.gov.ca.gov/archive/gov39/2015/04/29/news18938/index.html. Accessed July 16, 2025.

[5] Energy and Environmental Economics, 2015. Pathways to Deep Carbonization in the United States.
Website: https://pdfs.semanticscholar.org/4630/43eacaf24d1cb64b1357b94ccc41d76bc823.pdf. Accessed July 16, 2025.

the direction of transportation trends in recent years and will require the creation of new models to effectively analyze future transportation patterns and the corresponding effect on GHG emissions. For the reasons described above, the proposed project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets.

CONCLUSION

The proposed Project would be consistent with relevant plans, policies, and regulations associated with GHGs, notably the most recent version of the CARB's Scoping Plan, and the SJCOG's 2022 RTP/SCS. This would ensure that the proposed Project would be consistent with, and would not impair, the State's carbon neutrality standard by year 2045 as established under AB 1279. The State is making progress toward reducing GHG emissions in key sectors such as transportation, industry, and electricity. Since the Project would be consistent with State GHG Plans, it would not impede the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and of achieving carbon neutrality by 2045. The proposed Project would make a reasonable fair share contribution to the State's GHG reduction goals, by implementing a wide array of Project features that would reduce GHG emissions (see the list of Project features listed within the *Project Sustainability Features* discussion, above) and therefore, the proposed Project's GHG emissions would be considered to have a ***less than significant*** impact.

THRESHOLDS OF SIGNIFICANCE (ENERGY CONSERVATION)

Consistent with Appendices F and G of the CEQA Guidelines, energy-related impacts are considered significant if implementation of the proposed Project would do the following:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation;
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency;

To determine whether the proposed Project would result in a significant impact on energy use, this EIR includes an analysis of proposed Project energy use, as provided under *Impacts and Mitigation Measures* below.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-2: Project implementation would not result in the inefficient, wasteful, or unnecessary use of energy resources, and would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency (Less than Significant)

According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to Project energy requirements, energy inefficiencies, energy intensiveness of materials, effects on local and regional energy supplies or on

requirements for additional capacity, compliance with existing energy standards, effects on energy resources, or transportation energy use requirements. In addition, the Project could have a significant energy impact if it would conflict or create an inconsistency with an applicable plan, policy, or regulation for renewable energy or energy efficiency.

The proposed Project includes various mitigation measures that reduce the inefficient, wasteful, or unnecessary use of energy. For example, Mitigation Measure 3.1-1 requires that operators of heavy-duty trucks that travel to and from the Project site (during Project operation) are required to use trucks that have 2010 model year or newer engines that meet the CARB's 2010 engine emission standards of 0.01 g/bhp-hr for particulate matter (PM) and 0.20 g/bhp-hr of NOx emissions, or newer, cleaner trucks and equipment. Mitigation Measure 3.1-4 requires the Project applicant to install Energy Star certified appliances or equivalent. Mitigation Measure 3.1-5 requires the Project applicant to install energy efficient lighting that meets or exceeds Title 24 requirements. Mitigation Measure 3.1-9 requires the Project applicant to ensure that all landscape equipment used on-site shall be electric or zero-emission vehicles. The Project applicant is required to provide on-site electrical charging facilities to adequately service such electric vehicles. Additionally, Mitigation Measure 3.1-10 requires the Project applicant to install conduit as infrastructure for electric vehicle charging stations onsite to allow for truck docks to charge electric trucks in the future. Such conduit is to be provided on the site to serve a minimum of 50% of the number of truck docking stations, with the location of conduit at the discretion of the developer (e.g., truck trailer parking spaces or other locations).

Moreover, it should be noted that, over time, electrification of the vehicles will increase due to state requirements, and state and national trends. Electric charging infrastructure would be installed on the property to facilitate the conversion of the truck fleet to zero-emission electric trucks as they become available in the market and used for truck deliveries to and from the facility.

The amount of energy used by the proposed Project during operation would include the amount of energy used by Project buildings and outdoor lighting, and the fuel used by vehicle trips generated during Project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by Project maintenance activities during Project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed Project, as provided by applicable modelling software (i.e. CalEEMod v2022.1) and the CARB EMFAC2025). Additional assumptions and calculations are provided within Appendix B of this EIR.

ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed Project would be used primarily to generate energy for Project buildings, as well as for outdoor parking lot lighting. As shown in further detail in the CalEEMod modeling outputs provided in Appendix B, "Energy" is one of the categories that was modeled for GHG emissions. As also shown in the CalEEMod modeling outputs as provided in Appendix B, the proposed Project is anticipated to consume approximately 8,350,300 kWh of electricity per year and approximately 4,480,061 kBTU per of natural gas per year. Moreover, this is likely a conservative estimate, given that the CalEEMod model does not account for the latest

version of Title 24. Furthermore, this also does not account for most the Project's energy efficiency commitments, which would likely drive down the energy usage much further than identified herein.

ON-ROAD VEHICLES (OPERATION)

The proposed Project would generate vehicle trips (i.e., passenger vehicles for employees and heavy-duty trucks for hauling) during its operational phase. Compliance with applicable State laws and regulations would limit idling and a part of a comprehensive regulatory framework that is implemented by the CARB. A description of Project operational on-road mobile energy usage is provided below.

To calculate operational on-road vehicle energy usage, De Novo Planning Group used fleet mix data from the CalEEMod (v.2022.1) output for the proposed Project, and Year 2026 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2025, to derive weighted average gasoline and diesel MPG factors for the vehicle fleet as a whole. Based on these calculations, as provided in Appendix B, upon full buildout, the proposed Project would generate operational vehicle trips that would use a total of approximately 1,309 gallons of gasoline and 1,901 gallons of diesel per day, or 477,741 gallons of gasoline and 693,911 gallons of diesel per year.

The proposed Project's buildings would be designed and constructed in accordance with the City's latest adopted energy efficiency standards, which are based on the State's Title 24 Energy Efficiency Standards for Nonresidential Buildings and Green Building Code Standards. These standards include minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., heating, ventilation, and air conditioning [HVAC] and water heating systems), and indoor and outdoor lighting, are widely regarded as the some of the most advanced and stringent building energy efficiency standards in the country. Moreover, as specified in Chapter 5, Part 11 of the Title 24 standards, the proposed project would be required to incorporate electrical conduit to facilitate future installation of EV charging infrastructure. In addition, as specified in Subchapter 6, Part 6 of the Title 24 standards, the proposed Project would be required to design the proposed buildings to structurally accommodate future installation of a rooftop solar PV system. As such, the design of the proposed project would facilitate the future commitment to renewable energy resources. Therefore, building energy consumption would not be considered wasteful, inefficient, or unnecessary.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed Project would also generate on-road vehicle trips during Project construction (from construction workers and vendors travelling to and from the Project site). De Novo Planning Group estimated the vehicle fuel consumed during these trips based on the assumed construction schedule, vehicle trip lengths and number of workers per construction phase as provided by CalEEMod, and Year 2026 gasoline and diesel MPG factors provided by EMFAC2025 (year 2026 factors were used to represent a conservative analysis, as the energy efficiency of construction activities is anticipated to improve over time). For the sake of simplicity and to be conservative, it was assumed that all construction worker light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel. Table 3.2-6, below,

describes gasoline and diesel fuel consumed during each construction phase (in aggregate). Additionally, it should be noted that the Project would be developed over four phases. As shown, most of the on-road mobile vehicle fuel used during the construction of the proposed Project would occur during the building construction phase. See Appendix B of this EIR for a detailed accounting of construction on-road vehicle fuel usage estimates.

TABLE 3.2-6: ON-ROAD MOBILE FUEL USAGE BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	*TOTAL GALLONS OF GASOLINE FUEL(B)*	*TOTAL GALLONS OF DIESEL FUEL(B)*
Site Preparation (2026)	115	-
Grading (2026)	447	-
Building Construction (2026 and 2027)	72,498	63,189
Paving (2027)	191	-
Architectural Coatings (2027)	784	-
Total	**74,035**	**63,189**

NOTE: (A) PROVIDED BY CALEEMOD OUTPUT. (B)SEE APPENDIX B OF THIS EIR FOR FURTHER DETAIL

SOURCE: CALEEMOD (V.2022.1); EMFAC2025.

OFF-ROAD EQUIPMENT (CONSTRUCTION)

Off-road construction equipment would use diesel fuel during the construction phase of the proposed Project. A non-exhaustive list of off-road constructive equipment expected to be used during the construction phase of the proposed Project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO_2 emissions expected to be generated by the proposed Project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed Project would use a total of approximately 54,049 gallons of diesel fuel for off-road construction equipment. Detailed calculations are provided in Appendix B of this EIR.

State laws and regulations would limit idling from both on-road and off-road diesel-powered equipment and are part of a comprehensive regulatory framework that is implemented by the CARB. Additionally, as a practical matter, it is reasonable to assume that the overall construction schedule and process would be designed to be as efficient as feasible to avoid excess monetary costs. For example, equipment and fuel are not typically used wastefully due to the added expense associated with renting the equipment, maintaining it, and fueling it. Therefore, the opportunities for further future efficiency gains during construction are limited. For the foregoing reasons, it is anticipated that the construction phase of the project would not result in wasteful, inefficient, and unnecessary consumption of energy.

CONCLUSION

The proposed Project would use energy resources for the operation of Project buildings (natural gas and electricity), outdoor lighting (electricity), on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed Project, and off-road and on-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy

resources. The proposed Project would be responsible for conserving energy, including through Project sustainability features, the mitigation measures provided throughout this EIR, as well as through the implementation of statewide and local measures.

The proposed Project would comply with all applicable federal, State, and local regulations regulating energy usage. Various statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

The proposed Project would comply with all existing energy standards and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the energy-related thresholds as described by the *CEQA Guidelines*. This is a ***less than significant*** impact.

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The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Project site and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the Project is built and operated in the future. This section is based in part on the following: *San Joaquin County General Plan* (San Joaquin County, 2016), *City of Tracy General Plan* (City of Tracy, 2011), *City of Tracy General Plan EIR* (City of Tracy, 2011), *Phase I Environmental Site Assessment – Former Haley's Flying Service Property* (Brusca Associates, Inc., 2020) (see Appendix C), *Phase II Environmental Site Assessment – Soil Investigation and Geophysical Survey, Former Haley's Flying Service Property* (Brusca Associates, Inc., 2020) (see Appendix D), and *Scope of Work/Soil Removal Workplan – Former Haley's Flying Service Property* (Brusca Associates, Inc., 2023) (see Appendix E).

One comment regarding this topic was received from the California Department of Conservation, Geologic Energy Management Division (June 10, 2025). Full comments received regarding other topics are included in Appendix A.

As discussed in the Initial Study (see Appendix A), the Project site is not located within 1/4-mile of an existing school. The nearest school to the Project site is the Banta Elementary School District, located approximately 0.9 miles southeast of the Project site or further. Additionally, the proposed project is not located within one mile of the airport, nor along the extended runway centerline, or within an Airport Influence Area (AIA). Additionally, there are no private airstrips within the vicinity of the Project site. The proposed project consists of single story and two story structures, and does not propose any structures of substantial height that would protrude into active airspace. Further, the California Department of Forestry has designated the southwestern edge of the City as having a moderate wildland fire potential. This is predominately a result of the hills and grassland habitat that persists. The identified moderate wildland fire potential area in and around Tracy does not include the Project site. The proposed project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project involves the development of industrial land uses within an urbanized environment and would not interfere with any emergency response or evacuation plans. The Project would have no impact or less than significant impacts related to these topics and they will not be addressed further.

3.3.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location

The Project site consists of approximately 52.7 acres located at the northwest corner of Chrisman Road and Paradise Avenue in the northeast quadrant of the City of Tracy, adjacent to State Route 205 (SR-205) to the north. The Project site is located on Assessor Parcel Numbers (APNs) 213-06-012 and 213-06-013. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site includes three distinct planning boundaries defined below. The following terms are used throughout this document to describe the planning boundaries within the Project site:

- **Project Site** – totals 52.7 acres and includes the whole of the Project, including the Remediation Area and the Development Area.
- **Development Area** – includes approximately 52.3 acres which would be developed with two (2) industrial warehouse type uses as part of the Project.
- **Remediation Area** – includes approximately 10.2 acres along the southern site boundary which contains soils that will be removed and remediated as part of the Project. Following remediation, the Remediation Area will be developed as part of the Development Area with two industrial warehouse type uses; and a portion of the Remediation Area will be dedicated to the City of Tracy for the future extension of Chrisman Road.

Existing Site Uses

The majority of the Project site is currently agricultural land (Development Area), with an approximately 10.2-acre strip of vacant land that was previously used as a crop-dusting airstrip, as discussed further below. The approximately 10.2-acre portion of the Project site that is slated for remediation (Remediation Area) is generally void of vegetation. The existing vegetation in the Remediation Area appears to have burned in the past. There are also remnant concrete slabs and other concrete structures that are associated with the former airstrip in the southeastern corner of the Project site. An existing pump station with a screen wall and a catch basin are currently located on the south side of the project adjacent to the roadway access point along Chrisman Road at the southeast corner of the Project site.

The approximately 10.2-acre soil Remediation Area was previously an agricultural airstrip from 1951 to roughly 1989. This airstrip engaged in frequent crop dusting of surrounding agricultural uses, leading to significant soil contamination that requires remediation, as discussed above. Following the 1980s the site was reportedly occupied by various businesses including a trucking company, tomato packing company, and a truck repair company. The property was seemingly destroyed by a fire in 2018 and has remained vacant. Figure 2.0-3 in Chapter 2.0 shows an aerial view of the entire Project site, including the Development Area and the Remediation Area.

Existing Surrounding Uses

The Project site is located in an industrial area within the City's Northeast Industrial Specific Plan area. The surrounding area adjacent to the Project site includes light industrial, agricultural areas, and I-205. The Project site and the areas to the north, east, south, and west are designated Industrial by the City's General Plan. The area to the northeast, north of I-205, is designated for agricultural land uses by San Joaquin County. The City of Tracy has zoned the parcels to the west as light industrial (M-1) and the parcels to the south as Northeast Industrial Specific Plan Zone (NEI).

Site Topography

The Project site is relatively flat with a natural gentle slope increasing from north to south. The Project site topography ranges in elevation from approximately 30 to 36 feet above sea level.

HAZARDS ASSESSMENT

For the purposes of this EIR, "hazardous material" is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

"Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

"Hazardous waste" is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitibility, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.

- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

Hazardous Material Sites

As noted above, the State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by the state, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements for providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the Cal EPA to annually update the Cortese List. The DTSC is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

GeoTracker is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Searches of the above resources and records identified two hazardous materials sites within 0.3-mile of the Project site known to handle and store hazardous materials that are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping.

One site, Haley Flying Services (T0607700410) is a LUST cleanup site approximately 0.3 miles northeast of the Project site. This site has a status of "Completed – Case Closed."

The second site is located within the Remediation Area and is discussed in detail below.

HALEY'S FLYING SERVICE (SL0607752832)

This site is located at 2395 E. Pescadero Avenue. The site type is Cleanup Program Site and is not on the National Priorities List. The cleanup oversight agency is the Central Valley Regional Water Quality (CVRWQCB) Control Board, and the status (as of January 31, 2023) is Open – Site Assessment.

As part of the cleanup efforts for this site, a Scope of Work/Soil Removal Workplan was submitted in July 2023. In a staff letter dated July 31, 2023, the CVRWQCB approved the Scope of Work/Soil Removal Workplan. The Soil Removal Workplan is included as Appendix E of this EIR.

Site Reconnaissance

Environmental investigations and regulatory agency site inspections have taken place at the Remediation Area dating back to the 1970s. Most of the available environmental documentation pertaining to the Remediation Area is related to inspections and investigative work performed to evaluate the area of the former onsite agricultural air strip/crop dusting facility (Haley's Flying Service) and associated hazardous materials use and storage practices. Past soil and groundwater sampling at the site performed in conjunction with a Preliminary Endangerment Assessment (PEA) and a PEA Addendum in 2006 revealed significant pesticide impact on the Remediation Area; the PEA work was performed with the oversight of the California Department of Toxic Substances Control (DTSC). Additionally, past site investigations were performed to evaluate site impact from former underground fuel storage tank usage at the Haley's Flying Service facility. Additionally, a Phase I Environmental Site Assessment of the Remediation Area and a groundwater investigation were performed.

2006 Preliminary Endangerment Assessment

As mentioned above, a PEA performed at the site in 2006 identified significant pesticide impact to soils on the Remediation Area. The PEA included shallow soil sampling at a number of locations within the area of the former onsite crop-dusting facility, including near the aircraft loading pad, near the loading dock, near the washout pit, near the hangars, and near the runway. The locations of soil samples collected in conjunction with the 2006 PEA are shown on Plates 5 through 9 of the Phase II ESA (Appendix D) along with the locations of the samples collected as part of the Phase II ESA in 2020. The soil samples collected during the PEA generally were collected at depths ranging from the surface to a depth of 12 inches. Nearly all of the soil samples were analyzed for organochlorine pesticides. A limited number of soil samples also were tested for organo-phosphorous herbicides/pesticides, chlorinated herbicides, n-methyl carbamate pesticides, petroleum hydrocarbons, and/or VOCs.

The results of the analytical laboratory testing of the soil samples obtained during the 2006 PEA are summarized on the attached Tables I and II of Appendix D; the laboratory testing revealed very high concentrations of contaminants (primarily the organochlorine pesticides DDT, DDD, DDE, and toxaphene) at a number of locations, including within the vicinities of the aircraft loading dock, the surrounding loading pad, and the washout pad. The PEA report characterized the soils in these areas as "severely contaminated" and the associated health risks as "extremely high." The report suggested that the data demonstrated vertical attenuation of the detected contaminant in soils; however, neither the full vertical nor lateral extent of site impact was characterized. The pesticide soil impact was primarily identified on the far easterly portion of the Remediation Area, although some impact was identified along the runway at some distance to the west. The PEA soil sampling/testing did not reveal petroleum hydrocarbon or VOC impact; however, very few soil samples were tested for these analytes. Additionally, it does not appear that the 2006 PEA included analysis of soil samples for metals. The PEA generally concluded that further site investigation and remedial action were warranted.

2020 PHASE I ENVIRONMENTAL SITE ASSESSMENT

The Phase I ESA (Appendix C) completed in 2020 identified the following recognized environmental conditions in connection with the Remediation Area:

- Past site inspections by regulatory agencies revealed a number of violations with respect to historical onsite hazardous materials and wastewater handling practices (primarily during the time that the former Haley's Flying Service operated on the Remediation Area). Additionally, soil and groundwater sampling performed in conjunction with the 2006 PEA revealed significant pesticide contamination conditions on the Remediation Area. It does not appear that further investigative or remedial work regarding these conditions has been performed since the time of the 2006 PEA. The past investigative work was not sufficient to characterize the site contamination conditions; the extent of pesticide impact to soils and groundwater was not determined, the past sampling did not include evaluation of metals, and the extent of testing for petroleum hydrocarbons and VOCs was minimal. Additionally, it does not appear that the area of the onsite septic system was specifically targeted during past investigation. The known site contamination conditions and potential yet unidentified contamination conditions attributable to past site activities are considered a recognized environmental condition.
- Site observations made as part of the Phase II ESA revealed a number of areas of burned debris on the Remediation Area. Additionally, it is indicated that a structure fire occurred on the Remediation Area around 2018. Burned debris and ash from structure fires can contain contaminants, including elevated concentrations of metals. The potential for site contamination conditions attributable to past fires on the Remediation Area and burned debris is considered a recognized environmental condition.
- Two underground fuel storage tanks (USTs) were removed from the Remediation Area in 1990. Subsequent site investigations reportedly revealed only minor petroleum hydrocarbon impact to soil and groundwater attributable to one of the removed USTs. Based on the data, the UST case received regulatory agency closure in 1998. Given the closed agency status, the past UST case at the site is considered a historical recognized environmental condition that does not require further environmental work. However, our research indicates that additional USTs may have been located at the site (beyond the two that were removed in 1990). It is reported that the San Joaquin County Environmental Health Department (SJCEHD) received payment for a total of four USTs in 1986; additionally, a complaint record on file with the SJCEHD dated 2001 noted the potential of remnant USTs at the site. The potential for remnant USTs at the site (and the associated potential for contamination conditions attributable to any such USTs) is considered a recognized environmental condition.

2020 GROUNDWATER INVESTIGATION

As mentioned above, pesticide groundwater impact was identified at the site during performance of the PEA in 2006. Additional groundwater assessment was performed in 2020 and those results were presented in a report dated June 8, 2020. In general, the results of the 2020 groundwater

investigation indicate that the area of groundwater beneath the site containing elevated concentrations of organochlorine pesticides is relatively small and fairly well defined.

Site Soils

As part of the Phase II ESA, 19 test pits (identified as T1 through T19) were performed within the area of the former crop-dusting facility on the easterly portion of the property and a limited number of test pits (T20 through T24) along the remnant airstrip that traverses the site from west to east. Additional soil sampling episodes and test pit excavations were performed in August, September, and October 2020; the additional sampling locations are identified as T25 through T98.

At a number of soil sampling locations within the area of the former facility on the far easterly portion of the property, concrete pavements and slabs were present at the surface; the thickness of the concrete flatwork generally varied from about four to six inches. At the sampling locations within the remnant airstrip, the asphaltic concrete pavement thickness generally ranged from about two to six inches. "Surface" soils collected in the areas of flatwork were collected directly below the lower surface of the pavement/slab. The airstrip pavement was highly dilapidated and/or absent within areas on the westerly portion of the property; where the pavement was absent, varying amounts of asphaltic concrete rubble was observed within surface soils.

At the surface and beneath remnant flatwork in much of the area within the former facility on the far easterly portion of the site, gravel and gravel-soil mixtures were encountered in the test pits extending to depths ranging from a few inches to about one foot. Beneath these gravelly surface materials in the area of the former facility, and at the surface on other portions of the site, the test pits generally encountered alluvial deposits comprised of silty clays and clayey silts, with varying amounts of sand. In the area of the remnant washout pit of the far northeasterly portion of the property, some of the soils encountered exhibited orange staining and a strong chemical odor. Subsurface water was not encountered in any of the test pits.

At location T15, loose gravelly soil materials were encountered to the termination depth of the test pit (about 3.5 feet); these materials appeared to be fill. It is likely that the T15 location is the site of one of the former underground fuel tanks that was removed from the property in the past, and the materials encountered in this test pit likely are disturbed backfill materials placed in the tank removal excavation.

LABORATORY TESTING

The collected soil samples were submitted to a State-certified laboratory (Sunstar Laboratories, Inc.; ELAP No. 2250) for analysis. All soil samples from locations T1 through T98 were tested for organochlorine pesticides by EPA Method 8081A. A number of soil samples from the area of the former crop-dusting facility on the easterly portion of the property were tested for other potential analytes of concern, including: gasoline-, diesel-, and motor oil-range petroleum hydrocarbons by EPA Method 8015B; VOCs by EPA Method 8260B; and/or, CAM17 metals by EPA Method 6010/200.7; the results of these analyses are summarized on Table II in the Phase II ESA (Appendix D). Further, a number of soil samples from the site (including soil samples with the highest concentrations of organochlorine pesticides) were tested for soluble pesticides by the Toxicity

Characteristic Leaching Procedure (TCLP) to evaluate whether these soils would be characterized as a Federal (RCRA) hazardous waste.

TESTING RESULTS

Organochlorine Pesticides: Most of the soil samples collected from the Remediation Area contained some of the organochlorine pesticides tested at concentrations above the laboratory reporting limits. To evaluate the significance of the concentrations of pesticides detected in site soils, the analytical results were compared to Environmental Screening Levels (ESLs) published by the San Francisco Bay Regional Water Quality Control Board. Because commercial/light-industrial development of the property is contemplated, ESLs published for commercial/industrial sites were considered. Additionally, California Title 22 Total Threshold Limit Concentration (TTLC) hazardous waste levels for the detected pesticides in site soils were considered; those values also are presented on Table I in the Phase II ESA (see Appendix D).

As shown, a substantial percentage of the soil samples collected from the Remediation Area contained one or more organochlorine pesticides at concentrations above the ESL values, and many of these concentrations also exceed California hazardous waste TTLC values. The most significantly elevated and pervasive pesticides in soils at the site would appear to be DDD, DDE, DDT, and toxaphene.

DDD was detected in soil samples collected at concentrations as high as 93 milligrams per kilogram (mg/kg), and as high as 3,000 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (12 mg/kg).

DDE was detected in soil samples collected by our firm at concentrations as high as 68 milligrams per kilogram (mg/kg), and as high as 530 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (8.3 mg/kg).

DDT was detected in soil samples collected at concentrations as high as 260 milligrams per kilogram (mg/kg), and as high as 19,000 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (8.5 mg/kg).

The combined DDD, DDE, and DDT California hazardous waste TTLC value is 1.0 mg/kg; many of the soil samples collected at the site contained these pesticides at concentrations above the TTLC value.

Toxaphene appears to be the most pervasive elevated pesticide detected in soils at the Remediation Area. Toxaphene was detected in soil samples collected at concentrations as high as 5,400 milligrams per kilogram (mg/kg), and as high as 24,000 mg/kg during soil sampling conducted during the 2006 PEA. Nearly one-half of the soil samples collected from the Remediation Area contained toxaphene at concentrations above the ESL and/or TTLC value (2.2 mg/kg and 5.0 mg/kg, respectively).

Limited occurrences of other organochlorine pesticides were detected in site soils at concentrations above their respective ESL and/or hazardous waste TTLC values, including heptachlor, chlordane, dieldrin, and endrin. Soil samples containing elevated concentrations of these pesticides also

contained elevated concentrations of DDD, DDE, DDT, and/or toxaphene (suggesting that it would be appropriate to regard DDD, DDE, DDT, and toxaphene as indicators for remedial action such as excavation/soil removal).

The detected concentrations of DDD, DDE, DDT, and toxaphene in site soil samples are plotted on site maps and presented on Plates 5 through 9 of Appendix D. The most pervasive and highest concentrations of these pesticides were detected on the easterly portion of the site in the area of the former crop-dusting facility (see Plates 5 and 6); the most severe impact in this area would appear to be in the vicinity of the washout pit and loading dock along the northerly margin of the former facility. However, as shown on Plates 7 through 9 of Appendix D, elevated concentrations of pesticides (primarily toxaphene) were detected at numerous locations beneath and near the former airstrip extending across the property. As shown, soil samples were collected at multiple distances laterally from the former airstrip to attempt to define the extent of impact near the former airstrip. Within some site areas, the sampling conducted to date would appear to define the lateral extents of organochlorine pesticide soil impact, however uncertainty remains regarding actual onsite limits of soil contamination (particularly to the north of the former airstrip and directly to the west of the northerly portion of the former crop-dusting facility).

Along the runway and within some portions of the former crop-dusting facility on the easterly portion of the property, the vertical extent pesticide soil impact appears to be limited to near surface soils and generally does not appear to extend to a depth of one foot; this limited degree of vertical impact is somewhat typical for organochlorine pesticides in soils. However, within sizable portions of the former crop-dusting facility on the easterly portion of the site, the soil impact extends deeper (to depths of at least one to three feet). At certain locations (primarily along the northerly margin of the former crop-dusting facility in the areas of the washout pit and loading dock), the vertical extent of pesticide soil impact is not defined by the available sampling data; however, in general, vertical attenuation of contaminant concentrations is indicated at these locations and it appears unlikely that the pesticide impact would extend significantly deeper than about three feet within sizable areas.

As mentioned above, a substantial number of the soil samples collected from the Remediation Area contained organochlorine pesticides at concentrations above California hazardous waste TTLC values. To evaluate whether site soils may be characterized as a Federal (RCRA) hazardous waste, a number of soil samples (including soil samples with the highest concentrations of total pesticides) were subjected to soluble organochlorine analyses by the TCLP method; the results are presented on Table III of the Phase II ESA. As shown on Table III, none of the tested soil samples contained soluble pesticides at concentrations above Federal (RCRA) hazardous waste levels. It is noted that detectable concentrations of endrin ketone were detected via the TCLP method in some of the tested soils samples. It does not appear that a Federal (RCRA) hazardous waste TCLP value has been established specific to endrin ketone, although a TCLP level has been established for endrin. The preliminary review suggests that the TCLP hazardous waste criteria for endrin would not apply to endrin ketone; however, this assumption should be confirmed with a licensed hazardous materials contractor and/or an appropriate hazardous waste acceptance facility

Other Potential Contaminants of Concern: Selected soil samples from the area of the former onsite crop-dusting facility and one sample of burn debris collected on the central portion of the site along the former airstrip were tested for other potential contaminants of concern, including petroleum hydrocarbons, VOCs, and metals. As shown on Table II of the Phase II ESA, a few of the tested soil samples from the area of the former crop-dusting facility contained very low concentrations of diesel- and/or motor oil-range petroleum hydrocarbons, and one soil sample (collected within the former washout pit) contained very low concentrations of VOCs, including toluene and xylenes. The detected concentrations of petroleum hydrocarbons and VOCs in site soil samples are well below commercial/industrial ESL values, and, as such, are not considered a significant environmental concern.

As shown on Table II of the Phase II ESA, all of the soil samples tested for metals contained some metals at concentrations above the laboratory reporting limits. The vast majority of the metals concentrations detected in the soil samples are considered very low, within typical background (naturally-occurring) soils metals concentrations in the region, and are below ESL and California TTLC hazardous waste levels. However, it is noted that the three samples collected from burn debris on the property (S1, S2, and S3) contained elevated concentrations of lead and/or zinc. The zinc concentration detected in sample S1 (13,000 mg/kg) exceeds the TTLC value of 5,000 mg/kg. The lead concentrations in samples S2 and S3 (330 mg/kg and 1,400 mg/kg, respectively) exceed the ESL value of 320 mg/kg. The lead concentration in sample S3 also exceeds the California hazardous waste TTLC value of 1,000 mg/kg. However, in general, the extent of burn debris on the property appears very minimal compared to the extent of pesticide impacted soils, and it is likely that the pesticide impacts are a much greater factor in assessing the environmental condition of the property and the costs for future remedial action.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Tracy Planning Area is subject to various federal, state, and local regulations. The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss

of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

In addition to area roadways, hazardous materials are routinely transported on Union Pacific Railroad (UPRR) lines that are roughly one-mile south of the Project boundary. Hazardous materials are transported on these lines. The risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of Transportation Federal Railroad Administration found the UPRR company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001% chance of an accident. Risk of a railroad accident containing hazardous materials is considered much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The Union Pacific Railroad Company implements a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

3.3.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the EPA, Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act, as amended, is the basic statute regulating hazardous materials transportation in the United States. The purpose of the law is to provide adequate protection against the risks to life and property inherent in transporting hazardous materials in interstate commerce. This law gives the U.S. Department of Transportation (USDOT) and other agencies the authority to issue and enforce rules and regulations governing the safe transportation of hazardous materials (DOE 2002).

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. Department of Transportation Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and

enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program established tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to ensure that the stored material will not corrode the tanks. The RCRA was further amended in 1988 to set additional standards for USTs.

In July 2015, the EPA revised the federal UST regulation, which strengthened the 1988 federal UST regulations by increasing emphasis on properly operating and maintain UST equipment. The revision added new operation and maintenance requirements and addressed UST systems deferred in the 1988 UST regulation. The purpose of the revision was to help prevent and detect UST releases, which are a leading source of groundwater contamination. To ensure compliance performance measures reflect the 2015 UST regulation, the EPA and the Association of State and Territorial Solid Waste Management Officials coordinated to update existing compliance performance measures and add new measures. The measures required states to switch from tracking compliance against significant operational compliance measures to the more stringent technical compliance rate (TCR) measures. As of June 2020, only 45.6 percent of USTs were in compliance with all TCR categories[1].

Comprehensive Environmental Response, Compensation, and Liability Act

CERCLA introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. CERCLA was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. CERCLA deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

[1] EPA. *Semiannual Report of UST Performance Measures Mid Fiscal Year 2020*. June 2020. Access: https://www.epa.gov/sites/production/files/2020-06/documents/ca-20-12.pdf

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), Cal-EPA, DTSC, California Department of Transportation (Caltrans), California Highway Patrol (CHP), State Water Quality Control Board, and the California Air Resources Board. Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal-EPA established the "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

LOCAL

City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to hazards and hazardous materials. General Plan policies applicable to the Project are identified below:

POLICIES: PUBLIC FACILITIES ELEMENT

- PF-1.1-P1. The City shall provide fire and emergency response facilities and personnel necessary to meet residential and employment growth in the city.
- PF-1.2-P1. Fire hazards shall be identified and mitigated during the project review and approval process.
- PF-1.2-P6. The City shall use physical site planning as an effective means of preventing wildland fires by requiring the following:
    - Drought-resistant native plants incorporated into public works projects.
    - More than one ingress/egress road to any neighborhood in areas subject to wildland fires.
    - Roadways with grades that accommodate emergency vehicles.
    - Structures that are constructed of fire-resistant materials.

POLICIES: SAFETY ELEMENT

- SA-4.1-P1. Adequate separation shall be provided between areas where hazardous materials are present and sensitive uses such as schools, residences and public facilities.
- SA-4.1-P2. When reviewing applications for new development and redevelopment in areas historically used for commercial or industrial uses, developers shall conduct the necessary level of environmental investigations to ensure that soils, groundwater and buildings affected by hazardous material releases from prior land uses and lead or asbestos potentially present in building materials, will not have a negative impact on the natural environment or health and safety of future property owners or users.
- SA-4.1-P3. The safe transport of hazardous materials through Tracy shall be promoted by implementing the following measures:
    - Maintain formally-designated hazardous material carrier routes to direct hazardous materials away from populated and other sensitive areas.
    - Prohibit the parking of vehicles transporting hazardous materials on City streets.
    - Require that new pipelines and other channels carrying hazardous materials avoid residential areas and other immobile populations to the extent possible.
- SA-4.1-P4. Emergency response plans shall be submitted as part of use applications for all large generators of hazardous waste.
- SA-4.1-P5. The City shall continue to encourage the reduction of solid and hazardous wastes generated within the City, in accordance with countywide plans.
- SA-4.1-P6. The City shall partner with San Joaquin County to implement the Hazardous Materials Area Plan.

Tracy Municipal Code

The City of Tracy's Municipal Code (Code) addresses a variety of hazards and related topics, including hazardous materials and waste and airport safety.

The California Fire Code is adopted as Chapter 9.06 of the Code. Code Section 5.24.130 requires notification of the City, EPA Regional Waste Management Division Director, and "state hazardous waste authorities" (i.e., DTSC) of all hazardous waste discharges to the sewer. Code Section 5.24.260 requires that waste not permitted to be discharged into the community sewer must be transported to a State-approved disposal site, and the required "Waste Haulers Report" must be completed and a copy kept at the facility and the waste hauling manifest must be made available upon demand by the City, and retained for a minimum of three years. Code Article 27 establishes an Airport Overlay zone intended to regulate land uses adjacent to the Tracy Municipal Airport by limiting activities and construction in aircraft approach areas within the City limits. Code Chapter 3.24 provides for the preparation and carrying out of plans for the protection of persons and property within the City in the event of an emergency, including from fire or pollution. All officers and employees of this City, together with volunteer and other forces enrolled to aid them during an emergency, shall constitute the Emergency Organization of the City. This chapter provides for the direction of the Emergency Organization, and coordination of the emergency functions of the City and all other public agencies, corporations, organizations, and affected private persons.

Tracy Local Hazard Mitigation Plan

On March 17, 2020, the Tracy City Council adopted the City of Tracy Local Hazard Mitigation Plan (Tracy LHMP), which guides hazard mitigation planning to better protect the people and property of the City from the effects of hazard events. The Tracy LHMP was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 so that Tracy would be eligible for the Federal Emergency Management Agency's (FEMA) Pre-Disaster Mitigation and Hazard Mitigation Grant programs. The Tracy LHMP includes a risk assessment that identified and profiled hazards that pose a risk to the City of Tracy, assessed the City's vulnerability to these hazards, and examined the capabilities in place to mitigate them.

Certified Unified Program Agency (CUPA)

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The San Joaquin County Department of Environmental Health is the CUPA designated for San Joaquin County. The San Joaquin County Department of Environmental Health is responsible for the implementation of statewide programs within its jurisdiction, including: Underground storage of hazardous substances (USTs), Hazardous Materials Business Plan (HMP) requirements, California Accidental Release Prevention (Cal-ARP) program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

San Joaquin County Office of Emergency Services

The San Joaquin County Office of Emergency Services administers the State's Hazardous Material Release Response Plan and Inventories and the Accidental Release Prevention (Cal-ARP) programs. Additionally, the Office of Emergency Services has a Hazardous Material Area Plan designed to protect human health and the environment through hazardous materials emergency planning, response and agency coordination and community right-to-know programs. The Hazardous Material Area Plan, among other provisions, provides guidance for businesses required to file a hazardous materials business plan. Under Chapter 6.95 of the California Health and Safety Code and the Federal Resource Conservation and Recovery Act, any business storing quantities of hazardous materials greater than 55 gallons of liquid, 500 pounds of solid or 200 cubic feet of some compressed gases must file a hazardous materials business plan annually that establishes incident prevention measures, hazardous material handing protocols and emergency response and evacuation procedures. The City of Tracy Police Department and the South County Fire Authority work with San Joaquin County to implement the Hazardous Material Area Plan.

The Office of Emergency Services also administers the Emergency Planning and Community Right-to-Know program for Tracy. The Office of Emergency Services has also prepared the Emergency Operations Plan, which is known as the basic emergency plan for San Joaquin County. The Emergency Operations Plan is intended to facilitate multiple-agency and multiple jurisdictional coordination, particularly among local, state, and federal agencies in emergency management, and establish a framework for an effective system of comprehensive emergency management.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; and/or
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, create a significant hazard to the public or the environment.

IMPACT DISCUSSIONS AND MITIGATION MEASURES

Impact 3.3-1: The proposed Project, with mitigation, would not create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)

The proposed project would include development of two general light industrial warehouse buildings totaling 718,165 square feet (sf). As discussed in the Project Description chapter, in addition to the proposed industrial warehouses and supportive circulation, parking, and utility improvements, the project includes remediation of the approximately 10.2-acre Remediation Area in the southern portion of the Project site. The soil remediation will occur prior to development of the industrial uses.

The area that will undergo soil remediation (referred to as "Remediation Area") is an approximately 10.2-acre site along the southern boundary of the larger 52.7 Project site, as shown in Figure 2.0-3. Investigation into past research of the site included a past soil and groundwater sampling study performed in conjunction with a Preliminary Endangerment Assessment (PEA) in 2006, a PEA Addendum in 2006 that revealed significant pesticide impacts to soils at the Remediation Area, a Phase I Environmental Site Assessment (ESA) in 2020, and a follow-up Phase II ESA in 2020 that included a groundwater investigation, a geophysical survey, and an extensive soil sampling and characterization study.

The 2020 Phase I ESA revealed that previous land uses for the site included an agricultural airstrip and crop-dusting facility, indicating a potential for contamination. The 2020 Phase I ESA for the Remediation Area showed that there were previously two underground fuel storage tanks (USTs) that were removed in 1990. Further research indicated that additional USTs may have been located

on the site, beyond the two that were removed. The potential for contamination from UST is a recognized environmental condition and necessitated additional study through a Phase II ESA.

A geophysical study undergone in 2020 revealed that no additional USTs, nor any former septic tanks locations, were found on the Remediation Area. A groundwater study indicated that pesticides were located at the Remediation Area, per the conclusions of the 2006 PEA; however, the groundwater investigation report submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) stated no further action nor remediation is necessary. A soil study in the same year concluded that there were organochloride pesticides present in the tested samples that were above the Environmental Screening Levels (ESLs) for dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and toxaphene. Other chemicals that were tested for included petroleum hydrocarbons and volatile organic compounds (VOCs); however, these tested below the ESLs. Testing for metals showed that only three samples tested above ESLs for lead and planned remediation measures would be sufficient in removing the identified soil contaminants.

Remedial soil excavation is proposed for the areas where organochlorine pesticide and metals concentration exceeded commercial/industrial ESL values to adequately remove contaminants before development of the proposed project can begin. The remedial work will be performed by a licensed hazardous materials contractor in accordance with all applicable laws and regulations. Prior to initiation of any remedial soil extraction work, the property owner or remediation contractor will obtain any required permits, including a grading permit if necessary. The owner or contractor will also determine whether a Dust Control Plan is required for the remedial work and will process one, if necessary, per San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations. Stormwater controls will also be implemented as necessary to prevent any surface water or storm water that contacts exposed impacted soils from discharging from the work site or from entering storm drain or sewer systems.

Following soil excavation activities, soil samples will be collected from the limits of the soil excavation areas to verify that soils at the limits of the excavation do not contain contaminants above the clean-up levels established. Stockpiled soil samples will also be taken and tested to determine appropriate disposal methods. Once testing of removed soils is completed, all equipment that comes into contact with impacted soils would be decontaminated. The extent of future backfilling of the remedial excavations is unknown and will depend to some degree on the grading details of the development project. Much of the excavation area is anticipated to be only one-foot deep and may not necessitate backfilling.

Based on the planned remedial soil removal work, it is anticipated that remaining onsite soils will not contain the chemicals of concern at concentrations above commercial/industrial ESL values. As

such, no ongoing maintenance at the Remediation Area will be necessary following successful completion of remediation work.

CONSTRUCTION PHASE IMPACTS

Construction of the proposed Project would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials will pose a reasonable risk of release into the environment if not properly handled, stored, and transported.

Construction workers and the general public could be exposed to hazards and hazardous materials as a result of improper handling or use during construction activities (particularly by untrained personnel); transportation accidents; or fires, or other emergencies. Construction workers could also be exposed to hazards associated with accidental releases of hazardous materials, which could result in significant impacts to the health and welfare of people and/or wildlife. Additionally, an accidental release into the environment could result in the contamination of water, habitat, and countless resources. The preparation a Project-specific Stormwater Pollution Prevention Plan (SWPPP) is a statutory requirement of the RWQCB. The SWPPP is required to include Project-specific best management measures that are designed to control erosion and the loss of topsoil to the extent practicable using best management practices (BMPs) that the RWQCB has deemed effective in controlling erosion, sedimentation, and runoff during construction activities, which reduces the risk of accidental release of hazardous materials into the environment.

The proposed Project would also be required to comply with regulations on the transportation of hazardous materials codified in 49 CFR 173 and 49 CFR 177 and CCR Title 26, Division 6. These regulations, which are under the jurisdiction of Caltrans and the CHP, provide specific packaging requirements, define unacceptable hazardous materials shipments, and prescribe safe-transit practices by carriers of hazardous materials. Compliance with these regulations would reduce the risk of exposure to humans and the environment related to the transportation of hazardous materials.

Hazardous materials regulations, which are codified in CCR Titles 8 and 22, and their enabling legislation set forth in Chapter 6.5 (Section 25100 et seq.) of the California Health and Safety Code, were established at the State level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. Construction specifications would include the following requirements in compliance with applicable regulations and codes, including, but not limited to CCR Titles 8 and 22, International Fire Code, and Division 20 of the California Health and Safety Code: all reserve fuel supplies and hazardous materials must be stored within the confines of a designated construction area; equipment refueling and maintenance must take place only within the staging area; and construction vehicles shall be inspected daily for leaks. Off-site activities (e.g., utility construction) would also be required to comply with these regulations. These regulations and codes must be implemented, as appropriate, and are monitored by the State and/or local jurisdictions, including the San Joaquin County Department of Environmental Health and the South San Joaquin County Fire Authority (SSJCFA).

Contractors would be required to comply with Cal-EPA's Unified Program; regulated activities would be managed by San Joaquin County Department of Environmental Health, the designated CUPA for San Joaquin County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California UFC hazardous material management plans and inventories). Additionally, in the event that hazardous materials are discovered during construction, a Soils Management Plan (SMP) will need to be submitted and approved by the San Joaquin County Department of Environmental Health, as required by Mitigation Measure 3.3-1. The SMP will establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. Such compliance would reduce the potential for accidental release of hazardous materials during construction of the proposed Project. As a result, it would lessen the risk of exposure of construction workers and the public to accidental release of hazardous materials, as well as the demand for incident emergency response.

Any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The San Joaquin County Department of Environmental Health is the CUPA for San Joaquin County and is responsible for the implementation of statewide programs within the city including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Additionally, businesses are regulated by Cal/OSHA and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. To further ensure the safety of employees, and reduce the potential for accidental release of hazardous materials into the environment during construction, the applicant must submit a HMBP to San Joaquin County Department of Environmental Health for review and approval prior to bringing hazardous materials onsite, as required by Mitigation Measure 3.3-2.

Development of the Project would involve site grading, excavation for utilities, trenching, backfilling, and the construction of proposed facilities that could result in the exposure of construction workers and the general public to hazardous materials. Like most agricultural and farming operations in the Central Valley, agricultural practices in the area have used agricultural chemicals including pesticides and herbicides as a standard practice. Continuous spraying of crops over many years can potentially result in a residual buildup of pesticides, in farm soils. Of highest concern relative to agrichemicals are chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides (OCPs), such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE). As stated above, the Project includes remediation of the Remediation Area. No hazardous materials site evaluations, such as a Phase I ESA, have been prepared for the area of the Project site outside of the Remediation Area. As such, due to the former agricultural uses on the Project site (outside the Remediation Area), the possibility exists that agrichemicals may be found on-site. Mitigation Measure 3.3-3 requires site-specific soil sampling within the Project site, outside of the Remediation Area, to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health.

Additionally, according to the California Department of Conservation Well Finder, there are no oil or gas wells on the Project site.

Construction activities associated with implementation of the proposed project would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials would pose a reasonable risk of release into the environment if not properly handled, stored, and transported. Moreover, an accidental release into the environment during construction could result in the contamination of water, habitat, and countless resources. Compliance with existing regulatory requirements of the Regional Water Quality Control Board, which require the preparation a Project specific Stormwater Pollution Prevention Plan (SWPPP), would be required. The SWPPP is required to include Project specific best management measures that are designed to control erosion and the loss of topsoil to the extent practicable using best management practices (BMPs) that the RWQCB has deemed effective in controlling erosion, sedimentation, and runoff during construction activities.

Further, if, during the construction process, the Project applicant or subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law). Contractors would be required to comply with Cal-EPA's Unified Program; regulated activities would be managed by the San Joaquin County Environmental Health Department, the designated Certified Unified Program Agency for San Joaquin County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California UFC hazardous material management plans and inventories).

OPERATIONAL PHASE IMPACTS

The operational phase would occur after construction is completed and business operations commence on a day-to-day basis. The Project would include the construction and subsequent operation of two general light industrial warehouse buildings totaling 718,165 sf. The Project would not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of degreasers, lubricants, and common cleaning agents. If handled appropriately, these materials would not pose a significant risk.

As with construction, operation of the proposed Project is required to be consistent with federal, State, and local laws and regulations addressing hazardous materials management and environmental protection, including, but not limited to 49 CFR 173 and 177, and CCR Title 26, Division 6 for transportation of hazardous materials, and CCR Titles 8 and 22, Uniform Fire Code, and Division 20 of the California Health and Safety Code for routine use of hazardous materials. These regulations and codes must be implemented, as appropriate, and are monitored by the State and/or local jurisdictions, including Caltrans, the CHP, the San Joaquin County Department of Environmental Health.

CONCLUSION

Overall, consistency with federal, State, and local laws and regulations related to the handling of hazardous materials discussed above and implementation of the following Mitigation Measures would ensure that these potential impacts are reduced to a ***less than significant*** level.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-1*: In the event that hazardous materials are encountered during construction, a Soils Management Plan (SMP) shall be submitted and approved by the San Joaquin County Department of Environmental Health. The SMP shall establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. The approved SMP shall be posted and maintained onsite during construction activities and all construction personnel shall acknowledge that they have reviewed and understand the plan.*

Mitigation Measure 3.3-2*: Prior to bringing hazardous materials onsite, the applicant shall submit a Hazardous Materials Business Plan (HMBP) to San Joaquin County Environmental Health Department (CUPA) for review and approval. If during the construction process the applicant or its subcontractors generates hazardous waste, the applicant must register with the CUPA as a generator of hazardous waste, obtain an EPA ID# and accumulate, ship and dispose of the hazardous waste per Health and Safety Code Ch. 6.5. (California Hazardous Waste Control Law).*

Mitigation Measure 3.3-3: *Prior to the issuance of grading permits, the applicant shall hire a qualified consultant to perform site-specific soil sampling in areas of the Project site located outside of the Remediation Area to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health. In order to achieve this, a soil sampling and analysis workplan shall be submitted for approval by the San Joaquin County Department of Environmental Health prior to the work. The sampling and analysis plan shall meet the requirements of the Department of Toxic Substances Control Interim Guidance for Sampling Agricultural Properties (2008).*

If the sampling results indicate the presence of agrichemicals that exceed commercial screening levels in areas of the Project site located outside of the Remediation Area, a removal action workplan shall be prepared in coordination with San Joaquin County Department of Environmental Health. The removal action workplan shall include a detailed engineering plan for conducting the removal action, a description of the onsite contamination, the goals to be achieved by the removal action, and any alternative removal options that were considered and rejected and the basis for that rejection. A no further action letter shall be issued by San Joaquin County Department of Environmental Health upon completion of the removal action. The removal action shall be deemed complete when the confirmation samples exhibit concentrations below the commercial screening levels, which will be established by the agencies.

Impact 3.3-2: The proposed Project is not located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, the Project could create a significant hazard to the public or the environment. (No Impact)

The project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, ***no impact*** would occur.

This section provides a general description of the existing noise sources in the Project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed Project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts. This section is based on the *Environmental Noise Assessment – Paradise Pointe Business Park* (Saxelby Acoustics, 2025) (see Appendix F of this EIR).

There was one comment received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the State of California Department of Fish and Wildlife (June 10, 2025). Full comments received are included in Appendix A.

As discussed in the Initial Study (see Appendix A), the Project site is located approximately 7 miles from the nearest airport (the Tracy Municipal Airport), and is outside of the contours of the Tracy Municipal Airport land use plan. As such, there would be ***no impact*** and this topic will not be addressed further in this EIR.

3.4.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.
$L_{(n)}$	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L_{50} is the sound level exceeded 50 percent of the time during the one-hour period.

Loudness A subjective term for the sensation of the magnitude of sound.
Noise Unwanted sound.
SEL Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn}, but includes a +5 dB penalty for evening noise. Table 3.4-1 lists several examples of the noise levels associated with common situations.

TABLE 3.4-1: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	*NOISE LEVEL (DBA)*	*COMMON INDOOR ACTIVITIES*
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e., atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING NOISE LEVELS

Existing Land Uses and Nearby Sensitive Receptors

The majority of the Project site is currently agricultural land (Development Area), with an approximately 10.2-acre strip of vacant land that was previously used as a crop-dusting airstrip. The approximately 10.2-acre portion of the Project site that is slated for remediation (Remediation Area) is generally void of vegetation. The existing vegetation in the Remediation Area appears to have burned in the past. There are also remnant concrete slabs and other concrete structures that are associated with the former airstrip in the southeastern corner of the Project site. An existing pump station with a screen wall and a catch basin are currently located on the south side of the Project adjacent to the roadway access point along Chrisman Road at the southeast corner of the Project site.

The approximately 10.2-acre soil Remediation Area was previously an agricultural airstrip from 1951 to roughly 1989. This airstrip engaged in frequent crop dusting of surrounding agricultural uses, leading to significant soil contamination that requires remediation, as discussed above. Following the 1980s the site was reportedly occupied by various businesses including a trucking company, tomato packing company, and a truck repair company. The property was seemingly destroyed by a fire in 2018 and has remained vacant. Figure 2.0-3 in Chapter 2.0 shows an aerial view of the entire Project site, including the Development Area and the Remediation Area.

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the Project site, sensitive land uses include existing single-family residential uses located north and east of the Project site. The nearest

residential uses are located approximately 2,250 feet as measured from the center of the Project site.

Existing General Ambient Noise Levels

The existing ambient noise environment in the Project vicinity is primarily defined by traffic on Interstate 205 (I-205) and Paradise Road. To quantify the existing ambient noise environment in the Project vicinity, Saxelby Acoustics conducted a continuous (24-hour) noise level measurement at one location on the Project site. The noise measurement location is shown on Figure 3.4-1. A summary of the noise level measurement survey results is provided in Table 3.4-2. Appendix B of Appendix F contains the complete results of the noise monitoring.

TABLE 3.4-2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

SITE	DATE	L_{DN}	AVERAGE MEASURED HOURLY NOISE LEVELS, dB					
			DAYTIME (7AM-10PM)			NIGHTTIME (10PM-7AM)		
			L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
CONTINUOUS (24-HOUR) NOISE LEVEL MEASUREMENTS								
LT-1	May 14, 2025	76	71	71	84	*70*	*68*	*81*
	May 15, 2025	76	71	70	84	*70*	*68*	*81*

SOURCE: SAXELBY ACOUSTICS, 2025.

The sound level meter was programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{MAX}, represents the highest noise level measured. The average value, denoted L_{EQ}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

A Larson Davis Laboratories (LDL) model 820 integrating sound level meter was used for the ambient noise level measurement survey. The meter was calibrated before and after use with a CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

EXISTING ROADWAY NOISE LEVELS

To predict existing noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

Traffic volumes for existing conditions were obtained from the traffic data prepared for the Project (Kimley Horn, 2025).

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along N MacArthur Drive from I-205 to Pescadero Avenue. Table 3.4-3 shows the existing traffic noise levels in terms of L_{dn} at closest sensitive receptors along this roadway segment. A complete listing of the FHWA Model input data is contained in Appendix C of Appendix F.

TABLE 3.4-3: EXISTING TRAFFIC NOISE LEVELS AND DISTANCES TO CONTOURS

ROADWAY	*SEGMENT*	*EXTERIOR TRAFFIC NOISE LEVEL, DB L_{DN}*
N MacArthur Drive	I-205 to Pescadero Avenue	65.6

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KIMLEY HORN AND SAXELBY ACOUSTICS, 2025.

3.4.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed Project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed below under the Thresholds of Significance section.

LOCAL

The Project site is located within the City of Tracy. The Project site is currently zoned Northeast Industrial Specific Plan. The City of Tracy addresses noise in the Noise Element of the General Plan and in the Municipal Code.

City of Tracy General Plan

The Noise Element establishes standards to provide compatible noise environments for new development or redevelopment projects and to control excessive noise exposure of existing developments. Goals, policies, actions, and standards provided in the Noise Element provide the basis for decision-making on determining land use compatibility with noise sources associated with the proposed project, as well as mitigation requirements.

The following objective and policies are specifically relevant to the proposed Project:

Objective N-1.2 Control sources of excessive noise.

POLICIES

P2. Mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the L_{dn} at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the Ldn at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance Limits.

P4. All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. In addition, the following construction noise control measures shall be included as requirements at construction sites to minimize construction noise impacts:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

Tracy Municipal Code

Title 4, Chapter 12, Article 9 of the Tracy, California Municipal Code also contains guidance with the intent to control noise and vibration to promote and maintain the health, safety, and welfare of its residents. Section 4.12.720 of the Municipal Code generally prohibits certain activities that have the potential to result in loud, excessive, or unreasonable noise levels. According to the general sound level limits for residential districts, no person shall cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced to exceed 55 dBA for any one-hour average period. Specific activities enumerated in the municipal code that could potentially pertain to the proposed Project include minor maintenance to or improvement of real property. This limitation prohibits the generation of construction noise, other than between the hours of 7:00 a.m. and 10:00 p.m. on weekdays or between the hours of 7:00 a.m. and 10:00 p.m. on weekends and federal holidays. The noise ordinance also specifically prohibits the operation of any pneumatic or air hammer, pile driver, steam shovel, derrick, steam or electric hoist, parking lot cleaning equipment, or other appliance, the use of which is attended by loud or unusual noise, between the hours of 10:00 p.m. and 7:00 a.m.

San Joaquin County General Plan

Table PHS-2 of the San Joaquin County 2035 General Plan establishes an acceptable exterior noise level standard of 65 dBA Ldn and an interior noise level standard of 45 dBA Ldn for residential uses exposed to transportation noise sources. For non-transportation noise sources, the General Plan establishes the standards for sensitive uses. See Table 3.9-4.

TABLE 3.9-4: SAN JOAQUIN COUNTY GENERAL PLAN NON-TRANSPORTATION NOISE STANDARDS[1,2]

NOISE LEVEL DESCRIPTOR	*OUTDOOR ACTIVITY AREA[3] DAYTIME[2] (7 A.M. TO 10 P.M.)*	*OUTDOOR ACTIVITY AREAS[3] NIGHTTIME[2] (10 P.M. TO 7 A.M.)*
Hourly equivalent sound level (L_{eq}), dB	50	45
Maximum sound level (L_{max}), dB	70	65

NOTES: THESE STANDARDS APPLY TO NEW OR EXISTING RESIDENTIAL AREAS AFFECTED BY NEW OR EXISTING NON-TRANSPORTATION SOURCES.

[1]WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.

[2] REFER TO MOUNTAIN HOUSE MASTER PLAN, TABLE 11.2, EXTERIOR NOISE STANDARDS FOR NOISE-SENSITIVE USES AFFECTED BY NON- TRANSPORTATION NOISE SOURCES, PAGE 11.12, FOR MOUNTAIN HOUSE NOISE STANDARDS.

[3] EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC.

SOURCE: SAN JOAQUIN COUNTY GENERAL PLAN.

San Joaquin County Development Regulations

The San Joaquin County Development Regulations, Section 9-1025.9(b) establishes land use noise level standards for new non-transportation or "stationary" noise sources, as outlined below that would be applicable to the proposed Project.

9-1025.9(B) – STATIONARY NOISE SOURCES.

Proposed projects that will create new stationary noise sources shall be required to mitigate the noise levels from these stationary noise sources so as not to exceed the noise level standards specified in Table 9-1025.9(b), Part II (Table 3.9-5).

TABLE 3.9-5: STATIONARY NOISE SOURCES

NOISE LEVEL DESCRIPTOR	*OUTDOOR ACTIVITY AREAS[1] DAYTIME[2] (7 A.M. TO 10 P.M.)*	*OUTDOOR ACTIVITY AREAS[1] NIGHTTIME[2] (10 P.M. TO 7 A.M.)*
Hourly equivalent sound level (L_{eq}), dB	50	45
Maximum sound level (L_{max}), dB	70	65

NOTES: [1]WHERE THE LOCATION OF OUTDOOR ACTIVITY AREAS IS UNKNOWN OR IS NOT APPLICABLE, THE NOISE STANDARD SHALL BE APPLIED AT THE PROPERTY LINE OF THE RECEIVING LAND USE. WHEN DETERMINING THE EFFECTIVENESS OF NOISE MITIGATION MEASURES, THE STANDARDS SHALL BE APPLIED ON THE RECEIVING SIDE OF NOISE BARRIERS OR OTHER PROPERTY LINE NOISE MITIGATION MEASURES.

[2]EACH OF THE NOISE LEVEL STANDARDS SPECIFIED SHALL BE REDUCED BY 5 DB FOR IMPULSIVE NOISE, SINGLE TONE NOISE, OR NOISE CONSISTING PRIMARILY OF SPEECH OR MUSIC. (ORD. 3675; ORD. 4036 § 2(PART), 1999)

SOURCE: SAN JOAQUIN COUNTY DEVELOPMENT REGULATIONS.

VIBRATION STANDARDS

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

The City of Tracy does not have specific policies pertaining to vibration levels. Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.4-6 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 peak particle velocity in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 3.4-6: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

P.P.V.		*HUMAN REACTION*	*EFFECT ON BUILDINGS*
MM/SEC.	*IN./SEC.*		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBORN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact related to noise if it will result in:

- Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Generation of excessive groundborne vibration or groundborne noise levels.

Determination of a Significant Increase in Noise Levels

TEMPORARY CONSTRUCTION NOISE IMPACTS

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Tracy noise ordinance, construction activities between 10 p.m. and 7 a.m. which create a noise disturbance at the property boundary of a residence are prohibited and would be considered a significant impact.

OPERATIONAL IMPACTS

The noise standards applicable to the Project include the relevant portions of the City of Tracy and the following standards. The City of Tracy provides the following criteria to determine significance of project-related noise level increases:

> P2. Mitigation measures shall be required for new development projects that exceed the following criteria:
>
> - Cause the L_{dn} at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
> - Cause the L_{dn} at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
> - Cause new noise levels to exceed the City of Tracy Noise Ordinance limits.

Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the Project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and

- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-project-noise conditions. Table 3.4-7 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn}.

TABLE 3.4-7: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

AMBIENT NOISE LEVEL WITHOUT PROJECT, L_{DN}	*INCREASE REQUIRED FOR SIGNIFICANT IMPACT*
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

Based on the Table 3.4-7 data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-project noise levels are less than 60 dB L_{dn}, or 3 dB or more where existing noise levels are between 60 to 65 dB L_{dn}. Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-project traffic noise level exceeds 65 dB L_{dn}. The rationale for the Table 3.4-7 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a project is sufficient to cause annoyance.

IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: The proposed Project would not generate a substantial permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant)

TRAFFIC NOISE INCREASES AT OFF-SITE RECEPTORS

Implementation of the proposed Project would result in an increase in daily traffic volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables 3.4-8 and 3.4-9 show the predicted traffic noise level increases on the local roadway network for Existing, Existing Plus Project, Existing Plus Approved Projects (EPAP) No Project, and EPAP Plus Project conditions. Appendix C of Appendix F provides the complete inputs and results of the FHWA traffic noise modeling.

TABLE 3.4-8: EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		EXISTING	EXISTING + PROJECT	CHANGE	CRITERIA	SIGNIFICANT?
N MacArthur Drive	I-205 to Pescadero Avenue	65.6	65.9	0.3	+ 1.5 dB	No

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KIMLEY HORN AND SAXELBY ACOUSTICS, 2025.

TABLE 3.4-9: EPAP AND EPAP PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	NOISE LEVELS (L_{DN}, dB) AT NEAREST SENSITIVE RECEPTORS				
		EPAP	EPAP + PROJECT	CHANGE	CRITERIA	SIGNIFICANT?
N MacArthur Drive	I-205 to Pescadero Avenue	65.9	66.2	0.3	+ 1.5 dB	No

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KIMLEY HORN AND SAXELBY ACOUSTICS, 2025.

Based upon the City of Tracy noise level increase significance criteria, a noise level increase of +3.0 dBA or greater and exceeds the "Normally Acceptable" noise level of 60 dBA L_{dn} would be considered significant. A noise level increase of +5.0 dBA or greater which does not exceed the "Normally Acceptable" noise level of 60 dBA L_{dn} would be considered significant.

According to Tables 3.4-8 and 3.4-9, the maximum increase is traffic noise at the nearest sensitive receptor is predicted to be 0.3 dBA. The predicted increase of 0.3 dBA is less than the minimum significance threshold of +3.0 dBA. Therefore, impacts resulting from increased traffic noise would be considered ***less-than-significant***, and no mitigation is required.

OPERATIONAL NOISE AT OFF-SITE RECEPTORS

The City of Tracy establishes a noise level standard of 55 dBA L_{eq}. Therefore, the proposed Project must comply with this noise level standard. Additionally, the nearby sensitive receptors are located outside of the City boundaries. Therefore, this analysis will assess compliance with the San Joaquin County noise level standards as well. The County establishes noise level standards of 50 dBA L_{eq} and 70 dBA L_{max} during daytime (7:00 a.m. to 10:00 p.m.) hours and 45 dBA L_{eq} and 65 dBA L_{max} during nighttime (10:00 p.m. to 7:00 a.m.) hours.

The primary noise sources associated with operation of the proposed Project include parking lot circulation of passenger vehicles and heavy trucks as well as warehouse loading docks. The following is a list of assumptions used for noise modeling. The data used is based upon a combination of Saxelby Acoustics data from similar operations and manufacturer data where applicable.

Parking Lot Circulation: Saxelby Acoustics estimated noise generated by employee parking lots at similar warehouse facilities. It was determined that the parking lots produced up to 40 L_{eq} at the edge of each lot during a peak hour.

Loading Dock Noise Generation: To determine typical loading dock noise levels associated with the proposed loading docks, noise level measurement data from a similar warehousing facility was used. Activities during the peak hour of loading dock activities included truck arrival/departures, truck

idling, truck backing (including backup alarms), air brake release, and operation of truck-mounted refrigeration units. The results of the loading dock noise measurements indicate that a busy hour generated an average noise level of 65 dBA L_{eq} at the boundary of the truck drive aisles.

Results: Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors. Input data included the loading docks and parking lot noise generation, as discussed above. Figure 3.4-2 shows Project noise levels including parking lot movements and truck loading docks.

As shown on Figure 3.4-2, operational noise from the non-refrigerated truck scenario is predicted to generate noise levels of up to 43 dBA L_{eq} at the nearby sensitive receptors. This complies with the City of Tracy noise level standard of 55 dBA L_{eq} and the County of San Joaquin noise level standards of 50 dBA L_{eq} during daytime and 45 dBA L_{eq} during nighttime.

It should be noted that maximum noise levels emanating from warehousing facilities would be up to 15 to 20 dBA higher than average noise levels. For this Project, average noise levels would be up to 43 dBA L_{eq}. Therefore, the maximum noise levels would be up to 63 dBA L_{max}. This would comply with the County of San Joaquin noise level standards of 70 dBA L_{max} during daytime and 65 dBA L_{max} during nighttime.

Therefore, this would be considered a ***less-than-significant*** impact and requires no mitigation.

Impact 3.4-2: The proposed Project, with mitigation, would not generate a substantial temporary increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. (Less than Significant with Mitigation)

During the construction of the proposed Project, noise from construction activities would temporarily add to the noise environment in the Project vicinity. As shown in Table 3.4-10, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

During the construction phases of the Project, noise from construction activities would add to the noise environment in the immediate Project vicinity. As indicated in Table 3.4-10, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dBA L_{max} at a distance of 50 feet. Construction activities would also be temporary in nature and are anticipated to occur during normal daytime working hours.

TABLE 3.4-10: CONSTRUCTION EQUIPMENT NOISE

TYPE OF EQUIPMENT	*MAXIMUM LEVEL, DB AT 50 FEET*
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

SOURCE: ROADWAY CONSTRUCTION NOISE MODEL USER'S GUIDE. FEDERAL HIGHWAY ADMINISTRATION. FHWA-HEP-05-054. JANUARY 2006.

The City of Tracy Municipal Code restricts construction noise from the noise ordinance between the hours of 7:00 a.m. and 7:00 p.m. or daylight hours. In addition, the Municipal Code requires the following noise control measures:

1. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
2. Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
3. Utilize "quiet" air compressors and other stationary noise sources where technology exists.

Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels; Saxelby Acoustics used this criterion to evaluate increases due to construction noise associated with the Project. As shown in Table 3.4-10, construction equipment is predicted to generate noise levels of up to 90 dBA L_{max} at 50 feet. Construction noise is evaluated as occurring at the center of the site to represent average noise levels generated over the duration of construction across the Project site. The nearest residential uses are located approximately 2,250 feet as measured from the center of the Project site. At this distance, maximum construction noise levels would be up to 57 dBA. The average daytime maximum noise level in the vicinity of the sensitive receptors was measured to be 84 dBA. Therefore, Project construction would not cause an increase of greater than 12 dBA over existing ambient noise levels.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A Project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration and would occur during daytime hours.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-

sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered potentially significant. Mitigation Measure 3.4-1 would reduce construction noise impacts to ***less-than-significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-1: *The City shall establish the following as conditions of approval for any permit that results in the use of construction equipment:*

- *Construction shall be limited to 7:00 a.m. to 7:00 p.m.*
- *All construction equipment powered by internal combustion engines shall be properly muffled and maintained.*
- *"Quiet" construction equipment, particularly air compressors, are to be selected whenever possible.*
- *All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.*
- *Unnecessary idling of internal combustion engines is prohibited.*
- *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.*

These requirements shall be noted on the Project improvement plans.

Impact 3.4-3: The proposed Project would not generate excessive groundborne vibration or groundborne noise levels. (Less than Significant)

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities would be grading, utilities placement, and parking lot construction. Table 3.4-11 shows the typical vibration levels produced by construction equipment.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The Table 3.4-11 data indicate that construction vibration levels anticipated for the Project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 26 feet, or further, from typical construction activities. At these distances construction vibrations are not predicted to exceed acceptable levels. Additionally, construction

activities would be temporary in nature and would likely occur during normal daytime working hours. Therefore, this is a ***less-than-significant*** impact and no mitigation is required.

TABLE 3.4-11: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

TYPE OF EQUIPMENT	*P.P.V. AT 25 FEET (IN/SEC)*	*P.P.V. AT 50 FEET (IN/SEC)*	*P.P.V. AT 100 FEET (IN/SEC)*
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES. FEDERAL TRANSIT ADMINISTRATION. MAY 2006.



Paradise Pointe Business Park

City of Tracy, California

Figure 3.4-1

Noise Measurement Site

Legend

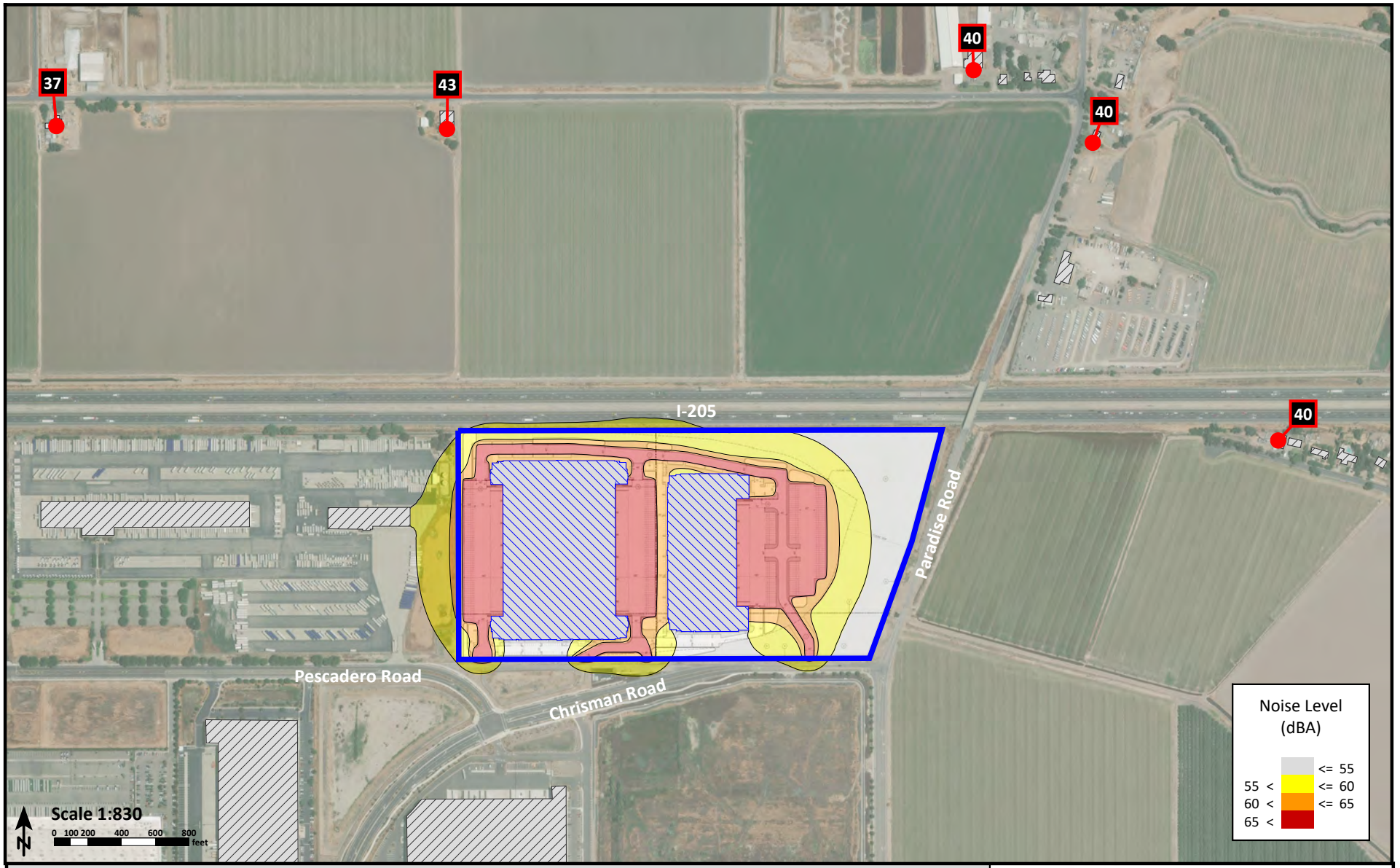
- Project Site
- Noise Measurement Site - Long Term

0 ft 1000 ft 3000 ft 5000 ft 7000 ft

Projection: Mercator / GOOGLE / meters
Rev. Date: 06/13/2025

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Paradise Pointe Business Park

City of Tracy, California

Figure 3.4-2
Project Generated Noise Levels (dBA Leq)

Legend

- Project Boundary
- Project Building
- Existing Building
- Noise Level

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This section analyzes the potential impacts of the proposed Project on the transportation system. This section identifies the potential transportation impacts of future buildout of the Project and recommends mitigation measures to lessen their significance. Information in this section is derived primarily from the following (as well as other information described in this section):

- *Paradise Pointe Industrial CEQA Transportation Review* (Kimley Horn, 2025) (see Appendix G);
- *City of Tracy General Plan* (2005);
- *Tracy General Plan Environmental Impact Report* (2011);
- State of California, Governor's Office of Planning and Research (OPR), *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR, December 2018); and
- *Trip Generation Manual, 11th Edition* (ITE, 2021).

The following comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic: California Department of Transportation (Caltrans) (June 16, 2025) and San Joaquin Valley Air Pollution Control District (June 17, 2025). Full comments received are included in Appendix A.

Senate Bill (SB) 743, whose requirements became effective statewide on July 1, 2020, specified that "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any."

In December 2018, the California Office of Planning and Research (OPR) published final technical guidance for implementing SB 743. On December 28, 2018, the Resources Agency adopted CEQA Guidelines Section 15064.3. Under that guideline, VMT was chosen as the primary metric used to identify transportation impacts under CEQA. Hence, this chapter includes an extensive review of the Project's VMT. This section also addresses many other important transportation-related areas of concern, including pedestrian/bicycle facilities, transit facilities and services, emergency vehicle response, hazardous conditions, and temporary construction-related conditions.

3.5.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The Project site consists of approximately 52.7 acres located at the northwest corner of Chrisman Road and Paradise Avenue in the northeast quadrant of the City of Tracy, adjacent to Interstate 205 (I-205) to the north. The Project site is located on Assessor Parcel Numbers (APNs) 213-06-012 and 213-06-013. The Project's regional location is shown in Figure 2.0-1 in Chapter 2.0. The Project vicinity is shown in Figure 2.0-2 in Chapter 2.0.

The Project site is located in an industrial area within the City's Northeast Industrial Specific Plan area. The surrounding area adjacent to the Project site includes light industrial, agricultural areas, and SR-205. The Project site and the areas to the north, east, south, and west are designated Industrial by the City's General Plan. The area to the northeast, north of SR-205, is designated for

agricultural land uses by San Joaquin County. The City of Tracy has zoned the parcels to the west as light industrial (M-1) and the parcels to the south as Northeast Industrial Specific Plan Zone (NEI).

ROADWAY SYSTEM

Existing Roadway Facilities

The following section provides an overview of the current roadway facilities adjacent to the Project site.

- **I-205**: Six-lane interstate highway
- **Pescadero Avenue**: Two-lane divided minor arterial/major collector with a two-way left turn lane except the 400 feet raised median just west of Chrisman Road
- **Chrisman Road**: Four-lane divided minor arterial with a raised median transition to a two-lane with a two-way left turn lane along the Project's frontage
- **Paradise Road**: Two-lane divided minor arterial/major collector with a striped median

Planned Roadway Facilities

The City of Tracy's Citywide Roadway & Transportation Master Plan (TMP) proposes the following improvements within the Project vicinity.

- **Chrisman Road**: Widen to four lanes with a raised median between Pescadero Avenue to Paradise Road
- **Paradise Road**: Widen to four lanes with a two-way left turn lane
- **I-205/Chrisman Road Interchange** (future): Widen to four lanes with a raised median between Paradise Road to Arbor Avenue

Caltrans and the San Joaquin Council of Governments (SJCOG) are currently in the planning phases of the I-205 Managed Lanes Project. The project involves the addition of managed lanes, high occupancy vehicle lanes with potential tolling, to improve traffic flow and reduce congestion along the I-205 corridor.

Caltrans completed a Project Study Report/Project Development Support (PSR/PDS) for the I-205/Chrisman Road Interchange in November 2012. A Draft Environmental Document and Project report have been prepared. The interchange is currently in the Project Approval and Environment Document (PA&ED) phase. The proposed Project features include a Type L-9 partial cloverleaf ramp configuration on the north side of I-205 and a Type L-2 spread diamond ramp configuration on the south side of I-205. However, Caltrans comments received in January 2024 recommends that the Type L-9 and Type L-2 ramp configurations switch sides with the Type L-9 on the south side and Type -2 on the north side. The Caltrans project process has not moved forward since these comments.

PEDESTRIAN AND BICYCLE FACILITIES

This section describes the existing pedestrian and bicycle facilities in the vicinity of the Project site.

Existing Bicycle Facilities

Bicycle facilities in Tracy include the following general types:

- **Class I: Shared Use Path**: Referred to as shared-use paths or trails, these are off-street facilities that provide exclusive use for non-motorized travel, including bicyclists and pedestrians. Bike paths have minimal cross flow with motorists and are typically located along landscaped corridors.
- **Class II: Bicycle Lane**: Bicycle lanes provide a restricted right-of-way and are designated for the use of bicycles for one-way travel with a striped lane on a street or highway. Bicycle lanes are generally a minimum of five feet wide. Vehicle parking and vehicle/pedestrian cross-flow are permitted.
- **Class III: Bicycle Route**: These facilities are found along streets that do not provide sufficient width for dedicated bicycle lanes. The street is designated as a bicycle route through the use of signage and optional pavement markings where bicyclists travel on the shoulder or share a lane with motor vehicles. Class III bike routes are utilized on low-speed and low-volume streets to connect bike lanes or paths along corridors that do not provide enough space for dedicated lanes.
- **Class IV: Separated Bikeway**: Commonly known as cycle tracks, these are physically separated bicycle facilities that are distinct from the sidewalk and designed for exclusive use by bicyclists. They are located within the street right-of-way, but provide comfort similar to Class I bike paths.

The Project site is situated on the edge of the City of Tracy bicycle network, which is comprised of a network of on- and off-street bicycle facilities. The following bike facilities currently exist within approximately ½-mile of the Project site:

- **Chrisman Road**: Class I multi-use path along the south and east side of Chrisman Road to Paradise Road
- **Pescadero Avenue**: Class I multi-use path along the Project's frontage

Planned Bicycle Facilities

The City of Tracy's TMP (2012) proposes the following additional bicycle improvements within the approximately ½-mile study area around the Project site. See the TMP's Existing & Future Bike Routes map in Appendix D of Appendix G.

- **Chrisman Road**: Construct a Class I multi-use path along the south side of the road from 600 feet west of Paradise Road to the future Chrisman Road/Arbor Avenue intersection

The latest Caltrans comments on the I-205/Chrisman Road Interchange geometric approval drawings as part of the PA&ED requests a one-way 10-foot Class IV protected bike lane in each direction for the extents of the interchange project, from west of Paradise Road to Arbor Road. The Caltrans plan, while also providing a bicycle facility over the same extents as the City's TMP, differs in the specific type of facility. The contradicting plans will need to be rectified in order ensure

adequate connections between bicycle facilities through the interchange to those along Chrisman Road north and south of the interchange area.

Existing Pedestrian Facilities

It is the City's goal to provide comprehensive pedestrian facilities along all its roadways. Within the Project vicinity ,several areas are undeveloped with no pedestrian facilities or access. However, it is anticipated that the greatest pedestrian demand would occur either between the Project site and the west along Pescadero Avenue or to the south along Chrisman Road.

A pedestrian can walk south from the site along Chrisman Road towards Grant Line Road using the existing continuous sidewalk. From the Project site, a pedestrian can head west along Chrisman Road and Pescadero Avenue towards MacArthur Drive. There are no pedestrian facilities provided going east along the Project's frontage. However, pedestrians will need to cross at Pescadero Avenue and then backtrack to the east along the east and south side of Chrisman Road.

Planned Pedestrian Facilities

The City of Tracy's TMP proposes the following, currently unconstructed, pedestrian facilities within the approximately ½-mile study area around the Project site.

- **Chrisman Road**: Construct a Class I multi-use path along the south side of the road from 600 feet west of Paradise Road to the future Chrisman Road/I-205 interchange

See the TMP's Existing and Future Sidewalks map in Appendix D of Appendix G. It should be noted that roadways outside of the current City limits but within the planning Sphere of Influence were not shown to have improvements; however, if development occurs and properties are annexed into the City, it would be the intention for them to construct frontage (e.g. sidewalk, landscaping, etc.) improvements consistent with City standards.

The latest Caltrans comments on the I-205/Chrisman Road Interchange geometric approval drawings as part of the PA&ED requests 8-foot sidewalks on both sides of Chrisman Road for the extents of the interchange project, from west of Paradise Road to Arbor Road. The Caltrans plan differs in cross section from the City's TMP. The contradicting plans will need to be rectified.

TRANSIT SERVICE

Existing Transit Services and Facilities

Transit serving the Project site includes local bus service connecting the Project site to destinations throughout the City of Tracy (e.g., Downtown Tracy, the Tracy Multimodal Transit Center, etc.). Existing transit service within the City of Tracy is run by several providers with varied destinations:

- TRACER: local bus service
- San Joaquin Regional Transit District (RTD): regional bus service connection Tracy to Stockton, Manteca and Dublin BART Station
- Greyhound: long-distance bus service connecting to San Francisco, San Jose and Los Angeles

- Altamont-Commuter Express (ACE): regional rail service running between Stockton and San Jose

TRACER, run by the City of Tracy, provides local bus services on eleven distinct routes, four of them providing all-day service Monday-Saturday (Routes A, B, C, and D), three of them providing limited, commute-hour service Monday-Friday (Routes E, F, and G) and three of them providing limited service shuttle (Arbor, ACE, South Tracy and Tracy Hills Temporary Shuttles). Fixed Route Brochure (TRACER) in Appendix C displays the existing transit service by TRACER within the City of Tracy.

County Hopper (one of the inter-regional bus services) is a deviated fixed-route service serving San Joaquin County and providing intercity connections between Stockton, Tracy, Lodi, Manteca, Ripon, Lathrop, and Escalon. There are 2 weekday routes that operate from 5:30 AM to 9:00 PM connects Stockton Transit Station to Tracy Transit Station (route 90) and Manteca Transit Center to Tracy Transit Station (route 97). Route details are shown in Appendix C of Appendix G. The nearest bus stop is located 0.6 miles from the Project on the northwest and southeast corner of Grant Line Road and Chrisman Road.

Greyhound is a long-distance bus service connecting Tracy to Sacramento in north, San Francisco and San Jose in central, and Los Angeles in southern California. The nearest Greyhound bus station located 3.4 miles away from the Project on the corner of 6th Street and Central Avenue at the Tracy Transit Center. To access the site, routes 90 and 97 provide service between the Tracy Transit Station and Project vicinity (northwest and southeast corner of Grant Line Road and Chrisman Road).

ACE Regional Commuter Rail operates on weekdays, excluding holidays. The ACE station in Tracy is located 6.6 miles from project along Tracy Boulevard near Linne Road. ACE operates three westbound trains during the morning commute arriving in Tracy and three eastbound trains during the evening commute arriving in Tracy. Route details are shown in Appendix C of Appendix G. ACE connects to the parallel feeder and distribution services, including RTD and TRACER in the City. To access the site route D (TRACER), South Tracy Shuttle, and Tracy Hill Shuttle provide service between the Ace Station and Tracy Transit Station, and routes 90, and 97 (TRACER) provide service between the Tracy Transit Station and Project vicinity (northwest and southeast corner of Grant Line Road and Chrisman Road).

Planned Transit Services and Facilities

Tracy has seen many plans for future transit service over the years. The TMP identifies an eBART Extension from Antioch, bus rapid transit to Stockton and high-speed rail alternative routes. At the time of this analysis, those proposals are no longer active. The following transit services are currently in planning phases:

- Valley Link
- ACE
- TRACER
- RTD
- I–205 Managed Lanes

The Valley Link Subsequent Environmental Impact Report was certified by the Authority Board on October 23, 2024. A 22-mile initial operating phase from the Dublin/Pleasanton BART station to Mountain House is planned with all-day, bi-directional service at 15-minute peak period and 45-minute off-peak period frequencies.

ACE, along with the San Joaquin Regional Rail Commission, is studying several extensions to its current rail network. Planning efforts are on-going for extensions from Lathrop to Ceres, Ceres to Merced and Stockton to Sacramento (Natomas).

TRACER does not currently have a future planning document. The SJCOG has identified the TRACER Short-Range Transit Plan in its latest (2022) project list. The SJCOG project list also identifies funding for various bus stop improvements on a five-year cycle.

RTD's Short Range Transit Plan (FY2018/19-2027/28) outlines planned improvements for the system. The plan outlines various improvements, fleet upgrades, new services and increase of frequencies.

The current phase of I-205 Managed Lanes project will develop and evaluate project design alternatives and complete the required environmental review as part of the Project Approval and Environmental Document (PA&ED) phase.

Details of planned transit service enhancements are described in Appendix D of Appendix G.

3.5.2 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the Project are summarized below. This information provides a context for the impact discussion related to the Project's consistency with applicable regulatory conditions and development of significance criteria for evaluating Project impacts.

STATE

Senate Bill 743

SB 743 added section 21099 to the Public Resources Code, which states that automobile delay, as described by LOS or similar measures of vehicular capacity or traffic congestion, shall not be considered a significant impact on the environment. The law directed OPR to amend the CEQA Guidelines to establish new metrics for determining the significance of transportation impacts of projects. The California Natural Resources Agency certified and adopted the amended CEQA Guidelines in December 2018. In the amended CEQA Guidelines, OPR selected VMT as the preferred transportation impact metric and applied its discretion to recommend use of VMT statewide, beginning in July 2020. The amended CEQA Guidelines state that "generally, VMT is the most appropriate measure of transportation impacts."

California Department of Transportation

Caltrans is responsible for planning, designing, constructing, operating, and maintaining the State Highway System (SHS). Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the SHS within the study area would need to be approved by Caltrans.

LOCAL

City of Tracy Citywide Roadway & Transportation Master Plan

The City's Citywide Roadway & TMP document serves as an update to the 2012 City TMP. The TMP builds upon the goals and objectives as defined in the Circulation Element of the City's General Plan (February 2011) and the Sustainable Action Plan (SAP) (February 2011). The SAP included feasible measures to achieve sustainability in multiple sectors and reduce GHG emissions. These measures include policies to increase transit usage and opportunities, improve traffic flow in the city, support the development of new bicycle and pedestrian facilities, and other land use policies. The General Plan is based upon a future Horizon Year of 2025 conditions. The TMP looks to a Horizon Year of 2042, to provide the maximum possible infrastructure planning and to be consistent with the planned SJCOG Travel Demand Model update to Year 2042. The TMP provides a complete review of the City's transportation system and serves as a comprehensive planning document that can be utilized to identify and implement required improvements to the existing roadway system. In addition, the TMP can serve as the baseline for incorporating expansion or accommodating future development consistent with the General Plan.

According to the TMP, if a significant transportation impact is identified, feasible mitigation measures to avoid or reduce the impact must be identified and CEQA requires that such mitigation measures be included in the project's environmental assessment. OPR provides a list of potential measures to reduce VMT but gives the lead agency (the City of Tracy in this case) discretion in the selection of mitigation measures.

The TMP also outlines the VMT Mitigation Banking Fee Program. The City of Tracy's policy is that new development shall contribute to the VMT Banking Fee if needed for mitigation of their VMT impacts. In addition, the cost of constructing the improvements to help mitigate VMT citywide will be implemented through the VMT banking fee program administered by the City of Tracy. The fee advances a legitimate public interest by enabling the City to fund improvements to transportation infrastructure required to accommodate a new development's VMT impacts. The projects that are included in the City of Tracy's VMT Mitigation Banking Fee Program will fund the construction of facilities that support active transportation (cycling and walking) to mitigate VMT impacts from new development. These facilities include both bike trails and bike lanes.

The type and size of the project will determine the most appropriate mitigation strategies for VMT impacts. For large projects such as general plans or specific plans, VMT mitigations should concentrate on the project's density and land use mix, site design, regional policies, and availability of transit, bicycle, and pedestrian facilities. For smaller projects such as an individual development

project, VMT mitigations will typically require the preparation of a transportation demand management (TDM) program. A TDM program is a combination of strategies to reduce VMT. The program is typically created by an applicant for its land use project based on a list of strategies approved by the lead agency.

It is noted that the City released the Final Draft Transportation Master Plan Update in August 2022. The document will be adopted by the City in 2025.

City of Tracy General Plan

The City of Tracy General Plan includes several policies that are relevant to transportation and circulation. General Plan policies applicable to the Project are identified below:

POLICIES: CIRCULATION

- CIR-1.1-P1. The City should develop context-based street designs that allow for variations based on the expected function and location of the facility, and the surrounding land use context. These context-sensitive designs should have the following aims:
    - Create aesthetically attractive streetscapes.
    - Enhance multi-modal transportation by increasing mobility and improving safety for autos, trucks, transit, pedestrians, and bicyclists.
- CIR-1.1-P2. The City shall preserve rights-of way needed for future roadway and freeway interchange improvements through dedication or acquisition as adjacent properties develop or redevelop.
- CIR-1.1-P3. The City shall continue to apply traffic mitigation fee programs to fund transportation infrastructure, based on a fair share of facility use.
- CIR-1.1-P4. The City should continue to pursue regional, county, and State funding to fund roadway projects. These potential funding sources may include Measure K sales tax revenues, a regional or countywide transportation impact fee, and other existing and future revenue sources.
- CIR-1.1-P5. The City shall continue to participate in regional transportation funding decisions, including Measure K reauthorization, regional or countywide transportation fees, and prioritization of State funded projects.
- CIR-1.1-P6. The Roadway Master Plan update shall identify necessary improvements to various intersections on I-205 and I-580 based on land use designations and with particular attention to Terminal Access Routes in accordance with Surface Transportation Assistance Act of 1982 (STAA).
- CIR-1.2-P1. The City shall ensure that the street system results in a high level of connectivity, especially between residences and common local destinations, such as schools, Village Centers, retail areas, and parks. The standard for roadway (vehicular) connectivity is defined as appropriate spacing of arterials and collectors and local roads as detailed in Section of [the Circulation] Element “Roadway Classifications and Standards”.
- CIR-1.2-P2. The City shall implement a connected street pattern with multiple route options of vehicles, bikes, and pedestrians.

- CIR-1.2-P3. New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.
- CIR-1.2-P5. New development shall be designed with a grid or modified grid pattern to facilitate traffic flows and to provide multiple connections to arterial streets.
- CIR-1.3-P7. Traffic studies for new developments within the City may be prepared if necessary and appropriate to determine the impacts of the project's traffic on the transportation system.
- CIR-1.3-P8. Access control and minimization of median openings shall be a key consideration in the design of expressways, boulevards, arterials, and major collectors.
- CIR-1.3-P9. The City shall encourage the use of right-turn-in/right-turn-out only turning movements where local and collector streets intersect arterial streets with medians. The purpose is to increase the safety of the roadway and to avoid traffic signals that are spaced too close together.
- CIR-1.6-P2. New development shall implement traffic calming measures where necessary so long as connectivity is not diminished.
- CIR-3.1-P6. New development shall include pedestrian and bicycle facilities internal to the development and that connect to city-wide facilities, such as parks, school, and recreational corridors, as well as adjacent development and other services.
- CIR-3.1-P7. New development sites for commercial, employment, educational, recreational, and park-and-ride land uses shall provide bicycle parking and/or storage facilities.
- CIR-4.1-P5. The City shall require development to provide for transit and transit-related increased modal opportunities, such as adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots and multi-modal transit center through the development and environmental review processes, if appropriate.

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on transportation and circulation if it would:

- Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities;
- Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); and/or
- Result in inadequate emergency access.

VMT Significance Criteria

The proposed Project's VMT-related impacts were evaluated using the Draft City of Tracy VMT Policy and Calculator/Tool. The City plans to adopt the VMT Policy in late 2025. For the surrounding industrial land use area, the City's Draft threshold is 9.4 VMT per employee. This threshold is based

on existing VMT for countywide employment, reduced by 15% per SB 743 guidelines and the CEQA guidelines. The City of Tracy has developed this Tool for use in SB 743 land use project analysis. The purpose of the tool is to calculate VMT for a land use project and determine whether there is a significant transportation impact based on VMT and the effect of various mitigation options. Broadly, the VMT Analysis Tool provides the following information:

- VMT Threshold Analysis
- Greenhouse Gas (GHG) Estimation
- TDM Evaluation

Other Impacts

Evaluation of potential transportation impacts related to conflicts with existing and planned policies, transportation hazards, and emergency access are based on a review of Project changes to the transportation network and a qualitative assessment of whether those changes would conflict with applicable standards or result in detrimental conditions based on the thresholds of significance.

To date, VMT mitigation has relied heavily on TDMs. These measures generally represent two basic approaches: infrastructure and policy. The California Air Pollution Control Officers Association (CAPCOA) guide for Quantifying Greenhouse Gas Mitigation Measures (2010), is one of the primary industry resources for estimating the effects of TDM strategies as mitigation in California. Although this resource is invaluable, the data on which it is based is relatively old, limited in terms of sample size, and based on experiences in highly urbanized areas. As such, many of the mitigation options provided have questionable efficacy in suburban and rural contexts. TDMs are also challenging from the standpoint of mitigation monitoring and are often unpopular with project applicants because they may need to be managed and paid for in perpetuity. These limitations have led jurisdictions, including the City of Tracy, to increasingly consider programmatic approaches to VMT mitigation. Programmatic approaches that rely on collectively funding larger multimodal projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in reduced congestion and GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The City of Tracy is developing a programmatic approach to funding VMT mitigation, i.e., a VMT Mitigation Banking program. The VMT Mitigation Banking Fee forms part of the City of Tracy SB 743 Policy, which has not been adopted at the time of compilation of this document. The program's approach to mitigation of VMT impacts is, however, consistent with SB 743 requirements and CEQA guidelines. Under a VMT Mitigation Banking framework, multiple VMT reducing projects are grouped together and their associated VMT reductions are monetized in the form of credits. These credits are then purchased for the purposes of mitigating VMT in excess of determined impact thresholds. The underlying projects may be either regionally or locally beneficial to the area in which

the project is located. The City will be considering adoption of the VMT Policy, including the VMT Mitigation Banking Fee, in late 2025.

ANALYSIS METHODS

This section provides an overview of the proposed Project components and addresses the proposed Project trip generation.

Project Description

The Project proposes to construct two warehouses for a total of 718,165 square feet of warehousing space. The Project is located on existing assessor parcel numbers 213-06-012 and 213-06-013 within the Northeast Industrial Specific Plan area in Tracy, California. Building A is 466,977 square feet and Building B is 251,188 square feet. The Project is bounded by I-205 to the north, Paradise Road to the east, Chrisman Road to the south and Pescadero Road and the former Yellow Freight property to the west. The Project proposes dedicating right of way to accommodate the future I-205 and Paradise Road Interchange and the realignment of Chrisman Road.

The Project does not propose any roadway improvements but dedicates right of way for planned roadway improvements on Chrisman Road and the I-205/Chrisman Road Interchange.

The project proposes 379 parking spaces, including accessible spaces and an electric vehicle charging station. Three driveways will provide access to the site. The site plan proposes two full access driveways on Chrisman Road and one right-in, right-out access on Pescadero Avenue with the existing roadway network.

Trip Generation

Table 3.5-1 summarizes the estimated weekday and peak hour trip generation for the Paradise Pointe Industrial project. The Project is anticipated to generate an estimated 1,084 daily trips, 99 AM peak hour trips, and 110 PM peak hour trips during a typical weekday.

TABLE 3.5-1: PROJECT TRIP GENERATION ESTIMATES

LAND USES	*PROJECT SIZE*	*DAILY*	*AM PEAK HOUR*		*PM PEAK HOUR*	
		TOTAL[1]	*TOTAL PEAK HOUR*[1]	*IN / OUT*	*TOTAL PEAK HOUR*[1]	*IN / OUT*
TRIP GENERATION RATES						
PROJECT USE						
High-Cube Warehouse[1]	- ksf	1.40	0.12	77% / 23%	0.14	28% / 72%
Warehousing[2]	- ksf	1.71	0.17	77% / 23%	0.18	28% / 72%

LAND USES	PROJECT SIZE	DAILY	AM PEAK HOUR			PM PEAK HOUR			
		TOTAL[1]	TOTAL PEAK HOUR[1]	IN	/ OUT	TOTAL PEAK HOUR[1]	IN	/ OUT	
TRIPS GENERATED									
Building A (High-Cube Warehouse)	**466.98 ksf**	**654**	**56**	**43**	**/ 13**	**65**	**18**	**/**	**47**
Passenger Cars[3]		*451*	*39*	*30*	*/ 9*	*45*	*12*	*/*	*33*
Medium Duty Trucks[3]		*81*	*7*	*5*	*/ 2*	*8*	*2*	*/*	*6*
Heavy Duty Trucks[3]		*122*	*10*	*8*	*/ 2*	*12*	*4*	*/*	*8*
Building B (Warehousing)	**251.19 ksf**	**430**	**43**	**33**	**/ 10**	**45**	**13**	**/**	**32**
Passenger Cars[4]		*342*	*34*	*26*	*/ 8*	*36*	*10*	*/*	*26*
Medium Duty Trucks[4]		*35*	*3*	*2*	*/ 1*	*4*	*1*	*/*	*3*
Heavy Duty Trucks[4]		*53*	*6*	*5*	*/ 1*	*5*	*2*	*/*	*3*
TOTAL TRIPS		***1,084***	***99***	***76***	***/ 23***	***110***	***31***	***/***	***79***
Total Passenger Car		***793***	***73***	***56***	***/ 17***	***81***	***22***	***/***	***59***
Total Medium Duty Trucks		***115***	***10***	***7***	***/ 3***	***12***	***3***	***/***	***9***
Total Heavy Duty Trucks		***175***	***16***	***13***	***/ 3***	***17***	***6***	***/***	***11***

NOTES:

1. *CITY OF TRACY MODEL RATES WERE UTLIZED FOR THE AM AND PM PEAK HOUR RATES IN ADDITION TO TRIP GENERATION LU 154 AVERAGE DAILY RATE AND AM AND PM DISTRIBUTION (INSTITUTE OF TRANSPORTATION ENGINEERS (ITE), "TRIP GENERATION," 11TH EDITION, 2021).*
2. *LAND USE CODE 150 - WAREHOUSING TRIP GENERATION AVERAGE RATES USED INSTITUTE OF TRANSPORTATION ENGINEERS (ITE), "TRIP GENERATION", 11TH EDITION, 2021.*
3. *PASSENGER CAR AND TRUCK PERCENTAGES FOR HIGH-CUBE LAND USES ARE ESTIMATED BASED ON DATA FROM ITE "HIGH-CUBE WAREHOUSE VEHICLE TRIP GENERATION ANALYSIS," 2016. THE DISTRIBUTION IS 69% PASSENGER CARS AND 31% TRUCKS IN THE AM, AND 78% PASSENGER CARS AND 22% TRUCKS IN THE PM.*
4. *PASSENGER CAR AND TRUCK PERCENTAGES FOR WAREHOUSING LAND USES ARE ESTIMATED BASED ON DATA FROM ITE "WAREHOUSING WAREHOUSE VEHICLE TRIP GENERATION ANALYSIS," 2016. THE DISTRIBUTION IS 88% PASSENGER CARS AND 12% TRUCKS IN THE AM, AND 83% PASSENGER CARS AND 17% TRUCKS IN THE PM.*

SOURCE: KIMLEY HORN, 2025.

METHODOLOGY

This section describes the analysis methods used to determine impacts associated with transportation and circulation as defined by CEQA that would result from implementation of the Project.

VMT Calculations

In 2018, the California state legislature, in approving Senate Bill (SB) 743, directed the Office of Planning and Research to develop guidelines for assessing transportation impacts based on vehicle miles traveled, or VMT. In response to SB 743, CEQA and its implementing guidelines (CEQA Guidelines) were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts. As described in CEQA Guidelines Section 15064.3(a):

Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile

travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.

This section of the Guidelines continues to set forth the criteria for analyzing transportation impacts. Currently, the City is studying their own thresholds, but none have been adopted.

In 2013, SB 743 was signed into law by California Governor Jerry Brown with a goal of reducing Greenhouse Gas (GHG) emissions, promoting the development of infill land use projects and multimodal transportation networks, and to promote a diversity of land uses within developments. One significant outcome resulting from this statue is the removal of automobile delay and congestion, commonly known as Level of Service (LOS), as a basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA).

The Governor's Office of Planning and Research (OPR) has documented recommended analysis guidelines for SB 743 in its Technical Advisory on Evaluating Transportation Impacts in CEQA (2018) which provides for Vehicle Miles Traveled (VMT) as the principal measure to replace LOS for determining significant transportation impacts. VMT is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. OPR selected VMT, in part, because jurisdictions are already familiar with this metric. VMT is already used in CEQA to study other potential impacts such as Greenhouse Gases (GHG), air quality, and energy impacts and is used in planning for regional Sustainable Communities Strategies (SCS).

VMT also allows for an analysis of a project's impact throughout the City rather than only in the vicinity of the proposed project, allowing for a better understanding of the full extent of a project's transportation-related impact. It should be noted that SB 743 still allows the City of Tracy to use LOS for other planning purposes outside the scope of CEQA.

Understanding how the local roadway network functions from an engineering standpoint is still critical to local land use agencies to monitor traffic flow, identify safety issues, establish fees and manage congestion. However, for the purposes of evaluating environmental impacts under CEQA, the new regulations have removed congestion from the range of required subjects analyzed within CEQA documents.

The proposed Project was evaluated using the City of Tracy VMT Calculator.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Significant and Unavoidable)

The proposed Paradise Pointe project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per Employee. The evaluation tool estimates that the Project would generate 19.6 VMT per Employee, which exceeds the City's

threshold by 10.2 VMT per employee and represents 209%of the threshold value. It is important to note that truck trips are exempted from VMT analysis per SB 743. These VMT per employee pertain to the commuters who would travel to and from the Project site from their homes.

Per the City's VMT threshold and SB 743 guidelines, the Project causes a significant transportation impact. For projects that would cause a VMT impact, VMT reduction strategies such as introducing TDM, or additional multimodal infrastructure can be implemented to reasonably mitigate the VMT impact which is estimated from research literature and case studies. This is a ***potentially significant*** impact.

TDM PROGRAM

The Project exceeds the City threshold by 209%; therefore, a 52%reduction in Project VMT would be needed to achieve the City's threshold of 9.4 VMT per employee. (19.6 * 0.52 = 10.2) The CAPCOA indicates that up to 15% of VMT reduction can reasonably be achieved. Additionally, generally, the OPR recommends that a reduction of 15% or more in VMT should be the target.[1] For the purpose of this report, a maximum of 15% is assumed.

The TDM Program recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15% VMT reduction. Table 3.5-2 lists the toolbox of potential TDM measures that could partially mitigate the Project's VMT impact. Maximum TDM reductions are provided for each TDM element. The applicant will select specific TDM measures in consultation with the City to partially mitigate the VMT impact.

TABLE 3.5-2: TDM MEASURES

TDM MEASURE	*DESCRIPTION*	*MAX VMT REDUCTION*	*APPLICANT PREFERRED MEASURE*	*VMT REDUCTION APPLIED*
	PARKING STRATEGIES			
Reduce Parking Supply	Reduce the number of available parking spots provided to employees.	1%	x	1%
Unbundle Parking	Remove free parking at the site, and charge employees for parking. The higher the cost of parking, the higher the reduction.	1%		0%
Parking Cash-out	Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment and eligible employees, the higher the reduction.	2%		0%
	TRANSIT STRATEGIES			
Transit Stops	Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision making to support sustainable trip making.	1%		0%
Implement Neighborhood Shuttle	Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site	2%		0%

[1] County of San Joaquin. VMT Thresholds Study. July 20202. Page 6.

TDM MEASURE	*DESCRIPTION*	*MAX VMT REDUCTION*	*APPLICANT PREFERRED MEASURE*	*VMT REDUCTION APPLIED*
Transit Subsidies	Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area.	2%		0%
	Pays for employees to use local transit. This could either be a discounted ticket or a full-reimbursed transit ticket.			
COMMUNICATION & INFORMATION STRATEGIES				
Travel Behavior Change Program	Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a web site that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. DIBS	1%	x	1%
Promotions & Marketing	Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program. DIBS	1%	x	1%
COMMUTING STRATEGIES				
Employer Sponsored Vanpool or Shuttle	Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site.	2%		0%
Emergency Ride Home (ERH) Program	Provide an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. DIBS	1%	x	1%
Telecommuting Alternative work schedule	Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction	7%		0%
On-site Childcare	Provide on-site childcare to remove the need to drive a child to daycare at a separate location.	1%		0%
SHARED MOBILITY STRATEGIES				
Ride Share Program	Increase vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to	2%	x	2%
Employee/ Employer Car Share	Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third- party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site.	1%		0%
	Provide an on-site car vehicle for employees to use for short trips. This allows for employees to run errands or travel for lunch.	1%		0%

TDM MEASURE	*DESCRIPTION*	*MAX VMT REDUCTION*	*APPLICANT PREFERRED MEASURE*	*VMT REDUCTION APPLIED*
Designated Parking Spaces for Car Share Vehicles	Reserved car share spaces closer to the building entrance.	1%	x	1%
BICYCLE INFRASTRUCTURE STRATEGIES				
Bike Share Program	Participate in a bike share program/On site bike share program	1%		0%
Implement/Improve On- street Bicycle Facility	Implement or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel.	1%		0%
Include Bike Parking Per City Code	Implement short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations	1%	x	1%
Include Secure Bike Parking and Showers	Implement additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel.	1%	x	1%
Bicycle Repair Station/Services	On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation.	1%	x	1%
NEIGHBORHOOD ENHANCEMENT STRATEGIES				
Traffic Calming Improvements	Implement traffic calming improvements on streets and intersections throughout and around the project site.	1%		0%
Pedestrian Network Improvements	Implement pedestrian network improvements throughout and around the project site that encourages people to walk.	2%		0%
MISCELLANEOUS STRATEGIES				
Virtual Care Strategies for Hospitals	Implement options for virtual care for health services for hospitals.	2%		0%
On-Site Affordable Housing	Provide a percentage of on-site affordable housing for employees that is less than 100%.	1%		0%
Job Creation Land Use (e.g. Office)	Provide offices or other job creation land use. Applies to housing projects.	3%		0%

SOURCE: KIMLEY HORN, 2025.

This TDM program aims to achieve a feasible maximum of 15% VMT reduction. For the TDM program, the following TDM measures are being proposed:

1. Parking Strategies – 1%
    a. Reduce parking supply: Reduce the number of available parking spots provided to employees.
2. Communication & Information Strategies – 2%
    a. Travel Behavior Change Program: Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a website that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change programs target individuals' attitudes, goals, and travel behaviors, educating

participants on the impacts of their travel choices and the opportunities to alter their habits.

b. Promotions & Marketing: Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program.

3. Commuting Strategies – 1%
    a. Emergency Ride Home (ERH) Program: The Project will provide an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available.
4. Shared Mobility Strategies – 3%
    a. Ride Share Program: Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person form the business on-site.
    b. Designated Parking for Car Share Vehicles: The Project will provide preferential parking in convenient locations in terms of free or reduced parking fees, priority parking, or reserved parking for commuters who carpool, vanpool, ride-share, or use alternatively fueled vehicles.
5. Bicycle Infrastructure Strategies – 3%
    a. Include Bike Parking Per City Code: Implements short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations.
    b. Include Secure Bike Parking and Showers: Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel.
    c. Bicycle Repair Station/Services: On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation.

As stated previously, the CAPCOA indicates that up to 15% of VMT reduction can reasonably be achieved. For the purpose of this report, a maximum of 15% is assumed. The above-outlined TDM strategies would achieve a 10% reduction in VMT for the Project. The remaining 5% reduction would be achieved through payment of the City of Tracy VMT Banking Fee.

VMT BANKING FEES

The City of Tracy VMT Banking Fee Program is a programmatic approach to respond to the need for feasible VMT mitigation programs. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of

funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The VMT Banking Fee Program calculates the cost per VMT reduction as $633.11. As described above, TDM strategies would achieve a 10% reduction in VMT for the Project. Therefore, to achieve the 5% reduction needed after implementation of the TDM program to achieve the total 15% feasible reduction in VMT, the project would be responsible to pay $445,481.52. This is calculated as 5% being equivalent to a 0.980 VMT per employee reduction. Consistent with City of Tracy planning conversions rates between industrial and warehousing size and employment totals, 1 employee per 1,000 square feet is assumed for the Project. This results in 718 employees and each employee needs to reduce by 0.980 VMT at a cost of $633.11 per VMT the calculation is as follows:

VMT Banking Fee = 718 employees x 0.980 VMT per employee x $633.11 per VMT = $445,481.52

The VMT banking fee calculation has been provided in Table 3.5-3.

TABLE 3.5-3: VMT BANKING FEE

Project Building Area (ksf)	718.2
Project Employees	718
Project VMT/EMP	19.6
Project Total Employee VMT	14,072.8
VMT/EMP Reduction Needed to Meet Threshold	52%
TDM %	10%
Banking Fee %	5%
Banking Fee $	**$445,481.52**

SOURCE: KIMLEY HORN, 2025.

CONCLUSION

As stated previously, the Project exceeds the City threshold by 209%; therefore, a 52% reduction in Project VMT would be needed to achieve the City's threshold of 9.4 VMT per employee. (19.6 * 0.52 = 10.2) A 52% reduction in Project VMT would be required to reduce the impact to a less-than-significant level. However, the CAPCOA indicates that up to 15% of VMT reduction can reasonably be achieved. Additionally, generally, the OPR recommends that a reduction of 15% or more in VMT should be the target.[2] For the purpose of this report, a maximum of 15% is assumed. The TDM Program recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15% VMT reduction.

Mitigation Measure 3.5-1, which requires TDM strategies, would be required. As stated previously, a 10% reduction in VMT could be achieved as a result of the TDM strategies required by this mitigation measure. Implementation of Mitigation Measure 3.5-1 is feasible because it is within the applicant's purview to implement and the TDM measures have been found effective in previous

[2] County of San Joaquin. VMT Thresholds Study. July 20202. Page 6.

academic studies. However, the precise effectiveness of specific TDM strategies can be difficult to accurately measure due to a number of external factors such as employee responses to strategies and changes to technology.

As part of Mitigation Measure 3.5-1, the proposed Project would be required to monitor and evaluate the effectiveness of the Project's TDM Plan and provide the results to the City of Tracy. Based on the results of the evaluation, modifications to the TDM Plan may be required by the City in order to improve effectiveness toward achieving the home-based work VMT per worker target.

Additionally, Mitigation Measure 3.5-1 requires the applicant to pay a 5% VMT Banking Fee to the City of Tracy. The 5% reduction in VMT that would result from payment of the VMT Banking Fee, combined with the 10% reduction in VMT that would result from implementation of the TDM strategies, would result in a 15% reduction in VMT for the Project.

As stated above, a 52% reduction in Project VMT would be required to reduce the impact to a less-than-significant level. However, the CAPCOA indicates that up to 15% of VMT reduction can reasonably be achieved. Additionally, generally, the OPR recommends that a reduction of 15% or more in VMT should be the target.[3] Based on the above, even with the implementation of Mitigation Measure 3.5-1, the impact would remain ***significant and unavoidable*** when compared to the City of Tracy's VMT threshold of significance.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-1: *Prior to commencement of any operational activities, the Project proponent shall implement a combination of TDM measures plus a VMT Mitigation Banking Fee for the Project to achieve 15% VMT reductions (assuming the VMT Mitigation Banking Fee Program is adopted by the time the proposed Project is ready to apply for permits). See Table 3.5-2 of Section 3.5, Transportation and Circulation, of the Draft EIR, for the proposed list of TDM measures under this option.*

The TDM Plan shall be submitted to the City for review prior to approval of improvement plans, and the effectiveness of the TDM Plan shall be evaluated, monitored, and revised, if determined necessary by the City. The TDM Plan shall include the TDM strategies that will be implemented during the lifetime of the proposed Project and shall outline the anticipated effectiveness of the strategies. The anticipated effectiveness of the TDM Plan may be monitored through annual surveys to determine employee travel mode split and travel distance for home-based work trips, and/or the implementation of technology to determine the amount of traffic generated by and home-based work miles traveled by employees, which shall be determined in coordination with the City. The frequency and duration of the anticipated effectiveness would depend on the ultimate strategy determined in coordination with the City. Additionally, the Project applicant shall pay any VMT banking fee in effect at the time of building permit issuance to secure VMT credits of a total of 15 percent for the subject building, taking into account the stated percent efficacy for the TDM measures above.

[3] County of San Joaquin. VMT Thresholds Study. July 20202. Page 6.

Impact 3.5-2: Project implementation, with mitigation, would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities (Less than Significant with Mitigation)

BICYCLE FACILITIES

The Project does not propose any specific bicycle facilities on-site or off-site within the public right of way. Under existing conditions bicyclists at the Project site will need to cross at the Pescadero Avenue signal and use the Class I multi-use path along Chrisman Road and, subsequently, the bike facilities along Grant Line Road to connect to citywide bicycle facilities.

The Project applicant has provided an exhibit showing the proposed site overlaid on the planned I-205/Chrisman Road Interchange and ultimate Chrisman Road improvements showing general conformance with the proposed improvements. The detailed design of all future roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the Project would be subject to, and designed in accordance with, applicable City of Tracy and industry design safety standards.

PEDESTRIAN FACILITIES

The Project proposes to construct four-foot sidewalks around the buildings and provides an Americans with Disabilities (ADA) path of travel connection to Pescadero Avenue. However, the Project does not propose sidewalks and ADA paths to Chrisman Road. This impact would be ***potentially significant.***

The Project does not propose to construct sidewalks along the Project's frontage. All roadways that connect to the Project, Pescadero Avenue and Chrisman Road, have sidewalks along the frontage except on the northside of Chrisman Road 600 feet west of Paradise Road. It is recommended that the Project provide an exhibit showing the proposed site overlaid on the planned I-205/Chrisman Road Interchange and ultimate Chrisman Road improvements. The Project's proposed right of way dedication and access to the planned pedestrian facilities would be reviewed with this exhibit.

TRANSIT FACILITIES

The Project would be served by the existing San Joaquin RTD Routes 90 and 97 as described previously. There are no routes that run along the Project frontages. The Project is not proposing to construct any new transit facilities. Implementation of the proposed Project would not result in a conflict with an existing or planned transit service/facility. The Project would not cause a degradation in transit service such that service does not meet performance standards established by the transit operator. This impact would be ***less than significant.***

IMPACT ASSESSMENT

The Project is not expected to result in the removal of, or result in other adverse effects on, any existing transit, biking, or pedestrian facilities. The Project is anticipated to conform with programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle,

and pedestrian facilities, except that no pedestrian facilities are provided between the Project buildings and the interim or ultimate Chrisman Road directly. Mitigation Measure 3.5-2 would require the Project to install ADA-accessible path(s) between both Buildings A and B to the existing sidewalk along the north side Chrisman Road. With implementation of this mitigation, this impact would be ***less than significant.***

MITIGATION MEASURE(S)

Mitigation Measure 3.5-2: *The Project applicant shall provide an exhibit showing the proposed site plan overlaid on the planned I-205/Chrisman Road Interchange and ultimate Chrisman Road improvements. The Project shall install ADA-accessible path(s) between both Buildings A and B to the existing sidewalk along the north side Chrisman Road. The exhibit shall be submitted to the City of Tracy Planning Division for review. The Project's proposed right of way dedication and access to the planned pedestrian facilities shall be reviewed with this exhibit. The Project applicant shall be responsible for constructing the pedestrian facilities shown on the exhibit.*

Impact 3.5-3: Project implementation would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment) (Significant and Unavoidable)

CONSTRUCTION

Construction of the proposed Project would require regular deliveries of equipment and materials to the Project site as well as daily trips by construction workers. Project construction activities, including the extension of utility infrastructure, may result in some temporary lane closures in the area. Furthermore, standard construction traffic control measures would be implemented consistent with applicable Caltrans and City policies. Overall, this impact would be ***less than significant***.

OPERATION

To determine whether the Project will substantially increase hazards or create a safety impact, this section is split into two types of review. The first review analyzes the Project's potential introduction of "a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)" that may create a safety or hazards impact.

The second review analyzes freeway off-ramp queuing at the nearest interchange to the Project site, I- 205 and MacArthur Drive. This analysis was completed per Caltrans' Local Development Review (LDR) Safety Review Practitioner's Guidance. The LDR Guidance's focus is providing a safety review framework for local development with direct access to a Caltrans facility, but it can also be used by local agencies to assess safety impacts on the Caltrans system driven by local development nearby, but without direct access, to a Caltrans facility. For this report, a freeway congestion safety analysis was completed based on methodology included in "Appendix B – Freeway Exit-Ramp Queuing Analysis" of the LDR Guidance.

Geometric Design Feature Review

While the Project will result in the modification of existing transportation facilities including the introduction of new site driveways and access points. All new roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the project would be subject to, and designed in accordance with, applicable City of Tracy and industry design and safety standards to avoid creating a geometric design hazard or incompatible use.

Caltrans LDR Safety Review Practitioner's Guidance: I-205/MacArthur Drive Freeway Ramp Queuing Analysis

The queuing analysis is based on the current I-205/MacArthur Drive Interchange geometry, traffic counts collected in November 2024, and signal timings provided by Caltrans.

The following analysis scenarios were analyzed:

- Existing Conditions
- Existing Plus Background Conditions
- Existing Plus Background Plus Project Conditions
- Existing Plus Background Plus Project Conditions with Mitigation

For each scenario, SimTraffic simulations were run to study the sufficiency of each ramp's storage capacity. Ramp queuing analysis was performed for weekday AM and PM peak hours. Existing signal timings were obtained from Caltrans and no modifications were made between Existing Conditions, Existing Plus Background Conditions, and Existing Plus Background Plus Project Conditions. The analysis utilized SimTraffic 12 with a 10-minute seeding period, four 15-minute periods and 10 runs. The average and 95th-percentile queues for each of the ten runs was averaged.

Existing Conditions

Existing Conditions analysis utilized turning movement count data collected on November 19, 2024. Existing Conditions volumes and lane geometry are illustrated in Figure 7 of Appendix G. Existing operations and queuing at the I-205/MacArthur Drive Interchange were field-verified on the same day as the data collection. Subsequently, the SimTraffic models were calibrated to replicate the field conditions.

The heaviest demand for the Westbound Off-ramp was seen in the AM peak hour. Field observations found that the Westbound Off-ramp had a maximum queue of approximately 1,020 feet. The total capacity of the ramp is 1,315 feet. Although the queue was long, it was observed that the queue was fully served by the green phase each cycle. The main turning movement at the ramp terminal intersection is a westbound left, resulting in the left turn lane to exceed capacity and utilize the through lane.

The heaviest demand for the Eastbound Off-ramp was seen in the PM peak hour. Field observations found that the maximum queue exceeded the ramp capacity of 1,015 feet (shown in Figure 2). The

I-205 mainline was also congested and slow moving during the maximum off-ramp queuing. Therefore, speed differentials as outlined in Caltrans's LDR Guidance were not witnessed. It should be noted that during the SimTraffic model calibration process the maximum queuing that was witnessed by the field observations was not able to be replicated. Therefore, the 95th-percentile queuing in this analysis is shown to be equal to capacity rather than displaying the queue value from the SimTraffic report.

A summary of the Existing Conditions queuing results is shown in Table 3.5-4 with the SimTraffic reports included in the Appendix A I-205 volume and speed data was pulled for the date and times of data collection from Caltrans's Performance Measurement System (PeMs) and is included in Appendix F of Appendix G.

TABLE 3.5-4: RAMP QUEUEING ANALYSIS - EXISTING CONDITIONS

INTERSECTION		MOVEMENT	STORAGE LENGTH (FT)	EXISTING CONDITIONS			
				AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)	
				AM PEAK	PM PEAK	AM PEAK	PM PEAK
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	400	325	**665**	**570**
		WBT	1315	285	105	1020[3]	525
		WBR	25	**40**	**35**	**80**	**75**
		NBL	200	75	95	165	210
		NBT	230	50	115	100	195
		SBT	1270	45	100	95	190
		SBR	1270	25	20	60	50
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	120	355	275	**>1015**[4]
		EBR	25	**65**	**65**	**75**	**85**
		NBT	755	50	135	130	**255**
		NBR	755	30	75	80	160
		SBL	220	20	65	50	130
		SBT	220	115	160	265	**300**

NOTES:

1. *MOVEMENTS HIGHLIGHTED IN BLUE REPRESENT I-205 OFF RAMP MOVEMENTS.*
2. *QUEUES THAT EXCEED THE STORAGE CAPACITY ARE BOLDED.*
3. *THROUGH MOVEMENT QUEUE LENGTH AFFECTED BY TURN MOVEMENT QUEUES EXCEEDING CAPACITY AND SPILLING INTO THROUGH LANES.*
4. *EB OFF-RAMP QUEUES EXCEEDED CAPACITY AND EXTENDED INTO THE MAINLINE #3 LANE DURING THE PM PEAK HOUR. THE MAINLINE WAS CONGESTED AND HAD REDUCED SPEEDS BASED ON FIELD OBSERVATIONS AND PEMS DATA PULLED FOR THE DATE OF DATA COLLECTION.*

SOURCE: KIMLEY HORN, 2025.

Existing Plus Background Conditions

Background projects include approved developments within the Project's vicinity that would add trips to the I-205/MacArthur Drive Interchange and set a new baseline for analysis for potential safety impacts. The following approved buildings were selected for analysis:

- GH Logistics Truck Repair (Application #: D17-0004)
- Marriott Hotel (Application #: D16-0022)
- Starbucks, Popeyes, Gasoline Station & Store, Car Wash (Application #: D19-0012, D23-0011)
- Warehouse with Office (Application #: D19-0011)
- RNG Fueling Station and Parking Lot (Application #: CUP21-0007, D21-0023)
- Seefried LI Building (NEI) (Application #: D22-0045)
- Eastgate Business Park Phase 2 (Application #: D24-0001)

The approved developments were from the City of Tracy Planning Department's Pipeline Reports shown in Appendix E of Appendix G. Table 3.5-5 shows the estimated trip generation for the previously approved projects.

TABLE 3.5-5: APPROVED PROJECTS TRIP GENERATION

LAND USE TYPE	*ITE LAND USE CODE*[1]	*SIZE*	*WEEKDAY AM*		*WEEKDAY PM*	
			TOTAL PEAK HOUR	*IN / OUT*	*TOTAL PEAK HOUR*	*IN / OUT*
Approved Project						
GH Logistics Truck Repair	942	6 Ksf	14	9 / 5	19	9 / 10
Marriott Hotel	310	108 Rooms	50	28 / 22	64	33 / 31
RNG Fueling Station and Parking Lot[3]	Custom	156 Spaces	136	68 / 68	136	68 / 68
Warehouse with Office	150	90 Ksf	15	12 / 3	16	4 / 12
Seefried LI Building[4]	150	335.2 Ksf	64	49 / 15	67	19 / 48
Eastgate Business Park Phase 2	150	26 Ksf	4	3 / 1	5	1 / 4
Carwash[2]	948	1 Carwash Tunnel	-	- / -	78	39 / 39
Popeyes[2]	934	2.8 Ksf	27	14 / 13	24	12 / 12
Starbucks[2]	937	2.2 Ksf	41	21 / 20	23	11 / 12
Gas Station & Convenience Store[2]	945	12 Fueling Position	46	23 / 23	55	28 / 27
		Approved Total	**397**	**227 / 170**	**487**	**224 / 263**

NOTES

1. *WEEKDAY TRIP GENERATION AVERAGE RATES USED INSTITUTE OF TRANSPORTATION ENGINEERS (ITE), "TRIP GENERATION", 11TH EDITION, 2021*
2. *LAND USES WITH VEHICLE PASS-BY RATES AND DATA AND DIVERTED PERCENTAGE REDUCTION, INSTITUTE OF TRANSPORTATION ENGINEERS (ITE), "TRIP GENERATION", 11TH EDITION, 2021*
3. *TRIP GENERATION USED BY KIMLEY-HORN AND ASSOCIATES, MEMORANDUM: COMPRESSED NATURAL GAS (CNG)/ALTERNATIVE ENERGY FUELING STATION TRAFFIC REVIEW, MAY 5, 2022*
4. *TRIP GENERATION USED BY KIMLEY-HORN AND ASSOCIATES, MEMORANDUM: SEEFRIED WAREHOUSE (D22-0045) LOCAL TRANSPORTATION ANALYSIS, NOVEMBER 10, 2023*

SOURCE: KIMLEY HORN, 2025.

Trip generation values are either derived from a previous traffic study or estimated for purposes of this analysis if a traffic study was not previously completed. Approved projects trips were distributed

along the roadway network based on existing count data. The volumes, intersection control type and lane geometry for this scenario are illustrated in Figure 4 of Appendix G.

With the addition of background, approved projects to the existing volumes, no new queuing issues were found. It is qualitatively estimated that the Eastbound Off-ramp queue will extend further than existing conditions, therefore, further into the mainline. A summary of the Existing Plus Background Conditions average and 95th-percentile queues is shown in Table 3.5-6 with the SimTraffic reports included in Appendix A of Appendix G.

Existing Plus Background Plus Project Conditions

Existing Plus Background Plus Project Conditions are based on the Existing Conditions traffic volumes plus the traffic generated by the approved projects and the proposed Project. The Project trip generation is shown in Table 3.5-5.

The following Project passenger car trip distribution was utilized for the analysis:

- Grant Line Road east of Paradise Road – 74% IN/OUT
- Grant Line Road west of Mac Arthur Drive – 7% IN/OUT
- I-205 East of Mac Arthur Drive – 0% IN/OUT (Via Grant Line Road)
- I-205 West of Mac Arthur Drive – 8% IN/OUT
- Mac Arthur Drive south of Grant Line Road – 7% IN/OUT
- Paradise Road, north of I-205 – 4% IN/OUT

The following Project passenger car trip distribution was utilized for the analysis:

- I-205 East of Mac Arthur Drive – 53% IN/OUT
- I-205 West of Mac Arthur Drive – 33% IN/OUT
- Eleventh Street south of Grant Line Road – 14% IN/OUT (Via Mac Arthur Drive)

Figure 5 and Figure 6 in Appendix G provides a visualization of the Project trip distribution for passenger car and truck. Existing Plus Background Plus Project Conditions volumes and lane geometry are illustrated in Figure 7 in Appendix G.

TABLE 3.5-6: RAMP QUEUEING ANALYSIS - EXISTING PLUS BACKGROUND CONDITIONS

INTERSECTION		MOVEMENT	STORAGE LENGTH (FT)	EXISTING CONDITIONS				BACKGROUND CONDITION				COMPARISON			
				AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)		AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)		AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)	
				AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	400	325	**665**	**570**	430	350	**680**	**605**	30	25	15	35
		WBT	1315	285	105	1020[3]	525	320	85	1090[3]	430	35	-20	70	-95
		WBR	25	**40**	**35**	**80**	**75**	**40**	**35**	**80**	**70**	0	0	0	-5
		NBL	200	75	95	165	210	85	90	180	**215**	10	-5	15	5
		NBT	230	50	115	100	195	50	115	100	205	0	0	0	10
		SBT	1270	45	100	95	190	40	95	95	180	-5	-5	0	-10
		SBR	1270	25	20	60	50	25	20	60	55	0	0	0	5
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	120	355	275	**>1015**[4]	150	535	325	**>1015**[4]	30	180	50	N/A
		EBR	25	**65**	**65**	**75**	**85**	**65**	**65**	**75**	**80**	0	0	0	-5
		NBT	755	50	135	130	**255**	65	165	145	285	15	30	15	30
		NBR	755	30	75	80	160	35	80	90	160	5	5	10	0
		SBL	220	20	65	50	130	20	65	50	125	0	0	0	-5
		SBT	220	115	160	265	**300**	135	160	**290**	**290**	20	0	25	-10

NOTES:

1. *MOVEMENTS HIGHLIGHTED IN BLUE REPRESENT I-205 OFF RAMP MOVEMENTS.*
2. *QUEUES THAT EXCEED THE STORAGE CAPACITY ARE BOLDED.*
3. *THROUGH MOVEMENT QUEUE LENGTH AFFECTED BY TURN MOVEMENT QUEUES EXCEEDING CAPACITY AND SPILLING INTO THROUGH LANES.*
4. *EB OFF-RAMP QUEUES EXCEEDED CAPACITY AND EXTENDED INTO THE MAINLINE #3 LANE DURING THE PM PEAK HOUR. THE MAINLINE WAS CONGESTED AND HAD REDUCED SPEEDS BASED ON FIELD OBSERVATIONS AND PEMS DATA PULLED FOR THE DATE OF DATA COLLECTION.*

SOURCE: KIMLEY HORN, 2025.

With the addition of the Project, the Westbound Off-ramp 95th-percential queue during the AM peak hour was found to exceed the available ramp storage. According to Caltrans's LDR Guidance, "Traffic safety mitigation may be requested if freeway exit ramp queuing does not occur under the existing condition, but project-generated traffic volumes will cause a queue to extend onto the freeway mainline, creating a speed differential of 30 mph or greater." Mainline speed data was pulled from PeMS showing that the outside lane (Lane 3) average speed during the AM peak hour was approximately 67 miles per hour. Therefore, the ramp queuing has a potential safety impact. This is a ***potentially significant*** impact. The Project could consider a variety of mitigation strategies including transportation demand management, signal timing modifications and/or ramp improvements. Traffic safety mitigation measures are required to be coordinated between the lead agency, City of Tracy, and Caltrans and an agreement created between the two agencies. See Mitigation Measure 3.5-3.

It is qualitatively estimated that the Eastbound Off-ramp queue will extend further than Background Conditions, therefore, further into the mainline. However, since the queuing issue is an existing condition, no traffic safety mitigation is required by the Project.

A summary of the Existing Plus Background Conditions average and 95th-percentile queues is shown in Table 3.5-7 with the SimTraffic reports included in Appendix A of Appendix G.

Existing Plus Background Plus Project Conditions with Mitigation

As discussed previously, the I-205/MacArthur interchange Westbound Off-ramp Background Plus Project Conditions analysis finds that there is a potentially significant impact due to the queue spillback to the mainline. Several strategies, including signal timing modifications and ramp improvements, could mitigate the queuing hazard impact. Therefore, a review of the signal timings was completed first to determine if signal timing modifications could mitigate the queuing. The review found that the priority movement for coordination was the northbound left turn leading to the westbound on-ramp instead of prioritizing the westbound off-ramp. A simulation was conducted using revised signal timings that prioritized the westbound off-ramp while also maintaining acceptable operations for the rest of the interchange movements. The revised signal timings yielded an AM peak hour westbound off-ramp queue reduction of more than 1140 feet, while also reducing other movements queueing and only resulting in a slight queue increase for the northbound left turn. See Table 3.5-8 for the simulation queueing results. Therefore, signal timing modifications are the recommended mitigation measure for the queueing impact. This mitigation measure will require coordination between the lead agency, City of Tracy, the Applicant, and Caltrans. See Mitigation Measure 3.5-3.

TABLE 3.5-7: RAMP QUEUEING ANALYSIS - EXISTING PLUS BACKGROUND PLUS PROJECT CONDITIONS

INTERSECTION		MOVEMENT	STORAGE LENGTH (FT)	BACKGROUND CONDITION				BACKGROUND PLUS PROJECT CONDITION				COMPARISON			
				AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)		AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)		AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)	
				AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	430	350	**680**	**605**	495	355	**725**	**585**	65	5	45	-20
		WBT	1315	320	85	1090[3]	430	550	75	**>1315[3]**	395	230	-10	N/A	-35
		WBR	25	**40**	**35**	**80**	**70**	**40**	**35**	**80**	**70**	0	0	0	0
		NBL	200	85	90	180	**215**	90	110	185	**240**	5	20	5	25
		NBT	230	50	115	100	205	50	110	105	195	0	-5	5	-10
		SBT	1270	40	95	95	180	40	100	90	190	0	5	-5	10
		SBR	1270	25	20	60	55	30	20	60	45	5	0	0	-10
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	150	535	325	**>1015[4]**	160	490	350	**>1015[4]**	10	-45	25	N/A
		EBR	25	**65**	**65**	**75**	**80**	**65**	**65**	**75**	**80**	0	0	0	0
		NBT	755	65	165	145	285	60	160	140	275	-5	-5	-5	-10
		NBR	755	35	80	90	160	35	80	85	160	0	0	-5	0
		SBL	220	20	65	50	125	20	65	50	130	0	0	0	5
		SBT	220	135	160	**290**	**290**	165	160	**315**	**305**	30	0	25	15

NOTES:

1. *MOVEMENTS HIGHLIGHTED IN BLUE REPRESENT I-205 OFF RAMP MOVEMENTS.*
2. *QUEUES THAT EXCEED THE STORAGE CAPACITY ARE BOLDED.*
3. *THROUGH MOVEMENT QUEUE LENGTH AFFECTED BY TURN MOVEMENT QUEUES EXCEEDING CAPACITY AND SPILLING INTO THROUGH LANES.*
4. *EB OFF-RAMP QUEUES EXCEEDED CAPACITY AND EXTENDED INTO THE MAINLINE #3 LANE DURING THE PM PEAK HOUR. THE MAINLINE WAS CONGESTED AND HAD REDUCED SPEEDS BASED ON FIELD OBSERVATIONS AND PEMS DATA PULLED FOR THE DATE OF DATA COLLECTION.*

SOURCE: KIMLEY HORN, 2025.

TABLE 3.5-8: RAMP QUEUEING ANALYSIS - BACKGROUND PLUS PROJECT WITH MITIGATION CONDITIONS

INTERSECTION		MOVEMENT	STORAGE LENGTH (FT)	BACKGROUND PLUS PROJECT				BACKGROUND PLUS PROJECT PLUS MITIGATION				COMPARISON			
				AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)		AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)		AVERAGE QUEUE (FT)		95TH PERCENTILE QUEUE (FT)	
				AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK	AM PEAK	PM PEAK
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	495	355	**725**	**585**	295	295	470	**505**	-200	-60	-255	-80
		WBT	1315	550	75	**>1315**[3]	395	25	40	175	265	-525	-35	>1140	-130
		WBR	25	**40**	**35**	**80**	**70**	**40**	**30**	**70**	**65**	0	-5	-10	-5
		NBL	200	90	110	185	**240**	105	175	205	**295**	15	65	20	55
		NBT	230	50	110	105	195	40	85	95	165	-10	-25	-10	-30
		SBT	1270	40	100	90	190	40	90	90	170	0	-10	0	-20
		SBR	1270	30	20	60	45	20	20	50	50	-10	0	-10	5
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	160	490	350	**>1015**[4]	125	270	260	540	-35	-220	-90	>475
		EBR	25	**65**	**65**	**75**	**80**	**65**	**65**	**80**	**80**	0	0	5	0
		NBT	755	60	160	140	275	55	145	145	270	-5	-15	5	-5
		NBR	755	35	80	85	160	30	65	75	145	-5	-15	-10	-15
		SBL	220	20	65	50	130	25	75	60	160	5	10	10	30
		SBT	220	165	160	**315**	**305**	185	40	**335**	145	20	-120	20	-160

NOTES:

1. *MOVEMENTS HIGHLIGHTED IN BLUE REPRESENT I-205 OFF RAMP MOVEMENTS.*
2. *QUEUES THAT EXCEED THE STORAGE CAPACITY ARE BOLDED.*
3. *THROUGH MOVEMENT QUEUE LENGTH AFFECTED BY TURN MOVEMENT QUEUES EXCEEDING CAPACITY AND SPILLING INTO THROUGH LANES.*
4. *EB OFF-RAMP QUEUES EXCEEDED CAPACITY AND EXTENDED INTO THE MAINLINE #3 LANE DURING THE PM PEAK HOUR. THE MAINLINE WAS CONGESTED AND HAD REDUCED SPEEDS BASED ON FIELD OBSERVATIONS AND PEMS DATA PULLED FOR THE DATE OF DATA COLLECTION.*

SOURCE: KIMLEY HORN, 2025.

Impact Assessment

Geometric Design Feature Review

The project will introduce new site driveways and access points, all of which will be designed in accordance with applicable City of Tracy design and safety standards to avoid creating geometric design hazards or incompatible use.

Caltrans LDR Safety Review Practitioner's Guidance: I-205/MacArthur Drive Freeway Ramp Queuing Analysis

The analysis found that the addition of the Project causes the Westbound Off-ramp 95th-percential queue during the AM peak hour to exceed the available ramp storage. Also, the speed differential between the ramp and the mainline is anticipated to exceed 30 miles per hour. Therefore, the ramp queuing has a ***potentially significant*** safety impact.

The Project could consider a variety mitigation strategies including transportation demand management, signal timing modifications and/or ramp improvements. As noted above under Impact 3.5-1 and required by Mitigation Measure 3.5-1, the Project shall be responsible for implementation of a variety of TDMs that may reduce traffic volumes contributing to this significant safety impact. As noted above, traffic safety mitigation measures, including signal timing modifications and ramp improvements, would further reduce this impact. However, these improvements would need to occur on Caltrans owned and operated facilities, and any planned improvements to these facilities would need to be coordinated between the lead agency (City of Tracy), and Caltrans, and an agreement created between the two agencies. In this instance, due to the fact that the City of Tracy does not control the facilities in question, and Caltrans review and approval for any improvements would be required, the City of Tracy cannot guarantee that these potential improvements would actually be implemented. As such, out of an abundance of caution, this impact would be ***significant and unavoidable***.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-3: *The Project applicant shall work with the City of Tracy and Caltrans to implement signal timing modifications and/or ramp improvements at the I-205 WB Off-Ramp & MacArthur Drive and I-205 EB Off-Ramp & MacArthur Drive intersections. The applicant shall be financially responsible for their fair share of the costs to complete the signal timing modifications and/or ramp improvements. This requirement shall be noted on the Project improvement plans, subject to review and approval by the City of Tracy.*

Impact 3.5-4: Project implementation, with mitigation, would not result in inadequate emergency access (Less than Significant with Mitigation)

The proposed Project would include one vehicular access point on Pescadero Avenue and two vehicular access point on Chrisman Road. The driveway on Pescadero Avenue is 40 feet wide and the other two driveways on Chrisman Road are 40 feet wide. The applicant shall provide a

fire truck turn template layout to determine adequate fire truck maneuvers. The three driveways would be used as emergency evacuation plan routes.

Fire access from Fire Station 92 (located 1.8 mile southwest of the Project site) would be available via Grant Line Road and Chrisman Road.

The design of the on-site roadways and intersections will be subject to City of Tracy Municipal Code and Public Works Department staff review and approval.

At this time, without emergency vehicle turn templates provided by the applicant, the emergency access would result in a ***potentially significant*** impact. To mitigate this impact, the Project shall provide emergency vehicle turn templates that meet City standards. With implementation of the vehicle turn improvements, this impact would be ***less than significant***.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-4: *The Project applicant shall provide an exhibit which shows the emergency vehicle turn templates for the Project site. The emergency vehicle templates shall meet City standards. The exhibit shall be submitted to the City of Tracy Planning Division for review. The Project's proposed emergency vehicle turn templates shall be reviewed with this exhibit. The Project applicant shall be responsible for constructing the roadways and access points shown on the exhibit.*

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The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, significant and unavoidable impacts, and growth-inducing impacts associated with the proposed Project.

4.1 CUMULATIVE CONTEXT IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

> *…the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or,

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

The cumulative context uses growth projections listed in various planning documents and Department of Finance statistics. Table 4.0-1 shows growth projections.

TABLE 4.0-1: GROWTH PROJECTIONS

CALENDAR YEAR	*ESTIMATED POPULATION (TRACY)*	*ESTIMATED POPULATION (SAN JOAQUIN COUNTY)*	*ESTIMATED POPULATION (CALIFORNIA)*
2025	102,236	829,426	42,373,301
2030	109,492	883,484	44,085,600
2035	118,130	947,835	45,747,645
2040	127,933	1,020,862	47,233,240

SOURCES: CALIFORNIA DEPARTMENT OF FINANCE (2020), SJCOG 2018 RTP/SCS (2018).

CUMULATIVE EFFECTS OF THE PROJECT

The geographic context is identified under each cumulative impact analysis. The geographic context varies among topical impact areas because the geographic area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative Project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. CEQA Guidelines Section 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts. The projection approach uses a summary of projections in adopted General Plans or related planning documents to identify potential cumulative

impacts. This EIR uses the projection approach, and the cumulative analysis is based off of buildout of the City of Tracy General Plan, as identified and analyzed in the General Plan EIR.

Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on development of the Project site consistent with the development assumptions identified in Chapter 2.0, Project Description. See Chapter 2.0, Project Description, for a complete description of the proposed Project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general, qualitative terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities, noise and air quality (the latter two of which are associated with traffic volumes and operations associated with the proposed land uses), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

AIR QUALITY

The geographic context for air quality impacts is the San Joaquin Valley Air Basin (SJVAB), which consists of eight counties, stretching from Kern County in the south to San Joaquin County in the north. The SJVAB is bounded by the Sierra Nevada in the east, the Coast Ranges in the west, and the Tehachapi mountains in the south.

Impact 4.1: Cumulative Impact on the Region's Air Quality (Significant and Unavoidable and Cumulatively Considerable)

Under buildout conditions in the San Joaquin County, the SJVAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described previously, San Joaquin County has a state designation of Nonattainment for ozone, PM_{10} and $PM_{2.5}$. Table 3.1-2 presents the State and Federal attainment status for San Joaquin County.

As discussed previously, operational emissions for NOx would exceed the SJVACPD threshold of significance for criteria pollutants, even with mitigation. It should be noted that there are not separate cumulative criteria pollutant emissions thresholds; rather, the project-level criteria pollutant emissions thresholds were designed by SJVAPCD to simultaneously determine impacts associated at both the individual project as well as cumulative level. Therefore, the proposed Project is required to implement feasible mitigation measures aimed to reduce criteria pollutant emissions. Because the operational emissions shown therein would exceed the SJVAPCD's significance thresholds despite the application of mitigation measures, the impact would remain ***significant and unavoidable***.

Additionally, as discussed previously, a health risk analysis has been prepared for the proposed Project to analyze the potential health risks associated with increased trucks to the Project site and

surrounding roadways associated with the development and operation of the proposed industrial and commercial uses. The source of TACs for this type of Project can be attributed to diesel exhaust from the trucks. As shown in Table 3.1-13, the proposed Project, in and of itself, would not result in a significant increased exposure of receptors to localized concentrations of TACs. Risk of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SJVAPCD thresholds. Furthermore, as described in the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts*, impacts from hazardous air pollutants are localized impacts. The SJVAPCD has established thresholds of significance for TACs that are extremely conservative and protective of health impacts on sensitive receptors. Because impacts from TACs are localized and the thresholds of significance for TACs have been established at such a conservative level, risks below the individual thresholds of significance are also considered less than cumulatively significant, and no other cumulative risk thresholds apply.

The increase in industrial square footage anticipated with buildout of the Project is consistent with growth projections assumed in the Tracy General Plan for the same time horizon. While the proposed Project, as well as future projects in the City and County, would be subject to the requirements of the SJVAPCD, even with the application of the previously described mitigation measures, emissions levels for NOx would remain above the current defined SJVAPCD criteria pollutant threshold of significance during Project operation. As such, cumulative impacts on the region's air quality would be a ***significant and unavoidable*** impact. The Project's contribution to this significant impact would be ***cumulatively considerable***.

GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY

As the California Supreme Court has reasoned, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself. The challenge for CEQA purposes is to determine whether the impact of the project's emissions of greenhouse gases is cumulatively considerable, in the sense that 'the incremental effects of [the] individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.'" (*Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204, 219.) "'With respect to climate change, an individual project's emissions will most likely not have any appreciable impact on the global problem by themselves, but they will contribute to the significant cumulative impact caused by greenhouse gas emissions from other sources around the globe. The question therefore becomes whether the project's incremental addition of greenhouse gases is "cumulatively considerable" in light of the global problem, and thus significant.'" (*Ibid*.)

The cumulative context for GHG emissions and climate change impacts for this analysis is the State of California, to ensure consistency with the State's climate change goals.

Impact 4.2: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions and Energy (Less than Significant)

GHG emissions from a single Project will not cause global climate change; however, GHG emissions from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change. It should be noted that, since greenhouse gas emissions are inherently

global in nature, the greenhouse gas emissions analysis for the Project also represents a cumulative analysis for greenhouse gases.

As presented in Table 3.2-2, short-term construction emissions of GHGs are estimated at a maximum of approximately 1,644 metric tons of carbon dioxide equivalents ($MTCO_2e$). As shown in Table 3.2-3, the annual operational emissions of GHGs associated with the proposed Project would be approximately 24,898 CO_2e.

The proposed Project would be consistent with relevant plans, policies, and regulations associated with GHGs, notably the most recent version of the CARB's Scoping Plan, and the SJCOG's 2022 RTP/SCS. This would ensure that the proposed Project would be consistent with the State's carbon neutrality standard by year 2045 as established under AB 1279. Taking into account the proposed Project's emissions, and the progress being made by the State toward reducing emissions in key sectors such as transportation, industry, and electricity, the Project would be consistent with State GHG Plans and would not impede the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and carbon neutrality by 2045. The proposed Project would make a reasonable fair share contribution to the State's GHG reduction goals. Therefore, a ***less than significant*** cumulative impact relative to GHGs would result.

Furthermore, with regard to Project energy consumption, the proposed Project includes various characteristics that reduce the inefficient, wasteful, or unnecessary use of energy. Additionally, the Project does not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Moreover, it should be noted that, over time, electrification of the vehicles will increase due to state requirements, and state and national trends. Electric charging infrastructure would be installed on the property to facilitate the conversion of the truck fleet to zero-emission electric trucks as they become available in the market and used for truck deliveries to and from the facility. Therefore, a ***less than significant*** cumulative impact relative to energy would result.

HAZARDS AND HAZARDOUS MATERIALS

The geographic context for the analysis of cumulative hazards and human health impacts is San Joaquin County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e., Stockton, Lathrop, and San Joaquin County). As discussed in Section 3.3, Hazards and Hazardous Materials, of this Draft EIR, implementation of the proposed Project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.3 of this Draft EIR.

Impact 4.3: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant)

The operational phase would occur after construction is completed and business operations commence on a day-to-day basis. The Project would include the construction and subsequent operation of two general light industrial warehouse buildings totaling 718,165 square feet (sf). The Project would not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of degreasers, lubricants,

and common cleaning agents. If handled appropriately, these materials would not pose a significant risk.

The area that will undergo soil remediation (referred to as "Remediation Area") is an approximately 10.2-acre site along the southern boundary of the larger 52.7 Project site, as shown in Figure 2.0-3. Investigation into past research of the site included a past soil and groundwater sampling study performed in conjunction with a Preliminary Endangerment Assessment (PEA) in 2006, a PEA Addendum in 2006 that revealed significant pesticide impacts to soils at the Remediation Area, a Phase I Environmental Site Assessment (ESA) in 2020, and a follow-up Phase II ESA in 2020 that included a groundwater investigation, a geophysical survey, and an extensive soil sampling and characterization study.

Remedial soil excavation is proposed for the areas where organochlorine pesticide and metals concentration exceeded commercial/industrial ESL values to adequately remove contaminants before development of the proposed project can begin. The remedial work will be performed by a licensed hazardous materials contractor in accordance with all applicable laws and regulations. Prior to initiation of any remedial soil extraction work, the property owner or remediation contractor will obtain any required permits, including a grading permit if necessary. The owner or contractor will also determine whether a Dust Control Plan is required for the remedial work and will process one, if necessary, per San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations. Stormwater controls will also be implemented as necessary to prevent any surface water or storm water that contacts exposed impacted soils from discharging from the work site or from entering storm drain or sewer systems.

Following soil excavation activities, soil samples will be collected from the limits of the soil excavation areas to verify that soils at the limits of the excavation do not contain contaminants above the clean-up levels established. Stockpiled soil samples will also be taken and tested to determine appropriate disposal methods. Once testing of removed soils is completed, all equipment that comes into contact with impacted soils would be decontaminated. The extent of future backfilling of the remedial excavations is unknown and will depend to some degree on the grading details of the development project. Much of the excavation area is anticipated to be only one-foot deep and may not necessitate backfilling.

Based on the planned remedial soil removal work, it is anticipated that remaining onsite soils will not contain the chemicals of concern at concentrations above commercial/industrial ESL values. As such, no ongoing maintenance at the Remediation Area will be necessary following successful completion of remediation work.

Contractors would be required to comply with Cal-EPA's Unified Program; regulated activities would be managed by San Joaquin County Department of Environmental Health, the designated CUPA for San Joaquin County, in accordance with the regulations included in the Unified Program (e.g., hazardous materials release response plans and inventories, California UFC hazardous material management plans and inventories). Additionally, in the event that hazardous materials are discovered during construction, a Soils Management Plan (SMP) will need to be submitted and approved by the San Joaquin County Department of Environmental Health, as required by Mitigation

Measure 3.3-1. The SMP will establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. Such compliance would reduce the potential for accidental release of hazardous materials during construction of the proposed Project. As a result, it would lessen the risk of exposure of construction workers and the public to accidental release of hazardous materials, as well as the demand for incident emergency response.

Additionally, any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The San Joaquin County Department of Environmental Health is the CUPA for San Joaquin County and is responsible for the implementation of statewide programs within the city including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Additionally, businesses are regulated by Cal/OSHA and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. To further ensure the safety of employees, and reduce the potential for accidental release of hazardous materials into the environment during construction, the applicant must submit a HMBP to San Joaquin County Department of Environmental Health for review and approval prior to bringing hazardous materials onsite, as required by Mitigation Measure 3.3-2.

Further, due to the former agricultural uses on the Project site (outside the Remediation Area), the possibility exists that agrichemicals may be found on-site. Mitigation Measure 3.3-3 requires site-specific soil sampling within the Project site, outside of the Remediation Area, to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health.

The proposed Project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the City's General Plan. Cumulative development would include continued operation of, or development of, new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

Implementation of the proposed Project, in combination with and past, present, and probable future projects, would not result in significant increased risks of hazards in the cumulative area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. For these

reasons, cumulative impacts associated with hazards and hazardous materials would be ***less than significant***.

NOISE

The geographic context for noise impacts consists of the existing and future noise sources that could affect the Project site or surrounding uses.

Impact 4.4: Cumulative Exposure of Existing Noise-Sensitive Land Uses to Increased Noise Resulting from Cumulative Development (Less than Significant)

Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The total noise impact of the proposed Project would be fairly small and would not be a substantial increase to the existing future noise environment. Thus, the proposed Project would result in a less-than-significant cumulative impact.

Operational Noise: Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways and on-site activities resulting from operation of the proposed Project. The primary non-transportation noise sources associated with the proposed Project are on-site parking lot circulation and the loading docks.

As stated in Chapter 2.0, Project Description, the Tracy General Plan land use designation for the Project site is Industrial (consistent with the proposed project) and the site is within the Northeast Industrial Specific Plan Area. Specific uses allowed in the Industrial land use designation category range from flex/office space to manufacturing to warehousing and distribution. According to the City's General Plan, Industrial parcels should have a maximum floor-area-ratio (FAR) of 0.5. Building A has an FAR of 0.47 while Building B has an FAR of 0.20. The average FAR of the project would be 0.34, staying below the maximum FAR of 0.5. Industrial uses are located to provide proper truck access, buffering from incompatible uses and proximity with rail corridors and transit links. Figure 2.0-9 displays the General Plan land use designation for the Project site and surrounding area. A General Plan amendment is not required for the Project.

The General Plan EIR analyzed the anticipated impacts of noise associated with the future urban development that was contemplated by the General Plan. These impacts included construction noise, traffic noise, operational noise, groundborne vibration, and overall increased in noise resulting from implementation of the General Plan (City of Tracy General Plan Draft EIR, 2005, pages 4.14-19 through 4.14-29).

The General Plan EIR concluded that, despite these goals and policies, significant noise impacts will occur because of development under the General Plan and further, that these impacts cannot be reduced to a less than significant level. Specifically, the General Plan EIR noted that the General Plan mitigation measures, and existing and proposed policies, actions, and regulations would serve to reduce noise from vehicles at the source and to otherwise shield sensitive uses from excessive noise. However, while these policies, actions, and regulations would help to reduce the severity of the effects of traffic noise, they would not prevent all the anticipated traffic noise increases along the

impacted roadway segments identified in the EIR, and the impact would be significant. Thus, because no feasible mitigation measures are available to mitigate noise impacts to a less than significant level, traffic noise would remain a significant and unavoidable impact. Findings of fact and a statement of overriding consideration were adopted by the Tracy City Council regarding these impacts.

The proposed Project would not result in new or substantially more severe operational noise impacts than identified in the General Plan EIR. For these reasons, implementation of the proposed project would have a ***less than significant*** cumulative impact on operational noise

Construction Noise: Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. Compliance with the City's permissible hours of construction, as well as implementing the best management noise reduction techniques and practices (both outlined in Mitigation Measure 3.4-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors.

The proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within the County), would not be expected to cause any significant cumulative construction noise impacts. The proposed Project would not have cumulatively considerable impacts associated with construction noise. Implementation of the proposed project would have a ***less than significant*** cumulative impact on construction noise.

Cumulative Conclusion: The operational noise from the proposed Project is not expected to produce noise levels that would exceed City or County standards. Consequently, the total noise impact of the proposed Project would not be a substantial increase to the future noise environment. Consequently, the proposed project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within the County), would be expected to cause ***less than significant*** impact associated with noise.

TRANSPORTATION AND CIRCULATION

The geographic context for this analysis includes the City of Tracy Sphere of Influence (SOI) and nearby areas of San Joaquin County. The analysis models the overall change in vehicle-miles-traveled (VMT) in Tracy as a result of forecast development, with the addition of the proposed Project. The intent is to understand how the proposed Project will influence travel behavior in light of future conditions, and to identify possible significant future impacts.

Impact 4.5: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b) (Significant and Unavoidable and Cumulatively Considerable)

The proposed Paradise Pointe project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per Employee. The evaluation tool estimates that the Project would generate 19.6 VMT per Employee, which exceeds the City's threshold by 10.2 VMT per employee and represents 209% of the threshold value. It is important to

note that truck trips are exempted from VMT analysis per SB 743. These VMT per employee pertain to the commuters who would travel to and from the Project site from their homes.

The California Air Pollution Control Officers Association (CAPCOA) indicates that up to 15% of VMT reduction can reasonably be achieved. For the purpose of this report, a maximum of 15% is assumed. The TDM strategies outlined in Section 3.5 would achieve a 10% reduction in VMT for the Project. The remaining 5% reduction would be achieved through payment of the City of Tracy VMT Banking Fee.

The VMT Banking Fee Program calculates the cost per VMT reduction as $633.11. As described above, TDM strategies would achieve a 10% reduction in VMT for the Project. Therefore, to achieve the 5% reduction needed after implementation of the TDM program to achieve the total 15% feasible reduction in VMT, the project would be responsible to pay $445,481.52. This is calculated as 5% being equivalent to a 0.980 VMT per employee reduction. Consistent with City of Tracy planning conversions rates between industrial and warehousing size and employment totals, 1 employee per 1,000 square feet is assumed for the Project. This results in 718 employees and each employee needs to reduce by 0.980 VMT at a cost of $633.11 per VMT the calculation is as follows:

Mitigation Measure 3.5-1, which requires TDM strategies, would be required. As stated previously, a 10% reduction in VMT could be achieved as a result of the TDM strategies required by this mitigation measure. Implementation of Mitigation Measure 3.5-1 is feasible because it is within the applicant's purview to implement and the TDM measures have been found effective in previous academic studies. However, the precise effectiveness of specific TDM strategies can be difficult to accurately measure due to a number of external factors such as employee responses to strategies and changes to technology.

As part of Mitigation Measure 3.5-1, the proposed Project would be required to monitor and evaluate the effectiveness of the Project's TDM Plan and provide the results to the City of Tracy. Based on the results of the evaluation, modifications to the TDM Plan may be required by the City in order to improve effectiveness toward achieving the home-based work VMT per worker target.

Additionally, Mitigation Measure 3.5-1 requires the applicant to pay a 5% VMT Banking Fee to the City of Tracy. The 5% reduction in VMT that would result from payment of the VMT Banking Fee, combined with the 10% reduction in VMT that would result from implementation of the TDM strategies, would result in a 15% reduction in VMT for the Project.

In order for a specific project to have a less than significant impact related to VMT, the project must demonstrate that per capita VMT would be 15 percent below the regional average. Because future development would likely be equal to the regional average, or above average (or less than average but not fully 15 percent less than average), impacts relate to VMT would be ***significant and unavoidable***. Exceptions to this would be infill projects, or small projects which include VMT reducing strategies. Due to the size of the Project and the fact that the Project exceeds the City threshold by 209 percent, the incremental contribution to this cumulative VMT impact would be ***cumulatively considerable***.

Impact 4.6: Under Cumulative conditions, the proposed Project would not adversely affect pedestrian, bicycle, or transit facilities (Less than Significant)

Implementation of the proposed Project would not result in a conflict with an existing or planned pedestrian facility, bicycle facility, or transit service/facility. In addition, the Project would not interfere with the implementation of a planned bicycle facility, pedestrian facility, or transit service/facility. The Project would not cause a degradation in transit service such that service does not meet performance standards established by the transit operator.

The proposed Project, when considered alongside all past, present, and probable future projects (inclusive of buildout of the various General Plans within San Joaquin County), would not be expected to cause any significant cumulative pedestrian or bicycle facilities impacts. The proposed Project would not have cumulatively considerable impacts associated with pedestrian or bicycle facilities. Implementation of the proposed Project, in combination with and past, present, and probable future projects, would have a ***less than significant*** impact relative to this topic.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), require that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed Project would result in the conversion of the approximately 52.3-acre Development Area, which is comprised of vacant land previously used for agricultural purposes as well as a strip of vacant land that was previously used as a crop-dusting airstrip for the development of industrial uses. Development of the proposed Project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its previous condition as agricultural or vacant rural land.

A variety of resources, including land, energy, water, construction materials, and human resources would be irretrievably committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued maintenance. Construction of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed Project. The introduction of an industrial use to the Project site will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the proposed Project will increase consumption of available supplies, including gasoline and diesel. These energy resource demands relate to initial Project construction, Project operation and site maintenance and the transport of people and goods to and from the Project site.

4.3 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed Project are discussed in Sections 3.1 through 3.5 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

- Impact 3.1-1: Project operation would conflict with or obstruct implementation of the District's air quality plan.
- Impact 3.1-2: The proposed Project would result in a cumulatively considerable net increase of a criteria pollutant for which the region is in nonattainment under an applicable federal or State ambient air quality standard.
- Impact 3.5-1: Project implementation would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).
- Impact 3.5-3: Project implementation would substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Impact 4.1: Cumulative Impact on the Region's Air Quality.
- Impact 4.5: Under Cumulative conditions, the proposed Project would conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b).

4.4 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires an EIR to "discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth..." In general terms, a project may result in a significant growth inducing impact if it individually or cumulatively with other projects results in any of the actions described in the following examples:

- The project removes an obstacle to growth, such as: the establishment of an essential public service, the provision of new access to an area, or a change in zoning or general plan designation.
- The project results in economic expansion, population growth or the construction of additional housing occurs in the surrounding environment in response to the project, either directly or indirectly.

Existing storm drain, sewer, water, and gas lines/pipes are currently located along Pescadero Avenue and Chrisman Road. The Project would be served by existing sewer, water and other utility services that have been established on the Project site and in the Project area. Site access would be provided by three new driveways: one from the southwest, off of Pescadero Avenue; and two from Chrisman Road (one in the south-central and one in the southeast). In the future, Caltrans plans to construct an I-205 interchange in the eastern portion of the Project site. Overall, the proposed Project would not require an extension of public services that have the potential to result in or facilitate unplanned growth in the Project area.

The proposed Project would provide employment opportunities for City and County residents on a site that has been planned for industrial development by the City of Tracy General Plan and associated EIR. Overall, the additional industrial uses in the City would not have the long-term effect of inducing population growth.

The Project would result in an increase in employment opportunities by creating full-time job positions. The Project would also generate short-term construction employment opportunities, but these opportunities would not result in substantial population growth in the project region. Therefore, the proposed Project would not result in significant growth inducing impacts.

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5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives evaluated in the EIR, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

The principal objective of the proposed Project is the remediation of the Remediation Area and development of the Development Area with two general light industrial warehouse buildings totaling 718,165 square feet (sf) and associated circulation and utility improvements.

The City and the Project applicant have identified the following objectives:

- Construct and operate two industrial warehouse buildings containing ground-level shipping and receiving truck loading docks that is of sufficient size to efficiently operate for the future tenant(s).
- Develop the site with industrial uses, consistent with the City's General Plan land use designation for the site.
- Locate an industrial Project in an area with nearby access to a regional roadway network.
- Ensure that the industrial area within the Northeast Industrial Specific Plan Area continues to be developed in a visually pleasing manner.
- Increase contributions to the City's tax base.
- Complete remediation of the contaminated soils in the Remediation Area in order to provide right of way for the extension of Chrisman Road to a future interchange at Interstate 205.
- Complete the Project on schedule and within budget.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation (NOP) was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed Project. No specific alternatives were recommended by commenting agencies or the general public during the NOP public review process.

The City of Tracy considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the Project would be avoided or substantially lessened?
- Is there a site available with the appropriate size and characteristics such that it would meet the basic Project objectives?

The City's consideration of alternative locations for the Project included a review of lands in the northeast part of Tracy that are located within the Sphere of Influence and are otherwise suitable for development. The City has found that there are no feasible alternative locations that exist within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic Project objectives and avoid or substantially lessen a significant effect. The City has determined that alternative locations outside the Sphere of Influence would not be feasible because an expansion of the Sphere of Influence would induce unplanned growth and cause impacts greater than development on the Project site. No sites of adequate size and availability have been identified, nor would any such sites be expected to minimize environmental impacts. For these reasons, the City of Tracy determined that there are no feasible alternative locations.

In addition, as discussed in *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 (Goleta II), where a project is consistent with an approved general plan, no off-site alternative need be analyzed in the EIR. The EIR "is not ordinarily an occasion for the reconsideration or overhaul of fundamental land-use policy." (Goleta II, supra, 52 Cal.3d at p. 573.) In approving a general plan, the local agency has already identified and analyzed suitable alternative sites for particular types of development and has selected a feasible land use plan. "Informed and enlightened regional planning does not demand a project EIR dedicated to defining alternative sites without regard to feasibility. Such ad hoc reconsideration of basic planning policy is not only unnecessary, but would be in contravention of the legislative goal of long-term, comprehensive planning." (Goleta II, supra, 52 Cal.3d at pp. 572-573.) Here, the proposed Project is generally consistent with the types of uses considered in the Tracy General Plan and associated EIR, and thus, in addition to the reasons discussed above, an off-site alternative need not be further discussed in this EIR.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed Project were developed based on input from City staff and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative**: Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition and not be annexed into the City.
- **No Remediation Alternative:** Under this alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 20 percent and the amount of developed land would decrease by 20 percent. The proposed remediation would not occur and the Remediation Area would not be developed under this alternative.

- **Reduced Project Alternative:** Under this alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 25 percent and the amount of developed land would decrease by 25 percent.

NO PROJECT (NO BUILD) ALTERNATIVE

Under the No Project (No Build) Alternative development of the Project site would not occur, and the Project site would remain in its current existing condition. The majority of the Project site is currently agricultural land (Development Area), with an approximately 10.2-acre strip of vacant land that was previously used as a crop-dusting airstrip, as discussed further below. The approximately 10.2-acre portion of the Project site that is slated for remediation (Remediation Area) is generally void of vegetation. The existing vegetation in the Remediation Area appears to have burned in the past. There are also remnant concrete slabs and other concrete structures that are associated with the former airstrip in the southeastern corner of the Project site. An existing pump station with a screen wall and a catch basin are currently located on the south side of the project adjacent to the roadway access point along Chrisman Road at the southeast corner of the Project site.

The No Project (No Build) Alternative would fail to meet the Project objectives identified by the Project applicant.

NO REMEDIATION ALTERNATIVE

Under the No Remediation Alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 20 percent and the amount of developed land would decrease by 20 percent. Under the No Remediation Alternative, the total Development Area would decrease from approximately 52.7 acres under the proposed Project to approximately 52.3 acres. No remediation would occur under this alternative. As such, the Remediation Area would be removed from the Project site and would remain in its current condition.

The amount of industrial uses would decrease from 718,165 square feet (sf) to 584,000. The industrial uses would be housed in five buildings with the following sizes: 72,000 sf, 60,000 sf, 72,000 sf, 178,000 sf, and 160,000 sf. Because the amount of urban development would decrease, the size of the parking areas and storm basins would also decrease. The areas developed with urban uses would be located in the northwestern portion of the Project site.

REDUCED PROJECT ALTERNATIVE

Under the Reduced Project Alternative, the proposed Project would be developed with the same types of industrial uses as described in the Project Description, but the industrial square footage would decrease by 25 percent and the amount of developed land would decrease by 25 percent. Under the Reduced Project Alternative, the total Development Area would decrease from approximately 52.7 acres under the proposed Project to approximately 39.5 acres. The remaining 13.2 acres outside of the Reduced Project Alternative area would be located along the eastern boundary of the site. The Remediation Area would also be reduced by 25 percent. Remediation

would only occur on the western three-quarters of the Remediation Area in order to accommodate the proposed industrial uses. As such, the eastern portion of the Remediation Area would remain in its current condition and would not be remediated.

The amount of industrial uses would decrease from 718,165 sf to 538,624 sf. The industrial uses would be housed in two buildings, similar to the Project. Because the amount of urban development would decrease, the size of the parking areas and storm basins would also decrease. The areas developed with urban uses would be located in the western portion of the Project site.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Air Quality

As discussed under Impact 3.3-1 in Section 3.3, the proposed Project is in conformance with the AQAP, based on these criteria, as follows:

- *Determination that an AQAP is being implemented in the area where the project is being proposed.*

The SJVAPCD has implemented the current, modified 2016 8-hour AQAP as approved by CARB and approved by USEPA for the 2008 8-hour O_3 standard.

- *The proposed project must be consistent with the growth assumptions of the applicable AQAP.*

The San Joaquin Council of Governments (SJCOG) Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) growth projections provide for future employment/population factors. The development of the SJVAPCD AQAP is based in part on the land use general plan projections of the various cities and counties that constitute the Air Basin. The City of Tracy General Plan Land Use Element designates the Project site as Industrial, which is intended to accommodate flex/office space, manufacturing, warehousing and distribution, and ancillary uses for workers' needs. Therefore, the proposed Project, which involves the development of light industrial, warehouse and distribution and related uses, is considered consistent with the site's General Plan land use designation and its traffic would be included in volumes projected for analysis of the General Plan. The SJVAPCD AQAP is based on the growth assumptions of the City of Tracy General Plan and SJCOG RTP/SCS. Since the Project is consistent with the SJCOG RTP/SCS, and SJCOG RTP/SCS projections are incorporated into the State Implementation Plan (SIP), the Project is also consistent with the SIP.

- *The project must contain in its design all reasonably available and feasible air quality control measures.*

The Project incorporates various policy and rule-required implementation measures that would reduce related emissions, including all of the current Air District rules and regulations.[1] For example, the proposed Project would be required to implement Air District Rule 9510, which ensures that the Project would fulfill the Air District's emissions reduction commitments in the relevant PM_{10} and Ozone Attainment plans.[2] In addition, the Project would comply with all applicable stationary source permitting rules implemented by SJVAPCD, which further confirms the Project would not cause or contribute to any ambient air quality standard exceedances. Moreover, the proposed Project would also implement various mitigation measures that would reduce Project operational and construction emissions, as provided below.

Nevertheless, as described in detail under Impact 3.1-2, the proposed Project would exceed the SJVAPCD's thresholds for operational criteria air pollutants for NOx (even with implementation of all feasible mitigation). Therefore, the proposed Project is required to implement Mitigation Measure 3.1-1 through Mitigation Measure 3.1-13. However, since the Project's operational emissions for NOx would remain in exceedance of the applicable criteria pollution thresholds, even with implementation of the following mitigation measures, the Project's potential impact to this environmental topic is considered significant and unavoidable.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to air quality. As such, this impact would be reduced when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

Short-term construction greenhouse gas (GHG) emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. As presented in Table 3.2-2 in Section 3.2, short-term construction emissions of GHGs are estimated to be 1,644 metric tons of carbon dioxide equivalents ($MTCO_2e$). As shown in Table 3.2-3, the annual operational emissions of GHGs associated with the proposed Project would be approximately 24,898 CO_2e. The proposed Project would be consistent with all relevant plans, policies, and regulations associated with GHGs, notably the most recent version of the CARB's Scoping Plan, and the SJCOG's 2022 RTP/SCS. This would ensure that the proposed Project would be consistent with the State's carbon neutrality standard by year 2045 as established under AB 1279. Taking into account the proposed Project's emissions, and the progress being made by the State toward reducing emissions in key sectors such as transportation, industry, and electricity, the Project would be consistent with State GHG Plans and would not impede the State's goals of reducing GHG emissions 40 percent below 1990 levels by 2030, and carbon neutrality by 2045. The proposed

[1] See here for further detail: https://www.valleyair.org/rules/1ruleslist.htm

[2] Compliance with Air District Rule 9510 is assumed under CEQA.

Project would make a reasonable fair share contribution to the State's GHG reduction goals. Therefore, a less than significant cumulative impact relative to GHGs would result.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to GHG reductions. As such, this impact would be reduced when compared to the proposed Project.

Hazards and Hazardous Materials

For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers), as hazard-related impacts tend to be site-specific and Project-specific.

The area that will undergo soil remediation (referred to as "Remediation Area") is an approximately 10.2-acre site along the southern boundary of the larger 52.7 Project site, as shown in Figure 2.0-3. Based on the planned remedial soil removal work, it is anticipated that remaining onsite soils will not contain the chemicals of concern at concentrations above commercial/industrial ESL values. As such, no ongoing maintenance at the Remediation Area will be necessary following successful completion of remediation work.

In the event that hazardous materials are discovered during construction, a Soils Management Plan (SMP) will need to be submitted and approved by the San Joaquin County Department of Environmental Health, as required by Mitigation Measure 3.3-1. The SMP will establish management practices for handling hazardous materials, including fuels, paints, cleaners, solvents, etc., during construction. Such compliance would reduce the potential for accidental release of hazardous materials during construction of the proposed Project. As a result, it would lessen the risk of exposure of construction workers and the public to accidental release of hazardous materials, as well as the demand for incident emergency response.

Additionally, any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The San Joaquin County Department of Environmental Health is the CUPA for San Joaquin County and is responsible for the implementation of statewide programs within the city including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Additionally, businesses are regulated by Cal/OSHA and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. To further ensure the safety of employees, and reduce the potential for accidental release of hazardous materials into the environment during construction, the applicant must submit a HMBP

to San Joaquin County Department of Environmental Health for review and approval prior to bringing hazardous materials onsite, as required by Mitigation Measure 3.3-2.

Further, due to the former agricultural uses on the Project site (outside the Remediation Area), the possibility exists that agrichemicals may be found on-site. Mitigation Measure 3.3-3 requires site-specific soil sampling within the Project site, outside of the Remediation Area, to determine if chemicals of potential concern associated with the historical agricultural uses at the Project site are present in shallow soil at concentrations that would pose a threat to human health.

Under the No Project (No Build) Alternative, no new land uses would be introduced to the Project site, and the potential for hazardous material release on the Project site would be eliminated. As such, this impact would be reduced when compared to the proposed Project. It is noted, however, that the Remediation Area would not be remediated under this alternative. Should the Project site be developed in the future under this alternative, remediation would be required.

Noise

The primary noise sources associated with operation of the proposed Project include parking lot circulation of passenger vehicles and heavy trucks as well as warehouse loading docks. Operational noise was determined to be less than significant. Mitigation Measure 3.4-1 provided in Section 3.4 would reduce the potential construction noise impact to a less than significant level.

Under the No Project (No Build) Alternative, the Project site would not be developed and there would be no potential for new noise sources. As such, this impact would be reduced when compared to the proposed Project.

Transportation and Circulation

It was determined that the proposed Project would cause an increase in vehicle miles traveled (VMT) for home-based work trips per employee. Mitigation was identified to alleviate long term impacts; however, impacts related to VMT were deemed to be significant and unavoidable. Additionally, impacts related to bicycle, pedestrian, and transit facilities would be less-than-significant with implementation of Mitigation Measure 3.5-2. Further, freeway off-ramp queuing at the nearest interchange to the Project site, I- 205 and MacArthur Drive, was completed. As discussed in Section 3.5, the ramp queuing has a potential safety impact. Traffic safety mitigation measures, including signal timing modifications and ramp improvements, would further reduce this impact. However, these improvements would need to occur on Caltrans owned and operated facilities, and any planned improvements to these facilities would need to be coordinated between the lead agency (City of Tracy), and Caltrans, and an agreement created between the two agencies. In this instance, due to the fact that the City of Tracy does not control the facilities in question, and Caltrans review and approval for any improvements would be required, the City of Tracy cannot guarantee that these potential improvements would actually be implemented. As such, out of an abundance of caution, this impact would be significant and unavoidable.

The No Project (No Build) Alternative would not introduce additional vehicle trips onto the area roadways. Under the No Project (No Build) Alternative, these potential impacts would be avoided,

and the No Project (No Build) Alternative would have a reduced traffic impact when compared to the proposed Project.

NO REMEDIATION ALTERNATIVE

Air Quality

Under the No Remediation Alternative, the Project site would be developed with the same type of industrial use as described in the Project Description, but the industrial square footage and development area would decrease by 20 percent and no remediation would occur. Trip generation is based on various factors, one of which being building size. Additionally, because the Remediation Area would be eliminated under this alternative, the truck hauling trips of contaminated soil would be eliminated. Therefore, the amount of vehicle trips generated from the No Remediation Alternative would be significantly reduced under this alternative. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would result in a reduced amount of mobile source emissions. Additionally, the area source emissions would be reduced when compared to the Project.

Uses in the No Remediation Alternative would be required to adhere to the same mitigation measures as the proposed Project. The No Remediation Alternative would result in reduced impacts related to air quality when compared to the proposed Project. The remaining air quality impacts would be less than significant under the proposed Project and the No Remediation Alternative.

Greenhouse Gases, Climate Change and Energy

Under the No Remediation Alternative, the Project site would be developed with the same type of use and structures as the proposed Project, but the amount of building area and developed area would be decreased by 20 percent and no remediation would occur. The reduced amount of development and elimination of truck hauling trips of contaminated soil would result in a corresponding reduced level of GHG emissions when compared to the proposed Project. As such, the GHG emissions impact would be reduced with this Alternative when compared to the proposed Project; however, the less than significant GHG impact would remain under this alternative.

Hazards and Hazardous Materials

Under the No Remediation Alternative, the type of urban use would not change when compared to the proposed Project, but the amount of development would be reduced by 20 percent and no remediation would occur. Unlike the proposed Project, this alternative would not remediate the Remediation Area. Additionally, the No Remediation Alternative would still use the hazardous materials identified under the proposed Project. However, due to the reduction in square footage, the amount of hazardous materials brought onto the site during construction and operation would be reduced. As such, this alternative would result in slightly reduced impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Noise

The No Remediation Alternative would result in a reduced amount of industrial uses compared to the Project; therefore, the noise impacts associated with vehicular and operational activities of the proposed Project would be reduced under this alternative. Additionally, because no remediation would occur, truck hauling trips resulting from the proposed remediation would be eliminated under this alternative. Overall, noise impacts would be reduced when compared to the proposed Project and would be less than significant with mitigation.

Transportation and Circulation

Under the No Remediation Alternative, the Project site would be developed with the same components as described in the Project Description, but the amount of square footage and developed area would decrease by 20 percent and no remediation would occur. The reduced amount of industrial uses and the elimination of truck hauling trips from the proposed remediation would result in a reduced amount of vehicle trips generated by the No Remediation Alternative.

Uses in the No Remediation Alternative would be required to adhere to the same mitigation measures as the proposed Project. It is likely that the significant and unavoidable VMT impact would remain under this alternative. Overall, the No Remediation Alternative would result in reduced traffic related impacts when compared to the proposed Project.

REDUCED PROJECT ALTERNATIVE

Air Quality

Under the Reduced Project Alternative, the Project site would be developed with the same type of industrial use as described in the Project Description, but the industrial square footage and development area would decrease by 25 percent. Trip generation is based on various factors, one of which being building size. Additionally, because the Remediation Area would be reduced under this alternative, fewer truck hauling trips of contaminated soil would be required compared to the Project. Therefore, the amount of vehicle trips generated from the Reduced Project Alternative would be reduced by 25 percent under this alternative. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the reduced trip volume would result in a reduced amount of mobile source emissions. Additionally, the area source emissions would be reduced when compared to the Project.

Uses in the Reduced Project Alternative would be required to adhere to the same mitigation measures as the proposed Project. The Reduced Project Alternative would result in reduced impacts related to air quality when compared to the proposed Project. The remaining air quality impacts would be less than significant under the proposed Project and the Reduced Project Alternative.

Greenhouse Gases, Climate Change and Energy

Under the Reduced Project Alternative, the Project site would be developed with the same type of use and structures as the proposed Project, but the amount of building area and developed area would be decreased by 25 percent. The reduced amount of development would result in a

corresponding reduced level of GHG emissions when compared to the proposed Project. As such, the GHG emissions impact would be reduced with this Alternative when compared to the proposed Project; however, the less than significant GHG impact would remain under this alternative.

Hazards and Hazardous Materials

Under the Reduced Project Alternative, the type of urban use would not change when compared to the proposed Project, but the amount of development would be reduced by 25 percent. This alternative would remediate a portion of the Remediation Area, similar to the proposed Project. Additionally, the Reduced Project Alternative would still use the hazardous materials identified under the proposed Project. However, due to the reduction in square footage, the amount of hazardous materials brought onto the site during construction and operation would be reduced. As such, this alternative would result in slightly reduced impacts from hazards and hazardous materials impacts when compared to the proposed Project.

Noise

The Reduced Project Alternative would result in a reduced amount of industrial uses compared to the Project; therefore, the noise impacts associated with vehicular and operational activities of the proposed Project would be reduced under this alternative. Under this alternative, noise impacts would be reduced when compared to the proposed Project and would be less than significant with mitigation.

Transportation and Circulation

Under the Reduced Project Alternative, the Project site would be developed with the same components as described in the Project Description, but the amount of square footage and developed area would decrease by 25 percent. The reduced amount of industrial uses would result in a reduced amount of vehicle trips generated by the Reduced Project Alternative.

Uses in the Reduced Project Alternative would be required to adhere to the same mitigation measures as the proposed Project. It is likely that the significant and unavoidable VMT impact would remain under this alternative. Overall, the Reduced Project Alternative would result in reduced traffic related impacts when compared to the proposed Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project (No Build) Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts.

Table 5.0-1 presents a comparison of the alternative Project impacts with those of the proposed Project.

TABLE 5.0-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

ENVIRONMENTAL ISSUE	*NO PROJECT (NO BUILD) ALTERNATIVE*	*NO REMEDIATION ALTERNATIVE*	*REDUCED PROJECT ALTERNATIVE*
Air Quality	Less (Best)	Less (2nd Best)	Less (3rd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Less (2nd Best)	Less (3rd Best)
Hazards and Hazardous Materials	Less (Best)	Less (2nd Best)	Slightly Less (3rd Best)
Noise	Less (Best)	Less (2nd Best)	Less (3rd Best)
Transportation and Circulation	Less (Best)	Less (2nd Best)	Less (3rd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT
EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the No Remediation Alternative and Reduced Project Alternative both rank higher than the proposed Project. The No Remediation Alternative would have reduced impacts in all five areas. The Reduced Project Alternative would have slightly less impacts in one area and less impacts in four areas. Therefore, the No Remediation Alternative would be the next environmentally superior alternative. It is noted that the No Remediation Alternative would not fully meet all of the Project objectives. See Section 5.4 below for a comparative evaluation of the objectives for each alternative.

5.4 COMPARATIVE EVALUATION OF THE ALTERNATIVES' ABILITY TO SATISFY PROJECT OBJECTIVES

This section examines how each of the alternatives selected for more detailed analysis meets the Project objectives.

1. *Construct and operate two industrial warehouse buildings containing ground-level shipping and receiving truck loading docks that is of sufficient size to efficiently operate for the future tenant(s).*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not provide a an industrial warehouse facility within two building containing ground-level shipping and receiving truck loading docks. The No Remediation Alternative would partially meet this objective because it would provide warehouse buildings with ground-level shipping; however, the industrial uses would be housed in five buildings instead of two, and the amount of industrial uses would decrease from 718,165 sf to 584,000. The smaller buildings and reduced amount of square footage may not be of sufficient size to efficiently operate for the future tenant(s). Similarly, the Reduced Project Alternative would partially meet this objective because this alternative would provide an industrial warehouse facility within two separate buildings containing ground-level shipping and receiving truck loading docks; however, because the size of the warehouse buildings would be reduced by 25 percent compared to the Project, the warehouses may not be a sufficient size for the future tenant and, thus, may not fully meet this objective.

2. *Develop the site with industrial uses, consistent with the City's General Plan land use designation for the site.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would not be developed with light industrial uses. Both the Reduced Project Alternative and the No Remediation Alternative would meet this objective because under both alternatives, the property would be developed with light industrial uses that the City's General Plan already designates the site for.

3. *Locate an industrial Project in an area with nearby access to a regional roadway network.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not locate an industrial Project in an area with nearby access to a regional roadway network. Both the Reduced Project Alternative and the No Remediation Alternative would meet this objective because both alternatives would locate an industrial Project in an area with nearby access to a regional roadway network.

4. *Ensure that the industrial area within the Northeast Industrial Specific Plan Area continues to be developed in a visually pleasing manner.*

The No Project (No Build) Alternative would not satisfy this Project objective because under this alternative, the Project site would remain in its current existing condition and would not be developed. Both the Reduced Project Alternative and the No Remediation Alternative would partially meet this objective because both alternatives would develop the industrial area along Pescadero Road in a visually pleasing manner. It is noted, however, that both the Reduced Project Alternative and the No Remediation Alternative would not remediate the entire Remediation Area. The Reduced Project Alternative would reduce the Remediation Area by 25 percent and remediation would only occur on the western three-quarters of the Remediation Area in order to accommodate the proposed industrial uses. No remediation would occur under the No Remediation Alternative. As such, the Remediation Area would be removed from the Project site and would remain in its current condition. Because the Remediation Area fronts the Project site, travelers along the southern Project frontage would have a view of the contaminated Remediation Area in front of the industrial uses under both the Reduced Project Alternative and the No Remediation Alternative. This would degrade the visual character of the southern frontage compared to the Project.

5. *Increase contributions to the City's tax base.*

The No Project (No Build) Alternative would not increase contributions to the City's tax base; as such, the No Project (No Build) Alternative would not meet this objective. The No Remediation Alternative and the Reduced Project Alternative would increase contributions to the City's tax base. However, because the warehouse buildings would be reduced by 20 and 25 percent, respectively, compared to the Project under these two alternatives, the amount of tax contributions under the No Remediation Alternative and the Reduced Project Alternative would be less than the Project.

6. *Complete remediation of the contaminated soils in the Remediation Area in order to provide right of way for the extension of Chrisman Road to a future interchange at Interstate 205.*

The No Project (No Build) Alternative and the No Remediation Alternative would not achieve this objective because this alternative would not complete remediation of the contaminated soils in the Remediation Area in order to provide right of way for the extension of Chrisman Road to a future interchange at Interstate 205. The Reduced Project Alternative would remediate the area where the future interchange is planned; however, because the Remediation Area would be reduced by 25 percent, this alternative would partially meet this objective.

7. *Complete the Project on schedule and within budget.*

The No Project (No Build) Alternative would not achieve this objective because this alternative would not complete the Project on schedule and within budget. The No Remediation Alternative and the Reduced Project Alternative would meet this objective because both alternatives could complete the Project on schedule and within budget.

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APPENDIX A

Initial Study, Notice of Preparation, and NOP Comments

INITIAL STUDY / NOTICE OF PREPARATION

FOR THE

PARADISE POINTE BUSINESS PARK PROJECT

MAY 2025

Prepared for:

City of Tracy
Community and Economic Development Department
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
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(916) 949-3231

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

INITIAL STUDY

FOR THE

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MAY 2025

Prepared for:

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Prepared by:

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NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND SCOPING MEETING

DATE: May 16, 2025

TO: State Clearinghouse
State Responsible Agencies
State Trustee Agencies
Other Public Agencies
Organizations and Interested Persons

SUBJECT: Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Paradise Pointe Business Park Project

LEAD AGENCY: City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

PROJECT PLANNER: Victoria Lombardo Senior Planner
Victoria.Lombardo@cityoftracy.org
(209) 831-6428

PURPOSE OF NOTICE: This is to notify public agencies and the general public that the City of Tracy, as the Lead Agency, will prepare an Environmental Impact Report (EIR) for the Paradise Pointe Business Park Project. The City of Tracy is interested in the input and/or comments of public agencies and the public as to the scope and content of the environmental information that is germane to the agencies' statutory responsibilities in connection with the proposed project. Responsible/trustee agencies will need to use the EIR prepared by the City of Tracy when considering applicable permits, or other approvals for the proposed project.

COMMENT PERIOD: Consistent with the time limits mandated by State law, your input, comments or responses must be received in writing and sent at the earliest possible date, but not later than 5:00 PM, June 16, 2025.

Please send your comments/input (including the name for a contact person in your agency) to: Attn: Victoria Lombardo, Senior Planner, Development Services Department, City of Tracy, 333 Civic Center Plaza, Tracy, CA 95376; or by e-mail to Victoria.Lombardo@cityoftracy.org.

SCOPING MEETING: On Wednesday, June 11, 2025, at 7:00 p.m., the City of Tracy will conduct a public scoping meeting to solicit input and comments from public agencies and the general public on the proposed project and scope of the EIR. This meeting will be held person in the Council Chambers, 333 Civic Center Plaza, Tracy, CA, and on-line via Webex, and interested parties may join the scoping meeting to review the proposed project exhibits and submit comments during

that meeting. Representatives from the City of Tracy and the EIR consultant team will be available to address questions regarding the EIR process and scope. All interested persons may comment during the meeting in person or orally by visiting the City's WebEx Event at http://cityoftracyevents.webex.com and using the following Event Number: 2550-050-8626 and Event Password: Planning; or via phone by dialing (408) 418-9388, Access code: 2550-050-8626, during the public comment portion of this item. If you have any questions regarding the scoping meeting, contact Victoria Lombardo, Senior Planner, at (209) 831-6428 or Victoria.Lombardo@cityoftracy.org.

PROJECT LOCATION AND SETTING: The Project site consists of approximately 52.7 acres located at the northwest corner of Chrisman Road and Paradise Avenue in the northeast quadrant of the City of Tracy, adjacent to State Route 205 (SR-205) to the north. The Project site is located on Assessor Parcel Numbers (APNs) 213-06-012 and 213-06-013.

The Project site includes three distinct planning boundaries defined below. The following terms are used throughout this document to describe the planning boundaries within the Project site:

- **Project Site** – totals 52.7 acres and includes the whole of the Project, including the Remediation Area and the Development Area.
- **Development Area** – includes approximately 52.3 acres which would be developed with two (2) industrial warehouse type uses as part of the Project.
- **Remediation Area** – includes approximately 10.2 acres along the southern site boundary which contains soils that will be removed and remediated as part of the Project. Following remediation, the Remediation Area will be developed as part of the Development Area with two industrial warehouse type uses; and a portion of the Remediation Area will be dedicated to the City of Tracy for the future extension of Chrisman Road.

The majority of the Project site is currently agricultural land (Development Area), with an approximately 10.2-acre strip of vacant land that was previously used as a crop-dusting airstrip, as discussed further below. The approximately 10.2-acre portion of the Project site that is slated for remediation (Remediation Area) is generally void of vegetation. The existing vegetation in the Remediation Area appears to have burned in the past. There are also remnant concrete slabs and other concrete structures that are associated with the former airstrip in the southeastern corner of the Project site. An existing pump station with a screen wall and a catch basin are currently located on the south side of the project adjacent to the roadway access point along Chrisman Road at the southeast corner of the Project site.

The approximately 10.2-acre soil Remediation Area was previously an agricultural airstrip from 1951 to roughly 1989. This airstrip engaged in frequent crop dusting of surrounding agricultural uses, leading to significant soil contamination that requires remediation, as discussed above. Following the 1980s the site was reportedly occupied by various businesses including a trucking company, tomato packing company, and a truck repair company. The property was seemingly destroyed by a fire in 2018 and has remained vacant. Figure 3 shows an aerial view of the entire Project site, including the Development Area and the Remediation Area.

The Project site is located in an industrial area within the City's Northeast Industrial Specific Plan area. The surrounding area adjacent to the Project site includes light industrial, agricultural areas, and SR-205. The Project site and the areas to the north, east, south, and west are designated Industrial by the City's General Plan. The area to the northeast, north of SR-205, is designated for agricultural land uses by San Joaquin County. The City of Tracy has zoned the parcels to the west as light industrial (M-1) and the parcels to the south as Northeast Industrial Specific Plan Zone (NEI).

PROJECT DESCRIPTION: The proposed project would include development of two general light industrial warehouse buildings totaling 718,165 square feet (sf). Building A would be 466,977 sf and Building B would be 251,188 sf. One-hundred-and-six dock doors would be located along the east and west sides of Building A (38 dock doors on each side) and the east side of Building B (30 dock doors).

Parking would be provided throughout the Development Area, including 322 automobile stalls, 247 trailer stalls, and 22 bicycle parking stalls. Landscaping, including trees, street frontage plantings, accent shrubs and groundcover plantings, native shrub and grass mixes, and screening shrubs would be provided throughout the Development Area. Temporary landscaping would be placed between Building B and Chrisman Road. An exterior amenity area for employees would be included in the northern portion of the Development Area between the proposed warehouse buildings. The amenity area would include outdoor seating, picnic areas, bike parking, and landscaping. The eastern-most corner of the Project site will continue to be utilized as agricultural land until future roadway improvements are completed (by others).

In addition to the proposed industrial warehouses and supportive circulation, parking, and utility improvements, the project includes remediation of the approximately 10.2-acre Remediation Area in the southern portion of the Project site. The soil remediation will occur prior to development of the industrial uses.

For more details regarding the project description and remediation activities, please see the Project Description in the Initial Study, available at https://www.cityoftracy.org/our-city/departments/planning/specific-plans-environmental-impact-reports-and-initial-studies.

PROJECT APPROVALS: The City of Tracy is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA, Section 15050.

If the City Council certifies the EIR in accordance with CEQA requirements, the City may use the EIR to support the following actions:

- Development Review.
- Variance from the I-205 Overlay Zone land use and building siting requirements.
- Approval of the Site Plan.
- Building, grading, and other permits as necessary for project construction;
- Adopting a Mitigation Monitoring and Reporting Program (MMRP); and

- Adoption of a Statement of Overriding Considerations (should any significant and unavoidable impacts result from the project).

The following agencies may rely on the adopted EIR to issue permits or approve certain aspects of the proposed project:

- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities.
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits.
- San Joaquin Council of Governments (SJCOG) - Review of project application to determine consistency with the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP).

AREAS OF POTENTIAL IMPACTS: The Draft EIR will examine several of the environmental areas contained in Appendix G of the State CEQA Guidelines. The topics to be addressed in the Draft EIR include: Air Quality, Energy, Greenhouse Gases and Climate Change, Noise, Transportation, Cumulative Impacts, and Growth Inducing Impacts.

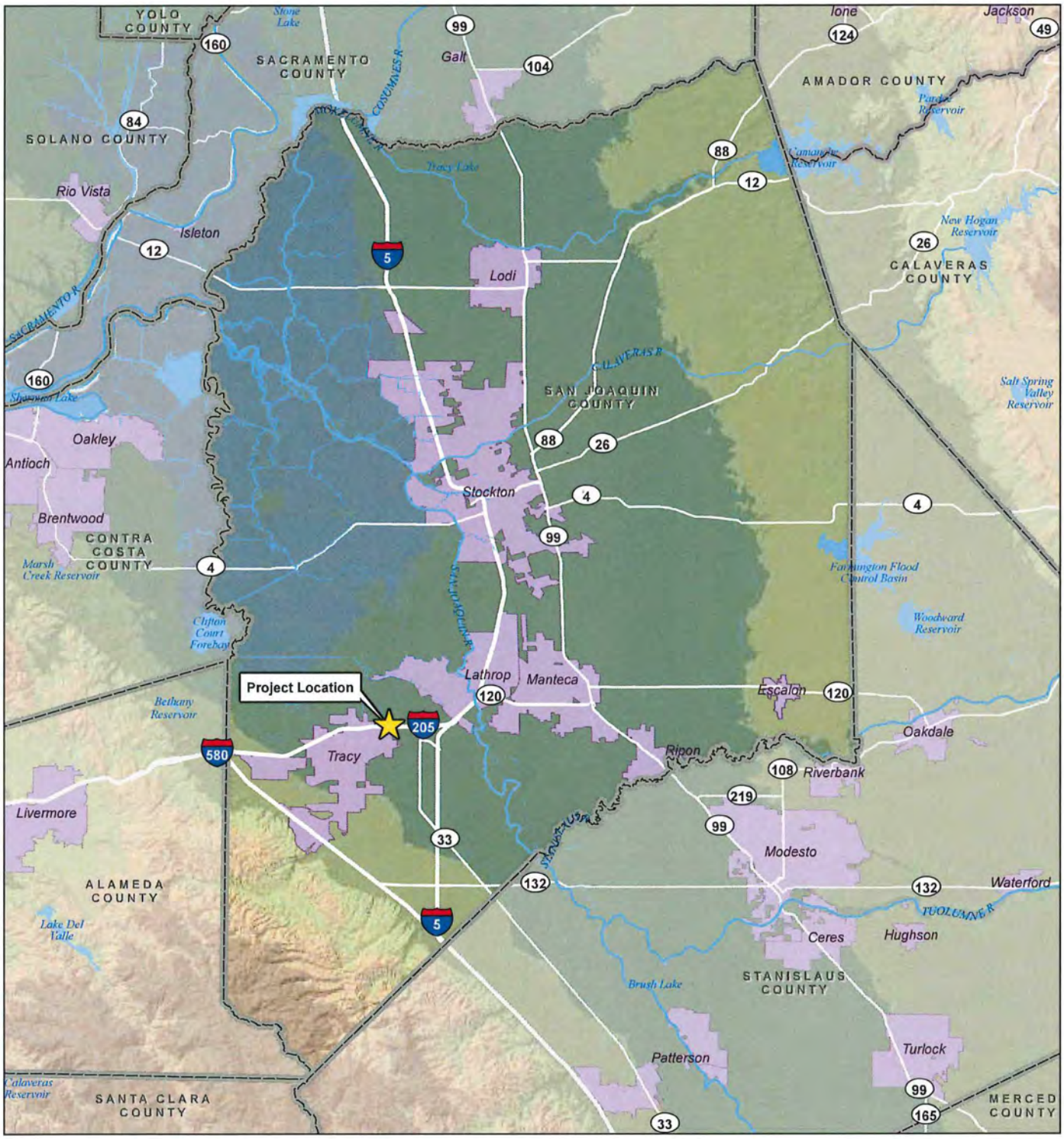
INITIAL STUDY: An Initial Study has been prepared for this project. The Initial Study identifies environmental areas/issues that would result in No Impact or a Less than Significant Impact, and environmental areas/issues that would result in a Potentially Significant Impact. All Potentially Significant Impact areas/issues will be addressed in greater detail in the Draft EIR. Areas/issues that would result in No Impact or a Less than Significant Impact, as identified in the Initial Study, will not be addressed further in the Draft EIR.

ADDITIONAL INFORMATION: A copy of the Initial Study is available on the City's website at: https://www.cityoftracy.org/our-city/departments/planning/specific-plans-environmental-impact-reports-and-initial-studies.

Signature: Victoria Lombardo Date: 5/16/2025

Name/Title: Victoria Lombardo, Senior Planner

Phone/Email: (209) 831-6428 Victoria.Lombardo@cityoftracy.org



LEGEND

- Incorporated Area
- County Boundary

PARADISE POINTE BUSINESS PARK

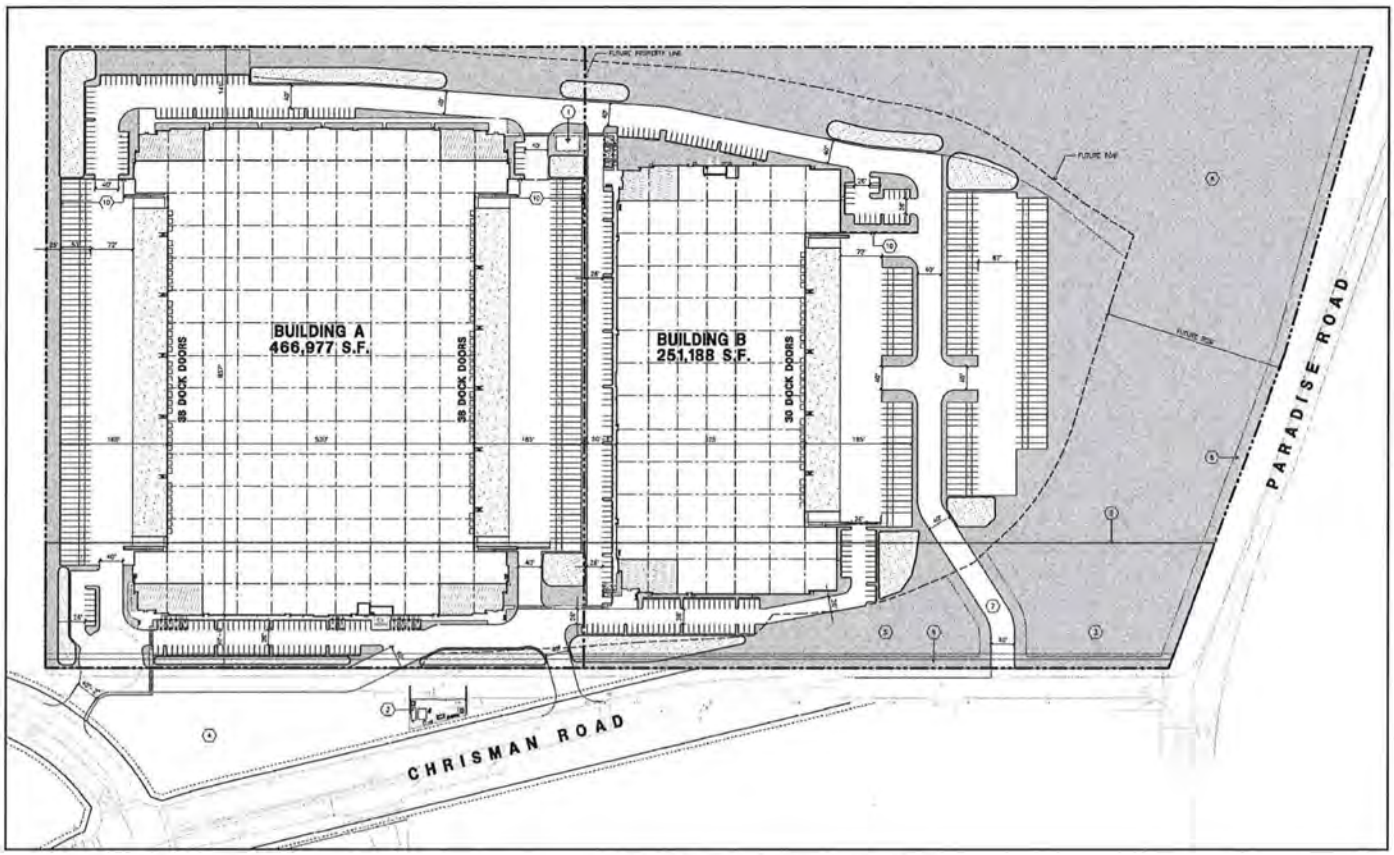
Figure 1. Regional Project Location

0 2.5 5 Miles

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Sources: San Joaquin County GIS. Map date: November 1, 2024.



PROJECT DATA

SITE AREA	BLDG. A	BLDG. B	TOTAL
in s.f.	994,005	1,275,456	2,269,461 s.f.
in acres	22.8	29.3	52.1 ac
BUILDING AREA			
office	10,000	7,000	17,000 s.f.
warehouse	456,977	244,188	701,165 s.f.
TOTAL	466,977	251,188	718,165 s.f.
FLOOR AREA RATIO			
maximum	0.50	0.50	
actual	0.47	0.20	
AUTO PARKING REQURIED			
office @ 1/250 s.f.	40	28	68 stalls
warehouse 1st 20K @ 1/1,000 s.f.	20	20	40 stalls
2nd 20K @ 1/2,000 s.f.	10	10	20 stalls
above 40K @ 1/4,000 s.f.	104	51	155 stalls
TOTAL	174	109	283 stalls
AUTO PARKING PROVIDED			
Standard (9' x 18'-6")	148	174	322 stalls
Total Accessible Parking			
Accessible parking (9' x 18'-6")	4	2	6 stalls
Accessible Van (9' x 18'-6" + 5' Aisle)	4	2	6 stalls
Total Clean air/ Van pool (12%)			
Standard Clean Air Parking (2%)	4	4	8 stalls
Total EV Charging (10%)			
Standard EV Charging	16	18	34 stalls
Accessible Standard EV Charging	1	1	2 stalls
Accesible Van EV Charging	1	1	2 stalls
Accesible EV Ambulatory	0	0	0 stalls
TOTAL	177	202	379 stalls
TRAILER PARKING PROVIDED			
trailer (10'x53')	126	121	247 stalls
BICYCLE PARKING REQUIRED			
Short term (5% of total stalls)	9	11	20 stalls
Long term (5% of total stalls)	9	11	20 stalls
BICYCLE PARKING PROVIDED			
Short term (5% of total stalls)	10	12	22 stalls
Long term (5% of total stalls)	10	12	22 stalls
ZONING ORDINANCE FOR THE CITY			
Zoning Designation - Northeast Industrial Specific Plan			
SETBACKS			
Building	Landscape		
front / Street - 25'	15'		
side & rear (non street) - 15'	5'		

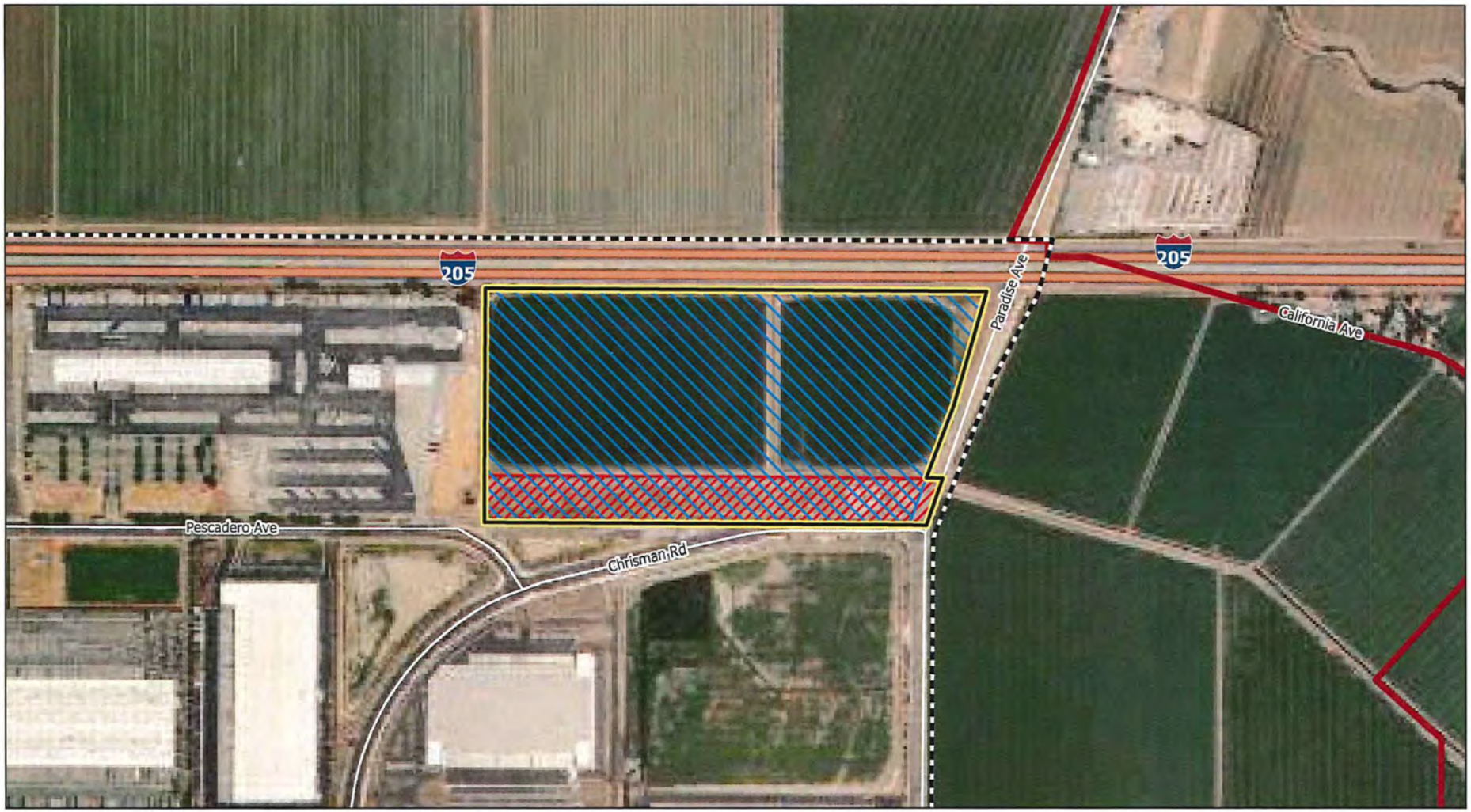
SITE PLAN KEYNOTES

1. EXTERIOR AMENITY AREA
2. (E) PUMP STATION WITH SCREEN WALL
3. FUTURE PUBLIC ART
4. BASIN BY SEEFRIED DEVELOPMENT
5. TEMPORARY LANDSCAPE
6. TEMPORARY PERIMETER LANDSCAPING
7. TEMPORARY ACCESS; FULL MOVEMENT INTERSECTION, SEE CIVIL DWG
8. THIS AREA WILL CONTINUE TO BE FARMED UNTIL THE FUTURE ROAD IMPROVEMENTS ARE CONSTRUCTED
9. EXISTING PARCEL LINE
10. EXTEND OF SCREEN WALL, SEE SCREEN WALL EXHIBIT

PARADISE POINTE BUSINESS PARK

Figure 2. Site Plan

Sources: HPA Architecture. Map date: November 1, 2024.



LEGEND

- Project Site
- Development Area
- Remediation Area
- Tracy City Limits
- Tracy SOI

PARADISE POINTE BUSINESS PARK

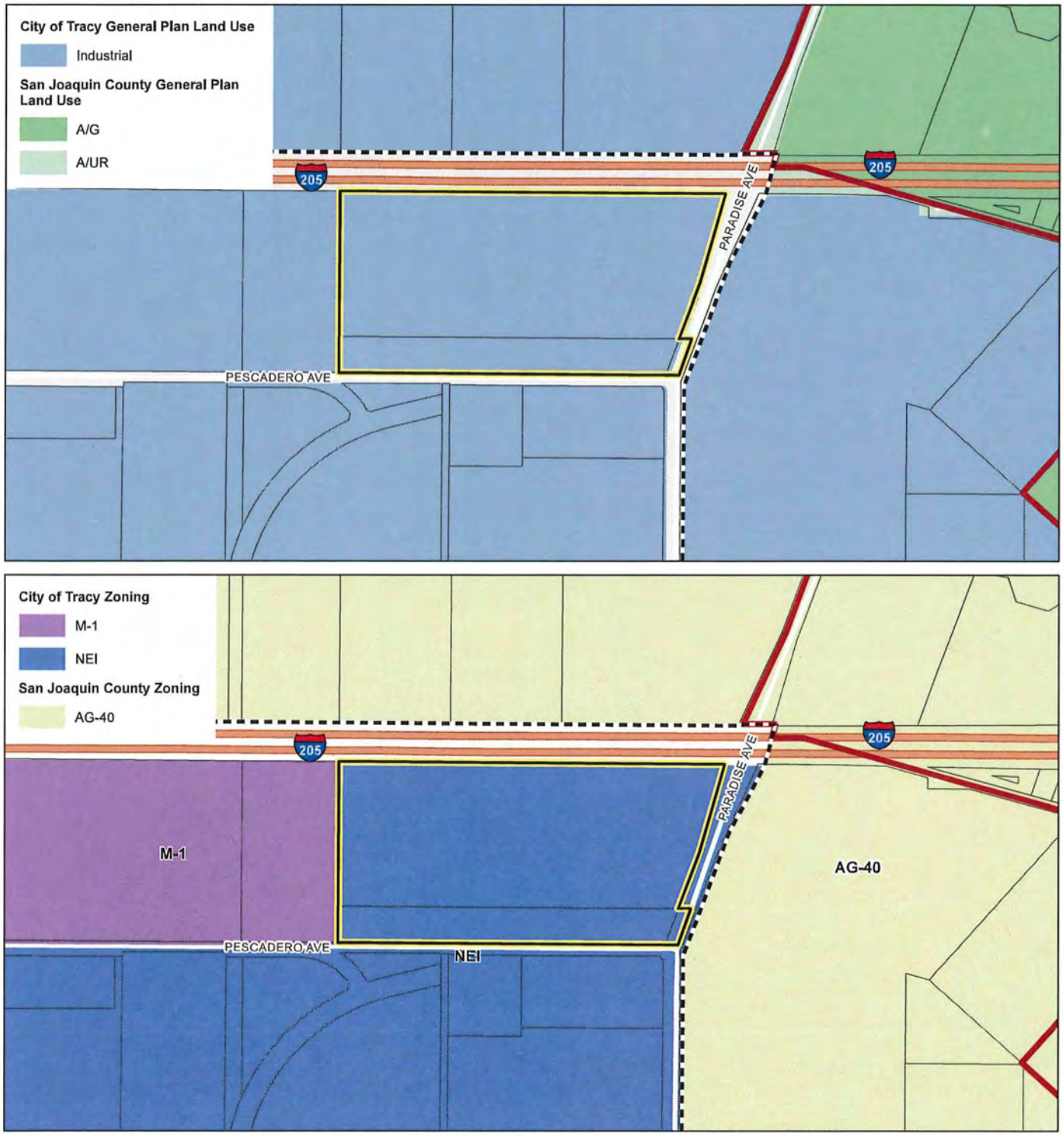
Figure 3. Aerial View

0 250 500
US Feet

Sources: ArcGIS Map Service; San Joaquin County GIS. Map date: November 20, 2024.

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LEGEND

- Project Site
- Tracy City Limits
- Tracy SOI

PARADISE POINTE BUSINESS PARK

Figure 4. Land Use and Zoning Designations

0 250 500
US Feet

Sources: City of Tracy; San Joaquin County GIS. Map date: November 1, 2024.

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INITIAL STUDY CHECKLIST

PROJECT TITLE

Paradise Pointe Business Park Project

LEAD AGENCY NAME AND ADDRESS

City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

CONTACT PERSON AND PHONE NUMBER

Victoria Lombardo Senior Planner
City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376
Victoria.Lombardo@cityoftracy.org
(209) 831-6428

PROJECT SPONSOR'S NAME AND ADDRESS

Attention: Michael Diepenbrock
Ridge Tracy Land Partners No. 2, LLC
601 University, Suite 180
Sacramento, CA 95825

PROJECT OVERVIEW

PROJECT LOCATION

The Project site consists of approximately 52.7 acres located at the northwest corner of Chrisman Road and Paradise Avenue in the northeast quadrant of the City of Tracy, adjacent to State Route 205 (SR-205) to the north. The Project site is located on Assessor Parcel Numbers (APNs) 213-06-012 and 213-06-013. The project's location is shown in Figure 1.

PROJECT SITE DEFINED

The Project site includes three distinct planning boundaries defined below. The following terms are used throughout this document to describe the planning boundaries within the Project site:

- **Project Site** – totals 52.7 acres and includes the whole of the Project, including the Remediation Area and the Development Area.
- **Development Area** – includes approximately 52.3 acres which would be developed with two (2) industrial warehouse type uses as part of the Project.
- **Remediation Area** – includes approximately 10.2 acres along the southern site boundary which contains soils that will be removed and remediated as part of the Project. Following remediation, the Remediation Area will be developed as part of the Development Area with two industrial warehouse type uses; and a portion of the

Remediation Area will be dedicated to the City of Tracy for the future extension of Chrisman Road.

EXISTING SITE USES

The majority of the Project site is currently agricultural land (Development Area), with an approximately 10.2-acre strip of vacant land that was previously used as a crop-dusting airstrip, as discussed further below. The approximately 10.2-acre portion of the Project site that is slated for remediation (Remediation Area) is generally void of vegetation. The existing vegetation in the Remediation Area appears to have burned in the past. There are also remnant concrete slabs and other concrete structures that are associated with the former airstrip in the southeastern corner of the Project site. An existing pump station with a screen wall and a catch basin are currently located on the south side of the project adjacent to the roadway access point along Chrisman Road at the southeast corner of the Project site.

The approximately 10.2-acre soil Remediation Area was previously an agricultural airstrip from 1951 to roughly 1989. This airstrip engaged in frequent crop dusting of surrounding agricultural uses, leading to significant soil contamination that requires remediation, as discussed above. Following the 1980s the site was reportedly occupied by various businesses including a trucking company, tomato packing company, and a truck repair company. The property was seemingly destroyed by a fire in 2018 and has remained vacant. Figure 3 shows an aerial view of the entire Project site, including the Development Area and the Remediation Area.

SURROUNDING LAND USES

The Project site is located in an industrial area within the City's Northeast Industrial Specific Plan area. The surrounding area adjacent to the Project site includes light industrial, agricultural areas, and SR-205. The Project site and the areas to the north, east, south, and west are designated Industrial by the City's General Plan. The area to the northeast, north of SR-205, is designated for agricultural land uses by San Joaquin County. The City of Tracy has zoned the parcels to the west as light industrial (M-1) and the parcels to the south as Northeast Industrial Specific Plan Zone (NEI).

PROJECT DESCRIPTION

The proposed project would include development of two general light industrial warehouse buildings totaling 718,165 square feet (sf). Building A would be 466,977 sf and Building B would be 251,188 sf. One-hundred-and-six dock doors would be located along the east and west sides of Building A (38 dock doors on each side) and the east side of Building B (30 dock doors).

Figure 2 displays the proposed site plan layout for the Development Area. Parking would be provided throughout the Development Area, including 322 automobile stalls, 247 trailer stalls, and 22 bicycle parking stalls. Landscaping, including trees, street frontage plantings, accent shrubs and groundcover plantings, native shrub and grass mixes, and screening shrubs would be provided throughout the Development Area. Temporary landscaping would be placed between Building B and Chrisman Road. An exterior amenity area for employees would be included in the northern portion of the Development Area between the proposed warehouse buildings. The

amenity area would include outdoor seating, picnic areas, bike parking, and landscaping. The eastern-most corner of the Project site will continue to be utilized as agricultural land until future roadway improvements are completed (by others).

Best Management Practices

The Project would incorporate the following sustainability features:

Construction

- Time limitations for off-road diesel-powered equipment will be implemented during construction. Each piece of off-road diesel-powered equipment used during project construction will be prohibited from being in the "on" position for more than 10 hours per day.
- Tier IV-compliant engines or better will be used for all off-road construction vehicles/equipment.
- Through the use of construction worker training and/or signage, applicant(s) will limit heavy duty construction equipment idling to no more than 2 minutes, and in no instance shall such idling exceed 5 minutes, and will maintain vehicle speeds on unpaved roads to less than 15 miles-per-hour (mph).
- Electric hookups will be provided to reduce the need for diesel generators for electric construction equipment and, should diesel generators be needed, all such diesel generators will be equipped with emission control technology verified by Environmental Protection Agency (EPA) and/or California Air Resources Board (CARB) to reduce particulate matter (PM) emissions by a minimum of 85 percent.
- All construction diesel hauling trucks will be model year 2010 or later.
- On-site meal options will be provided for construction workers.

Site

- A substantial amount of the proposed plant material used for landscaping and stormwater features will be native and drought tolerant and will use less water than other common species. Site perimeter and parking lot landscaping will provide vegetated buffers that will include trees, tree canopies and other vegetation.
- Irrigation systems for new facilities will include the use of deep root watering bubblers for parking lot trees to minimize water usage and ensure that water goes directly to the intended planting areas.
- Storm water management plans are designed to maintain quality control and storm water discharge rates based on the City's requirements.
- Dust, tire wear, brake dust and other parking lot contaminants will be minimized through regular sweeping/cleaning of parking lots.
- Electrical vehicle charging stations will be provided per code.

Building

- All truck entries will be located on designated truck routes.
- New and renewable building materials are typically extracted and manufactured within the region. Materials such as concrete and concrete masonry units will be purchased locally to the project, minimizing the transport distances and resultant effects to road networks and regional air quality.
- All building roofs will have a minimum Solar Reflectance Index of 0.80, lessening heat gain. Reflective cool roof materials are used to lower heat absorption, subsequently lowering energy requirements during the hot summer months. Roof material will meet the requirements for EPA's Energy Star energy efficiency program. Building management systems will monitor performance and energy usage of HVAC systems.
- HVAC comfort systems will be controlled by a computerized building management system to maximize efficiency. HVAC units will be high efficiency units.
- Mechanical systems are site specifically commissioned and designed and field tested to ensure that the HVAC systems are performing to high efficiency standards. HVAC systems will be all-electric and will use High Efficiency Particulate Air (HEPA) filters.
- To facilitate the installation of future electric charging stations for heavy-heavy duty (HHD) trucks, the plans will identify an area for future HHD truck charging stations and the developer will install conduit from the power source to the identified area.
- High-efficiency restroom fixtures will be used, which conserves water by achieving a 40 percent decrease over U.S. standards.
- Each applicant, prior to issuance of a building permit for vertical construction in connection with a specific individual development proposal, shall submit language to the City for inclusion in future lease provisions that reflects a prohibition on diesel-powered generators during project operation unless and until any additional required CEQA review is conducted.
- Overall, the site's building energy efficiency will exceed Title 24 Building Envelope Energy Efficiency Standards by at least 1 percent.
- All appliances to be installed will meet or exceed Title 24 requirements.
- All building coatings and paints will be low-VOC coatings.
- Gas water heaters will be direct vent and 94 percent efficient or greater.
- Construction waste will be recycled whenever feasible.
- Lighting systems will be designed with employee controllability in mind. Lighting will be controlled by timers, but over-ride switches will be provided for employee use.

Operations

- Anti-idling signs indicating a 3-minute diesel truck engine idling restriction shall be posted at the project facilities along entrances to the project site and in the dock areas.
- All exclusively onsite vehicles (i.e., forklifts, yard goats, pallet jacks, etc.) will be electric or zero-emission vehicles.
- Bicycle parking will be provided, per the City of Tracy code.

- During project operations, each building manager shall use diligent and good faith efforts to encourage at least two food truck vendors to serve project employees by inviting available vendors on-site on a regular basis.
- Building organic waste (i.e., green waste, wood waste, food waste and fibers such as paper and cardboard) will be recycled to the maximum extent possible and in full compliance with Senate Bill 1383.

Additional Best Management Practices

- Each applicant, in connection with the construction of the relevant specific individual development proposal, shall provide information on available transit and ridesharing programs and services to construction employees.
- Owners, operators or tenants shall enroll and participate the in SmartWay program for eligible businesses, which is a voluntary public-private program developed by the U.S. EPA that provides a system for tracking, documenting and sharing information about fuel use and freight emissions across supply chains and helps companies identify and select more efficient carriers, transportation modes, and equipment; this requirement shall apply to vehicles owned and controlled by the Project owners, operators or tenants.
- Owners, operators or tenants shall ensure that any outdoor areas allowing smoking are at least 25 feet from the nearest property line.
- Buildings shall achieve LEED Certification and meet the California Green Building Standards Code.

SOIL REMOVAL AND REMEDIATION

In addition to the proposed industrial warehouses and supportive circulation, parking, and utility improvements, the project includes remediation of the approximately 10.2-acre Remediation Area in the southern portion of the Project site. The soil remediation will occur prior to development of the industrial uses.

The area that will undergo soil remediation (referred to as "Remediation Area") is an approximately 10.2-acre site along the southern boundary of the larger 52.7 Project site, as shown in Figure 3. Investigation into past research of the site included a past soil and groundwater sampling study performed in conjunction with a Preliminary Endangerment Assessment (PEA) in 2006, a PEA Addendum in 2006 that revealed significant pesticide impacts to soils at the Remediation Area, a Phase I Environmental Site Assessment (ESA) in 2020, and a follow-up Phase II ESA in 2020 that included a groundwater investigation, a geophysical survey, and an extensive soil sampling and characterization study.

The 2020 Phase I ESA revealed that previous land uses for the site included an agricultural airstrip and crop-dusting facility, indicating a potential for contamination. The 2020 Phase I ESA for the Remediation Area showed that there were previously two underground fuel storage tanks (USTs) that were removed in 1990. Further research indicated that additional USTs may have been located on the site, beyond the two that were removed. The potential for contamination

from UST is a recognized environmental condition and necessitated additional study through a Phase II ESA.

A geophysical study undergone in 2020 revealed that no additional USTs, nor any former septic tanks locations, were found on the Remediation Area. A groundwater study indicated that pesticides were located at the Remediation Area, per the conclusions of the 2006 PEA; however, the groundwater investigation report submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB) stated no further action nor remediation is necessary. A soil study in the same year concluded that there were organochloride pesticides present in the tested samples that were above the Environmental Screening Levels (ESLs) for dichlorodiphenyldichloroethane (DDD), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyltrichloroethane (DDT), and toxaphene. Other chemicals that were tested for included petroleum hydrocarbons and volatile organic compounds (VOCs); however, these tested below the ESLs. Testing for metals showed that only three samples tested above ESLs for lead and planned remediation measures would be sufficient in removing the identified soil contaminants.

Remedial soil excavation is proposed for the areas where organochlorine pesticide and metals concentration exceeded commercial/industrial ESL values to adequately remove contaminants before development of the proposed project can begin. The remedial work will be performed by a licensed hazardous materials contractor in accordance with all applicable laws and regulations. Prior to initiation of any remedial soil extraction work, the property owner or remediation contractor will obtain any required permits, including a grading permit if necessary. The owner or contractor will also determine whether a Dust Control Plan is required for the remedial work and will process one, if necessary, per San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations. Stormwater controls will also be implemented as necessary to prevent any surface water or storm water that contacts exposed impacted soils from discharging from the work site or from entering storm drain or sewer systems.

Following soil excavation activities, soil samples will be collected from the limits of the soil excavation areas to verify that soils at the limits of the excavation do not contain contaminants above the clean-up levels established. Stockpiled soil samples will also be taken and tested to determine appropriate disposal methods. Once testing of removed soils is completed, all equipment that comes into contact with impacted soils would be decontaminated. The extent of future backfilling of the remedial excavations is unknown and will depend to some degree on the grading details of the development project. Much of the excavation area is anticipated to be only one-foot deep and may not necessitate backfilling.

Based on the planned remedial soil removal work, it is anticipated that remaining onsite soils will not contain the chemicals of concern at concentrations above commercial/industrial ESL values. As such, no ongoing maintenance at the Remediation Area will be necessary following successful completion of remediation work.

GENERAL PLAN AND ZONING DESIGNATIONS

The Tracy General Plan land use designation for the Project site is Industrial (consistent with the proposed project) and the site is within the Northeast Industrial Specific Plan Area. Specific uses

allowed in the Industrial land use designation category range from flex/office space to manufacturing to warehousing and distribution. According to the City's General Plan, Industrial parcels should have a maximum floor-area-ratio (FAR) of 0.5. Building A has an FAR of 0.47 while Building B has an FAR of 0.20. The average FAR of the project would be 0.34, staying below the maximum FAR of 0.5. Industrial uses are located to provide proper truck access, buffering from incompatible uses and proximity with rail corridors and transit links. Figure 4 displays the General Plan land use designation for the Project site and surrounding area.

The Project site is currently zoned Northeast Industrial Specific Plan. The Northeast Industrial Specific Plan addresses 870 acres in the northeast corner of the City. Anticipated land uses include a mixture of manufacturing, warehousing, and distribution uses including rail-dependent industries and "flex-tech" light industrial. Figure 4 also displays the zoning designation for the Project site and surrounding area.

REQUESTED ENTITLEMENTS AND OTHER APPROVALS

The City of Tracy is the Lead Agency for the proposed project, pursuant to the State Guidelines for Implementation of CEQA (Guidelines Section 15050).

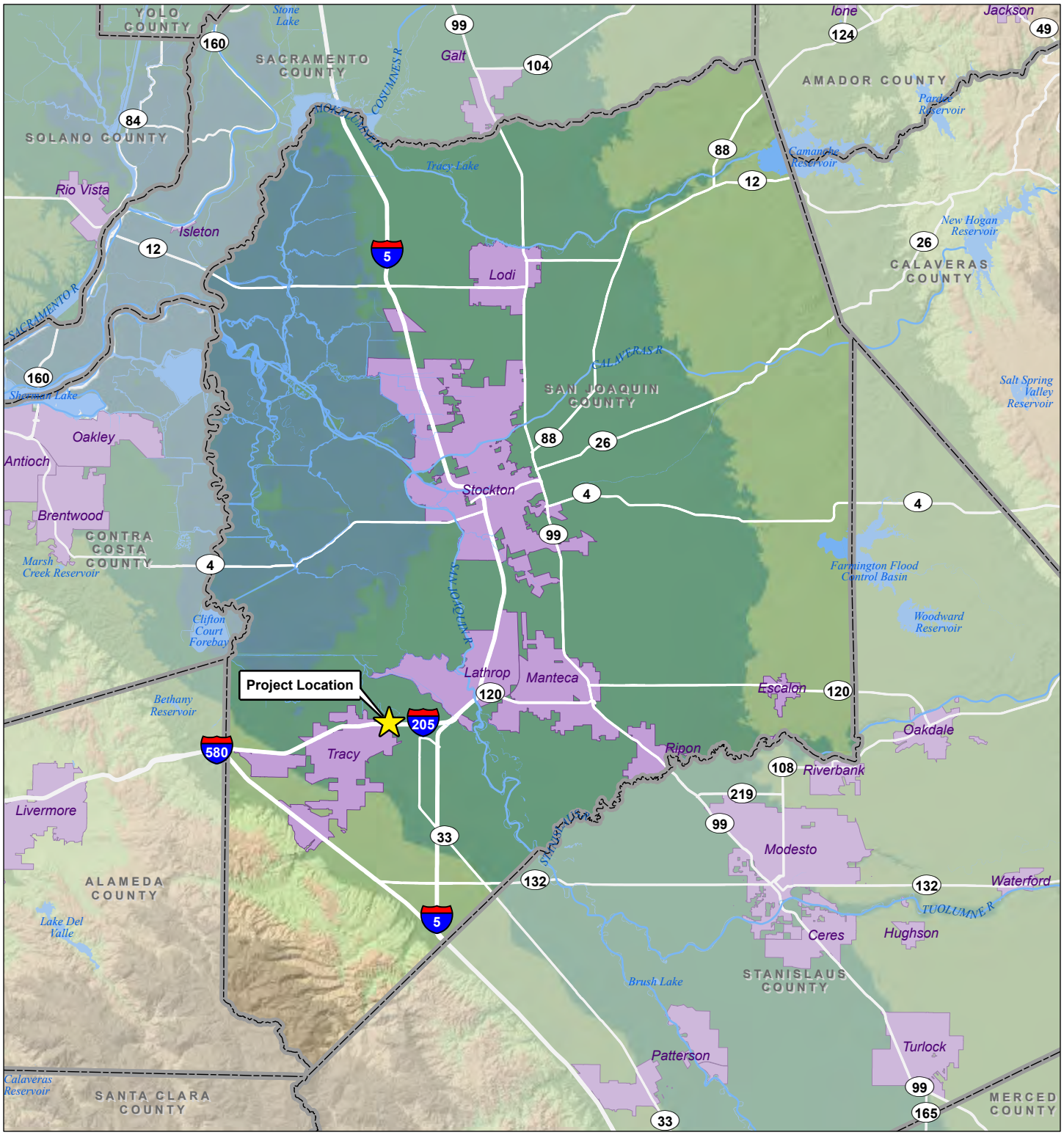
This document will be used by the City of Tracy to take the following actions:

- Development Review;
- Variance from the I-205 Overlay Zone land use and building siting requirements;
- Approval of the Site Plan;
- Building, grading, and other permits as necessary for project construction;
- Adopting a Mitigation Monitoring and Reporting Program (MMRP); and
- Adoption of a Statement of Overriding Considerations (should any significant and unavoidable impacts result from the project).

The following agencies may be required to issue permits or approve certain aspects of the proposed project:

- Central Valley Regional Water Quality Control Board (CVRWQCB) - Storm Water Pollution Prevention Plan (SWPPP) approval prior to construction activities.
- San Joaquin Valley Air Pollution Control District (SJVAPCD) - Approval of construction-related air quality permits.
- San Joaquin Council of Governments (SJCOG) - Review of project application to determine consistency with the San Joaquin County Multi-Species Habitat, Conservation, and Open Space Plan (SJMSCP).

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LEGEND

- Incorporated Area
- County Boundary

PARADISE POINTE BUSINESS PARK

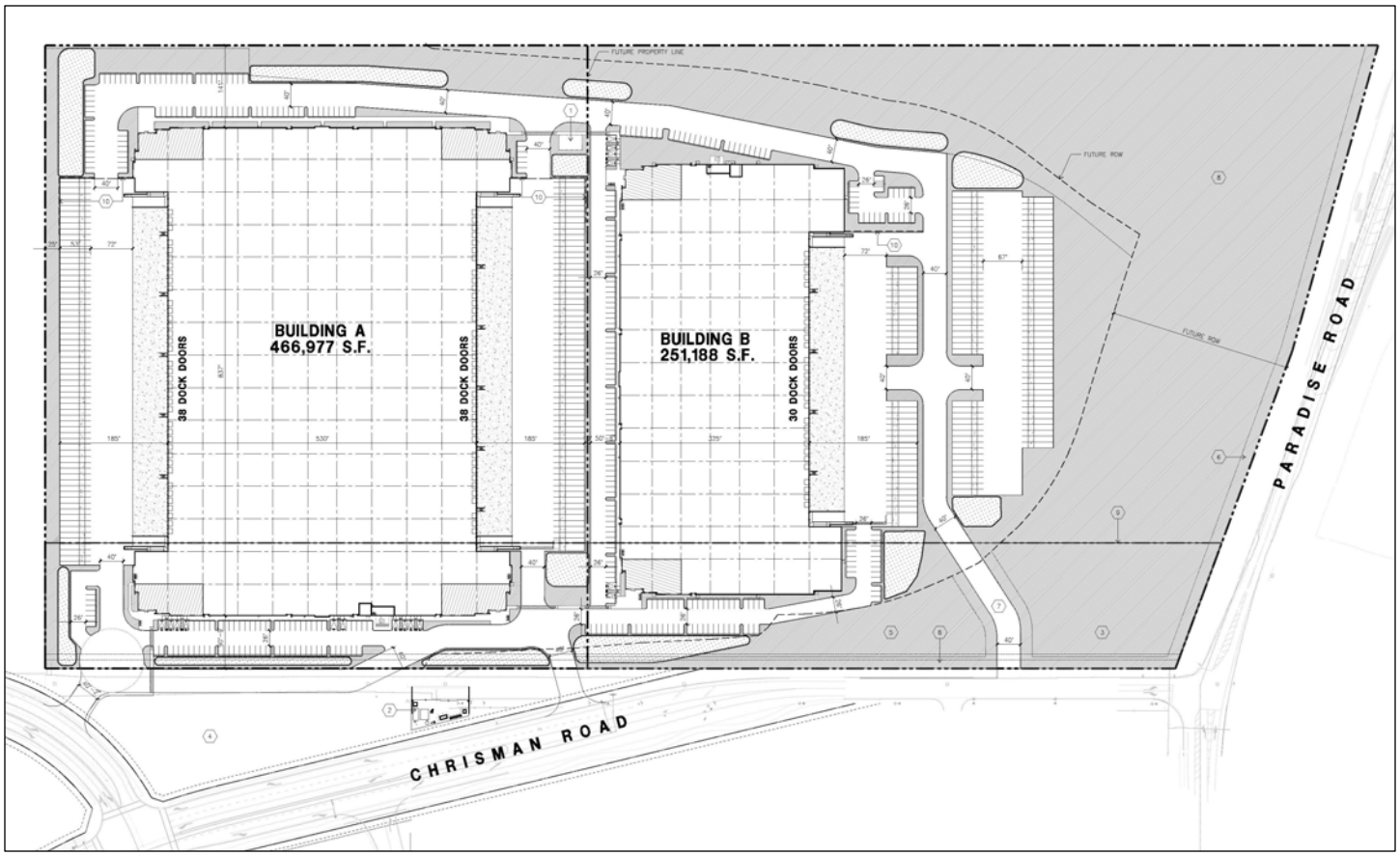
Figure 1. Regional Project Location

0 2.5 5 Miles

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

Sources: San Joaquin County GIS. Map date: November 1, 2024.

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PROJECT DATA

SITE AREA	BLDG. A	BLDG. B	TOTAL	
in s.f.	994,005	1,275,456	**2,269,461**	s.f.
in acres	22.8	29.3	**52.1**	ac
BUILDING AREA				
office	10,000	7,000	**17,000**	s.f.
warehouse	456,977	244,188	**701,165**	s.f.
TOTAL	**466,977**	**251,188**	**718,165**	s.f.
FLOOR AREA RATIO				
maximum	0.50	0.50		
actual	0.47	0.20		
AUTO PARKING REQUIRED				
office @ 1/250 s.f.	40	28	**68**	stalls
warehouse 1st 20K @ 1/1,000 s.f.	20	20	**40**	stalls
2nd 20K @ 1/2,000 s.f.	10	10	**20**	stalls
above 40K @ 1/4,000 s.f.	104	51	**155**	stalls
TOTAL	**174**	**109**	**283**	stalls
AUTO PARKING PROVIDED				
Standard (9' x 18' -6")	148	174	**322**	stalls
Total Accessible Parking				
Accessible parking (9' x 18' -6")	4	2	**6**	stalls
Accessible Van (9' x 18'-6" + 5' Aisle)	4	2	**6**	stalls
Total Clean air/ Van pool (12%)				
Standard Clean Air Parking (2%)	4	4	**8**	stalls
Total EV Charging (10%)				
Standard EV Charging	16	18	**34**	stalls
Accessible Standard EV Charging	1	1	**2**	stalls
Accesible Van EV Charging	1	1	**2**	stalls
Accesible EV Ambulatory	0	0	**0**	stalls
TOTAL	177	202	**379**	stalls
TRAILER PARKING PROVIDED				
trailer (10'x53')	126	121	**247**	stalls
BICYCLE PARKING REQUIRED				
Short term (5% of total stalls)	9	11	**20**	stalls
Long term (5% of total stalls)	9	11	**20**	stalls
BICYCLE PARKING PROVIDED				
Short term (5% of total stalls)	10	12	**22**	stalls
Long term (5% of total stalls)	10	12	**22**	stalls
ZONING ORDINANCE FOR THE CITY				
Zoning Designation - Northeast Industrial Specific Plan				
SETBACKS				
Building	Landscape			
front / Street - 25'	15'			
side & rear (non street) - 15'	5'			

SITE PLAN KEYNOTES

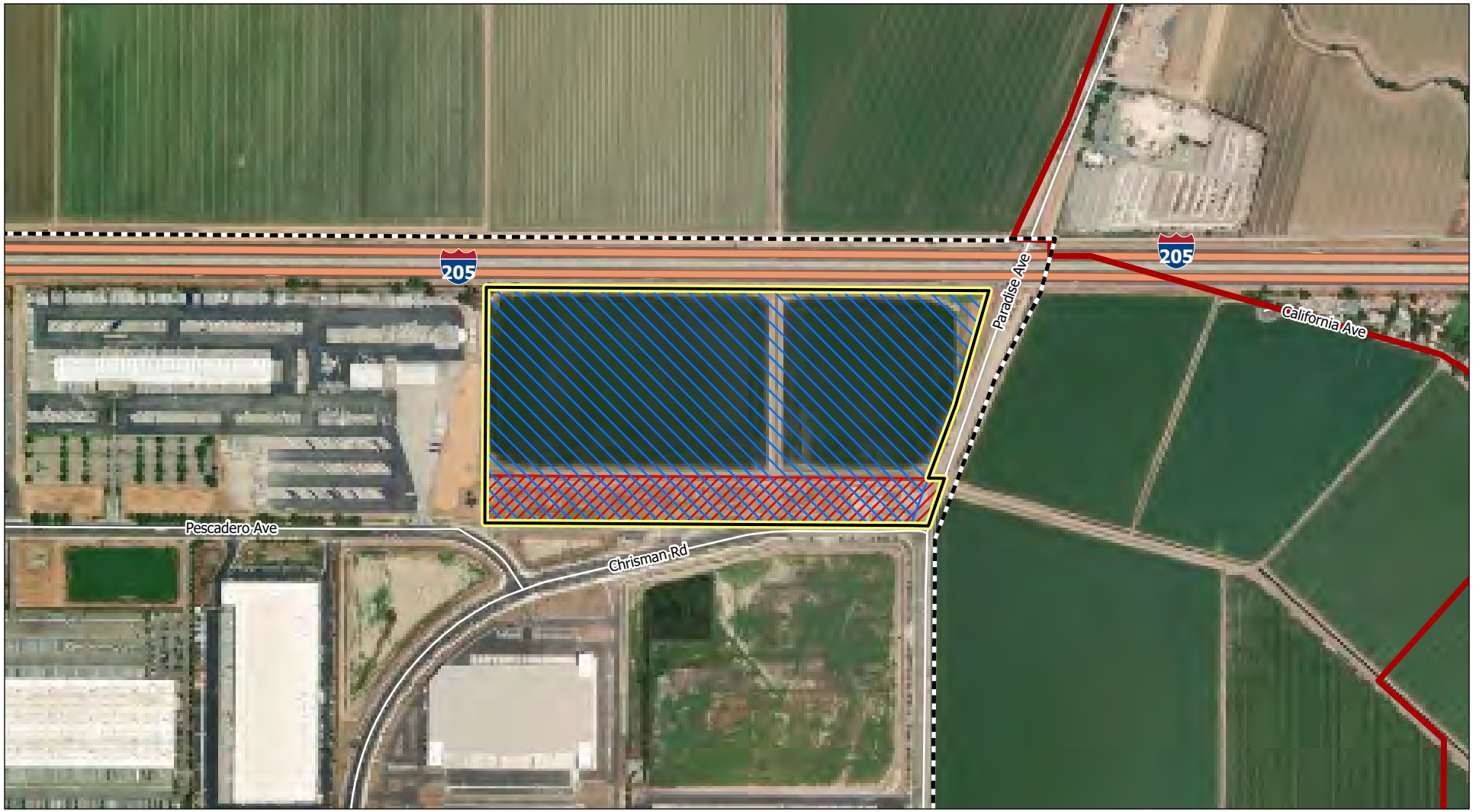
1. EXTERIOR AMENITY AREA
2. (E) PUMP STATION WITH SCREEN WALL
3. FUTURE PUBLIC ART
4. BASIN BY SEEFRIED DEVELOPMENT
5. TEMPORARY LANDSCAPE
6. TEMPORARY PERIMETER LANDSCAPING
7. TEMPORARY ACCESS; FULL MOVEMENT INTERSECTION, SEE CIVIL DWG
8. THIS AREA WILL CONTINUE TO BE FARMED UNTIL THE FUTURE ROAD IMPROVEMENTS ARE CONSTRUCTED
9. EXISTING PARCEL LINE
10. EXTEND OF SCREEN WALL, SEE SCREEN WALL EXHIBIT

PARADISE POINTE BUSINESS PARK

Figure 2. Site Plan

Sources: HPA Architecture. Map date: November 1, 2024.

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LEGEND

- Project Site
- Development Area
- Remediation Area
- Tracy City Limits
- Tracy SOI

PARADISE POINTE BUSINESS PARK

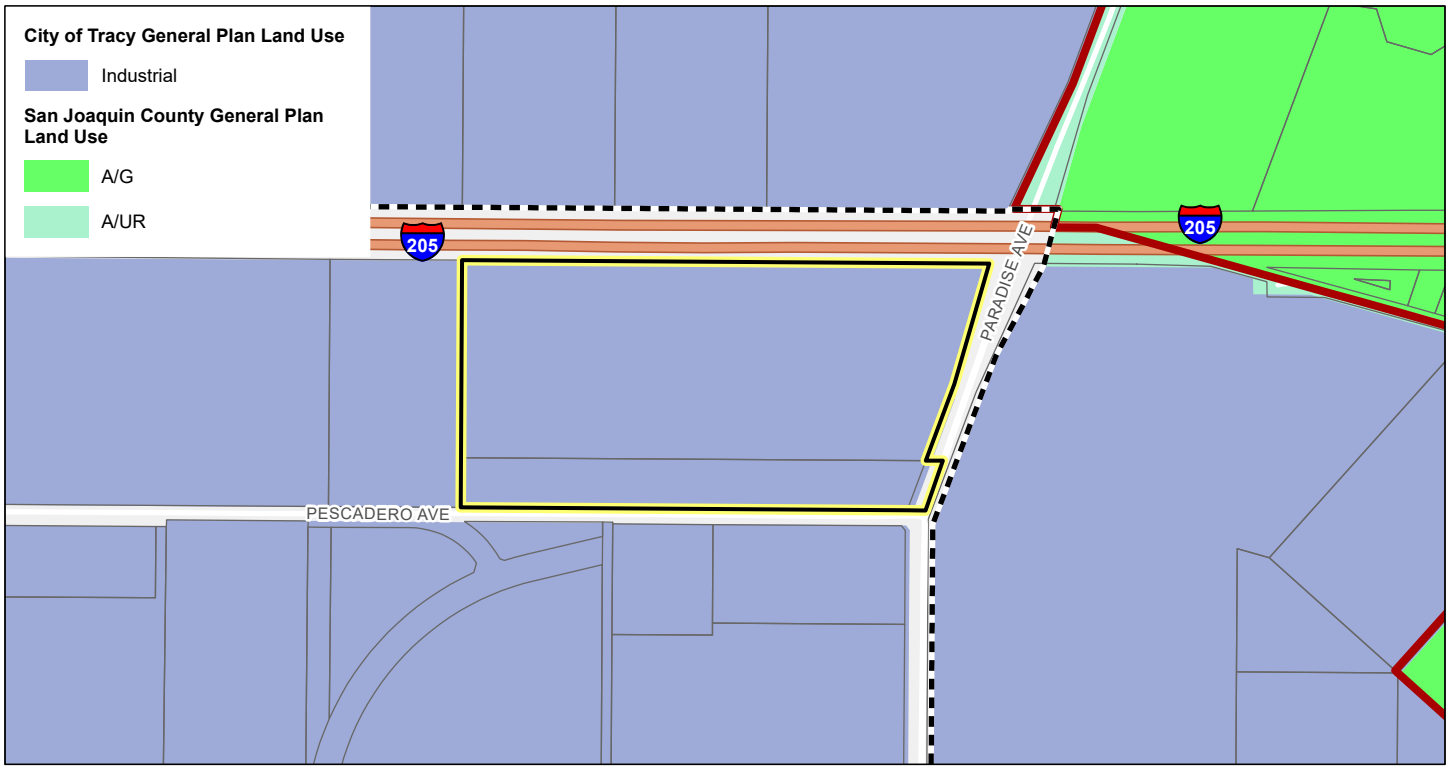
Figure 3. Aerial View

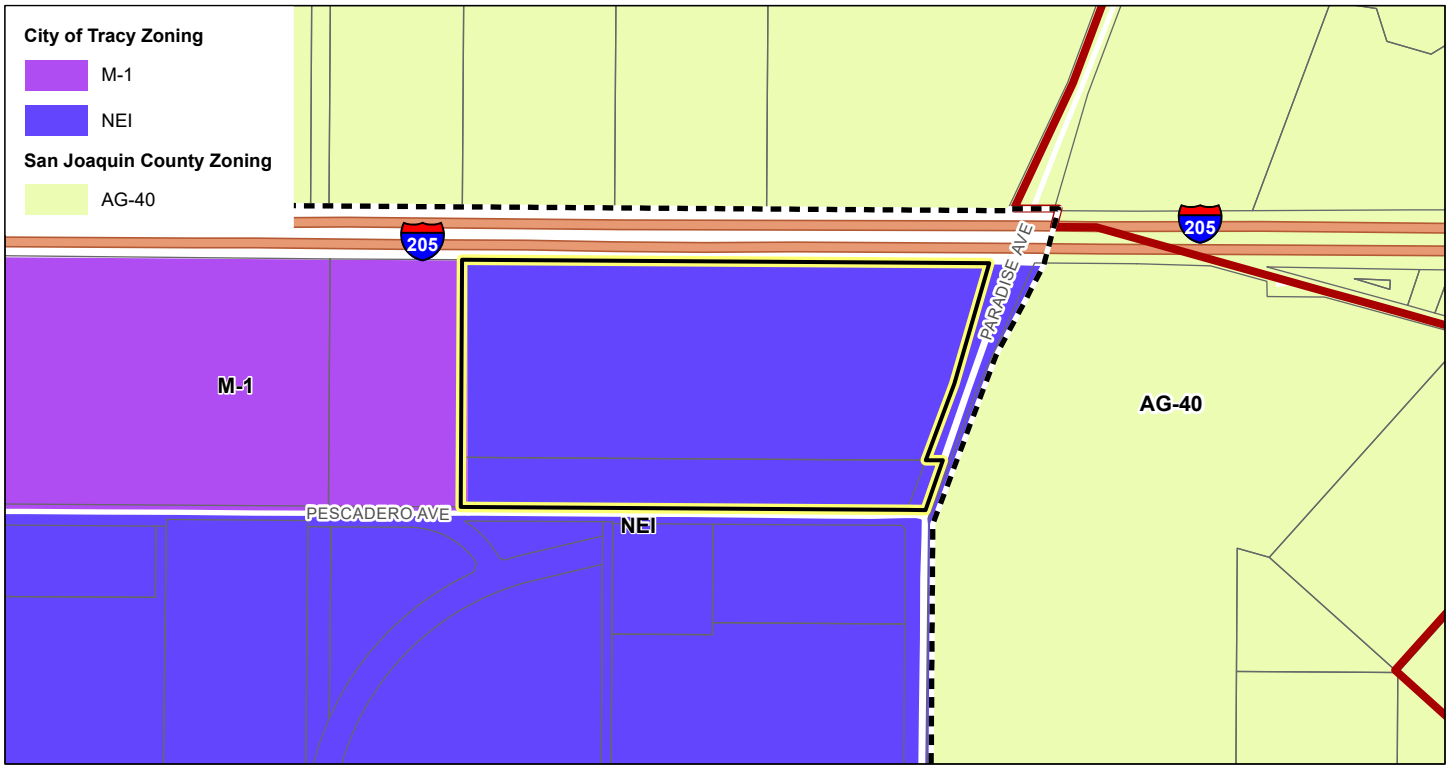
0 250 500
US Feet

Sources: ArcGIS Map Service; San Joaquin County GIS. Map date: November 20, 2024.

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LEGEND

- Project Site
- Tracy City Limits
- Tracy SOI

PARADISE POINTE BUSINESS PARK

Figure 4. Land Use and Zoning Designations

0 250 500
US Feet

Sources: City of Tracy; San Joaquin County GIS. Map date: November 1, 2024.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

	Aesthetics		Agriculture and Forestry Resources	X	Air Quality
	Biological Resources		Cultural Resources	X	Energy
	Geology and Soils	X	Greenhouse Gasses		Hazards and Hazardous Materials
	Hydrology and Water Quality		Land Use and Planning		Mineral Resources
X	Noise		Population and Housing		Public Services
	Recreation	X	Transportation		Tribal Cultural Resources
	Utilities and Service Systems		Wildfire		Mandatory Findings of Significance

DETERMINATION

On the basis of this initial evaluation:

	I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
	I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
X	I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
	I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
	I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature Date

EVALUATION INSTRUCTIONS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).
5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9) The explanation of each issue should identify:
   a) The significance criteria or threshold, if any, used to evaluate each question; and
   b) The mitigation measure identified, if any, to reduce the impact to less than significant.

EVALUATION OF ENVIRONMENTAL IMPACTS

In each area of potential impact listed in this section, there are one or more questions which assess the degree of potential environmental effect. A response is provided to each question using one of the four impact evaluation criteria described below. A discussion of the response is also included.

- Potentially Significant Impact. This response is appropriate when there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries upon completion of the Initial Study, an EIR is required.
- Less than Significant With Mitigation Incorporated. This response applies when the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact". The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.
- Less than Significant Impact. A less than significant impact is one which is deemed to have little or no adverse effect on the environment. Mitigation measures are, therefore, not necessary, although they may be recommended to further reduce a minor impact.
- No Impact. These issues were either identified as having no impact on the environment, or they are not relevant to the project.

ENVIRONMENTAL CHECKLIST

This section of the Initial Study incorporates the most current Appendix "G" Environmental Checklist Form contained in the CEQA Guidelines. Impact questions and responses are included in both tabular and narrative formats for each of the 21 environmental topic areas.

I. AESTHETICS -- WOULD THE PROJECT:

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Have a substantial adverse effect on a scenic vista?			X	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			X	
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with the applicable zoning and other regulations governing scenic quality?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

RESPONSES TO CHECKLIST QUESTIONS

Response a): Less than Significant. There are no scenic vistas located on or adjacent to the Project site. The proposed project uses are consistent and compatible with the surrounding land use designations. Lands surrounding the Project site consist of industrial and residential uses.

Implementation of the proposed project would provide for additional industrial development on a Project site that is bordered by similarly scaled industrial development to the south and west, with agricultural land uses to the north and east, as described above. The Project site is not topographically elevated from the surrounding lands and is not highly visible from areas beyond the immediate vicinity of the site, except for the nearby SR-205. However, the proposed industrial buildings are within the same character as the buildings adjacent to it. There are no prominent features on the site, such as trees, rock outcroppings, or other visually distinctive features that contribute to the scenic quality of the site or conflict with the existing visual character of the site and the nearby land uses. The Project site is not designated as a scenic vista by the City of Tracy General Plan.

Implementation of the proposed project would not significantly change the existing visual character of the project area, as much of the areas immediately adjacent to the site are used for

industrial purposes. There are no residential or commercial uses directly adjacent to, or near, the site that will be impacted by the addition of two light industrial buildings to an area already consisting of industrial land uses.

Implementation of the proposed project would introduce an industrial warehouse development to the project area that would be generally consistent with the surrounding industrial developments. Therefore, this impact is considered **less than significant**.

Response b): Less than Significant. As described in the Tracy General Plan EIR**,** there are two Officially Dedicated California Scenic Highway segments in the Tracy Planning Area, which extend a total length of 16 miles. The first designated scenic highway is the portion of Interstate (I) 580 between SR-205 and I-5, which offers views of the Coast Range to the west and the Central Valley's urban and agricultural lands to the east. The second scenic highway is the portion of I-5 that starts at SR-205 and continues south to Stanislaus County, which allows for views of the surrounding agricultural lands and the Delta-Mendota Canal and California Aqueduct.

The scenic portion of the I-580 highway is approximately 9.5 miles east from the Project site. The Project site is not visible from this highway. Additionally, the project is not at all visible along any scenic section of I-5.

Development of the proposed project would not result in the removal of any substantial trees, rock outcroppings, or buildings of historical significance, and would not result in changes to any of the viewsheds from the designated scenic highways in the vicinity of the City of Tracy. Therefore, there is a **less than significant** impact.

Response c): Less than Significant. As described under Response a), above, the proposed project would add additional industrial uses to an area that currently contains numerous industrial uses surrounding the site and agricultural uses to the north and east. The proposed project would be visually compatible with the surrounding industrial land uses and would not significantly degrade the existing visual quality of the site or the surrounding area. Additionally, the project will comply with City standards, including, but not limited to, the City's Design Goals and Standards, which would ensure that the exterior facades of the proposed industrial structures, streetscape improvements, and exterior lighting improvements are compatible with the surrounding land uses. This is a **less than significant** impact.

Response d): Less than Significant with Mitigation. Daytime glare can occur when the sunlight strikes reflective surfaces such as windows, vehicle windshields, and shiny reflective building materials. The proposed project would introduce a new industrial warehouse structure into the Project site; however, reflective building materials are not proposed for use in the project, and as such, the project would not result in increases in daytime glare.

The proposed project would include exterior lighting around the structures, and landscaped areas within the site. The City of Tracy Standard Plan #140 establishes street light standards, and requirements for light illumination. Additionally, the Northeast Industrial Specific Plan contains design guidelines and development standards to guide site planning and architecture within the Specific Plan area. The Northeast Industrial Specific Plan design guidelines contain

provisions for street lighting. The City addresses light and glare issues on a case-by-case basis during project approval and typically adds requirements as a condition of project approval to shield and protect against light spillover from one property to the next. The implementation of City standards and requirements would reduce any impacts related to light and glare to a **less than significant** level.

Mitigation Measure(s)

Mitigation Measure AES-1*: A lighting plan shall be prepared in accordance with the City of Tracy Standard Plan #140 that establishes street light standards, and requirements for light illumination, and the Tracy Northeast Industrial Specific Plan design guidelines. The lighting plan shall include the following:*

- *Design of site lighting and exterior building light fixtures to reduce the effects of light pollution and glare off of glass and metal surfaces;*
- *Lighting shall be directed downward and light fixtures shall be shielded to reduce upward and spillover lighting.*

II. AGRICULTURE AND FOREST RESOURCES -- WOULD THE PROJECT:

	Potentially Significant Impact	***Less Than Significant with Mitigation Incorporation***	***Less Than Significant Impact***	***No Impact***
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?			X	
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 1222(g)) or timberland (as defined in Public Resources Code section 4526)?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

RESPONSES TO CHECKLIST QUESTIONS

Response a): Less than Significant. According to the Farmland Mapping and Monitoring Program and the California Department of Conservation, the Remediation Area is designated as Farmland of Local Importance and the Development Area is designated as Prime Farmland. Figure 5 identifies important farmlands, as mapped by the California Department of Conservation, on and near the Project site. Due to the existing surrounding land uses, the Project site is not suitable for agricultural production and agricultural operations.

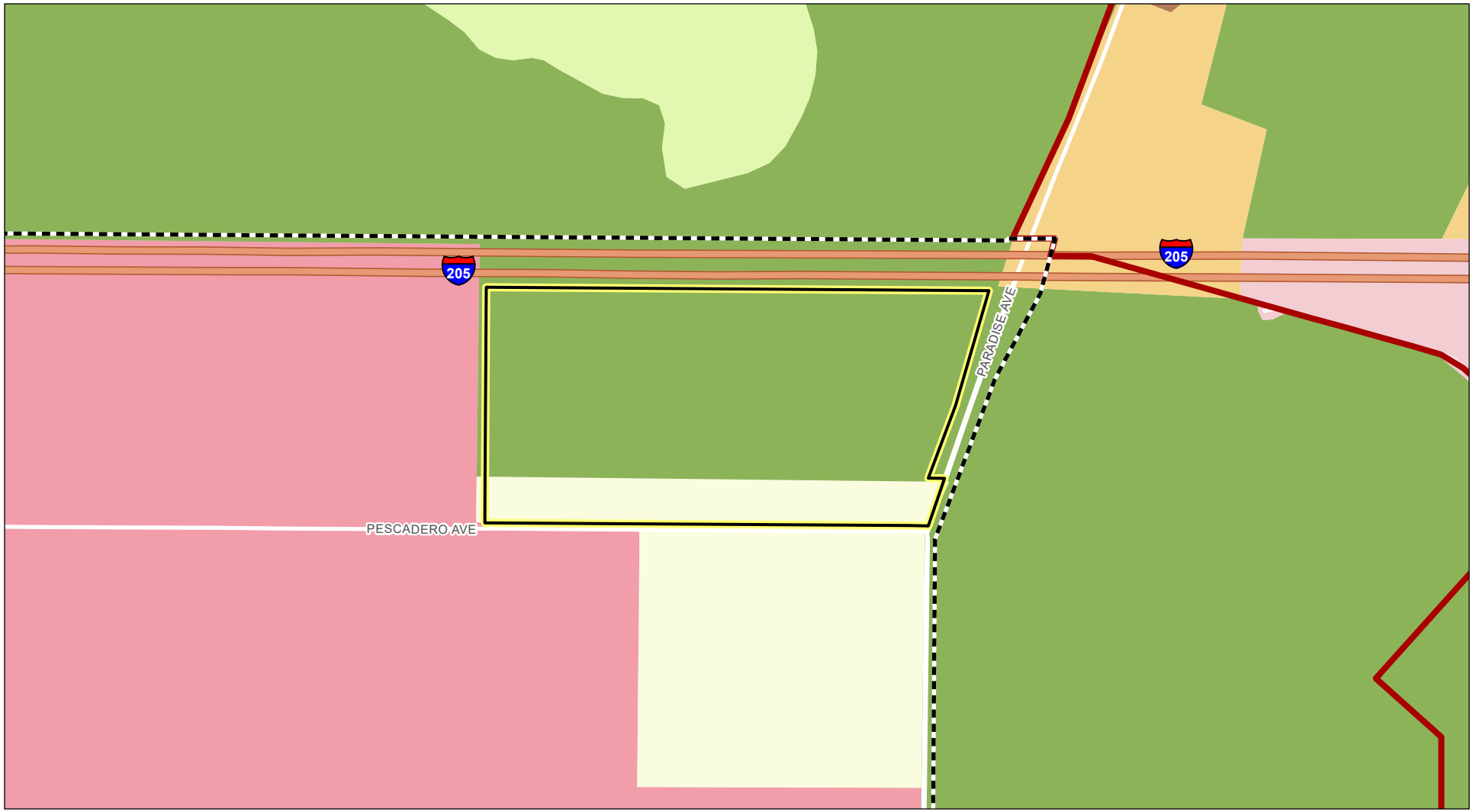
The potential environmental impacts from development of the site for urban uses and the associated removal of prime farmland soil for agricultural use were considered and addressed in the City of Tracy General Plan and Final EIR. There, it was determined that buildout of the General Plan would result in the conversion of Prime Farmland, Unique Farmland and Farmland of Statewide Importance to urban uses. The General Plan Draft EIR found this to be a significant and unavoidable impact. On February 1, 2011, the Tracy City Council adopted a Statement of Overriding Considerations (Resolution 2011-028) for the loss of prime agricultural land resulting from adoption of the Plan and EIR, and provided mitigation measures for the agricultural land lost to development in the City of Tracy's urbanized areas. Mitigation measures included the implementation of a "Right to Farm" ordinance by the City (Tracy Municipal Code Chapter 10.24 et seq.), intended to preserve and protect existing agricultural operations within the incorporated City, and participation in the City's agricultural mitigation fee program (Tracy Municipal Code, Chapter 13.26).

The Tracy General Plan land use designation for the Project site is Industrial (consistent with the proposed project) and the site is within the Northeast Industrial Specific Plan Area. These land uses are intended for future urban land uses in the Tracy General Plan. As such, implementation of the proposed Project would not create new impacts over and above those identified in the General Plan Final EIR, nor significantly change previously identified impacts. Therefore, this impact would **less than significant**.

Response b): No Impact. The Project site is not under a Williamson Act Contract, nor are any of the parcels immediately adjacent to the Project site under a Williamson Act Contract, or designated for agricultural uses. Therefore, implementation of the proposed project would not conflict with a Williamson Act Contract, and would not conflict with any agricultural zoning. As such, there is **no impact**.

Responses c) and d): No Impact. The Project site is located in an area consisting of industrial development. There are no forest resources on the Project site or in the immediate vicinity of the Project site. Therefore, there is **no impact**.

Response e): Less than Significant. The proposed Project site has previously been used for agricultural purposes, but is not designated or zoned for agricultural uses. The proposed Project is identified for urban land uses in the Tracy General Plan. The proposed Project is consistent with the overriding considerations that were adopted for the General Plan. As such, implementation of the proposed Project would not create new impacts over and above those identified in the General Plan Final EIR, nor significantly change previously identified impacts. Therefore, implementation of the proposed Project would result in a **less-than-significant** impact.



LEGEND

- Project Site
- Tracy City Limits
- Tracy SOI

Farmland Type

- Prime Farmland
- Unique Farmland
- Farmland of Local Importance
- Confined Animal Agriculture
- Rural Residential Land
- Semi-agricultural and Rural Commercial Land
- Urban and Built-Up Land

PARADISE POINTE BUSINESS PARK

Figure 5. Important Farmland

0 250 500
US Feet

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Sources: Farmland Mapping and Monitoring Program; San Joaquin County GIS. Map date: April 10, 2025.

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III. AIR QUALITY -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with or obstruct implementation of the applicable air quality plan?	X			
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	X			
c) Expose sensitive receptors to substantial pollutant concentrations?	X			
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	X			

EXISTING SETTING

The Project site is located within the boundaries of the San Joaquin Valley Air Pollution Control District (SJVAPCD). This agency is responsible for monitoring air pollution levels and ensuring compliance with federal and state air quality regulations within the San Joaquin Valley Air Basin (SJVAB) and has jurisdiction over most air quality matters within its borders.

The SJVAPCD has primary responsibility for compliance with both the federal and state standards and for ensuring that air quality conditions are maintained. They do this through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues.

Activities of the SJVAPCD include the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, issuance of permits for stationary sources of air pollution (i.e., Authority to Construct and Permit to Operate), inspection of stationary sources of air pollution and response to citizen complaints, monitoring of ambient air quality and meteorological conditions, and implementation of programs and regulations required by the Federal Clean Air Act and California Clean Air Act.

The SJVAPCD has prepared the 2007 Ozone Plan to achieve Federal and State standards for improved air quality in the SJVAB regarding ozone. The 2007 Ozone Plan provides a comprehensive list of regulatory and incentive-based measures to reduce emissions of ozone and particulate matter precursors throughout the SJVAB. The 2007 Ozone Plan calls for major advancements in pollution control technologies for mobile and stationary sources of air pollution. The 2007 Ozone Plan calls for a 75-percent reduction in ozone-forming oxides of nitrogen emissions.

The SJVAPCD has also prepared the 2007 PM10 Maintenance Plan and Request for Redesignation (2007 PM10 Plan). On April 24, 2006, the SJVAPCD submitted a Request for Determination of

PM10 Attainment for the Basin to the California Air Resources Board (CARB). CARB concurred with the request and submitted the request to the U.S. EPA on May 8, 2006. On October 30, 2006, the EPA issued a Final Rule determining that the Basin had attained the National Ambient Air Quality Standards (NAAQS) for PM10. However, the EPA noted that the Final Rule did not constitute a redesignation to attainment until all of the Federal Clean Air Act requirements under Section 107(d)(3) were met.

The SJVAPCD has prepared the 2008 PM.2.5 Plan to achieve Federal and State standards for improved air quality in the San Joaquin Valley Air Basin. The 2008 PM.2.5 Plan provides a comprehensive list of regulatory and incentive-based measures to reduce PM2.5.

In addition to the 2007 Ozone Plan, the 2008 PM2.5 Plan, and the 2007 PM10 Plan, the SJVAPCD prepared the Guide for Assessing and Mitigating Air Quality Impacts (GAMAQI). The GAMAQI is an advisory document that provides Lead Agencies, consultants, and project applicants with analysis guidance and uniform procedures for addressing air quality impacts in environmental documents. Local jurisdictions are not required to utilize the methodology outlined therein. This document describes the criteria that SJVAPCD uses when reviewing and commenting on the adequacy of environmental documents. It recommends thresholds for determining whether or not projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. An update of the GAMAQI was approved on March 19, 2015, and is used as a guidance document for this analysis.

The GAMAQI notes that, for CEQA purposes, a sensitive receptor is generically defined as a location where human populations, especially children, seniors, and sick persons are found, and there is reasonable expectation of continuous human exposure according to the averaging period for the Ambient Air Quality Standards (e.g., 24-hour, 8- hour, 1-hour). These typically include residences, hospitals, and schools. Locations of sensitive receptors may or may not correspond with the location of the maximum off-site concentration. The sensitive receptors in the vicinity of the project site include single-family residences located south and southeast of the site. Specifically, the nearest single-family residence is located along Hansen Road approximately 2,500 feet south of the southern site boundary, and another single-family residence is located approximately 3,500 feet southeast of the southeastern corner of the project site.

RESPONSES TO CHECKLIST QUESTIONS

Responses a-d): Potentially Significant. Based on the current air quality conditions in the SJVAB, as well as the size of the proposed warehouse buildings, it has been determined that the potential impacts on air quality caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on air quality. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered **potentially significant** until a detailed analysis is prepared in the EIR.

The EIR will include an air quality analysis that presents the methodology, thresholds of significance, a project-level impact analysis, a cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts on air quality. The project may result in toxic air contaminants, short-term construction-related emissions, and long-term operational emissions, primarily attributable to emissions from vehicle trips and from energy consumption by the industrial uses. The air quality analysis will include the following:

- A description of regional and local air quality as well as meteorological conditions that could affect air pollutant dispersal or transport in the vicinity of the project site. Applicable air quality regulatory framework, standards, and significance thresholds will be discussed.
- An analysis of the proposed project's potential to conflict with or obstruct implementation of SJVAPCD's 2015 GAMAQI, and any other applicable air quality plans.
- An analysis of the SJVAPCD Rules and Regulations that are applicable to the proposed project.
- Short-term (i.e., construction) increases in regional criteria air pollutants will be quantitatively assessed. The latest version of the CARB-approved California Emissions Estimator Model (CalEEMod) computer model will be used to estimate regional mobile source and particulate matter emissions associated with the construction of the proposed project.
- Long-term (i.e., operational) increases in regional criteria air pollutants will be quantitatively assessed for area source, mobile sources, and stationary sources. The CARB-approved CalEEMod computer model will be used to estimate emissions associated with the proposed project. Modeling will be provided for the worst-case proposed project land use scenario.
- Exposure to odorous or toxic air contaminants during the project's operational phase will be assessed through an air toxics health risk assessment, utilizing AERMOD and HARP-2 risk modeling software, following guidance as provided by the SJVAPCD and the CARB. Incremental cancer risk for residents and workers, and chronic and acute hazards will be assessed.
- Local mobile-source (carbon monoxide) (CO) concentrations will be assessed through a CO screening method as recommended by the SJVAPCD. If the screening method indicates that modeling is necessary, upon review of the traffic analysis, CO concentrations will be modeled using the California Department of Transportation (Caltrans)-approved CALINE4 computer model.
- The potential for the proposed project to generate objectionable odors on neighboring sensitive receptors will be assessed qualitatively following CARB recommendations.

IV. BIOLOGICAL RESOURCES -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?			X	
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?		X		
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?		X		

METHODS

The biological site conditions and the potential for the presence of special-status species were investigated and assessed by De Novo Planning Group's staff biologist. See below for the pre-field investigation and field survey methodology.

Pre-Field Investigation

Prior to the field investigation, numerous maps, databases, and reports were reviewed including:

- U.S. Geological Survey (USGS) 7.5-minute Quadrangle
- USGS National Hydrography Data Set
- Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps
- National Resource Conservation Service (NRCS) Soil Survey
- California Wildlife Habitat Relationships (CWHR) maps
- California Natural Diversity Database (CNDDB)

- California Native Plant Society's (CNPS) Inventory of Rare and Endangered Plants
- U.S. Fish and Wildlife Service's (USFWS) IPac
- U.S. Fish and Wildlife Service's (USFWS) Official List

Field Survey

The Development Area was subject to a field survey by Principal Biologist Steve McMurtry on March 20, 2025. The survey served several purposes. First, it served as reconnaissance of the site to establish the existing conditions of the site and to verify information gathered in the pre-field investigation. This included identification of the habitat types, hydrologic features, topography, soil characteristics, vegetation. The field investigations followed the *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009). A field investigation was performed on foot using transects. Habitat was recorded, and the property was inspected for the presence, or potential for presence of wildlife. The area was inspected for its upland and aquatic habitat functions. The property was also examined for evidence of scat and tracks of mammals. Visibility during the survey was good.

The majority of the Development Area contains land previously used for agricultural uses. The majority of the Remediation Area contains undisturbed, naturalized annual grassland. The Remediation Area also contains debris piles, concrete, pipes, trash, and dirt mounds. There are a few ditches on-site, including an irrigation ditch, a dirt supply channel, and a concrete supply channel.

RESPONSES TO CHECKLIST QUESTIONS

Response a): Less than Significant with Mitigation. Special-status invertebrates that occur within the San Joaquin County region include: longhorn fairy shrimp, vernal pool fairy shrimp, and midvalley fairy shrimp, which requires vernal pools and swale areas within grasslands; and the valley elderberry longhorn beetle, which is an insect that is only associated with blue elderberry plants, oftentimes in riparian areas and sometimes on land in the vicinity of riparian areas. The biological site conditions and the potential for the presence of special-status species were assessed by De Novo Planning Group's staff biologist on March 20, 2025.

The Project site does not contain essential habitat for these special status invertebrates. Implementation of the proposed project would have a **less than significant** impact on these species.

Special-status reptiles and amphibians that occur within the region include: the western pond turtle, which requires aquatic environments located along ponds, marshes, rivers, and ditches; the California tiger salamander, which is found is grassland habitats where there are nearby seasonal wetlands for breeding; the silvery legless lizard, which is found in sandy or loose loamy soils under sparse vegetation with high moisture content; San Joaquin whipsnake, which requires open, dry habitats with little or no tree cover with mammal burrows for refuge; the Alameda whipsnake, which is restricted to valley-foothill hardwood habitat on south-facing slopes; the California horned lizard, which occurs in a variety of habitats including, woodland, forest, riparian, and annual grasslands, usually in open sandy areas; the foothill yellow-legged frog, which occurs in partly shaded and shallow streams with rocky soils; the California red legged

frog, which occurs in stream pools and ponds with riparian or emergent marsh vegetation; and the western spadefoot toad, which requires grassland habitats associated with vernal pools. The biological site conditions and the potential for the presence of special-status species were assessed by De Novo Planning Group's staff biologist on March 20, 2025. The Project site does not contain essential habitat for these special status reptiles and amphibians. Implementation of the proposed project would have a **less than significant** impact on these species.

Numerous special-status plant species are known to occur in the region. Many of these special status plant species require specialized habitats such as serpentine soils, rocky outcrops, slopes, vernal pools, marshes, swamps, riparian habitat, alkali soils, and chaparral, which are not present on the Project site. The Project site is located in an area that was likely valley grassland prior to human settlement, and there are several plant species that are found in valley and foothills grasslands areas. These species include large-flowered fiddleneck, bent-flowered fiddleneck, big-balsamroot, big tarplant, round-leaved filaree, Lemmon's jewelflower, and showy golden madia. Human settlement has involved a high frequency of ground disturbance associated with the historical farming activities in the region, including the Project site. The biological site conditions and the potential for the presence of special-status species were assessed by De Novo Planning Group's staff biologist on March 20, 2025. The Project site does not contain suitable habitat for special-status plant species. Implementation of the proposed project would have a **less than significant** impact on these species.

Special-status birds that occur within the region include: tricolored blackbird, Swainson's hawk, northern harrier, and bald eagle, which are associated with streams, rivers, lakes, wetlands, marshes, and other wet environments; loggerhead shrike, and burrowing owl, which lives in open areas, usually grasslands, with scattered trees and brush; and raptors that are present in varying habitats throughout the region. The biological site conditions and the potential for the presence of special-status species and raptors were assessed by De Novo Planning Group's staff biologist on March 20, 2025.

Swainson's Hawk. The Swainson's hawk is threatened in California and is protected by the California Department of Fish and Wildlife (CDFW) and the Migratory Bird Treaty Act (MBTA). Additionally, Swainson's hawk foraging habitat is protected by the CDFG. Swainson's hawks forage in open grasslands and agricultural fields and commonly nest in solitary trees and riparian areas in close proximity to foraging habitat. The foraging range for Swainson's hawk is ten miles from its nesting location. There are numerous documented occurrences of Swainson's hawk within ten miles of the Project site. None of the occurrences are within the Project site boundary. The land uses adjacent to the Project site are not suitable for Swainson's hawk habitat, as they are all industrial uses or agricultural row crops. The Project site and nearby land uses may provide lower quality foraging opportunities for Swainson's hawk due to their limited capacity for long-term foraging. Incidental take minimization measures are required for this species due to the fact that there are suitable foraging habitat on the Project site.

The implementation of Mitigation Measure BIO-1 would ensure that Swainson's hawks are not impacted during construction activities. The implementation of Mitigation Measure BIO-1 would ensure a **less than significant** impact to Swainson's hawks.

Burrowing Owls. Burrowing owls are a California Species of Special Concern and are protected by the CDFG and the MBTA. Burrowing owls forage in open grasslands and shrublands and typically nest in old ground squirrel burrows. The Project site contains a very small volume of suitable, but not high-quality habitat for burrowing owls. Specifically, the Remediation Area contains potentially suitable habitat for burrowing owls. Nevertheless, impacts to burrowing owls are considered unlikely, due to the presence of urban development to the south and west, and SR-205 to the north. The uses to the east of the Project site contain agricultural land which offers suitable, but not high quality, foraging and roosting habitat for wintering or breeding owls. The implementation of Mitigation Measure BIO-1 would ensure that burrowing owls are not impacted during construction activities. The implementation of Mitigation Measure BIO-1 would ensure a **less than significant** impact to burrowing owls.

Mitigation Measure(s)

Mitigation Measure BIO-1: *Prior to the commencement of grading activities or other ground disturbing activities on the Project site, the project applicant shall arrange for a qualified biologist to conduct a preconstruction survey for western burrowing owls. If no owls or owl nests are detected, then construction activities may commence. If burrowing owls or occupied nests are discovered, then the following shall be implemented:*

- *During the breeding season (February 1 through September 1) occupied burrows shall not be disturbed and shall be provided with a 75 meter protective buffer until and unless the SJCOG Technical Advisory Committee (TAC), with the concurrence of the Permitting Agencies' representatives on the TAC; or unless a qualified biologist approved by the Permitting Agencies verifies through non-invasive means that either: 1) the birds have not begun egg laying, or 2) juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once the fledglings are capable of independent survival, the burrow can be destroyed. They should only be destroyed by a qualified biologist using passive one-way eviction doors to ensure that owls are not harmed during burrow destruction. Methods for removal of burrows are described in the California Department of Fish and Game's Staff Report on Burrowing Owls (Oct., 1995)*

- *During the non-breeding season (September 1 through January 31) burrowing owls occupying the Project site should be evicted from the Project site by passive relocation as described in the California Department of Fish and Game's Staff Report on Burrowing Owls (Oct., 1995)*

Implementation of this requirement shall occur prior to grading or site clearing activities. SJCOG shall be responsible for monitoring and a qualified biologist shall conduct surveys and relocate owls as required.

Response b): No Impact. Riparian natural communities support woody vegetation found along rivers, creeks and streams. Riparian habitat can range from a dense thicket of shrubs to a closed canopy of large mature trees covered by vines. Riparian systems are considered one of the most important natural resources. While small in total area when compared to the state's size, they provide a special value for wildlife habitat.

Over 135 California bird species either completely depend upon riparian habitats or use them preferentially at some stage of their life history. Riparian habitat provides food, nesting habitat, cover, and migration corridors. Another 90 species of mammals, reptiles, invertebrates and amphibians depend on riparian habitat. Riparian habitat also provides riverbank protection, erosion control and improved water quality, as well as numerous recreational and aesthetic values.

There is no riparian habitat or other sensitive natural communities located on the Project site. As such, the proposed project would have **no impact** on these resources, and no mitigation is required.

Response c): Less than Significant. A wetland is an area that is inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetlands are defined by regulatory agencies as having special vegetation, soil, and hydrology characteristics. Hydrology, or water inundation, is a catalyst for the formation of wetlands. Frequent inundation and low oxygen causes chemical changes to the soil properties resulting in what is known as hydric soils. The prevalent vegetation in wetland communities consists of hydrophytic plants, which are adapted to areas that are frequently inundated with water. Hydrophytic plant species have the ability to grow, effectively compete, reproduce, and persist in low oxygen soil conditions.

Below is a list of wetlands that are found in the Tracy planning area:

- Farmed Wetlands: This category of wetlands includes areas that are currently in agricultural uses. This type of area occurs in the northern portion of the Tracy Planning Area.

- Lakes, Ponds and Open Water: This category of wetlands includes both natural and human-made water bodies such as that associated with working landscapes, municipal water facilities and canals, creeks and rivers.

- Seasonal Wetlands: This category of wetlands includes areas that typically fill with water during the wet winter months and then drain enough to become ideal plant habitats throughout the spring and summer. There are numerous seasonal wetlands throughout the Tracy Planning Area.

- Tidal Salt Ponds and Brackish Marsh: This category of wetlands includes areas affected by irregular tidal flooding with generally poor drainage and standing water. There are minimal occurrences along some of the larger river channels in the northern portion of the Tracy Planning Area.

There are no wetlands located on the Project site. Therefore, this is a **less than significant** impact and no mitigation is required.

Response d): Less than Significant. The CNDDB record search did not reveal any documented wildlife corridors or wildlife nursery sites on or adjacent to the Project site. Implementation of the proposed project would have a **less than significant** impact.

Responses e), f): Less than Significant. The Project site is located within the jurisdiction of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan ("Plan" or "SJMSCP") and is located within the Central/Southwest Transition Zone of the SJMSCP. The San Joaquin Council of Governments (SJCOG) prepared the Plan pursuant to a Memorandum of Understanding adopted by SJCOG, San Joaquin County, the United States Fish and Wildlife Service (USFWS), the CDFW, Caltrans, and the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy in October 1994. On February 27, 2001, the Plan was unanimously adopted in its entirety by SJCOG. The City of Tracy adopted the Plan on November 6, 2001.

According to Chapter 1 of the SJMSCP, its key purpose is to "provide a strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses, while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the Federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); providing and maintaining multiple use Open Spaces which contribute to the quality of life of the residents of San Joaquin County; and, accommodating a growing population while minimizing costs to project proponents and society at large."

In addition to providing compensation for conversion of open space to non-open space uses, which affect plant and animal species covered by the SJMSCP, the SJMSCP also provides some compensation to offset impacts of open space conversions on non-wildlife related resources such as recreation, agriculture, scenic values and other beneficial open space uses. Specifically, the SJMSCP compensates for conversions of open space to urban development and the expansion of existing urban boundaries, among other activities, for public and private activities throughout the County and within Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy.

Participation in the SJMSCP is voluntary for both local jurisdictions and project applicants. Only agencies adopting the SJMSCP would be covered by the SJMSCP. Individual project applicants have two options if their project is located in a jurisdiction participating in the SJMSCP: mitigating under the SJMSCP or negotiating directly with the state and/or federal permitting agencies. If a project applicant opts for SJMSCP coverage in a jurisdiction that is participating under the SJMSCP, the following options are available, unless their activities are otherwise exempted: pay the appropriate fee; dedicate, as conservation easements or fee title, habitat lands; purchase approved mitigation bank credits; or, propose an alternative mitigation plan.

Responsibilities of permittees covered by the SJMSCP include collection of fees, maintenance of implementing ordinances/resolutions, conditioning permits (if applicable), and coordinating with the Joint Powers Authority (JPA) for Annual Report accounting. Funds collected for the SJMSCP are to be used for the following: acquiring Preserve lands, enhancing Preserve lands, monitoring and management of Preserve lands in perpetuity, and the administration of the

SJMSCP. Because the primary goal of SJMSCP is to preserve productive agricultural use that is compatible with SJMSCP's biological goals, most of the SJMSCP's Preserve lands would be acquired through the purchase of easements in which landowners retain ownership of the land and continue to farm the land. These functions are managed by SJCOG.

The proposed project is classified as Urban Habitat under the SJMSCP. The proposed project was analyzed for consistency with the SJMSCP by De Novo Planning Group, and it was determined that the proposed project would not conflict with the SJMSCP. The City of Tracy and the project applicant shall consult with SJCOG to utilize coverage of the project pursuant to the SJMSCP prior to development of the site. Therefore, this is a **less than significant** impact.

Mitigation Measure(s)

Mitigation Measure BIO-2: *Prior to development of the site, including the commencement of grading activities, the City of Tracy and the project applicant shall consult with SJCOG to utilize coverage of the project pursuant to the SJMSCP*.

V. CULTURAL RESOURCES -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Cause a substantial adverse change in the significance of a historical resource pursuant to '15064.5?		X		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?		X		
c) Disturb any human remains, including those interred outside of formal cemeteries?		X		

RESPONSES TO CHECKLIST QUESTIONS

Response a), b), c): Less than Significant with Mitigation. The City of Tracy General Plan and subsequent EIR do not identify the Project site as having prehistoric period, or cultural resources. Additionally, there are no known unique cultural, historical, paleontological or archeological resources known to occur on, or within the immediate vicinity of the Project site.

Because the site has been previously disturbed by the agricultural operations, it is not anticipated that site grading and preparation activities would result in impacts to cultural, historical, archaeological or paleontological resources. There are no known human remains located on the Project site, nor is there evidence to suggest that human remains may be present on the Project site. However, as with most projects in California that involve ground-disturbing activities, there is the potential for discovery of a previously unknown cultural and historical resource or human remains.

The implementation of Mitigation Measure CUL-1 would require appropriate steps to preserve and/or document any previously undiscovered resources that may be encountered during construction activities, including human remains. Implementation of this requirement would reduce this impact to a **less than significant** level.

Mitigation Measure(s)

Mitigation Measure CUL-1: *If any prehistoric or historic artifacts, human remains or other indications of archaeological resources are found during grading and construction activities, an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be consulted to evaluate the finds and recommend appropriate mitigation measures.*

- *If cultural resources or Native American resources are identified, every effort shall be made to avoid significant cultural resources, with preservation an important goal. If significant sites cannot feasibly be avoided, appropriate mitigation measures, such as data recovery excavations or photographic documentation of buildings, shall be undertaken consistent with applicable state and federal regulations.*

- *If human remains are discovered, all work shall be halted immediately within 50 meters (165 feet) of the discovery, the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.*
- *If any fossils are encountered, there shall be no further disturbance of the area surrounding this find until the materials have been evaluated by a qualified paleontologist, and appropriate treatment measures have been identified.*

VI. ENERGY

Would the project:	*Potentially Significant Impact*	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	X			
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	X			

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): Potentially Significant. Appendix G of the State CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to Appendix G of the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed project would be considered "wasteful, inefficient, and unnecessary" if it were to violate state and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The amount of energy used at the Project site would directly correlate to the energy consumption (including fuel) used by vehicle trips generated during project construction, fuel used by off-road construction vehicles during construction, fuel used by vehicles during project operation, and electricity and other energy usage during project operation.

Due to the size of the proposed warehouse buildings, the potential impacts on energy caused by the proposed Project will require a detailed analysis in the EIR. Consequently, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact on energy resources. The EIR will include a discussion and analysis that provides calculated levels of energy use expected for the proposed project, based on commonly used modelling software (i.e. CalEEMod and the CARB's EMFAC2021). At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered **potentially significant** until a detailed analysis is prepared in the EIR.

VII. GEOLOGY AND SOILS -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation*	*Less Than Significant Impact*	*No Impact*
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			X	
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?		X		
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?			X	

RESPONSES TO CHECKLIST QUESTIONS

Responses a.i), a.ii): Less than Significant. The Project site is located in an area of moderate to high seismicity. However, no known active faults cross the Project site, and the site is not located within an Alquist-Priolo Earthquake Fault Zone. Nevertheless, relatively large earthquakes have historically occurred in the Bay Area and along the margins of the Central Valley. Many earthquakes of low magnitude occur every year in California. The nearest earthquake fault zoned as active by the State of California Geological Survey is the Vernalis Fault, located approximately 4 miles to the west of the site. Figure 6 shows nearby faults in relation to the Project site.

Portions of the Great Valley fault are considered seismically active thrust faults; however, since the Great Valley fault segments are not known to extend to the ground surface, the State of California has not defined Earthquake Fault Hazard Zones around the postulated traces. The Great Valley fault is considered capable of causing significant ground shaking at the site, but the recurrence interval is believed longer than for more distant, strike-slip faults. Further seismic activity can be expected to continue along the western margin of the Central Valley, and as with all projects in the area, the project will be designed to accommodate strong earthquake ground shaking, in compliance with the applicable California building code standards.

Other active faults capable of producing significant ground shaking at the site include the Midway fault and the Corral Hollow-Carnegie fault zone to the east, and the Black Butte fault and Great Valley thrust fault system to the south, Any one of these faults could generate an earthquake capable of causing strong ground shaking at the Development Area and Remediation Area. Earthquakes of Moment Magnitude (Mw) 7 and larger have historically occurred in the region and numerous small magnitude earthquakes occur every year.

Since there are no known active faults crossing the Project site and the site is not located within an Earthquake Fault Special Study Zone, the potential for ground rupture at the site is considered low.

An earthquake of moderate to high magnitude generated within the San Francisco Bay Region and along the margins of the central valley could cause considerable ground shaking at the site, similar to that which has occurred in the past. In order to minimize potential damage to the proposed structures caused by groundshaking, all construction would comply with the latest California Building Code standards, as required by the City of Tracy Municipal Code 9.04.030.

Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage.

Building new structures for human use would increase the number of people exposed to local and regional seismic hazards. Seismic hazards are a significant risk for most property in California.

The Safety Element of the Tracy General Plan includes several goals, objectives and policies to reduce the risks to the community from earthquakes and other geologic hazards. In particular, the following policies would apply to the Project site:

> **SA-1.1, Policy P1:** Underground utilities, particularly water and natural gas mains, shall be designed to withstand seismic forces.

SA-1.1, Policy P2: Geotechnical reports shall be required for development in areas where potentially serious geologic risks exist. These reports should address the degree of hazard, design parameters for the project based on the hazard, and appropriate mitigation measures.

SA-1.2, Policy P1: All construction in Tracy shall conform to the California Building Code and the Tracy Municipal Code including provisions addressing unreinforced masonry buildings.

The City reviews all proposed development projects for consistency with the General Plan policies and California Building Code provisions identified above. This review occurs throughout the project application review and processing stage, and throughout plan check and building inspection phases prior to the issuance of a certificate of occupancy.

Consistency with the requirements of the California Building Code and the Tracy General Plan policies identified above would ensure that impacts on humans associated with seismic hazards would be **less than significant**.

Responses a.iii): Less than Significant with Mitigation. Liquefaction normally occurs when sites underlain by saturated, loose to medium dense, granular soils are subjected to relatively high ground shaking. During an earthquake, ground shaking may cause certain types of soil deposits to lose shear strength, resulting in ground settlement, oscillation, loss of bearing capacity, landsliding, and the buoyant rise of buried structures. The majority of liquefaction hazards are associated with sandy soils, some silty soils of low plasticity, and some gravelly soils. Cohesive soils are generally not considered to be susceptible to liquefaction. In general, liquefaction hazards are most severe within the upper 50 feet of the surface, except where slope faces or deep foundations are present. Soils that underlay the Project site consist of predominantly clay soil particle sizes. Clay-type soils are generally not subject to liquefaction.

As identified in the Tracy General Plan EIR, the majority of the Tracy Planning Area is at low risk for liquefaction, with the exception for the river banks within the Planning Area. Objective SA-1.1 states that geologic hazards should be minimized. The Safety Element contains a policy requiring that geotechnical engineering studies be undertaken for any development in areas where potentially serious geologic risks exist (Objective SA- 1.1, P1), which would include liquefaction. The General Plan EIR concluded that the implementation of this policy would reduce the potential risk of liquefaction to a **less-than-significant** level.

Prior to development of the Project site, a subsurface geotechnical investigation must be performed to identify onsite soil conditions and identify any site-specific engineering measures to be implemented during the construction of building foundations and subsurface utilities. Adherence to the engineering requirements contained in the subsurface geotechnical report would ensure that this impact is **less than significant.**

Mitigation Measure (s)

Mitigation Measure GEO-1: *Prior to development of the Project site, a subsurface geotechnical investigation must be performed to identify onsite soil conditions and identify any site-specific engineering measures to be implemented during the construction of building foundations and subsurface utilities.*

Responses a.iv): Less than Significant. The Project site is relatively flat and there are no major slopes in the vicinity of the Project site. As such, the Project site is exposed to little or no risk associated with landslides. This is a **less than significant** impact.

Response b): Less than Significant. During the construction preparation process, exposed surfaces could be susceptible to erosion from wind and water. Effects from erosion include impacts on water quality and air quality. Exposed soils that are not properly contained or capped increase the potential for increased airborne dust and increased discharge of sediment and other pollutants into nearby stormwater drainage facilities. Risks associated with erosive surface soils can be reduced by using appropriate controls during construction and properly re-vegetating exposed areas. Mitigation Measures AQ-1 through 3 (Air Quality), require the implementation of various dust control measures during site preparation and construction activities that would reduce the potential for soil erosion and the loss of topsoil. Additionally, Mitigation Measure HYD-1 (Hydrology and Water Quality) would require the implementation of various best management practices (BMPs) and a SWPPP that would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction activities. The implementation of these requirements would ensure impacts are **less than significant**.

Responses c), d): Less than Significant. The potential for the project to be exposed to unstable soil conditions resulting from on-or off-site landslide, and liquefaction are discussed above under Responses a.iii, and a.iv., and were found to be **less than significant** impacts.

Lateral Spreading: The geologic conditions conducive to lateral spreading include gentle surface slope (0.3-5% slope), and liquefiable soils. As identified in the Tracy General Plan EIR, the majority of the Tracy Planning Area is at low risk for liquefaction, with the exception for the river banks within the Planning Area. Soils that underlay the Project site consist of predominantly clay soil particle sizes, which are generally not subject to liquefaction.

The potential for ground surface damage at the site resulting in lateral spreading is low due to lack of saturated liquefiable soils. Therefore, impacts related to lateral spreading from project implementation would be **less than significant**.

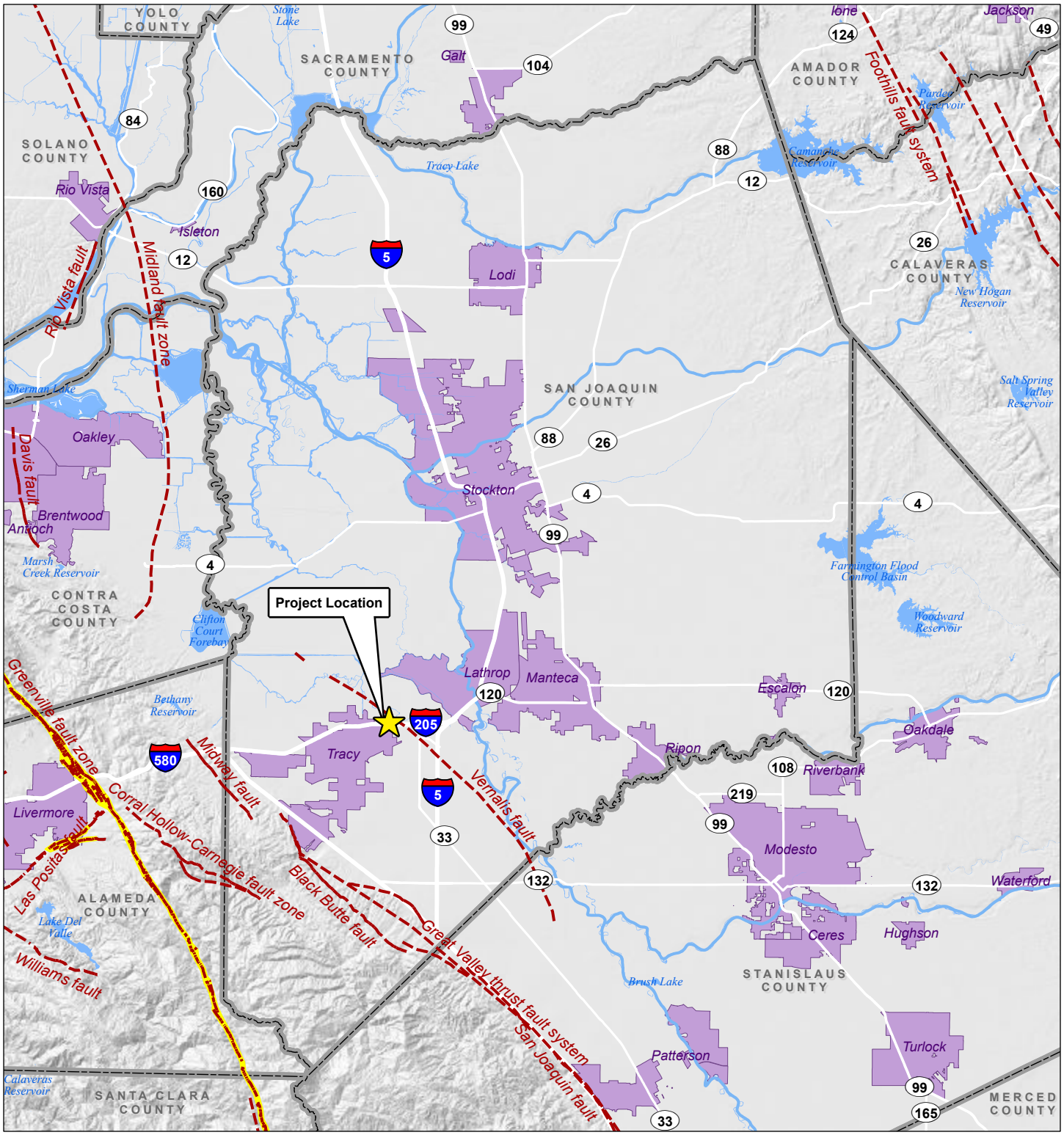
Expansive Soils: Expansive Soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion, and settling can damage structures by cracking foundations, causing settlement and distorting structural elements. Expansion is a typical characteristic of clay-type soils. Expansive soils shrink and swell in volume during changes in moisture content, such as a result of seasonal rain events, and can cause damage to foundations, concrete slabs, roadway improvements, and pavement sections.

Soil expansion is dependent on many factors. The more clayey, critically expansive surface soil and fill materials will be subjected to volume changes during seasonal fluctuations in moisture content. As indicated in the Tracy General Plan EIR, Tracy does have a moderate to high risk for expansive soils, depending on the location and soil type. The Safety Element contains objectives to minimize geologic hazards, and a policy to require geotechnical reports for all development proposed in areas with risk of geological hazard (Objective SA-1.1, P2). Therefore, it was concluded that implementation of the General Plan policy would reduce the potential impact related to the risk of soil expansion to a less-than-significant level. Figure 7 shows the shrink-swell potential of soils on the Project site. As shown in Figure 7, soils that underlay the Project site are considered to have a very high potential for expansion. It is noted that the majority of the soils that underlay the project are considered to have a moderate potential for expansion.

To reduce the potential for post-construction distress to the proposed structures resulting from swelling and shrinkage of these materials, a geotechnical evaluation is required by Mitigation Measure GEO-1 in order to reduce the potential for damaging differential settlement of overlying improvements. Additionally, the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. As such, this is a **less than significant** impact.

Response e): No Impact. The Project site would be served by public wastewater facilities and does not require an alternative wastewater system such as septic tanks. Implementation of the proposed project would have **no impact** on this environmental issue.

Response f): Less than Significant. The Project site is located in an area known to have paleontological resources. The implementation of Mitigation Measure CUL-1 would require appropriate steps to preserve and/or document any previously undiscovered resources that may be encountered during construction activities, including paleontological resources. As such, this is a **less than significant** impact.



LEGEND

- Quaternary Fault
- Alquist Priolo Fault Zone
- Incorporated Area
- County Boundary

PARADISE POINTE BUSINESS PARK

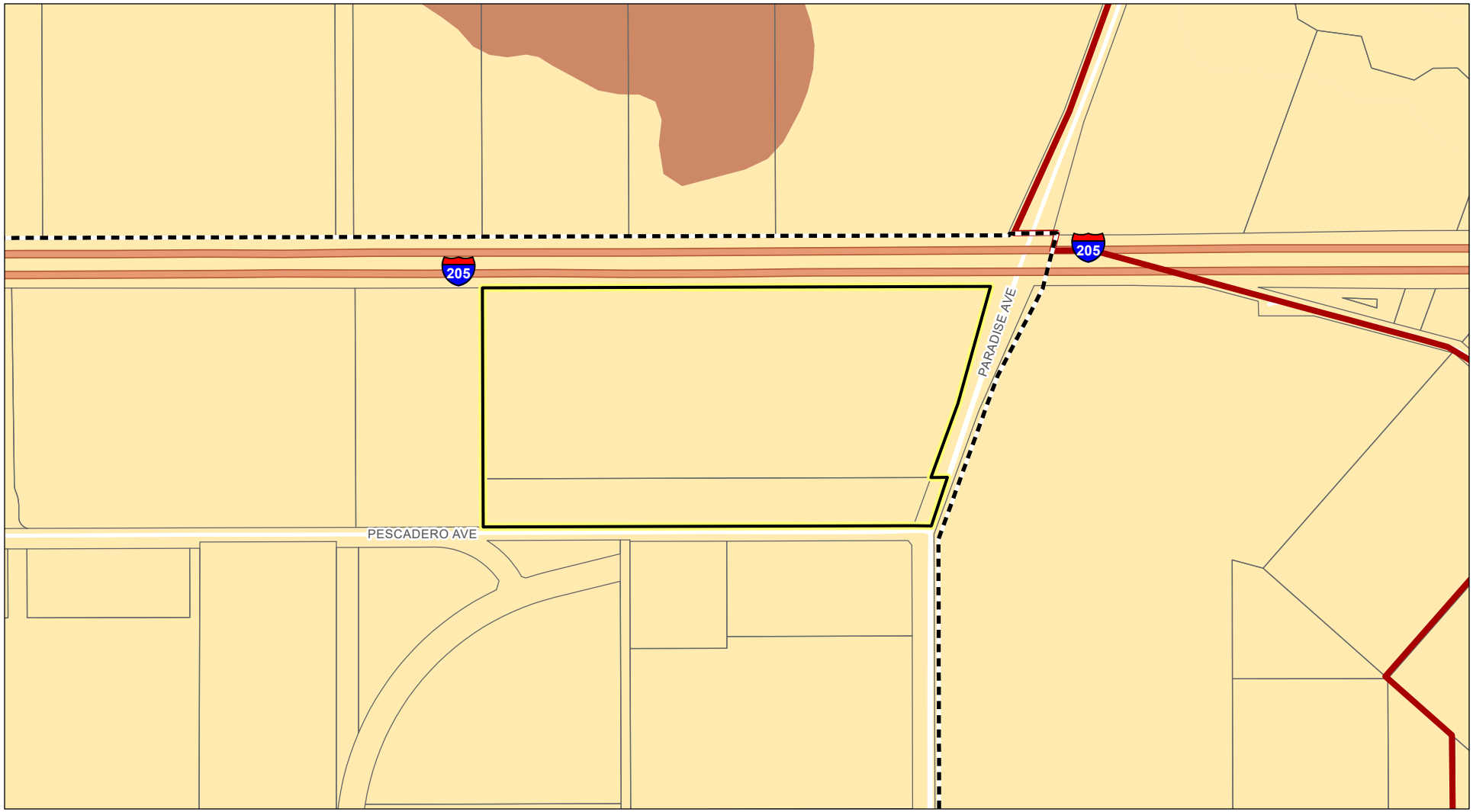
Figure 6. Fault Map

0 2.5 5 Miles

Sources: California Geological Survey; San Joaquin County GIS. Map date: November 1, 2024.

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A Land Use Planning, Design, and Environmental Firm

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LEGEND

- Project Site
- Tracy City Limits
- Tracy SOI

Hydrologic Group - Dominant Condition

- C
- D

**Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Group A Soils have a high infiltration rate (low runoff potential). Group B Soils have a moderate infiltration rate. Group C Soils have a slow infiltration rate.*

Group D Soils have a very slow infiltration rate (high runoff potential). These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

PARADISE POINTE BUSINESS PARK

Figure 7. Shrink-Swell Soil

0 250 500
US Feet

Sources: USA Soils Map Units; San Joaquin County GIS. Map date: November 1, 2024.

De Novo Planning Group
A Land Use Planning, Design, and Environmental Firm

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XIII. GREENHOUSE GAS EMISSIONS – WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	X			
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gasses?	X			

BACKGROUND DISCUSSION

Various gases in the Earth's atmosphere, classified as atmospheric greenhouse gases (GHGs), play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H_2O), carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs, including CO_2, CH_4, and N_2O, occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2021, accounting for 39% of total GHG emissions in the state. This category was followed by the industrial sector (22%), the electricity generation sector (including both in-state and out of-state sources) (16%) and the agriculture and forestry sector (8%) (California Energy Commission, 2024).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced approximately 381 million gross metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2021 (California Energy Commission, 2024). Given that the U.S. EPA estimates that worldwide emissions from human activities totaled nearly 46 billion

gross metric tons of carbon dioxide equivalents ($BMTCO_2e$) in 2010, California's incremental contribution to global GHGs is approximately 2% (U.S. EPA, 2014).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): Potentially Significant. Implementation of the proposed Project could generate GHGs from a variety of sources, including but not limited to vehicle trips, electricity consumption, water use, and solid waste generation. There could also be additional GHGs generated from stationary sources, such as industrial processes and/or diesel generators. It has been determined that the potential impacts from GHG emissions by the proposed Project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from GHG emissions. At this point, a definitive impact conclusion for each of these environmental topics will not be made. Rather, all are considered **potentially significant** until a detailed analysis is prepared in the EIR.

The EIR will include a GHG emissions analysis pursuant to the requirements of the California Governor's Executive Order S-3-05 and The Global Warming Solutions Act of 2006 (AB 32), Senate Bill 375 (SB 375), and Senate Bill 32 (SB 32). The analysis will follow the California Air Pollution Control Officers Association (CAPCOA) white paper methodology and recommendations presented in "Climate Change and CEQA", which was prepared in coordination with the CARB and the Governor's Office of Planning and Research (OPR) as a common platform for public agencies to ensure that GHG emissions are appropriately considered and addressed under CEQA. Also, a GHG emissions analysis using the SJVAPCD's two-tiered approach in assessing significance of the project specific GHG emissions increases will be performed. These analyses will consider a regional approach toward determining whether GHG emissions are significant, and will present mitigation measures to reduce any potential impacts. The discussion and analysis will include quantification of GHGs generated by the project using the CalEEMod computer model as well as a qualitative discussion of the project's consistency with any applicable state and local plans to reduce the impacts of climate change.

IX. HAZARDS AND HAZARDOUS MATERIALS -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			X	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			X	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?			X	
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): Less than Significant. The proposed project would place new industrial uses in an area of the City that currently contains predominantly industrial uses mixed with agricultural uses. The proposed industrial land uses do not routinely transport, use, or dispose of hazardous materials, or present a reasonably foreseeable release of hazardous materials, with the exception of common residential grade hazardous materials such as household cleaners, paint, etc. The operational phase of the proposed project does not pose a significant hazard to the public or the environment.

Any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The San Joaquin County Department of Environmental Health is the Certified Unified Program Agencies (CUPA) for San Joaquin County and is responsible for the

implementation of statewide programs within the city including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Additionally, businesses are regulated by Cal/Occupational Safety and Health Administration (OSHA) and are therefore required to ensure employee safety. Specific requirements include identifying hazardous materials in the workplace, providing safety information to workers that handle hazardous materials, and adequately training workers. To further ensure the safety of employees, and reduce the potential for accidental release of hazardous materials into the environment, the applicant must submit a HMBP to San Joaquin County Department of Environmental Health for review and approval prior to bringing hazardous materials onsite

Construction equipment and materials would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of common chemicals including paints, cleaners, and solvents. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials. In addition, Mitigation Measure HYD-1 (Hydrology and Water Quality) requires the project applicant to implement a SWPPP during construction activities, which would prevent any contaminated runoff from leaving the Project site. Therefore, compliance with applicable federal, state, local statutes and regulations, and the SWPPP provided in Mitigation Measure HYD-1, the proposed project would have a **less than significant** impact relative to this issue.

Response c): Less than Significant. The Project site is not located within 1/4-mile of an existing school. The nearest school to the Project site is the Banta Elementary School District, located approximately 0.9 miles southeast of the Project site or further. Therefore, this is a **less than significant** impact

Response d): Less than Significant. According the California Department of Toxic Substances Control (DTSC), there are no Federal Superfund Sites, State Response Sites on, or adjacent to the Development Area. However, the Remediation Area is listed by the DTSC as a Voluntary Agreement cleanup site. The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5.

The information relating to the Remediation Site's classification by DTSC is provided below:

Haley's Flying Service (site SL0607752832)

- Cleanup Status: Open – Site Assessment as of 1/31/2023
- Site Type: Cleanup Program Site
- National Priorities List: No
- Cleanup Oversight Agency:
    - CVRWQCB (Lead Agency)

This site will undergo remediation and cleanup prior to construction on the Development Area to ensure all toxic substances and potential pollutants are removed. Remedial soil excavation is

proposed for the remediation where organochlorine pesticide and metals concentration exceeded commercial/industrial ESL values to adequately remove contaminants before development of the proposed project can begin. The remedial work will be performed by a licensed hazardous materials contractor in accordance with all applicable laws and regulations. Prior to initiation of any remedial soil extraction work, the property owner or remediation contractor will obtain any required permits, including a grading permit if necessary. The owner or contractor will also determine whether a Dust Control Plan is required for the remedial work and will process one, if necessary, per San Joaquin Valley Air Pollution Control District (SJVAPCD) regulations. Stormwater controls will also be implemented as necessary to prevent any surface water or storm water that contacts exposed impacted soils from discharging from the work site or from entering storm drain or sewer systems.

Following soil excavation activities, soil samples will be collected from the limits of the soil excavation areas to verify that soils at the limits of the excavation do not contain contaminants above the clean-up levels established. Stockpiled soil samples will also be taken and tested to determine appropriate disposal methods. Once testing of removed soils is completed, all equipment that comes into contact with impacted soils would be decontaminated. The extent of future backfilling of the remedial excavations is unknown and will depend to some degree on the grading details of the development project. Much of the excavation area is anticipated to be only one-foot deep and may not necessitate backfilling.

Based on the planned remedial soil removal work, it is anticipated that remaining onsite soils will not contain the chemicals of concern at concentrations above commercial/industrial ESL values. As such, no ongoing maintenance at the Remediation Area will be necessary following successful completion of remediation work.

As stated in the City's General Plan and General Plan EIR, developers are required to conduct the necessary level of environmental investigation prior to project approval to ensure that development sites would not affect the environment or the health or safety of future property owners (Objective SA-4.1, P2). The General Plan EIR concluded that this policy would reduce the potential impact to a less-than-significant level. Therefore, implementation of the proposed project would result in a **less than significant** impact relative to this environmental topic following successful remedial soil excavation processes.

Response e): Less than Significant. The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safety based on such items as the type of aircraft using the airport.

The Tracy Municipal Airport is the closest airport to the Project site, located approximately 5.4 miles to the southwest. The Airport is a general aviation airport owned by the City and managed by the Public Works Department. Guidelines for Airport Land Use were developed by SJCOG Airport Land Use Commission in 2013. Furthermore, the City of Tracy adopted an Airport Master Plan in 1998, analyzing the impacts to safety on surrounding development from the Tracy Municipal Airport.

The probability of an aircraft accident is highest along the extended runway centerline, and within one mile of the runway end. According to SJCOG Guidelines there are seven zones in which land use restrictions apply due to proximity to the airport:

1. Zone 1 Runway Protection Zone (RPZ)
2. Zone 2 Inner Approach/Departure Zone (IADZ)
3. Zone 3 Inner Turning Zone (ITZ)
4. Zone 4 Outer Approach/Departure Zone (OADZ)
5. Zone 5 Sideline Safety Zone (SSZ)
6. Zone 7 Traffic Pattern Zone (TPZ)
7. Zone 8 Airport Influence Area (AIA)

Land use constraints in these zones become progressively less restrictive from the RPZ to the TPZ. The proposed project is not located within any of the safety zones. The proposed project is not located within one mile of the airport, nor along the extended runway centerline, or within an AIA. Additionally, there are no private airstrips within the vicinity of the Project site. The proposed project consists of single story and two story structures, and does not propose any structures of substantial height that would protrude into active airspace. Therefore safety hazards related to the project's proximity to the Tracy Municipal Airport are **less than significant.**

Response f): No Impact. The General Plan includes policies that require the City to maintain emergency access routes that are free of traffic impediments (Objective SA-6.1, P1 and A2). The proposed project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. The project involves the development of industrial land uses within an urbanized environment and would not interfere with any emergency response or evacuation plans. Implementation of the proposed project would result in **no impact** on this environmental topic.

Response g): Less than Significant. The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area to mass ratio and require more heat to reach the ignition point.

The City has areas with an abundance of flashy fuels (i.e. grassland) in the outlying residential parcels and open lands that, when combined with warm and dry summers with temperatures often exceeding 100 degrees Fahrenheit, create a situation that results in higher risk of wildland fires. Most wildland fires are human caused, so areas with easy human access to land with the appropriate fire parameters generally result in an increased risk of fire.

The California Department of Forestry has designated the southwestern edge of the City as having a moderate wildland fire potential. This is predominately a result of the hills and grassland

habitat that persists. The identified moderate wildland fire potential area in and around Tracy does not include the Project site. Since the Project site is not located within a designated wildfire hazard area, this is a **less than significant** impact.

X. HYDROLOGY AND WATER QUALITY -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?		X		
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			X	
(i) result in substantial erosion or siltation on- or off-site;			X	
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;			X	
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to provide substantial additional sources of polluted runoff; or			X	
(iv) impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			X	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

RESPONSES TO CHECKLIST QUESTIONS

Response a): Less than Significant with Mitigation. Wastewater generated by the proposed project would be conveyed to the Tracy Wastewater Treatment Plan (WWTP) for treatment and disposal. The City's wastewater collection system consists of gravity sewer lines, pump stations and the WWTP. Wastewater flows toward the northern part of the City where it is treated at the WWTP and then discharged into the Old River in the southern Sacramento-San Joaquin Delta. The project's potential to violate a water quality standard or waste discharge requirement is related to the treatment of wastewater generated by the project, and the quality of stormwater runoff generated at the Project site. These two issues are addressed below.

In 2008 the City expanded its wastewater treatment capacity to 10.8 million gallons per day (mgd). The City's Wastewater Treatment Plant (WWTP) currently treats approximately 9.0 mgd

of wastewater. The City's WWTP provides secondary-level treatment of wastewater followed by disinfection. Treated effluent from the WWTP is conveyed to a submerged diffuser for discharge into the Old River. The WWTP has an NPDES permit for discharge into the Old River from the State Regional Water Quality Control Board.

In order to estimate the wastewater generation for the project, a wastewater flow factor of 750 gallons per acre per day of wastewater (gpd) was used. This flow factor is provided in the City's 2023 Wastewater Master Plan (Table 4.5). Based on this generation factor, it is estimated that the proposed project would generate up to 39,240 gpd, or 0.039 mgd of wastewater.

The addition of 0.039 mgd of wastewater would not exceed the treatment capacity of the City's WWTP or violate waste discharge requirements under the City's National Pollutant Discharge Elimination System (NPDES) permit. Additionally, the Wastewater System Analysis confirms that there is sufficient capacity in the existing nearby wastewater gravity sewer lines and pump stations to accommodate the proposed project. As such, the project would not cause, or contribute to, a violation of wastewater quality standards or waste discharge requirements.

In order to ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, the City requires the application of BMPs to effectively reduce pollutants from stormwater leaving the site during both the construction and operational phases of the project. Additionally, projects are required to prepare a Stormwater Pollution Prevention Plan (SWPPP). The final storm drainage infrastructure plan for the project would also be submitted to the City for review and approval.

The collection of fees and determined fair share fee amounts are adopted by the City as Conditions of Approval (COAs) for all new development projects prior to project approval. The payment of applicable development impact fees by the proposed project would ensure that the project pays its fair-share of capital improvement fees towards future system expansions, as identified in the Tracy Wastewater Master Plan. Additionally, through compliance with the NPDES permit requirements, and compliance with the SWPPP, the proposed project would not result in a violation of any water quality standards or waste discharge requirements. Therefore, through compliance with the NPDES, the SWPPP required by Mitigation Measure HYD-1, and the final storm drainage infrastructure plan required by Mitigation Measure HYD-2, impacts are considered **less than significant**.

Mitigation Measure(s)

Mitigation Measure HYD-1*: The project applicant shall prepare a Storm Water Pollution Prevention Plan (SWPPP) that includes specific types and sources of stormwater pollutants, determine the location and nature of potential impacts, and specify appropriate control measures to eliminate any potentially significant impacts on receiving water quality from stormwater runoff. The SWPPP shall require treatment BMPs that incorporate, at a minimum, the required hydraulic sizing design criteria for volume and flow to treat projected stormwater runoff. The SWPPP shall comply with the most current standards established by the Central Valley RWQCB. Best Management Practices shall be selected from the City's Manual of Stormwater Quality Control*

Standards for New Development and Redevelopment according to site requirements and shall be subject to approval by the City Engineer and Central Valley RWQCB.

Mitigation Measure HYD-2: *Prior to issuance of building permits, the project applicant shall submit a detailed storm drainage infrastructure plan to the City of Tracy Community and Economic Development Department for review and approval. The project's storm drainage infrastructure plans shall, to the satisfaction of the City Engineer, demonstrate adequate infrastructure capacity to collect and direct all stormwater generated on the Project site within onsite retention/detention facilities to the City's existing stormwater conveyance system, and demonstrate that the project would not result in on- or off-site flooding impacts. The project shall also pay all applicable development impact fees, which would include funding for offsite Citywide storm drainage infrastructure improvements identified in the City of Tracy Citywide Storm Drainage Master Plan.*

Response b): Less than Significant. The proposed project would not result in the construction of new groundwater wells, nor would it increase existing levels of groundwater pumping. The proposed project would be served by the City's municipal water system. The City of Tracy uses several water sources, including the US Bureau of Reclamation, the South County Water Supply Project (SCWSP), and groundwater.

The City's existing Groundwater Management Policy prohibits groundwater extraction to exceed 9,000 AF (the determined safe yield). The General Plan contains policies to address groundwater use and conservation that will assist in avoiding impacts to groundwater sources. The City will use surface water supplies to the greatest extent feasible to reduce reliance on groundwater (Objective PF-6.1, P3) and to reserve groundwater supplies for emergency use, such as droughts or short-term shortages (Objective PF-6.4, P1). As a result of adopted City policies and General Plan policies, a less-than-significant groundwater impact was determined by the General Plan EIR. The proposed project is consistent with land use designation and density analyzed under the General Plan EIR. Thus, the proposed project potential for groundwater depletion is consistent with the General Plan EIR finding of less than significant.

Groundwater recharge occurs primarily through percolation of surface waters through the soil and into the groundwater basin. The addition of significant areas of impervious surfaces (such as roads, parking lots, buildings, etc.) can interfere with this natural groundwater recharge process. Upon full project buildout, portions of the Project site would be covered in impervious surfaces, which would limit the potential for groundwater percolation to occur on the Project site. However, given the relatively large size of the groundwater basin in the Tracy area, the areas of impervious surfaces added as a result of project implementation will not adversely affect the recharge capabilities of the local groundwater basin. Additionally, the project would maintain pervious surfaces within the on-site landscaping and retention basins. These pervious areas could maintain opportunities for groundwater recharge.

Because the City has adequate existing water service capacity to serve the project, and the limited scope of impervious surface coverage (when compared to the larger groundwater basin), the proposed project would result in **less than significant** impacts related to depletion of groundwater supplies and interference with groundwater recharge.

Response c): Less than Significant. When land is in a natural or undeveloped condition, soils, mulch, vegetation, and plant roots absorb rainwater. This absorption process is called infiltration or percolation. Much of the rainwater that falls on natural or undeveloped land slowly infiltrates the soil and is stored either temporarily or permanently in underground layers of soil. When the soil becomes completely soaked or saturated with water or the rate of rainfall exceeds the infiltration capacity of the soil, the rainwater begins to flow on the surface of land to low lying areas, ditches, channels, streams, and rivers. Rainwater that flows off of a site is defined as storm water runoff. When a site is in a natural condition or is undeveloped, a larger percentage of rainwater infiltrates into the soil and a smaller percentage flows off the site as storm water runoff.

The infiltration and runoff process is altered when a site is developed with urban uses. Houses, buildings, roads, and parking lots introduce asphalt, concrete, and roofing materials to the landscape. These materials are relatively impervious, which means that they absorb less rainwater. As impervious surfaces are added to the ground conditions, the natural infiltration process is reduced. As a result, the volume and rate of storm water runoff increases. The increased volumes and rates of storm water runoff may result in flooding if adequate storm drainage facilities are not provided.

There are no rivers, streams, or water courses located on or immediately adjacent to the Project site. As such, there is no potential for the project to alter a water course, which could lead to on or offsite flooding. Drainage improvements associated with the Project site would be located on the Project site, and the project would not alter or adversely impact offsite drainage facilities.

Development of the Project site would place impervious surfaces on portions of the 52.32-acre Project site. P Development of the Project site would potentially increase local runoff production, and would introduce constituents into storm water that are typically associated with urban runoff. These constituents include heavy metals (such as lead, zinc, and copper) and petroleum hydrocarbons. BMPs will be applied to the proposed site development to limit the concentrations of these constituents in any site runoff that is discharged into downstream facilities to acceptable levels. Stormwater flows from the Project site would be directed to the two proposed retention basins by a new stormwater conveyance system.

In order to ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, Mitigation Measure HYD-1 requires the preparation of a SWPPP. As described previously, the SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site during both the construction and operational phases of the project.

Additionally, the project is subject to the requirements of Chapter 11.34 of the Tracy Municipal Code – Stormwater Management and Discharge Control. The purpose of this Chapter is to "*Protect and promote the health, safety and general welfare of the citizens of the City by controlling non-stormwater discharges to the stormwater conveyance system, by eliminating discharges to the stormwater conveyance system from spills, dumping, or disposal of materials other than stormwater, and by reducing pollutants in urban stormwater discharges to the maximum extent practicable.*"

This chapter is intended to assist in the protection and enhancement of the water quality of watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Federal Water Pollution Control Act (Clean Water Act, 33 USC Section 1251 et seq.), Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) and National Pollutant Discharge Elimination System ("NPDES") Permit No. CAS000004, as such permit is amended and/or renewed.

New development projects in the City of Tracy are required to provide site-specific storm drainage solutions and improvements that are consistent with the overall storm drainage infrastructure approach presented in the City of Tracy Citywide Storm Drainage Master Plan. The project applicant is required to submit a detailed storm drainage infrastructure plan to the City of Tracy Community and Economic Development Department for review and approval. The project's storm drainage infrastructure plans must demonstrate adequate infrastructure capacity to collect and direct all stormwater generated on the Project site within the on-site retention facilities to the City's existing stormwater conveyance system and demonstrate that the project would not result in on- or off-site flooding impacts.

The project is also required to pay all applicable development impact fees, which would include funding for offsite Citywide storm drainage infrastructure improvements identified in the City of Tracy Citywide Storm Drainage Master Plan. The collection of fees and determined fair share fee amounts are adopted by the City as COAs for all new development projects prior to project approval. The payment of applicable development impact fees by the proposed project would ensure that the project pays its fair-share of capital improvement fees towards future system expansions, as identified in the Citywide Storm Drainage Master Plan.

In order to ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, or otherwise degrade water quality, Mitigation Measure HYD-1 requires the preparation of a SWPPP, and structural BMPs. As described above, the SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the project. The implementation of this requirement would reduce this impact to a less than significant level.

Ultimately, in order to ensure that stormwater runoff generated at the Project site as a result of new impervious surfaces does not exceed the capacity of the existing or planned stormwater drainage system, Mitigation Measure HYD-2 above requires the project applicant to submit a detailed storm drainage infrastructure plan to the City of Tracy Community and Economic Development Department for review and approval. The project's storm drainage infrastructure plans shall, to the satisfaction of the City Engineer, demonstrate adequate infrastructure capacity to collect and direct all stormwater generated on the Project site within onsite retention/detention facilities to the City's existing stormwater conveyance system, and demonstrate that the project would not result in on- or off-site flooding impacts. The implementation of this requirement would reduce this impact to a less than significant level.

Through the payment of all applicable fees, and the implementation of Mitigation Measure HYD-1and 11, would ensure that this impact is **less than significant**.

Response d): Less than Significant. The 100-year floodplain denotes an area that has a one percent chance of being inundated during any particular 12-month period.

Floodplain zones are determined by the Federal Emergency Management Agency (FEMA) and used to create Flood Insurance Rate Maps (FIRMs). These tools assist cities in mitigating flooding hazards through land use planning. FEMA also outlines specific regulations for any construction, whether residential, commercial, or industrial within 100-year floodplains.

The Project site is not located within an inundation risk area, nor are there any dam inundation areas within the City of Tracy, according to the California Department of Water Resources, Division of Safety of Dams.[1]

The safety of dams in California is stringently monitored by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring the dam in perpetuity. The proposed project would not result in actions that could result in a higher likelihood of dam failure at San Luis Reservoir and New Melones Dams. There will always be a remote chance of dam failure that results in flooding of portions of the City. However, the Project site lies outside of this risk area.

There are no significant bodies of water near the Project site that could result in the occurrence of a seiche or tsunami. Additionally, the Project site and the surrounding areas are relatively flat, which precludes the possibility of mudflows occurring on the Project site. This is a **less than significant** impact.

Response e): Less than Significant. The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Tracy Subbasin Groundwater Sustainability Plan are the two guiding documents for water quality and sustainable groundwater management in the project area.

Water Quality Control Plan for the Sacramento River and San Joaquin River Basins

The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The preparation and adoption of water quality control plans (Basin Plans) is required by the California Water Code (Section 13240) and supported by the Federal Clean Water Act. Section 303 of the Clean Water Act requires states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial

[1] California Department of Water Resources, Division of Safety of Dams, 2024. *California Dam Breach Inundation Maps*.

uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

In order to ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, or otherwise degrade water quality, a SWPPP, and structural BMPs would be required. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the project. Additionally, as described previously, the project will be required to submit a detailed storm drainage infrastructure plan that demonstrates the project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. Additionally, the project will be required to comply with Chapter 11.34 of the Tracy Municipal Code, Stormwater Management and Discharge Control, which outlines the City requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

Tracy Subbasin Groundwater Sustainability Plan

The Tracy Subbasin Groundwater Sustainability Plan was previously adopted by the City of Tracy City Council. As discussed previously, upon full project buildout, portions of the Project site would be covered in impervious surfaces, which would limit the potential for groundwater percolation to occur on the Project site. However, given the relatively large size of the groundwater basin in the Tracy area, the areas of impervious surfaces added as a result of project implementation will not adversely affect the recharge capabilities of the local groundwater basin. Additionally, the project would maintain pervious surfaces within the on-site landscaping and retention basins. These pervious areas could maintain opportunities for groundwater recharge.

Additionally, Mitigation Measure HYD-1 requires the preparation of a SWPPP, and structural BMPs. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the project. Additionally, the project will be required to submit a stormwater control plan that demonstrates the project incorporates site design measures, landscape features, and engineered treatment facilities (typically bioretention facilities) that will minimize imperviousness, retain or detain stormwater, slow runoff rates, and reduce pollutants in post-development runoff. The project will be required to comply with Chapter 11.34 of the Tracy Municipal Code, Stormwater Management and Discharge Control, which outlines the City

requirements for stormwater management and discharge control, including controlling non-stormwater discharges to the stormwater conveyance system, eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater, and reducing pollutants in urban stormwater discharges to the maximum extent practicable.

Conclusion

Overall, implementation of the proposed project would have a **less than significant** impact related to conflicts with the Basin Plan and the Tracy Subbasin Groundwater Sustainability Plan.

XI. LAND USE AND PLANNING - WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Physically divide an established community?				X
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?			X	

RESPONSES TO CHECKLIST QUESTIONS

Response a): No Impact. The Project site is surrounded by industrial uses to the south and the west, and agricultural uses to the north and east. The project would be consistent and compatible with the surrounding land uses, and would not divide an established community. There is **no impact.**

Response b): Less than Significant. The City Tracy General Plan Project site land use designation for the Project site is Industrial (consistent with the proposed project) and the site is within the Northeast Industrial Specific Plan Area. Specific uses allowed in the Industrial land use designation category range from flex/office space to manufacturing to warehousing and distribution. According to the City's General Plan, Industrial parcels should have a maximum floor-area-ratio (FAR) of 0.5. Building A has an FAR of 0.47 while Building B has an FAR of 0.20. The average FAR of the project would be 0.34, staying below the maximum FAR of 0.5. Industrial uses are located to provide proper truck access, buffering from incompatible uses and proximity with rail corridors and transit links.

The Project site is currently zoned Northeast Industrial Specific Plan. The Northeast Industrial Specific Plan addresses 870 acres in the northeast corner of the City. Anticipated land uses include a mixture of manufacturing, warehousing, and distribution uses including rail-dependent industries and "flex-tech" light industrial.

The proposed use and density on the Project site is consistent with the General Plan designation of Industrial and is consistent with the Northeast Industrial Specific Plan Zoning designation. The project's consistency with other General Plan policies that provide environmental protections are addressed within the relevant sections of this document. This is a **less than significant** impact.

XII. MINERAL RESOURCES -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): No Impact. As described in the Tracy General Plan EIR, the main mineral resources found in San Joaquin County, and the Tracy Planning Area, are sand and gravel (aggregate), which are primarily used for construction materials like asphalt and concrete. According to the California Geological Survey (CGS) evaluation of the quality and quantity of these resources, the most marketable aggregate materials in San Joaquin County are found in three main areas:

- In the Corral Hollow alluvial fan deposits south of Tracy
- Along the channel and floodplain deposits of the Mokelumne River
- Along the San Joaquin River near Lathrop

Figure 4.8-1 of the General Plan EIR identifies Mineral Resource Zones (MRZs) throughout the Tracy Planning Area. The Project site is located within an area designated as MRZ-1. The MRZ-1 designation applies to areas where adequate information indicates that no significant mineral deposits are present, or where there is little likelihood for their presence. There are not substantial aggregate materials located within the Project site. Therefore, the project would not result in the loss of availability of a known mineral resource. There is **no impact**.

XIII. NOISE -- WOULD THE PROJECT RESULT IN:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	X			
b) Generation of excessive groundborne vibration or groundborne noise levels?	X			
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				X

RESPONSES TO CHECKLIST QUESTIONS

Responses a)-b): Potentially Significant. Based on existing and projected noise levels along roadways, and the potential for noise generated during project construction and operational activities, it has been determined that the potential impacts from noise caused by the proposed project will require a detailed analysis in the EIR. As such, the lead agency will examine each of the two potentially significant environmental issues listed in the checklist above in the EIR and will decide whether the proposed project has the potential to have a significant impact from noise. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather both are considered **potentially significant** until a detailed analysis is prepared in the EIR.

The EIR will identify sensitive receptors, noise impacts, and attenuation of noise related impacts. The noise study will also include an assessment of construction noise and vibration impacts. The noise analysis will identify the noise level standards contained in the City of Tracy General Plan Noise Element and Municipal Code (Noise Control Ordinance, Chapter 4.12 Article 9), as well as any germane state, and federal standards. Continuous (24-hour) and short-term noise measurements will be performed in the project site and in the project vicinity in order to quantify existing ambient noise levels from existing community noise sources.

The EIR will provide an estimate of existing traffic noise levels adjacent to the project site roadways through application of accepted traffic noise prediction methodologies. Noise sources from the project will be quantified through noise level measurements. Proposed on-site mobile and stationary noise sources will be evaluated. This will include noise generating equipment, such as HVAC systems, generators, etc., as well as mobile noise sources such as truck loading/docking/idling. The EIR will include thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any potential impacts associated with noise.

Response c): No Impact. The project site is located approximately 7 miles from the nearest airport (the Tracy Municipal Airport), and is outside of the contours of the Tracy Municipal Airport land use plan. Therefore, there is **no impact** relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR.

XIV. POPULATION AND HOUSING -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

RESPONSES TO CHECKLIST QUESTIONS

Response a): Less than Significant. The proposed warehouse would not induce population growth, either directly or indirectly. The warehouse would not generate significant employment opportunities in Tracy and would not expand the job base such that population growth may occur.

The potential for the project to directly induce population growth in the City of Tracy is not a significant impact in and of itself. Population growth can result in impacts to other environmental topics, such as traffic, service demands, etc. The employment growth that would occur as a result of approval and development of the proposed project was considered in the Tracy General Plan and General Plan EIR. The proposed project is consistent with the land use designation for the site that was addressed in the General Plan EIR, and the environmental effects of the employment growth generated by the project were considered in the analysis of buildout of the Tracy General Plan. Additionally, as described throughout this environmental document, the employment growth attributable to the proposed project would not result in any significant site-specific environmental impacts to other environmental topics that cannot be mitigated to a less than significant level. Therefore, this impact is **less than significant**, as demonstrated throughout this document.

Response b): No Impact. There are no residences located on the proposed Project site.

The City Tracy General Plan land use designation for the Project site is Industrial and the site is within the Northeast Industrial Specific Plan Area. Specific uses allowed in the Industrial land use designation category range from flex/office space to manufacturing to warehousing and distribution. The Project site is currently zoned Northeast Industrial Specific Plan. The Northeast Industrial Specific Plan addresses 870 acres in the northeast corner of the City. Anticipated land uses include a mixture of manufacturing, warehousing, and distribution uses including rail-dependent industries and "flex-tech" light industrial.

The proposed Project is consistent with the land use designation for the site that was addressed in the General Plan and the Northeast Industrial Specific Plan, and the environmental effects of the displacement generate by the Project was considered in the analysis of buildout of the Tracy General Plan. Given that there are no residences on, or in the immediate vicinity of, the proposed

Project site, there is no anticipated displacement of existing residents and therefore the Project would have **no impact**.

XV. PUBLIC SERVICES

		Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:					
i)	Fire protection?			X	
ii)	Police protection?			X	
iii)	Schools?			X	
iv)	Parks?			X	
v)	Other public facilities?			X	

RESPONSES TO CHECKLIST QUESTIONS

Response a):

i) Fire Protection and Emergency Medical Services: Less than Significant. The Tracy Fire Department, as a member agency of the South County Fire Authority, provides fire protection, life safety, and emergency response services to 167 square miles of the southern part of San Joaquin County. In 1999, the South County Fire Authority was established to more effectively and efficiently serve the City of Tracy, the Tracy Rural Fire Protection District (FPD), and the Mountain House Community Services District (CSD).

The Fire Authority currently operates seven fire stations and an administrative office. Twenty-four hour-a-day staffing is provided with five paramedic engine companies, two basic life support engine companies, and one ladder truck company. Three fire stations are within the incorporated area of the City of Tracy, three are in the surrounding rural Tracy area, and one is located in the planned Community of Mountain House.

Medical transport is provided by private ambulance. American Medical Response is the exclusive emergency ambulance service provider in San Joaquin County.

The Tracy Fire Department conducted a Standards of Response Coverage study in late 2007. Findings of the study indicated that the Department had challenges in meeting its established response time objectives in the areas of the West Valley Mall and Downtown Tracy utilizing existing resources. Two new facilities were opened August 5, 2014, to replace Fire Stations 92 & 96. The new facilities allow the fire department to serve the greater community of Tracy more effectively within the established response time standard of 6.5 minutes.

Since November 2008, the Fire Department has expanded its provision of Advanced Life Support Services to all of its fire stations. Emergency medical services in Tracy and the surrounding areas

are reported to be good, as Tracy is one of only three fire departments in San Joaquin County that provide Advanced Life Support services.

Recognizing the potential need for increases in fire protection and emergency medical services, the City's General Plan includes policies to ensure that adequate related facilities are funded and provided to meet future growth (Objective PF-1.1, P1). This policy will be implemented through the review of all new projects within the City, prior to development, and through the collection of development impact fees for the funding of facilities.

Implementation of the proposed project would not adversely impact existing fire and emergency services within the City and would not require the construction of new fire protection facilities. Impact fees from new development are collected based upon projected impacts from each development. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant as COAs prior to project approval, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund capital and labor costs associated with fire protection services.

In order to provide adequate fire protection and suppression services to the Project site, the Tracy Fire Department must have access to adequate onsite hydrants with adequate fire-flow pressure available to meet the needs of fire suppression units. The final site plans and development specifications developed for the proposed project will indicate the location and design specifications of the fire hydrants that will be required within the Project site. Therefore, this is considered a **less than significant** impact.

ii) Police Protection: Less than Significant. The Tracy Police Department provides police protection services to the City of Tracy. Its headquarters are located at 1000 Civic Center Drive, approximately 2.0 miles southwest of the Project site. There are no satellite offices or plans to construct any in the near future.

The Department divides calls into three categories, Priority 1, 2, and 3 calls. Priority 1 calls are defined as life threatening situations. Priority 2 calls are not life threatening, but require immediate response. Priority 3 calls cover all other calls received by the police. Average response time for Priority 1 calls within City limits is approximately six to eight minutes. Response time for Priority 2 and 3 calls is, on average, 22 minutes.

The Tracy Police Department provides mutual aid to the San Joaquin County Sheriff's office, and vice versa, when a situation exceeds the capabilities of either department. Mutual aid is coordinated through the San Joaquin County Sheriff.

Impact fees from new developments are collected based upon projected impacts from each development by the City as COAs prior to project approval. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, and other revenues generated by the project, would fund capital and labor costs associated with police services.

It is not anticipated that implementation of the proposed project would result in significant new demand for police services. Project implementation would not require the construction of new police facilities to serve the Project site, nor would it result in impacts to the existing response times and existing police protection service levels. Furthermore, the City's General Plan ensures the City maintains adequate police staffing, performance levels and facilities to serve Tracy's existing population as well as any future growth (Goal PF-2, policy P.1). Therefore, this is considered a **less than significant** impact.

iii) Schools: Less than Significant. Implementation of the proposed project would result in modest employment growth within the City of Tracy, which may increase enrollment at schools within the Tracy Unified School District incrementally. The Tracy Unified School District collects impact fees from new developments under the provisions of SB 50. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from taxes, would fund capital and labor costs associated with school services. The adequacy of fees is reviewed on an annual basis to ensure that the fee is commensurate with the service. Payment of the applicable impact fees by the project applicant, and ongoing revenues that would come from property taxes, sales taxes, and other revenues generated by the project, would fund improvements associated with school services and would ensure that project impacts to school services are **less than significant**.

iv) Parks: Potential project impacts to parks and recreational facilities are addressed in the following section of this document.

v) Other Public Facilities: Less than Significant. Other public facilities in the City of Tracy include libraries, hospitals, and cultural centers such as museums and music halls. The proposed project may increase demand on these facilities in a limited capacity. The City of Tracy General Plan requires new development to pay its fair share of the costs of public buildings by collecting the Public Buildings Impact Fee. The Public Buildings Impact fee is used by the City to expand public services and maintain public buildings, including the Civic Center and libraries in order to meet the increased demand generated by new development. Payment of the applicable impact fees by the project applicant, as COAs prior to project approval, and ongoing revenues that would come from taxes, would ensure that project impacts to libraries and public buildings are **less than significant**.

XVI. RECREATION

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			X	
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			X	

RESPONSES TO CHECKLIST QUESTIONS

Responses a), b): Less than Significant. The proposed Project would not increase demand for parks and recreational facilities within the City of Tracy and would not increase the use of the City's existing parks and recreation system. The City of Tracy requires the payment of the Project's fair share in-lieu parks fees, as required by the City's General Plan. The collection of fees and determined fair share fee amounts are adopted by the City as COAs for all new development projects prior to project approval. Fees paid aid in the development of new park space and maintenance as required, to ensure continued high quality park facilities for all City residents. As such, this is a **less than significant** impact.

XVII. TRANSPORTATION -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	X			
b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	X			
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	X			
d) Result in inadequate emergency access?	X			

RESPONSES TO CHECKLIST QUESTIONS

Response a-d): Potentially Significant. The proposed Project includes the development of a use that will increase traffic on existing and planned roadways. Based on existing and projected traffic volume levels along roadways and potential increases in vehicle miles travelled (VMT) as a result of the project, it has been determined that traffic impacts will require a detailed analysis in the EIR. As such, the lead agency will examine each of the environmental issues listed in the checklist above in the EIR and will determine whether the proposed Project has the potential to have a significant impact from traffic. At this point a definitive impact conclusion for each of these environmental topics will not be made, rather all are considered **potentially significant** until a detailed analysis is conducted in the EIR.

The EIR will include a Traffic Impact Analysis (TIA) to address the impacts of the proposed project on the surrounding transportation system including the roadways, transit service, pedestrian facilities, and bicycle facilities. The TIA will be conducted to address compliance with the City's General Plan and other requirements under CEQA. It will be prepared following applicable guidelines of the City of Tracy, San Joaquin County, and Caltrans, as applicable. The EIR will analyze total passenger vehicle and heavy-duty truck trips and associated VMT that are modeled to be generated by the proposed project. Potential impacts associated with site access, on-site circulation, and consistency with CEQA Guidelines section 15064.3, subdivision (b) will also be addressed in the EIR. Significant impacts will be identified in accordance with the established criteria, and mitigation measures will be identified to lessen the significance of any potential impacts.

The EIR will provide an analysis including the thresholds of significance, a project-level impact analysis, cumulative impact analysis, and a discussion of feasible mitigation measures that should be implemented to reduce any significant impacts associated with transportation.

XVIII. TRIBAL CULTURAL RESOURCES

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporated*	*Less Than Significant Impact*	*No Impact*
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?			X	
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.			X	

RESPONSES TO CHECKLIST QUESTIONS

Responses a-b): Less than Significant. There is a potential for the discovery of prehistoric, ethnohistoric, or historic archaeological sites that may meet the definition of Tribal Cultural Resources (TCRs). Although no TCRs have been documented on the Project site, the Project is in a region where significant cultural resources have been recorded and there remains a potential that undocumented archaeological resources that may meet the TCR definition could be unearthed or otherwise discovered during ground-disturbing and construction activities. Examples of significant archaeological discoveries that may meet the TCR definition would include villages and cemeteries. Due to the possible presence of undocumented TCRs within the Project site, construction-related impacts on tribal cultural resources may occur.

Mitigation Measure CUL-1 in Section V, Cultural Resources, would require appropriate steps to preserve and/or document any previously undiscovered resources that may be encountered during construction activities, including human remains. Implementation of this requirement would reduce this impact to a **less than significant** level.

XIX. UTILITIES AND SERVICE SYSTEMS -- WOULD THE PROJECT:

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the projects projected demand in addition to the providers existing commitments?			X	
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reductions goals?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

RESPONSES TO CHECKLIST QUESTIONS

Responses a), c): Less than Significant. Wastewater generated by the proposed project would be conveyed to the Tracy Wastewater Treatment Plan (WWTP) for treatment and disposal. The City's wastewater collection system consists of gravity sewer lines, pump stations and the WWTP. Wastewater flows toward the northern part of the City where it is treated at the WWTP and then discharged into the Old River in the southern Sacramento-San Joaquin Delta.

The City's WWTP provides secondary-level treatment of wastewater followed by disinfection. Treated effluent from the WWTP is conveyed to a submerged diffuser for discharge into the Old River. The WWTP has an NPDES permit for discharge into the Old River from the State Regional Water Quality Control Board. The City of Tracy expanded the treatment capacity to 10.8 million gallons per day (mgd) in 2008.

The Tracy General Plan EIR determined that no significant wastewater-related impacts were identified as a result of buildout of the General Plan. Because the project is consistent with the intended uses allowed under the General Plan no impacts beyond those identified should result from implementation of the proposed project.

In 2008 the City expanded its wastewater treatment capacity to 10.8 mgd. The City's WWTP currently treats approximately 9.0 mgd of wastewater. The City's WWTP provides secondary-

level treatment of wastewater followed by disinfection. Treated effluent from the WWTP is conveyed to a submerged diffuser for discharge into the Old River. The WWTP has an NPDES permit for discharge into the Old River from the State Regional Water Quality Control Board.

As noted previously, it is estimated that the proposed project would generate up to 39,240 gpd, or 0.039 mgd of wastewater. The addition of 0.039 mgd of wastewater would not exceed the treatment capacity of the City's WWTP or violate waste discharge requirements under the City's NPDES permit. Additionally, the Wastewater System Analysis confirms that there is sufficient capacity in the existing nearby wastewater gravity sewer lines and pump stations to accommodate the proposed project. As such, the project would not cause, or contribute to, a violation of wastewater quality standards or waste discharge requirements.

The City has adequate capacity to serve the project's projected demand for wastewater treatment services in addition to its existing commitments, and no improvements or expansions to the existing WWTP are required to serve the proposed project. The addition of project-generated wastewater would not result in any RWQCB violations related to effluent treatment or discharge. Implementation of the proposed project would have a **less than significant** impact.

Response b): Less than Significant. Potable water for the proposed project would be supplied from the City's municipal water system. The Project site would receive potable water via a connection to existing water mains located on Grant Line Road and Chrisman Road. The proposed project's water demand was included in the demand calculations for the Citywide Water System Master Plan.

According to the City's Water System Master Plan, the unit water demand factor for industrial land uses in the is 1.5 acre-feet per acre per year. Using this factor and the site acreage (52.32 acres), the proposed project is expected to require an annual potable water demand of 78.49 acre-feet per year (afy).

The City of Tracy obtains water from both surface water and groundwater sources. The amount of water that Tracy uses from each of its water supply sources to make up its total water use varies from year to year based on contractual agreements, annual precipitation, and City policies about how to expand, utilize, and manage its water resources. As described in the 2020 City of Tracy Urban Water Management Plan, Tracy's maximum annual water supply amounts to over 40,168 afy from its various supply sources.

In recent years, demand for potable water in the City of Tracy has been trending downward. The total 2015 water demand in the City was 14,041 afy. The additional water demand (78.48 afy) of the proposed project would not exceed the City's available water supply. The City's water treatment and conveyance infrastructure is adequate to serve existing demand, in addition to the demand created by the proposed project. Therefore, this is a **less than significant** impact.

The City's water treatment and conveyance infrastructure is adequate to serve existing demand, in addition to the demand created by the proposed project. Therefore, this is a **less than significant** impact.

Responses c): Less than Significant. Development of the Project site would place impervious surfaces on much of the 52.32-acre Project site. Development of the Project site would potentially increase local runoff production and would introduce constituents into storm water that are typically associated with urban runoff. These constituents include heavy metals (such as lead, zinc, and copper) and petroleum hydrocarbons. BMPs will be applied to the concentrations of these constituents in any site runoff that is discharged into downstream facilities to acceptable levels.

Permanent onsite storm drainage would be installed to serve the proposed project. The potential environmental impacts of construction of the onsite storm drainage system are addressed throughout this Initial Study, given that all improvements would occur onsite, within the area proposed for disturbance. As described above under the Hydrology and Water Quality Section, new development projects in the City of Tracy are required to meet specific storm water drainage and quality requirements that are consistent with the overall approach to storm water infrastructure presented in the City of Tracy Citywide Storm Drainage Master Plan.

Prior to issuance of building permits, the project applicant is required to submit a detailed storm drainage infrastructure plan to the City of Tracy Community and Economic Development Department for review and approval (Mitigation Measure HYD-2). The project's storm drainage infrastructure plans must demonstrate adequate infrastructure capacity to collect and direct all stormwater generated on the Project site within onsite retention/detention facilities to the City's existing stormwater conveyance system, and demonstrate that the project would not result in on- or off-site flooding impacts.

The project is also required to pay all applicable development impact fees, which would include funding for offsite Citywide storm drainage infrastructure improvements identified in the 2012 City of Tracy Citywide Storm Drainage Master Plan. The collection of fees and determined fair share fee amounts are adopted by the City as COAs for all new development projects prior to project approval. The adequacy of impact fees is reviewed on an annual basis to ensure that the fee is commensurate with the service.

The development of an onsite storm drainage system that is approved by the City engineer (Mitigation Measure HYD-2), the payment of all applicable fees, and the implementation of a SWPPP that includes specific types and sources of stormwater pollutants, determines the location and nature of potential impacts, and specifies appropriate control measures to eliminate any potentially significant impacts on receiving water quality from stormwater runoff (as required under Mitigation Measure HYD-1), ensure that impacts to storm water drainage facilities are **less than significant**.

Responses d), e): Less than Significant. The City of Tracy has an exclusive franchise agreement with Tracy Disposal Service for solid waste collection and disposal and recycling collection. Solid

waste is collected and taken to the 40-acre Tracy Material Recovery Facility (MRF) and Transfer Station on South MacArthur Drive before being sent to the Foothill Sanitary landfill, 48 miles northeast of Tracy, off of Shelton Road east of Linden, California. The MRF is operated by Tracy Material Recovery and Solid Waste Transfer, Inc., and has capacity of approximately 1,000 tons per day, but averages approximately 350 tons per day, of which 85 percent is generated in Tracy. Approximately 175,000 tons of solid waste is generated in Tracy each year, of which approximately 27 percent is residential garbage.

The approximately 800-acre Foothill landfill, owned by San Joaquin County, is the primary disposal facility accepting the City's solid waste. The Foothill landfill receives approximately 810 tons per day. The landfill is permitted to accept up to 1,500 tons per day, and has a permitted capacity of 138 million cubic yards, of which approximately 125 million cubic yards of capacity remains. It is estimated that the Foothill landfill will have the capacity to accept solid waste from the City of Tracy until 2054.

The proposed Project would not generate significant volumes of solid waste, beyond levels normally found in industrial developments. Using CalRecycle's solid generation rate for manufacturing/warehouse land uses (1.42lbs per 100 sq ft per day), the project is expected to produce approximately 10,197 pounds of solid waste per day. Building A is projected to contribute approximately 6,631 pounds per day to the total, and Building B is projected to contribute approximately 3,564 pounds per day to the total. The addition of the solid waste generated by the project would not exceed the capacity of the local landfills.

As described above, there is adequate landfill capacity to serve the proposed project, and the project will comply with all applicable statutes and regulations related to solid waste. This is a **less than significant** impact.

XX. WILDFIRE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			X	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			X	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

EXISTING SETTING

The California Department of Forestry and Fire Protection (Cal Fire) has designated the southern portion of the City along Interstate 580 as a Local Responsibility Area (LRA), which is within the Moderate Fire Hazard Severity Zone (MFHSZ) with a small portion along the southern most City limits within the High Fire Hazard Severity Zone (HFHSZ). This rating does not extend to the Project site; as such, the site is not in or near land classified as a Very High Fire Hazard Severity Zone (VHFHSZ). Additionally, the proposed project is not located within a State Responsibility Area (SRA). Although this CEQA topic only applies to areas within an SRA or VHFHSZ, out of an abundance of caution, these checklist questions are analyzed below.

RESPONSES TO CHECKLIST QUESTIONS

Response a): Less than Significant. The Project site would connect to an existing network of City streets. The nearest fire station, Tracy Fire Station 92, is located approximately 0.91 miles to the southwest of the Project site. The appropriate turning radiuses have been planned to accommodate fire trucks on-site. The proposed circulation improvements would allow for greater emergency access relative to existing conditions. Moreover, the proposed project would require building construction to meet the fire code requirements, and would have fire hydrants consistent with the standards of the City; such fire hydrants would assist with fire suppression efforts if a fire was to occur on or near the Project site. Therefore, impacts from project implementation would be considered **less than significant** relative to adopted emergency response plans or evacuation plans.

Response b): Less than Significant. The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents) and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area to mass ratio and require less heat to reach the ignition point. The Project site is located in an area that is predominately industrial, which is not considered at a significant risk of wildlife. There are no steep slopes on or near the Project site. Development of the project would not exacerbate fire risks. Therefore, impacts from project implementation would be considered **less than significant** relative to the spread of wildfire.

Response c): Less than Significant. The project includes development of infrastructure (water, sewer, and storm drainage) to serve the proposed warehouse buildings. The project does not include the construction of fuel breaks, emergency water sources, or power lines. As noted above, the proposed project would require fire hydrants consistent with the standards of the City, and such fire hydrants would assist with fire suppression efforts if a fire was to occur. The proposed infrastructure improvements would allow for decreased fire risk relative to existing conditions. Therefore, impacts from project implementation would be considered **less than significant** relative to infrastructure that may exacerbate fire risk.

Response d): Less than Significant. The proposed project would require the installation of storm drainage infrastructure to ensure that storm waters properly drain from the Project site and does not result in downstream flooding or major drainage changes. The City requires the application of BMPs to effectively reduce pollutants from stormwater leaving the site during both the construction and operational phases of the project. Additionally, projects are required to prepare a Stormwater Pollution Prevention Plan (SWPPP). The final storm drainage infrastructure plan for the project would also be submitted to the City for review and approval.

The Project site includes a drainage basin between the Remediation Area and Chrisman Road. The storm drainage plan was designed and engineered to ensure proper construction of storm drainage infrastructure to control runoff and prevent flooding, erosion, and sedimentation. BMPs will be applied to the proposed development to limit the concentrations of constituents in any site runoff to acceptable levels. Stormwater flows from the Project site would be directed to the proposed stormwater treatment basins, treatment planters, and bioretention areas by a new stormwater conveyance system on the Project site. Additionally, erosion and sediment control measures would be implemented during construction.

Additionally, the Project site is not located within a FEMA-designated flood hazard zone.

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. The elevation of the site is approximately 23 feet above MSL. Upon development of the project, the site would be graded to eliminate any slopes on the Project site. The project would also be required to comply with the provisions of the California Building Standard's Code, which requires development projects to perform geotechnical investigations in accordance with State

law, which include general engineering characteristics of the subsurface conditions within the Project site and potential mitigation strategies to address any geotechnical concerns or potential hazards(such as slope failure). Therefore, the potential for a landslide (including rockfalls, deep slope failure, and shallow slope failure) on the Project site is low.

Overall, impacts from project implementation would be considered **less than significant** relative to risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

XXI. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	*Less Than Significant with Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?			X	
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			X	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

RESPONSES TO CHECKLIST QUESTIONS

Response a): Less than Significant. As described throughout the analysis above, the proposed project would not result in any significant impacts that would substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal to the environment.

All potentially significant impacts related to plant and animal species would be reduced to a less than significant level through the application of uniformly applied development policies and/or standards. The proposed project is required to implement a range of standard and uniformly applied development policies and standards, most of which are identified in the Tracy General Plan or various infrastructure master plans, which would reduce any potentially significant impacts to a less than significant level. The cumulative impacts associated with development of the project were considered, analyzed and disclosed in the City of Tracy General Plan and General Plan EIR. On February 1, 2011 the Tracy City Council adopted a Statement of Overriding Considerations (Resolution 2011-028) for all significant impacts associated with buildout of the Tracy General Plan. The project would not result in any cumulative impacts that were not contemplated in the General Plan EIR. The project would not result in any peculiar site-specific impacts, impacts to biological resources or impacts to cultural and/or historical resources.

The proposed project would implement requirements aimed at reducing stormwater pollutants and runoff, as well as through compliance of various state, regional and local standards. Specifically related to ensuring the continued sustainability of biological resources through

adaptive management, Mitigation Measure HYD-2 ensures the project proponent seeks coverage under the SJMSCP to mitigate for habitat impacts to covered special status species. Through the application of uniformly applied development policies and/or standards, the project would not result in any cumulative impacts related to biological resources. Therefore, these are **less than significant** impacts.

Response b): **Less than Significant.** The General Plan EIR assumed full development and buildout of the Project site, consistent with the use and density proposed by the project. The cumulative impacts associated with buildout of the City of Tracy General Plan, including the Project site, were fully addressed in the General Plan EIR. Additionally, as described throughout the analysis above, the proposed project would not result in any significant individual or cumulative impacts that would not be reduced to less than significant levels through the application of uniformly applied development policies and/or standards. Therefore, this is considered a **less than significant** impact.

Response c): Less than Significant. As described throughout the analysis above, the proposed project would not result in any significant impacts that would have environmental effects which will cause substantial adverse effects on humans. The analysis in the relevant sections above provides the application of uniformly applied development policies and/or standards reduce any potentially significant impacts on humans to less than significant levels. A variety of requirements including those related to aesthetics and light and glare, GHG and air quality, cultural resources, hazardous materials, seismic hazards, water pollution and water quality, and noise, ensure any adverse effects on humans are reduce to an acceptable standard. Therefore, this is considered a **less than significant** impact.

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California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
Jennifer Lucchesi, Director
715 P Street, MS 1803
Sacramento, CA. 95814
T: (916) 445-5986

June 10, 2025

VIA EMAIL

City of Tracy
Ms. Victoria Lombardo
333 Civic Center Plaza
Victoria.Lombardo@cityoftracy.org

Assessor Parcel Number(s): 21306012, 21306013
Property Owner(s): *N/A*
Project Location Address: *Chrisman Road and Paradise Avenue*

PROJECT TITLE: *PARADISE POINTE BUSINESS PARK PROJECT*

Public Resources Code (PRC) section 3208.1 establishes re-abandonment responsibility when previously plugged and abandoned oil, gas or geothermal wells will be impacted by planned property development or construction activities. Local permitting agencies, property owners, and/or developers should be aware of, and fully understand, that significant and potentially dangerous issues may be associated with development near previously abandoned oil, gas, and geothermal wells.

The California Geologic Energy Management Division (CalGEM) has received the above-referenced project dated *5/28/2025*. To assist local permitting agencies, property owners, and developers in making safe and practical land use decisions regarding potential development near oil, gas, or geothermal wells, CalGEM provides a table in the attached enclosure of the wells within the parcel boundary or in its vicinity, based on CalGEM's Well Finder database (https://maps.conservation.ca.gov/doggr/wellfinder/).

CalGEM categorically advises against building over, or in any way impeding access to, oil, gas, or geothermal wells. Impeding access to a well could result in the need to remove any structure or obstacle that prevents or impedes access including, but not limited to, buildings, housing, fencing, landscaping, trees, pools, patios, sidewalks, roadways, and decking at the landowner's expense if there is a need to access a well. Maintaining sufficient access is considered the ability for a well servicing unit and associated necessary equipment (consisting of well servicing rig, pumping equipment, pipe trailer) to reach a well from a public street or access way, solely over the parcel on which the well is located. A well servicing unit, and any necessary equipment, should be able to pass unimpeded along and over the route, and should be able to access the well without disturbing the integrity of surrounding infrastructure. Impermeable barriers such as asphalt, concrete, and plastic may trap hazardous gases and liquids underneath and could create a safety hazard if built over a well that later develops a leak.

CalGEM recommends that any well for which access is impeded or built over, against CalGEM's advice, should be evaluated by a qualified petroleum professional for compliance with the

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statutory objectives of isolating all hydrocarbon-bearing strata; protecting underground and surface waters; prevention of subsequent damage to life, health, property, and other resources; and prevention of loss of oil, gas, or reservoir energy. CalGEM recommends that wells that do not meet these standards are abandoned or re-abandoned prior to construction. The well information can be accessed through CalGEM's Well Finder database mentioned above. PRC section 3208, subdivision (a), provides the primary statutory authority for CalGEM to oversee adequate abandonment of wells. Additionally, CalGEM has developed the regulatory guidance for operators to be followed during well abandonment, which are listed within California Code of Regulation, title 14 (CCR) section 1723 and associated sub-sections (for onshore wells), and section 1745 and associated sub-sections (for offshore wells).

There is no guarantee that a well abandoned in compliance with current Division requirements as prescribed by law will not start leaking in the future. Due to the inability to predict all subsurface conditions or changes, it always remains a possibility that any well may start to leak oil, gas, and/or water after abandonment, no matter how thoroughly the well was plugged and abandoned. CalGEM acknowledges wells plugged and abandoned to the most current Division requirements as prescribed by law have a lower probability of leaking in the future, however there is no guarantee that such abandoned wells will not leak.

CalGEM advises that all wells identified on the development parcel prior to, or during, development activities be tested for liquid and gas leakage. Surveyed locations in Latitude and Longitude, NAD 83 decimal format, and leak testing results should be provided to CalGEM. CalGEM expects any wells found leaking to be reported to CalGEM immediately.

PRC section 3208.1 gives CalGEM the authority to order or permit the re-abandonment of any well where it has reason to question the integrity of the previous abandonment. Responsibility for re-abandonment costs may be affected by the choices made by the local permitting agency, property owner, and/or developer in considering the general advice set forth in this letter. The PRC continues to define the person or entity responsible for re-abandonment as:

1. The property owner - If the well was plugged and abandoned in conformance with Division requirements at the time of abandonment, and in its current condition does not pose an immediate danger to life, health, and property, but requires additional work solely because the owner of the property on which the well is located proposes construction on the property that would prevent or impede access to the well for purposes of remedying a currently perceived future problem, then the owner of the property on which the well is located shall obtain all rights necessary to re-abandon the well and be responsible for the re-abandonment.

2. The person or entity causing construction over or near the well - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and the property owner, developer, or local agency permitting the construction failed either to obtain an opinion from the supervisor or district deputy as to whether the previously abandoned well is required to be re-abandoned, or to follow the advice of the supervisor or district deputy not to undertake construction that impedes access, then the person or entity causing the construction over or near the well shall obtain all rights necessary to re-abandon the well and be responsible for the re-abandonment.

3. The party or parties responsible for disturbing the integrity of the abandonment - If the well was plugged and abandoned in conformance with Division requirements at the time of plugging and abandonment, and after that time someone other than the operator or an affiliate of the operator disturbed the integrity of the abandonment in the course of

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developing the property, then the party or parties responsible for disturbing the integrity of the abandonment shall be responsible for the re-abandonment.

Should any wells require abandonment or re-abandonment, the responsible party must submit a Notice of Intention (NOI) to CalGEM through WellSTAR. The NOI form can be accessed in the 'Plugging and Abandonment' section of the following link: https://www.conservation.ca.gov/calgem/for_operators.

No well work may be performed on any oil, gas, or geothermal well without written approval from CalGEM. Well work requiring approval includes, but is not limited to, mitigating leaking gas or other fluids from abandoned wells, modifications to well casings, and/or any other re-abandonment work. CalGEM also regulates the top of a plugged and abandoned well's minimum and maximum depth below final grade. CCR section 1723.5 states well casings shall be cut off at least 5 feet but no more than 10 feet below the surface of the ground. If any well needs to be lowered or raised (i.e. casing cut down or casing riser added) to meet this regulation, a permit from CalGEM is required before work can start.

CalGEM makes the following additional recommendations to the local permitting agency, property owner, and developer:

1. To ensure that present and future property owners are aware of (a) the existence of all wells located on the property, and (b) potentially significant issues associated with any improvements near oil or gas wells, CalGEM recommends that information regarding the below identified well(s), and any other pertinent information obtained after the issuance of this letter, be communicated to the appropriate county recorder for inclusion in the title information of the subject real property.

2. CalGEM recommends that any soil containing hydrocarbons be disposed of in accordance with local, state, and federal laws. Please notify the appropriate authorities if soil containing significant amounts of hydrocarbons is discovered during development.

As indicated in PRC section 3106, CalGEM has statutory authority over the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells, and attendant facilities, to prevent, as far as possible, damage to life, health, property, and natural resources; damage to underground oil, gas, and geothermal deposits; and damage to underground and surface waters suitable for irrigation or domestic purposes. In addition to CalGEM's authority to order work on wells pursuant to PRC sections 3208.1 and 3224, it has authority to issue civil and criminal penalties under PRC sections 3236, 3236.5, and 3359 for violations within CalGEM's jurisdictional authority. CalGEM does not regulate grading, excavations, or other land use issues.

Should you have any questions, or if any wells are encountered that were not part of this letter, contact CalGEM at *916.322.1110* or via email at *CalGEMNorthern@conservation.ca.gov*.

Sincerely,

May Soe

May Soe
Supervising Oil and Gas Engineer – Northern District

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Enclosure

cc: *N/A*
Include any additional contact as needed

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Enclosure: The wells listed below are reported to be located within and nearby the parcel boundary and may have future access impeded.

API No.	Well Name
No wells in the project area	

JUNE 13, 2025

VIA EMAIL: VICTORIA.LOMBARDO@CITYOFTRACY.ORG
VICTORIA LOMBARDO, SENIOR PLANNER
CITY OF TRACY
COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT
PLANNING DIVISION
333 CIVIC CENTER PLAZA
TRACY, CA 95376

Dear Ms. Lombardo:

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE PARADISE POINTE BUSINESS PARK PROJECT, SCH# 2025050796

The Department of Conservation's (Department) Division of Land Resource Protection (Division) has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Paradise Pointe Business Park Project (Project).

The Division monitors and maps farmland conversion on a statewide basis, provides technical assistance regarding the Williamson Act, and administers various agricultural land conservation programs. Public Resources Code, section 614, subdivision (b) authorizes the Department to provide soil conservation advisory services to local governments, including review of CEQA documents.

Protection of the state's agricultural land resources is part of the Department's mission and central to many of its programs. The CEQA process gives the Department an opportunity to acknowledge the value of the resource, identify areas of Department interest, and offer information on how to assess potential impacts or mitigation opportunities.

The Department respects local decision-making by informing the CEQA process and is not taking a position or providing legal or policy interpretation.

We offer the following comments for consideration with respect to the project's potential impacts on agricultural land and resources within the Department's purview.

PROJECT ATTRIBUTES

The proposed project would include development of two general light industrial warehouse buildings totaling 718,165 square feet (sf). Parking would be provided throughout the Development Area, including 322 automobile stalls, 247 trailer stalls, and 22 bicycle parking stalls. Landscaping, including trees, street frontage plantings, accent

shrubs and groundcover plantings, native shrub and grass mixes, and screening shrubs would be provided throughout the Development Area. The amenity area would include outdoor seating, picnic areas, bike parking, and landscaping.

The Project site contains Prime Farmland as designated by DOC's Farmland Mapping and Monitoring Program.

PROJECT CONSIDERATIONS

The conversion of agricultural land represents a permanent reduction and impact to California's agricultural land resources. The Department generally advises discussion of the following in any environmental review for the loss or conversion of agricultural land:

- Type, amount, and location of farmland conversion resulting directly and indirectly from implementation of the proposed project.
- Impacts on any current and future agricultural operations in the vicinity; e.g., land-use conflicts, increases in land values and taxes, loss of agricultural support infrastructure such as processing facilities, etc.
- Incremental impacts leading to cumulative impacts on agricultural land. This would include impacts from the proposed project, as well as impacts from past, current, and likely future projects.
- Implementation of any City or County Agricultural Mitigation Plans, Programs, or Policies.
- Proposed mitigation measures for impacted agricultural lands within the proposed project area.

MITIGATING AGRICULTURAL LAND LOSS OR CONVERSION

Consistent with CEQA Guidelines, the Department advises that the environmental review address mitigation for the loss or conversion of agricultural land. An agricultural conservation easement is one potential method for mitigating loss or conversion of agricultural land. (*See* Cal. Code Regs., tit. 14, § 15370 [mitigation includes "compensating for the impact by replacing or providing substitute resources or environments, including through permanent protection of such resources in the form of conservation easements."]; *see also King and Gardiner Farms, LLC v. County of Kern* (2020) 45 Cal.App.5th 814.)

Mitigation through agricultural conservation easements can take at least two forms: the outright purchase of easements or the donation of mitigation fees to a local, regional, or statewide organization or agency whose purpose includes the acquisition and stewardship of agricultural easements. The conversion of agricultural land may be viewed as an impact of at least regional significance. Hence, the search for replacement lands may not need to be limited strictly to lands within the project's surrounding area. A helpful source for regional and statewide agricultural mitigation banks is the California Council of Land Trusts. They provide helpful insight into farmland

mitigation policies and implementation strategies, including a guidebook with model policies and a model local ordinance. The guidebook can be found at:

California Council of Land Trusts

Of course, the use of conservation easements is only one form of mitigation, and the Department urges consideration of any other feasible measures necessary to mitigate project impacts.

Thank you for giving us the opportunity to comment on the Notice of Preparation of a Draft Environmental Impact Report for the Paradise Pointe Business Park Project. Please provide the Department with notices of any future hearing dates as well as any staff reports pertaining to this project. If you have any questions regarding our comments, please contact Farl Grundy, Associate Environmental Planner via email at Farl.Grundy@conservation.ca.gov.

Sincerely,

Monique Wilber

Monique Wilber

Conservation Program Support Supervisor

California Department of Transportation

OFFICE OF THE DISTRICT 10 DIRECTOR
P.O. BOX 2048 | STOCKTON, CA 95201
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www.dot.ca.gov

June 16, 2025

10-SJ-205-PM R09.397
Paradise Pointe Business Park
SCH# 2025050796

Victoria Lombardo, Senior Planner
City of Tracy
Community and Economic Development
333 Civic Center Plaza
Tracy, CA 95376

Dear Ms. Lombardo:

The California Department of Transportation appreciates the opportunity to review the two proposed warehouses south of Interstate 205 and west of Paradise Road. The two warehouses will total 718,165 square feet and have a total of 106 dock doors. There will be 322 auto parking spaces and 247 trailer parking spaces. Access will be provided via Chrisman Road to the south. The Department has the following comments:

1. This project appears to conflict with the footprint for the future I-205/Chrisman Road Interchange project, sponsored by the City of Tracy, and the I-205 Managed Lanes Project, sponsored by SJCOG, so the applicant should coordinate with the project proponents to resolve this conflict and provide a revised site map to Caltrans for review and comment prior to project approval. This map should identify the development limits, the footprints of these highway improvement projects as well as proposed project revisions due to the conflicts.

2. According to City of Tracy Truck Route Map, I-205 MacArthur interchanges, I-580 Corral Hollow Road and southbound I-5/11th Street off-ramp are within the proposed development vicinity. Therefore, a full Traffic Impact Study (TIS) is required for review. The Scope of Work for the TIS should be submitted to Caltrans for review and comment prior to the start of the analysis and during the project review process prior approval.

3. The TIS Executive Summary section should include details on road improvements that will accompany this development.

4. The TIS needs to include truck generation and truck distribution figures on State facilities.

5. This project requires the appropriate STAA Terminal Access approvals. Terminal Access application procedures can be found at the following link: http://www.dot.ca.gov/trafficops/trucks/taprocess.html

6. Provide the Synchro/Simtraffic version 12 electronic files with the TIS. The files must include the following Analysis Scenarios. If the project scenarios are to be phased over

several years, the analysis should specify the years of each phase and analyze the operations impacts of each phase.

a. Existing Conditions.
b. Project Only Condition.
c. Existing Conditions plus Project.
d. Cumulative Conditions (Existing Conditions plus Other Approval and Pending Project without this project).
e. Cumulative Conditions plus Proposed Project.

7. An Encroachment Permit will be required for work (if any) done within the Department's right of way. This work is subject to the California Environmental Quality Act. Therefore, environmental studies may be required as part of the encroachment permits application. A qualified professional must conduct any such studies undertaken to satisfy the Department's environmental review responsibilities. Ground disturbing activities to the site prior to completion and/or approval of required environmental documents may affect the Department's ability to issue a permit for the project. Furthermore, if engineering plans or drawings will be part of your permit application, they should be prepared in standard units.

If you have any questions or comments, please contact me at (209) 483-2582 or Nicholas Fung at (209) 986-1552.

Sincerely,

Nicholas Fung
FOR

Tom Dumas
Chief, Office of Metropolitan Planning

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Bay Delta Region
2825 Cordelia Road, Suite 100
Fairfield, CA 94534
(707) 428-2002
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

June 10, 2025

Victoria Lombardo, Senior Planner
City of Tracy, Community and Economic Development Department
333 Civic Center Plaza
Tracy, CA 95376
Victoria.Lombardo@cityoftracy.org

Subject: Paradise Pointe Business Park Project, Notice of Preparation of a Draft Environmental Impact Report, SCH No. 2025050796, City of Tracy, San Joaquin County

Dear Ms. Lombardo:

The California Department of Fish and Wildlife (CDFW) has reviewed the City of Tracy (City) Notice of Preparation (NOP) of a draft Environmental Impact Report (EIR) for the Paradise Pointe Business Park Project (Project) pursuant the California Environmental Quality Act (CEQA) and CEQA Guidelines.[1]

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW is providing the City of Tracy, as the Lead Agency, with specific detail about the scope and content of the environmental information related to CDFW's area of statutory responsibility that must be included in the EIR (Cal. Code Regs., tit. 14, § 15082, subd. (b)).

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

CDFW is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's Lake and Streambed Alteration (LSA) regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA, Fish & G. Code, § 2050 et seq.), the Project proponent may seek related take authorization as provided by the Fish and Game Code.

REGULATORY REQUIREMENTS

California Endangered Species Act

[1] CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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A CESA Incidental Take Permit (ITP) must be obtained from CDFW if the Project has the potential to result in "take" of plants or animals listed under CESA, either during construction or over the life of the Project. Under CESA, "take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." (Fish & G. Code, § 86). CDFW's issuance of an ITP is subject to CEQA and to facilitate permit issuance, any Project modifications and mitigation measures must be incorporated into the CEQA document analysis, discussion, and mitigation monitoring and reporting program. If the Project will impact CESA listed species, early consultation is encouraged, as significant modification to the Project and mitigation measures may be required in order to obtain a CESA permit.

CEQA requires a mandatory finding of significance if a project is likely to substantially impact threatened or endangered species. Pub. Resources Code, §§ 21001, subd. (c) & 21083; CEQA Guidelines, §§ 15380, 15064 & 15065). In addition, pursuant to CEQA, the Lead Agency cannot approve a project unless all impacts to the environment are avoided or mitigated to less-than-significant levels, or the Lead Agency makes and supports Findings of Overriding Consideration (FOC) for impacts that remain significant despite the implementation of all feasible mitigation. FOC under CEQA, however, does not eliminate the Project proponent's obligation to comply with the Fish and Game Code.

Migratory Birds and Raptors

CDFW has authority over actions that may result in the disturbance or destruction of active bird nest sites or the unauthorized take of birds. Fish and Game Code sections protecting birds, their eggs, and nests include section 3503 (regarding unlawful take, possession, or needless destruction of the nests or eggs of any bird), section 3503.5 (regarding the take, possession, or destruction of any birds-of-prey or their nests or eggs), and section 3513 (regarding unlawful take of any migratory nongame bird). Migratory birds are also protected under the federal Migratory Bird Treaty Act (MBTA).

PROJECT DESCRIPTION SUMMARY

Proponent: Michael Diepenbrock, Ridge Tracy Land Partners No. 2, LLC

Objective: The objective of the Project is to develop two warehouse buildings totaling 718,165 square feet, including supportive parking and landscaping. Primary Project activities include excavation of contaminated soil in an approximately 10.2-acre Remediation Area prior to development; grading of the Project site; construction of two industrial warehouses, associated utilities, parking, and an outdoor amenity area for employees; and installation landscaping, including native and drought tolerant plants and associated irrigation systems.

Location: The Project site is located in the City of Tracy, San Joaquin County. The site is located at the northwest corner of Chrisman Road and Paradise Avenue adjacent to State Route 205 (SR-205) to the north, and the approximate Project coordinates are Latitude 37.763333°, Longitude -121.392694°.

Timeframe: A timeframe is not specified for the initiation of Project activities.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist the City in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources.

PROJECT DESCRIPTION

The CEQA Guidelines (§§15124 & 15378) require that the draft EIR incorporate a full Project description, including reasonably foreseeable future phases of the Project, and

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that contains sufficient information to evaluate and review the Project's environmental impact. Please include a complete description of the following Project components in the Project description including, but not limited to, the following information:

- Footprints of permanent Project features and temporarily impacted areas, such as staging areas and access routes;
- Area and plans for any proposed buildings/structures, ground-disturbing activities;
- fencing, paving, stationary machinery, landscaping, and stormwater systems;
- Operational features of the Project, including level of anticipated human presence (describe seasonal or daily peaks in activity, if relevant), artificial lighting/light reflection, noise, traffic generation, and other features; and
- Construction schedule, activities, equipment, and crew sizes.

ENVIRONMENTAL SETTING

Sufficient information regarding the environmental setting is necessary to understand any potentially significant impacts on the environment of the proposed Project and any alternatives identified in the draft EIR (CEQA Guidelines, §§15125 & 15360).

CDFW recommends the draft EIR provide baseline habitat assessments for special-status plant, fish and wildlife species located and potentially located within the Project area and surrounding lands, including all rare, threatened, and endangered species (CEQA Guidelines, §15380). The draft EIR should describe aquatic habitats, such as wetlands or waters of the U.S. or State, and any sensitive natural communities or riparian habitat occurring on or adjacent to the Project site (for sensitive natural communities see: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities), and any stream or wetland set back distances the City may require. Fully protected, threatened or endangered, candidate, and other special-status species or sensitive natural communities that are known to occur, or have the potential to occur in or near the Project site, include, but are not limited to:

Species	**Status**
Crotch's bumble bee (*Bombus crotchii*)	State candidate (SC)
Song sparrow – Modesto population (*Melospoza melodia pop. 1*)	Species of special concern (SSC)
Swainson's hawk (*Buteo swainsoni*)	State threatened (ST)
Tricolored blackbird (*Agelaius tricolor*)	ST
Western burrowing owl (*Athene cunicularia*)	SC

Habitat descriptions and species profiles included in the draft EIR should include robust information from multiple sources: aerial imagery; historical and recent survey data; field reconnaissance; scientific literature and reports; U.S. Fish and Wildlife Service's (USFWS) Information, Planning, and Consultation System; California Aquatic Resources Inventory; and findings from "positive occurrence" databases such as California Natural Diversity Database (CNDDB). Only with sufficient data and information can the City adequately assess which special-status species are likely to occur in the Project vicinity.

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CDFW recommends surveys be conducted for special-status species with potential to occur, following recommended survey protocols if available. Survey and monitoring protocols and guidelines are available at: https://www.wildlife.ca.gov/Conservation/Survey-Protocol. The Project will result in the loss of agricultural land, which could impact nesting and foraging habitat for birds and bees.

- Crotch's bumble bee: CDFW recommends utilizing Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species (https://wildlife.ca.gov/Conservation/CESA) for reference in developing habitat assessment and survey methodology.

- Swainson's hawk: CDFW recommends surveys are conducted in accordance with Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (TAC Report)*.

- Western burrowing owl: CDFW recommends habitat assessments and surveys are conducted in accordance with the *California Department of Fish and Game* (*now CDFW*) *2012 Staff Report on Burrowing Owl Mitigation* (*CDFW 2012 Staff Report*).

Botanical surveys for special-status plant species, including those listed by the California Native Plant Society (http://www.cnps.org/cnps/rareplants/inventory/), should also be conducted during the blooming period for all sensitive plant species potentially occurring within the Project area and include the identification of reference populations. Please refer to CDFW protocols for surveying and evaluating impacts to rare plants available at: https://www.wildlife.ca.gov/Conservation/Plants.

IMPACT ANALYSIS AND MITIGATION MEASURES

The CEQA Guidelines (§15126.2) necessitate the draft EIR discuss all direct and indirect impacts (temporary and permanent) that may occur with implementation of the Project. The following items are not sufficiently addressed in the Initial Study included with the NOP, and should be evaluated and described in the draft EIR:

- Loss or modification of breeding, nesting, dispersal, and foraging habitat, including vegetation removal, alteration of soils and hydrology, and removal of habitat structural features (e.g. nests, burrows, burrow surrogates);

- Permanent and temporary habitat disturbance associated with ground disturbance, noise, lighting, air pollution, traffic, and increased human presence; and

- Obstruction of movement corridors or access to core habitat features for resident species or wildlife in areas adjacent to the Project site. On page 37, the Initial Study indicates that because there are no CNDDB records of wildlife corridors or nursery sites on the Project site, the project will have a less than significant impact. CNDDB is a positive-occurrence database and there are areas of the state that have not been surveyed or where data have not been submitted to the CNDDB program. Therefore, absence of CNDDB data is not sufficient proof of absence, and such analysis should be based upon the results of habitat assessments and surveys of the Project site as described in the above comment.

The draft EIR also should identify existing and reasonably foreseeable future projects in the Project vicinity, disclose any cumulative impacts associated with these projects, determine the significance of each cumulative impact, and assess the significance of the Project's contribution to each impact (CEQA Guidelines, §15355). Although a Project's impacts may be insignificant individually, its contributions to a cumulative

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impact may be considerable; a contribution to a significant cumulative impact (e.g., reduction of available habitat for a listed species) should be considered cumulatively considerable without mitigation to minimize or avoid the impact.

Mitigation Measures for Project Impacts to Biological Resources

The draft EIR should include all appropriate and feasible avoidance, minimization, and/or mitigation measures for all direct, indirect, and cumulative impacts that are expected to occur as a result of the construction and long-term operation and maintenance of the Project. CDFW recommends that the draft EIR provide scientifically supported discussions regarding adequate avoidance, minimization, and/or mitigation measures to address the Project's potentially significant impacts upon fish and wildlife and their habitat. These measures should then be incorporated as enforceable Project conditions to reduce potential impacts to biological resources to less-than-significant levels. For individual projects, mitigation must be roughly proportional to the level of impacts, including cumulative impacts, in accordance with the provisions of CEQA (Guidelines § § 15126.4(a)(4)(B), 15064, 15065, and 16355). In order for mitigation measures to be effective, they must be specific, enforceable, and feasible actions that will improve environmental conditions. The Initial Study included with the NOP relies upon mitigation measures that may not be sufficient to reduce impacts to special-status species to less-than-significant levels, and CDFW therefore recommends consideration of the following when proposing measures to avoid, minimize, or mitigate impacts in the draft EIR:

COMMENT 1: San Joaquin County Multi-Species Habitat Conservation and Open Space Plan Participation and California Endangered Species Act-Listed Species

The draft EIR does not include supporting documentation for approval under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), nor does it propose or identify specific and sufficient mitigation in the event that the project is does not obtain full coverage under the SJMSCP. Impacts to special-status species need to be addressed with specific, enforceable mitigation measures in the event that SJMSCP does not approve coverage, if the Project opts not to seek coverage, or if the Project may impact any species which are not covered under the SJMSCP.

Unauthorized take of listed and candidate species pursuant to the CESA is a violation of California Fish and Game Code section 2080 et. seq. If the Project cannot fully avoid take of such species, including, but not limited to Swainson's hawk, western burrowing owl, Crotch's bumble bee, or tricolored blackbird, and if the SJMSCP does not offer take coverage for such species, CDFW recommends the IS/MND include language defining the Project's obligation to obtain take coverage through an ITP issued by CDFW.

Please see the following comments for species-specific recommendations:

COMMENT 1a: Swainson's Hawk

The Project site is within the geographic summer range of Swainson's hawk and there are 56 CNDDB occurrences documented within five miles of the Project site (CDFW, 2025). Based on aerial imagery and information provided in the draft EIR, agricultural land within the Project site may provide foraging habitat for Swainson's hawk. The draft EIR proposes Mitigation Measure BIO-1 to reduce impacts to Swainson's hawk to less-than-significant levels; however, all avoidance and minimization measures described in Mitigation Measure BIO-1 are specific to western burrowing owl.

Swainson's hawk is unlikely to be detected by the preconstruction surveys described in Mitigation Measure BIO-1 which target western burrowing owl. Western burrowing

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owl utilizes underground burrows for nesting and cover, while Swainson's hawk nests within trees (CDFW, 2012; CDFW, 1994). Swainson's hawk nests may also be disturbed by Project-related activities at a distance of up to 0.5 miles (TAC, 2000) and may remain vulnerable to disturbance without adequate surveys and avoidance measures. Mitigation Measure BIO-1 does not describe methods to avoid or minimize potential Project-related disturbances to Swainson's hawk nests should one be present.

If Swainson's hawk nests are undetected during surveys, disturbances generated by the Project may result in nest abandonment, loss of young, reduced reproductive success, or the reduced health or vigor of eggs or nestlings. Swainson's hawk populations have experienced a precipitous decline over the past century, and current populations continue to be threatened by on-going and cumulative loss of foraging habitat, which is potentially present within the Project site (CDFW 2016). Swainson's hawk is a threatened species under CESA, which qualifies it as a rare, threatened, or endangered species under CEQA. Because Mitigation Measure BIO-1 is insufficient to reduce Project-related impacts to Swainson's hawk to less-than-significant levels, impacts to Swainson's hawk may still therefore be *potentially significant*.

To minimize impacts to Swainson's hawk to less-than-significant levels, CDFW recommends that the following specific and enforceable mitigation measures be incorporated in the draft EIR:

Swainson's Hawk Surveys and Avoidance: If Project activities are scheduled during the nesting season for Swainson's hawks (March 1 to September 15), prior to beginning work on this Project, a qualified biologist shall conduct surveys according to the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (TAC, 2000). Survey methods should be closely followed by starting early in the nesting season (late March to early April) to maximize the likelihood of detecting an active nest (nests, adults, and chicks are more difficult to detect later in the growing season because trees become less transparent as vegetation increases). Surveys shall be conducted: 1) within a minimum 0.5-mile radius of the Project site or a larger area if needed to identify potentially impacted active nests, and 2) for at least the two survey periods immediately prior to initiating Project-related construction activities. Surveys shall occur annually for the duration of the Project. The qualified biologist shall have a minimum of two years of experience implementing the survey methodology resulting in detections. If active Swainson's hawk nests are detected, the Project shall implement a 0.5-mile construction avoidance buffer around the nest until the nest is no longer active as determined by a qualified biologist.

Swainson's Hawk Mitigation: Loss of foraging habitat shall be mitigated at the appropriate ratio following CDFW's (then Fish and Game) Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni)* in the Central Valley of California (CDFW, 1994) prior to Project construction, and accepted by CDFW in writing. The Project shall be assumed to be within one mile of an active nest tree and mitigate at a 1:1 mitigation to impact ratio, unless protocol-level Swainson's hawk surveys are conducted demonstrating that Swainson's hawks are not nesting within one mile of the Project. Habitat mitigation shall include permanent preservation of foraging habitat through a conservation easement and implementing and funding a long-term management plan in perpetuity.

COMMENT 1b: Western Burrowing Owl

The Project site is within the year-round range of western burrowing owl and there are 23 CNDDB occurrences documented within five miles of the Project site (CDFW, 2025). Based on aerial imagery and information provided in the draft EIR, land within

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and adjacent to the Project site may provide suitable foraging and roosting habitat for western burrowing owl. The draft EIR proposes Mitigation Measure BIO-1 to reduce impacts to western burrowing owl to less-than-significant levels; however, proposed preconstruction survey methodology is not described, and the avoidance and minimization measures described in Mitigation Measure BIO-1 appear to be based upon outdated guidance from the 1995 Staff Report on Burrowing Owl Mitigation. Therefore, Mitigation Measure BIO-1 may not be sufficient to reduce impacts to western burrowing owl to less-than-significant levels.

Please be advised that CDFW issued a revised Staff Report in 2012 with updated survey, avoidance, minimization, and mitigation recommendations that replace those outlined in the 1995 Staff Report. Please also be advised that CDFW no longer considers exclusion of burrowing owls (i.e., passive removal of an owl from its burrow or other shelter) as a "take" avoidance, minimization, or mitigation measure, and eviction of burrowing owls is a potentially significant impact under CEQA (CDFW, 2012). Burrowing owls are dependent on burrows at all times of year for survival or reproduction and exhibit high site fidelity (CDFW, 2024). According to the 2012 Staff Report, eviction from burrows often results in increased stress on burrowing owls and could depress reproduction, increase predation, increase energetic costs, and introduce risks posed by having to find and compete for available burrows. Therefore, exclusion and burrow closure are not recommended where they can be avoided.

If western burrowing owl are present within the Project site but remain undetected by surveys, they may be directly injured or killed during ground disturbance or operation of equipment associated with the Project. Without the implementation of appropriate avoidance and minimization measures, disturbance to nesting burrowing owls within or adjacent to the Project site may result in nest abandonment, reduced reproductive success, or loss or reduced health or vigor of eggs or young. Disturbance at any time of year may result in flushing of burrowing owls from their burrows, potentially resulting in increased risk of injury by vehicle strike or predation. Western burrowing owl was named as a candidate for listing under CESA in October 2024. Their candidacy status qualifies western burrowing owl as a rare, threatened, or endangered species under CEQA and affords them the same legal protection as endangered or threatened species (Fish and Game Code sections 2074.2 and 2085). Because Mitigation Measure BIO-1 may be insufficient to reduce Project-related impacts to western burrowing owl to less-than-significant levels, impacts to western burrowing owl may still therefore be *potentially significant.*

To minimize impacts to western burrowing owl to less-than-significant levels, CDFW recommends that the following specific and enforceable mitigation measures be incorporated in the draft EIR:

Western Burrowing Owl Surveys: No more than 14 days prior to prior to Project activities, a qualified biologist shall conduct at least two surveys following the methods described in CDFW 2012 Staff Report on Burrowing Owl Mitigation, Appendix D (2012), at least seven days apart, with the final survey conducted no more than 48 hours prior to beginning Project activities. Surveys shall encompass the Project site and a sufficient buffer zone to detect owls nearby that may be impacted commensurate with the type of disturbance anticipated, as outlined in the CDFW 2012 Staff Report, and include burrow surrogates such as culverts, piles of concrete or rubble, and other non-natural features, in addition to burrows and mounds. If a lapse in Project-related work of 14 calendar days or longer occurs, additional surveys shall be required. If occupied burrows are detected during surveys, CDFW shall be consulted prior to Project commencement.

Western Burrowing Owl No-Disturbance Buffers: A qualified biologist shall clearly delineate a no-disturbance buffer around all western burrowing owl

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burrows, including nesting, roosting, and satellite burrows, or the entire burrow complex within and adjacent to within 150 meters of the Project Area with posted markers demarking the area to avoid, using stakes, flags, and/or rope or cord to minimize the disturbance of western burrowing owl habitat. Buffers shall be determined based upon the time of year and level of disturbance as described in the CDFW 2012 Staff Report. If burrows cannot be fully avoided, CDFW shall be consulted.

Western Burrowing Owl Habitat Mitigation: The CDFW 2012 Staff Report states, "current scientific literature supports the conclusion that mitigation for permanent habitat loss necessitates replacement with an equivalent or greater habitat area for breeding, foraging, wintering, dispersal, presence of burrows, burrow surrogates…" If the Project would impact an unoccupied nesting burrowing owl burrow or burrow surrogate (i.e., a burrow known to have been used in the past three years for nesting), or an occupied burrow (where a non-nesting owl would be evicted as described above), impacts to burrowing owl habitat should be mitigated for at a minimum 1:1 mitigation to impact ratio through a conservation easement and implementing and funding a long-term management plan in perpetuity.

COMMENT 1c: Crotch's Bumble Bee

The draft EIR does not evaluate potential Project impacts to Crotch's bumble bee. The Project site is located within the historic range for Crotch's bumble bee, and recent Crotch's bumble bee occurrences have been documented within San Joaquin County including one CNDDB occurrence from 2023 within five miles of the Project site (CDFW, 2025).

Implementation of the Project includes construction of warehouses, associated parking lots and utilities, and landscaping. If Crotch's bumble bee utilizes the Project site for nesting, foraging, or overwintering habitat, direct mortality could result from crushing or filling of active bee colonies or hibernating bees, reduced reproductive success, loss of suitable breeding and foraging habitat, or loss of vegetation that may support foraging habitat. Crotch's bumble bee is currently a candidate species for listing under the CESA, and qualifies as a rare, threatened, or endangered species under CEQA. As a CESA candidate, Crotch's bumble bee is afforded the same protections as CESA-listed species, and take of this species pursuant to CESA is a violation of California Fish and Game Code section 2080 et seq.

To reduce impacts to Crotch's bumble bee to less-than-significant levels and to comply with the CESA, CDFW recommends that impacts to Crotch's bumble bee be evaluated in the draft EIR, and that the following feasible mitigation measures be incorporated as enforceable measures of the draft EIR:

Habitat Assessment and Surveys: CDFW recommends a qualified biologist conduct a habitat assessment as part of the biological studies conducted in support of the draft EIR to determine if the Project site and the immediate surrounding vicinity contain habitat suitable to support Crotch's bumble bee. Potential nesting sites, which include all small mammal burrows, perennial bunch grasses, thatched annual grasses, brush piles, old bird nests, dead trees, and hollow logs would need to be documented as part of the assessment. If potentially suitable habitat is identified, CDFW recommends that a qualified biologist conduct focused surveys for Crotch's bumble bee following the methodology outlined in the Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species (CDFW, 2023).

Take Avoidance: Crotch's bumble bee is not a species covered under the SJMSCP. If surveys indicate the presence or potential presence of Crotch's bumble bee, consultation with the CDFW is recommended for guidance on the

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development of mitigation measures such as take avoidance, minimization, and mitigation. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA.

COMMENT 2: Nesting Birds

CDFW encourages all ground-disturbing activities occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the breeding season (February 15 through September 15), developers are responsible for ensuring that implementation of their project does not result in a violation of the MBTA or relevant Fish and Game Codes as referenced above.

To evaluate and avoid potential impacts to nesting bird species, CDFW recommends the following measures be made conditions of approval for the Project:

Nesting Bird Surveys: If Project activities will occur during nesting bird season (February 1 to September 15), a Qualified Biologist shall conduct one focused survey for active nests within **seven days** prior to the initiation of project-related activities. If a lapse in Project-related activities of **seven days** or longer occurs, another focused survey will be required before project activities can be reinitiated. Surveys shall be conducted in all potential habitat located at project work sites and in staging and storage areas. The minimum survey radii surrounding the work area shall be the following: (1) 250 feet for non-raptors; and (2) 1,000 feet for raptors. If an active nest is found, Permittee shall consult with CDFW regarding appropriate action to comply with the Fish and Game Code of California.

Active Nest Buffers: Any active nests shall have an appropriately sized protective buffer to protect the bird's normal bird behavior to prevent nesting failure or abandonment. Typical protective buffers are as follows: i) 1,000 feet for large raptors such as buteos, ii) 500 feet for smaller raptors such as accipiters and iii) 250 feet for passerines. No project personnel or equipment shall be allowed to enter the protective buffer until a Qualified Biologist determines that the young have fully fledged and will no longer be adversely affected by the project. A Qualified Biologist shall observe any identified active nests prior to the start of any construction-related activities to establish a behavioral baseline of the adults and any nestlings, and all active nests should be continuously monitored by a biologist during construction activities to detect any signs of disturbance and behavioral changes as a result of the project. If signs of disturbance and behavioral changes are observed, work shall cease and the protective buffer shall be increased.

EDITORIAL COMMENTS

The draft EIR indicates that tricolored blackbird (*Agelaius tricolor*) occur within the region but does not provide a discussion of potential Project impacts to the species. Please provide an evaluation of potential impacts to tricolored blackbird, CESA-listed species and rare, threatened, or endangered under CEQA, in the draft EIR.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database which may be used to make subsequent or supplemental environmental determinations. (Pub. Resources Code, § 21003, subd. (e).) Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDB. The CNDDB field survey form can be filled out and submitted online at the following link: https://wildlife.ca.gov/Data/CNDDB/Submitting-Data. The types of information reported

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to CNDDB can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Plants-and-Animals.

ENVIRONMENTAL DOCUMENT FILING FEES

The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of environmental document filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the environmental document filing fee is required in order for the underlying project approval to be operative, vested, and final. (See Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089.)

CONCLUSION

CDFW finds that without the incorporation of the above revisions to a revised draft EIR, the significant biological impacts identified in the Initial Study will not be mitigated to a level of less-than-significant. CDFW appreciates the opportunity to comment on the draft EIR to assist the City in identifying and mitigating Project impacts on biological resources.

Questions regarding this letter or further coordination should be directed to Torrey Soland, Environmental Scientist, at (707) 266-2878 or Torrey.Soland@wildlife.ca.gov; or Sara Kern, Senior Environmental Scientist (Supervisory), at (916) 531-4465 or Sara.Kern@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erin Chappell
B77E9A6211EF486...

Erin Chappell
Regional Manager
Bay Delta Region

ec: Office of Planning and Research, State Clearinghouse, Sacramento

REFERENCES

California Department of Fish and Wildlife (CDFW). (1994). Staff Report Regarding Mitigation for Impacts to Swainson's Hawk (*Buteo swainsoni*) in the Central Valley of California. State of California Department of Fish and Game, Sacramento, CA. https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83992&inline.

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Game Commission. State of California Department of Fish and Wildlife, Sacramento, CA.

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11 June 2025

Victoria Lombardo
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COMMENTS TO REQUEST FOR REVIEW FOR THE NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT, PARADISE POINTE BUSINESS PARK PROJECT, SCH#2025050796, SAN JOAQUIN COUNTY

Pursuant to the State Clearinghouse's 19 May 2025 request, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) has reviewed the *Request for Review for the Notice of Preparation for the Draft Environmental Impact Report* for the Paradise Pointe Business Park Project, located in San Joaquin County.

Our agency is delegated with the responsibility of protecting the quality of surface and groundwaters of the state; therefore our comments will address concerns surrounding those issues.

I. Regulatory Setting

Basin Plan

The Central Valley Water Board is required to formulate and adopt Basin Plans for all areas within the Central Valley region under Section 13240 of the Porter-Cologne Water Quality Control Act. Each Basin Plan must contain water quality objectives to ensure the reasonable protection of beneficial uses, as well as a program of implementation for achieving water quality objectives with the Basin Plans. Federal regulations require each state to adopt water quality standards to protect the public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act. In California, the beneficial uses, water quality objectives, and the Antidegradation Policy are the State's water quality standards. Water quality standards are also contained in the National Toxics Rule, 40 CFR Section 131.36, and the California Toxics Rule, 40 CFR Section 131.38.

The Basin Plan is subject to modification as necessary, considering applicable laws, policies, technologies, water quality conditions and priorities. The original Basin Plans were adopted in 1975, and have been updated and revised periodically as required, using Basin Plan amendments. Once the Central Valley Water Board has adopted a Basin Plan amendment in noticed public hearings, it must be approved by

the State Water Resources Control Board (State Water Board), Office of Administrative Law (OAL) and in some cases, the United States Environmental Protection Agency (USEPA). Basin Plan amendments only become effective after they have been approved by the OAL and in some cases, the USEPA. Every three (3) years, a review of the Basin Plan is completed that assesses the appropriateness of existing standards and evaluates and prioritizes Basin Planning issues. For more information on the *Water Quality Control Plan for the Sacramento and San Joaquin River Basins*, please visit our website:
http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/

Antidegradation Considerations

All wastewater discharges must comply with the Antidegradation Policy (State Water Board Resolution 68-16) and the Antidegradation Implementation Policy contained in the Basin Plan. The Antidegradation Implementation Policy is available on page 74 at:
https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201805.pdf

In part it states:

Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives.

The antidegradation analysis is a mandatory element in the National Pollutant Discharge Elimination System and land discharge Waste Discharge Requirements (WDRs) permitting processes. The environmental review document should evaluate potential impacts to both surface and groundwater quality.

II. Permitting Requirements

Construction Storm Water General Permit

Dischargers whose project disturb one or more acres of soil or where projects disturb less than one acre but are part of a larger common plan of development that in total disturbs one or more acres, are required to obtain coverage under the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), Construction General Permit Order No. 2009-0009-DWQ. Construction activity subject to this permit includes clearing, grading, grubbing, disturbances to the ground, such as stockpiling, or excavation, but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. The Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). For more information on the Construction General Permit, visit the State Water Resources Control Board website at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

Industrial Storm Water General Permit

Storm water discharges associated with industrial sites must comply with the regulations contained in the Industrial Storm Water General Permit Order No. 2014-0057-DWQ. For more information on the Industrial Storm Water General Permit, visit the Central Valley Water Board website at: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/industrial_general_permits/index.shtml

Clean Water Act Section 404 Permit

If the project will involve the discharge of dredged or fill material in navigable waters or wetlands, a permit pursuant to Section 404 of the Clean Water Act may be needed from the United States Army Corps of Engineers (USACE). If a Section 404 permit is required by the USACE, the Central Valley Water Board will review the permit application to ensure that discharge will not violate water quality standards. If the project requires surface water drainage realignment, the applicant is advised to contact the Department of Fish and Game for information on Streambed Alteration Permit requirements. If you have any questions regarding the Clean Water Act Section 404 permits, please contact the Regulatory Division of the Sacramento District of USACE at (916) 557-5250.

Clean Water Act Section 401 Permit – Water Quality Certification

If an USACE permit (e.g., Non-Reporting Nationwide Permit, Nationwide Permit, Letter of Permission, Individual Permit, Regional General Permit, Programmatic General Permit), or any other federal permit (e.g., Section 10 of the Rivers and Harbors Act or Section 9 from the United States Coast Guard), is required for this project due to the disturbance of waters of the United States (such as streams and wetlands), then a Water Quality Certification must be obtained from the Central Valley Water Board prior to initiation of project activities. There are no waivers for 401 Water Quality Certifications. For more information on the Water Quality Certification, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/

Waste Discharge Requirements – Discharges to Waters of the State

If USACE determines that only non-jurisdictional waters of the State (i.e., “non-federal” waters of the State) are present in the proposed project area, the proposed project may require a Waste Discharge Requirement (WDR) permit to be issued by Central Valley Water Board. Under the California Porter-Cologne Water Quality Control Act, discharges to all waters of the State, including all wetlands and other waters of the State including, but not limited to, isolated wetlands, are subject to State regulation. For more information on the Waste Discharges to Surface Water NPDES Program and WDR processes, visit the Central Valley Water Board website at:https://www.waterboards.ca.gov/centralvalley/water_issues/waste_to_surface_water/

Projects involving excavation or fill activities impacting less than 0.2 acre or 400 linear feet of non-jurisdictional waters of the state and projects involving dredging activities impacting less than 50 cubic yards of non-jurisdictional waters of the state may be eligible for coverage under the State Water Resources Control Board Water Quality Order No. 2004-0004-DWQ (General Order 2004-0004). For more information on the General Order 2004-0004, visit the State Water Resources Control Board website at:
https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2004/wqo/wqo2004-0004.pdf

Dewatering Permit

If the proposed project includes construction or groundwater dewatering to be discharged to land, the proponent may apply for coverage under State Water Board General Water Quality Order (Low Threat General Order) 2003-0003 or the Central Valley Water Board's Waiver of Report of Waste Discharge and Waste Discharge Requirements (Low Threat Waiver) R5-2018-0085. Small temporary construction dewatering projects are projects that discharge groundwater to land from excavation activities or dewatering of underground utility vaults. Dischargers seeking coverage under the General Order or Waiver must file a Notice of Intent with the Central Valley Water Board prior to beginning discharge.

For more information regarding the Low Threat General Order and the application process, visit the Central Valley Water Board website at:
http://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2003/wqo/wqo2003-0003.pdf

For more information regarding the Low Threat Waiver and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/waivers/r5-2018-0085.pdf

Limited Threat General NPDES Permit

If the proposed project includes construction dewatering and it is necessary to discharge the groundwater to waters of the United States, the proposed project will require coverage under a National Pollutant Discharge Elimination System (NPDES) permit. Dewatering discharges are typically considered a low or limited threat to water quality and may be covered under the General Order for *Limited Threat Discharges to Surface Water* (Limited Threat General Order). A complete Notice of Intent must be submitted to the Central Valley Water Board to obtain coverage under the Limited Threat General Order. For more information regarding the Limited Threat General Order and the application process, visit the Central Valley Water Board website at:
https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0076-01.pdf

NPDES Permit

If the proposed project discharges waste that could affect the quality of surface waters of the State, other than into a community sewer system, the proposed project will require coverage under a National Pollutant Discharge Elimination System

(NPDES) permit. A complete Report of Waste Discharge must be submitted with the Central Valley Water Board to obtain a NPDES Permit. For more information regarding the NPDES Permit and the application process, visit the Central Valley Water Board website at: https://www.waterboards.ca.gov/centralvalley/help/permit/

If you have questions regarding these comments, please contact me at (916) 464-4684 or Peter.Minkel2@waterboards.ca.gov.

Peter G. Minkel
Engineering Geologist

cc: State Clearinghouse unit, Governor's Office of Planning and Research, Sacramento

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PARADISE POINTE BUSINESS PARK EIR
SCOPING MEETING
JUNE 11, 2025

Planning Commission Comments

Commissioner Orcutt: Can the remediation area be used for landscaping?

Victoria Lombardo: Yes, this area will be mostly parking and landscaping.

Commissioner Orcutt: For the variance, if yellow freight has large trees, would there be a special variance for the landscaping to continue the tree line view?

Victoria Lombardo: The Variance is more about land use. Our code says we cannot have an industrial warehouse within 500 feet of a freeway. We can work in the landscaping into the COAs, for example.

Commissioner Boakye-Boateng: Is the contamination entirely on this property? Or is it affecting neighboring properties?

Victoria Lombardo: The prior evaluations and sampling have analyzed the project site. To the south of this site, we have a detention basin. I assume we did similar studies prior to constructing that basin in the past. The property to the east has a current application for another industrial building. The DEIR that is being worked on for the east property would identify any concerns for that site.

Commissioner Boakye-Boateng: For the Alternatives, how are those determined?

Victoria Lombardo: There is always a No Project Alternative, and the consultant with help from the city and applicant will create those alternatives.

Commissioner Boakye-Boateng: The EIR will be published once it's ready, correct?

Victoria Lombardo: Yes.

Commissioner English: The land we cannot use, is that why we are allowing them to get closer to the freeway.

Commissioner Summers: The applicant is requesting this. The applicant believes the southern portion of the site is unusable due to the contamination. In the future, when the EIR is done, the staff will consider the variance.

Commissioner English: I visited the site and it appears the site is surrounded by warehouses. This is the proper location for the proposed use.

Public Comments

Project Applicant (Trevor Smith): The contamination is confined to the airstrip, which is on-site. The old hangar is where the worst contamination is. The contaminants didn't get into the groundwater, but it did creep onto the Paradise Ave roadway. The grey area in the site plan shows the future Chrisman/205 interchange.

Tim Sullivan: Since this is a scoping meeting, I will give my disapproval of this project. The last we need is another warehouse. We have vacant and underutilized warehouses. I previously said these would be

an eyesore. How many more warehouses do we need? Tracy needs better businesses that benefit community and increase quality of life. Manteca developed their corridor smart. We put a bunch of warehouses. When you have shops and retail, that's where we get our sales tax. Most of the people who work there will not live in Tracy. Has any outreach been done? This is the first I heard of this project. We do a poor job of advertising to our community. We need to do outreach. I do not approve of this project and it's in a terrible area. Warehousing jobs are the worst jobs with high turnover. I also disapprove of taking up any ag land.

Planning Commission Comments

Commissioner English: Is there any way we can post something like this in the newspaper?

Victoria Lombardo: This was posted in the newspaper, like all our notices. It is also sent to the interested parties list, posted on the website, posted on the library, and posted at the City.

Commissioner Penning: I've heard this comment a lot and I think we need to get more creative with noticing. We need to challenge ourselves to reach the masses.

San Joaquin Valley
AIR POLLUTION CONTROL DISTRICT

HEALTHY AIR LIVING™

June 17, 2025 (DUE June 16, 2025)

Victoria Lombardo
City of Tracy
Planning Division
333 Civic Center Plaza
Tracy, CA 95376

Project: Notice of Preparation of an Environmental Impact Report and Scoping Meeting for the Paradise Pointe Business Park Project

District CEQA Reference No: 20250572

Dear Ms. Lombardo:

The San Joaquin Valley Air Pollution Control District (District) has reviewed the Notice of Preparation (NOP) for an Environmental Impact Report (EIR) from the City of Tracy (City) for the project mentioned above. Per the NOP, the project consists of two general light industrial warehouse buildings totaling 718,165 square feet (Building A 466,977 square feet and Building B 215,188 square feet) (Project). The Project is located at the northwest corner of Chrisman Road and Paradise Avenue in Tracy, CA (APN: 213-06-012 and 213-06-013).

The District offers the following comments at this time regarding the Project:

1) Project Related Emissions

At the federal level under the National Ambient Air Quality Standards (NAAQS), the District is designated as extreme nonattainment for the 8-hour ozone standards and serious nonattainment for the particulate matter less than 2.5 microns in size (PM2.5) standards. At the state level under California Ambient Air Quality Standards (CAAQS), the District is designated as nonattainment for the 8-hour ozone, PM10, and PM2.5 standards.

The District's initial review of the Project concludes that emissions resulting from construction and/or operation of the Project may exceed any of the following significance thresholds as identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf.

Samir Sheikh
Executive Director/Air Pollution Control Officer

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Modesto, CA 95356-8718
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The District recommends that a more detailed preliminary review of the Project be conducted for the Project's construction and operational emissions.

1a) Construction Emissions

The District recommends, to reduce impacts from construction-related diesel exhaust emissions, the Project should utilize the cleanest available off-road construction equipment.

1b) Operational Emissions

Operational (ongoing) air emissions from mobile sources and stationary sources should be analyzed separately. For reference, the District's significance thresholds are identified in the District's Guidance for Assessing and Mitigating Air Quality Impacts: https://ww2.valleyair.org/media/g4nl3p0g/gamaqi.pdf.

Recommended Mitigation Measure: At a minimum, project related impacts on air quality should be reduced to levels below the District's significance thresholds through incorporation of design elements such as the use of cleaner Heavy Heavy-Duty (HHD) trucks and vehicles, measures that reduce Vehicle Miles Traveled (VMTs), and measures that increase energy efficiency. More information on transportation mitigation measures can be found at: https://ww2.valleyair.org/media/ob0pweru/clean-air-measures.pdf

1c) Project Trip Length for HHD Truck Travel

The City's environmental review should adequately characterize and justify an appropriate trip length distance for off-site HHD truck travel to and from the Project site. Based on the following factors: 1) the Project consists of a warehouse/distribution center that is expected to generate a high volume of HHD truck trips, and 2) HHD trucks generally travel further distances for distribution. The District recommends the environmental review include a discussion characterizing an appropriate trip length distance for HHD truck travel, and reflect such appropriate distance supported by project-specific factors.

1d) Recommended Model for Quantifying Air Emissions

Project-related criteria pollutant emissions from construction and operational sources should be identified and quantified. Emissions analysis should be performed using the California Emission Estimator Model (CalEEMod), which uses the most recent CARB-approved version of relevant emissions models and emission factors. CalEEMod is available to the public and can be downloaded from the CalEEMod website at: www.caleemod.com.

2) Health Risk Screening/Assessment

The City should evaluate the risk associated with the Project for sensitive receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) in the area and mitigate any potentially significant risk to help limit exposure of sensitive receptors to emissions.

To determine potential health impacts on surrounding receptors (residences, businesses, hospitals, day-care facilities, health care facilities, etc.) a Prioritization and/or a Health Risk Assessment (HRA) should be performed for the Project. These health risk determinations should quantify and characterize potential Toxic Air Contaminants (TACs) identified by the Office of Environmental Health Hazard Assessment/California Air Resources Board (OEHHA/CARB) that pose a present or potential hazard to human health.

Health risk analyses should include all potential air emissions from the project, which include emissions from construction of the project, including multi-year construction, as well as ongoing operational activities of the project. Note, two common sources of TACs can be attributed to diesel exhaust emitted from heavy-duty off-road earth moving equipment during construction, and from ongoing operation of heavy-duty on-road trucks.

Prioritization (Screening Health Risk Assessment):
A "Prioritization" is the recommended method for a conservative screening-level health risk assessment. The Prioritization should be performed using the California Air Pollution Control Officers Association's (CAPCOA) methodology. Please contact the District for assistance with performing a Prioritization analysis.

The District recommends that a more refined analysis, in the form of an HRA, be performed for any project resulting in a Prioritization score of 10 or greater. This is because the prioritization results are a conservative health risk representation, while the detailed HRA provides a more accurate health risk evaluation.

Health Risk Assessment:
Prior to performing an HRA, it is strongly recommended that land use agencies/ project proponents develop and submit for District review a health risk modeling protocol that outlines the sources and methodologies that will be used to perform the HRA.

A development project would be considered to have a potentially significant health risk if the HRA demonstrates that the health impacts would exceed the District's established risk thresholds, which can be found here: https://ww2.valleyair.org/permitting/ceqa/.

A project with a significant health risk would trigger all feasible mitigation measures. The District strongly recommends that development projects that result in a significant health risk not be approved by the land use agency.

The District is available to review HRA protocols and analyses. For HRA submittals please provide the following information electronically to the District for review:

- HRA (AERMOD) modeling files
- HARP2 files
- Summary of emissions source locations, emissions rates, and emission factor calculations and methodologies.

For assistance, please contact the District's Technical Services Department by:

- E-Mailing inquiries to: hramodeler@valleyair.org
- Calling (559) 230-5900

Recommended Measure: Development projects resulting in TAC emissions should be located an adequate distance from residential areas and other sensitive receptors to prevent the creation of a significant health risk in accordance to CARB's Air Quality and Land Use Handbook: A Community Health Perspective located at https://ww2.arb.ca.gov/our-work/programs/resource-center/strategy-development/land-use-resources.

3) Ambient Air Quality Analysis

An Ambient Air Quality Analysis (AAQA) uses air dispersion modeling to determine if emissions increases from a project will cause or contribute to a violation of State or National Ambient Air Quality Standards. The District recommends an AAQA be performed for the Project if emissions exceed 100 pounds per day of any pollutant.

An AAQA uses air dispersion modeling to determine if emission increase from a project will cause or contribute to a violation of State or National Ambien Air Quality Standards. An acceptable analysis would include emissions from both project-specific permitted and non-permitted equipment and activities. The District recommends consultation with District staff to determine the appropriate model and input data to use in the analysis.

Specific information for assessing significance, including screening tools and modeling guidance, is available online at the District's website: https://ww2.valleyair.org/permitting/ceqa/.

4) Voluntary Emission Reduction Agreement

Criteria pollutant emissions may result in emissions exceeding the District's significance thresholds, potentially resulting in a significant impact on air quality. When a project is expected to have a significant impact, the District recommends the EIR also include a discussion on the feasibility of implementing a Voluntary Emission Reduction Agreement (VERA) for this Project.

A VERA is a mitigation measure by which the project proponent provides pound-for-pound mitigation of emissions increases through a process that develops, funds, and implements emission reduction projects, with the District serving a role of administrator of the emissions reduction projects and verifier of the successful mitigation effort. To implement a VERA, the project proponent and the District enter into a contractual agreement in which the project proponent agrees to mitigate project specific emissions by providing funds for the District's incentives programs. The funds are disbursed by the District in the form of grants for projects that achieve emission reductions. Thus, project-related impacts on air quality can be mitigated. Types of emission reduction projects that have been funded in the past include electrification of stationary internal combustion engines (such as agricultural irrigation pumps), replacing old heavy-duty trucks with new, cleaner, more efficient heavy-duty trucks, and replacement of agricultural equipment with the latest generation technologies.

In implementing a VERA, the District verifies the actual emission reductions that have been achieved as a result of completed grant contracts, monitors the emission reduction projects, and ensures the enforceability of achieved reductions. After the project is mitigated, the District certifies to the Lead Agency that the mitigation is completed, providing the Lead Agency with an enforceable mitigation measure demonstrating that project-related emissions have been mitigated. To assist the Lead Agency and project proponent in ensuring that the environmental document is compliant with CEQA, the District recommends the environmental document includes an assessment of the feasibility of implementing a VERA.

5) Industrial/Warehouse Emission Reduction Strategies

The District recommends the City incorporate emission reduction strategies that can reduce potential harmful health impacts, such as those listed below:

- Require HHD truck routing patterns that limit exposure of residential communities and sensitive receptors to emissions (see comment 6)
- Require cleanest available heavy-duty trucks and off-road equipment (see comments 7 and 9)
- Require minimization of heavy-duty truck idling (see comment 8)
- Require solid screen buffering trees, solid decorative walls, and/or other natural ground landscaping techniques are implemented along the property

line of adjacent sensitive receptors
- Orient loading docks away from sensitive receptors unless physically impossible
- Require loading docks a minimum of 500 feet away from the property line of the nearest truck loading bay opening, unless dock is exclusively used for electric trucks
- Incorporate signage and “pavement markings” to clearly identify on-site circulation patterns to minimize unnecessary on-site vehicle travel
- Require truck entries be located on streets of a higher commercial classification
- Locate and require truck entry, exit, and internal circulation away from sensitive receptors
- Prohibit Heavy-Duty diesel truck drive aisles from being used on sides of the building that are directly adjacent to a sensitive receptor property line
- Require a separate entrance for heavy-duty trucks accessible via a truck route, arterial road, major thoroughfare, or a local road that predominantly serves commercial oriented uses
- Require projects be designed to provide the necessary infrastructure to support use of zero-emissions on-road vehicles and off-road equipment (see comment 12)
- Require all building roofs are solar-ready
- Require all portions of roof tops that are not covered with solar panels are constructed to have light colored roofing material with a solar reflective index of greater than 78
- Ensure rooftop solar panels are installed and operated to supply 100% of the power needed to operate all non-refrigerated portions of the development project
- Install solar photovoltaic systems and associated battery storage on the project site
- Require power sources at loading docks for all refrigerated trucks have “plugin” capacity, which will eliminate prolonged idling while loading and unloading goods
- Incorporate bicycle racks and electric bike plug-ins
- Require the use of low volatile organic compounds (VOC) architectural and industrial maintenance coatings
- Designate an area during construction to charge electric powered construction vehicles and equipment, if temporary power is available
- Prohibit the use of non-emergency diesel-powered generators during construction
- Inform the project proponent of the incentive programs (e.g., Carl Moyer Program and Voucher Incentive Program) offered to reduce air emissions from the Project
- Ensure all landscaping be drought tolerant

6) Truck Routing

Truck routing involves the assessment of which roads Heavy Heavy-Duty (HHD) trucks take to and from their destination, and the emissions impact that the HHD trucks may have on residential communities and sensitive receptors. Since the Project consists of general light industrial warehouse buildings, the Project has the potential to generate HHD truck trips.

The District recommends the City evaluate HHD truck routing patterns for the Project, with the aim of limiting exposure of residential communities and sensitive receptors to emissions. This evaluation would consider the current truck routes, the quantity and type of each truck (e.g., Medium Heavy-Duty, HHD, etc.), the destination and origin of each trip, traffic volume correlation with the time of day or the day of the week, overall Vehicle Miles Traveled (VMT), and associated exhaust emissions. The truck routing evaluation would also identify alternative truck routes and their impacts on VMT and air quality.

7) Cleanest Available Heavy-Duty Trucks

The San Joaquin Valley will not be able to attain stringent health-based federal air quality standards without significant reductions in emissions from HHD trucks, the single largest source of NOx emissions in the San Joaquin Valley. Accordingly, to meet federal air quality attainment standards, the District's ozone and particulate matter attainment plans rely on a significant and rapid transition of HHD fleets to zero or near-zero emissions technologies.

Since the Project consists of general light industrial warehouse buildings, the Project has the potential to generate HHD truck trips. Since the Project may exceed the District significance thresholds, the District recommends that the following measures be considered by the City to reduce Project-related operational emissions:

- *Recommended Measure*: Fleets associated with operational activities utilize the cleanest available HHD trucks, including zero and near-zero technologies.

- *Recommended Measure*: All on-site service equipment (cargo handling, yard hostlers, forklifts, pallet jacks, etc.) utilize zero-emissions technologies.

8) Reduce Idling of Heavy-Duty Trucks

The goal of this strategy is to limit the potential for localized PM2.5 and toxic air contaminant impacts associated with the idling of Heavy-Duty trucks. The diesel exhaust from idling has the potential to impose significant adverse health and environmental impacts.

Since the Project has the potential to generate HHD truck trips, the District recommends the EIR include measures to ensure compliance of the state anti-idling regulation (13 CCR § 2485 and 13 CCR § 2480) and discuss the importance of limiting the amount of idling, especially near sensitive receptors. In addition, the District recommends the City consider the feasibility of implementing a more stringent 3-minute idling restriction and requiring appropriate signage and enforcement of idling restrictions.

9) Electric On-Site Off-Road and On-Road Equipment

Since the development project includes general light industrial warehouse buildings, the Project may have the potential to result in increased use of off-road equipment (e.g., forklifts) and on-road equipment (e.g., mobile yard trucks with the ability to move materials). The District recommends that the EIR include requirements for project proponents to utilize electric or zero emission off-road and on-road equipment.

10) Vegetative Barriers and Urban Greening

There are single family residential units located east of the Project. The District suggests the City consider the feasibility of incorporating vegetative barriers and urban greening as a measure to further reduce air pollution exposure on sensitive receptors (e.g., residential units).

While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, vegetative barriers have been shown to be an additional measure to potentially reduce a population's exposure to air pollution through the interception of airborne particles and the update of gaseous pollutants. Examples of vegetative barriers include, but are not limited to the following: trees, bushes, shrubs, or a mix of these. Generally, a higher and thicker vegetative barrier with full coverage will result in greater reductions in downwind pollutant concentrations. In the same manner, urban greening is also a way to help improve air quality and public health in addition to enhancing the overall beautification of a community with drought tolerant, low-maintenance greenery.

11) On-Site Solar Deployment

It is the policy of the State of California that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers by December 31, 2045. While various emission control techniques and programs exist to reduce air quality emissions from mobile and stationary sources, the production of solar energy is contributing to improving air quality and public health. The District suggests that the City consider incorporating solar power systems as an emission reduction strategy for the Project.

12) Electric Infrastructure

To support and accelerate the installation of electric vehicle charging equipment and development of required infrastructure, the District offers incentives to public agencies, businesses, and property owners of multi-unit dwellings to install electric charging infrastructure (Level 2 and 3 chargers). The purpose of the District's Charge Up! Incentive program is to promote clean air alternative-fuel technologies and the use of low or zero-emission vehicles. The District recommends that the City and project proponents install electric vehicle chargers at project sites, and at strategic locations.

Please visit https://ww2.valleyair.org/grants/charge-up for more information.

13) District Rules and Regulations

The District issues permits for many types of air pollution sources, and regulates some activities that do not require permits. A project subject to District rules and regulations would reduce its impacts on air quality through compliance with the District's regulatory framework. In general, a regulation is a collection of individual rules, each of which deals with a specific topic. As an example, Regulation II (Permits) includes District Rule 2010 (Permits Required), Rule 2201 (New and Modified Stationary Source Review), Rule 2520 (Federally Mandated Operating Permits), and several other rules pertaining to District permitting requirements and processes.

The list of rules below is neither exhaustive nor exclusive. Current District rules can be found online at: https://ww2.valleyair.org/rules-and-planning/current-district-rules-and-regulations. To identify other District rules or regulations that apply to future projects, or to obtain information about District permit requirements, the project proponents are strongly encouraged to contact the District's Small Business Assistance (SBA) Office at (209) 557-6446.

13a) District Rules 2010 and 2201 - Air Quality Permitting for Stationary Sources

Stationary Source emissions include any building, structure, facility, or installation which emits or may emit any affected pollutant directly or as a fugitive emission. District Rule 2010 (Permits Required) requires operators of emission sources to obtain an Authority to Construct (ATC) and Permit to Operate (PTO) from the District. District Rule 2201 (New and Modified Stationary Source Review) requires that new and modified stationary sources of emissions mitigate their emissions using Best Available Control Technology (BACT).

This Project may be subject to District Rule 2010 (Permits Required) and Rule 2201 (New and Modified Stationary Source Review) and may require District permits. Prior to construction, the Project proponent should submit to the District an application for an ATC. For further information or assistance, the project proponent may contact the District's SBA Office at (209) 557-6446.

13b) District Rule 9510 - Indirect Source Review (ISR)

The Project is subject to District Rule 9510 because it will receive a project-level discretionary approval from a public agency and will equal or exceed 25,000 square feet of industrial space.

The purpose of District Rule 9510 is to reduce the growth in both NOx and PM emissions associated with development and transportation projects from mobile and area sources; specifically, the emissions associated with the construction and subsequent operation of development projects. The ISR Rule requires developers to mitigate their NOx and PM emissions by incorporating clean air design elements into their projects. Should the proposed development project clean air design elements be insufficient to meet the required emission reductions, developers must pay a fee that ultimately funds incentive projects to achieve off-site emissions reductions.

Per Section 5.0 of the ISR Rule, an Air Impact Assessment (AIA) application is required to be submitted no later than applying for project-level approval from a public agency. As of the date of this letter, the District has not received an AIA application for this Project. Please immediately submit an AIA application to the District to comply with District Rule 9510 so that proper mitigation and clean air design under ISR can be incorporated into the Project's design. One AIA application should be submitted for the entire Project.

Information about how to comply with District Rule 9510 can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview

The AIA application form can be found online at: https://ww2.valleyair.org/permitting/indirect-source-review-rule-overview/forms-and-applications/

District staff is available to provide assistance and can be reached by phone at (559) 230-5900 or by email at ISR@valleyair.org.

13c) District Rule 9410 (Employer Based Trip Reduction)

The Project may be subject to District Rule 9410 (Employer Based Trip Reduction) if the project would result in employment of 100 or more "eligible" employees. District Rule 9410 requires employers with 100 or more "eligible"

employees at a worksite to establish an Employer Trip Reduction Implementation Plan (eTRIP) that encourages employees to reduce single-occupancy vehicle trips, thus reducing pollutant emissions associated with work commutes. Under an eTRIP plan, employers have the flexibility to select the options that work best for their worksites and their employees.

Information about District Rule 9410 can be found online at: https://ww2.valleyair.org/compliance/rule-9410-employer-based-trip-reduction/.

For additional information, you can contact the District by phone at 559-230-6000 or by e-mail at etrip@valleyair.org

13d) District Rule 4601 (Architectural Coatings)

The Project may be subject to District Rule 4601 since it may utilize architectural coatings. Architectural coatings are paints, varnishes, sealers, or stains that are applied to structures, portable buildings, pavements or curbs. The purpose of this rule is to limit VOC emissions from architectural coatings. In addition, this rule specifies architectural coatings storage, cleanup and labeling requirements. Additional information on how to comply with District Rule 4601 requirements can be found online at: https://ww2.valleyair.org/media/tkgjeusd/rule-4601.pdf

13e) District Regulation VIII (Fugitive PM10 Prohibitions)

The project proponent may be required to submit a Construction Notification Form or submit and receive approval of a Dust Control Plan prior to commencing any earthmoving activities as described in Regulation VIII, specifically Rule 8021 – *Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities.*

Should the project result in at least 1-acre in size, the project proponent shall provide written notification to the District at least 48 hours prior to the project proponents intent to commence any earthmoving activities pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). Also, should the project result in the disturbance of 5-acres or more, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials, the project proponent shall submit to the District a Dust Control Plan pursuant to District Rule 8021 (Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities). For additional information regarding the written notification or Dust Control Plan requirements, please contact District Compliance staff at (559) 230-5950.

The application for both the Construction Notification and Dust Control Plan can be found online at: https://ww2.valleyair.org/media/fm3jrbsq/dcp-form.docx

Information about District Regulation VIII can be found online at: https://ww2.valleyair.org/dustcontrol

13f) Other District Rules and Regulations

The Project may also be subject to the following District rules: Rule 4102 (Nuisance) and Rule 4641 (Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations).

14) District Comment Letter

The District recommends that a copy of the District's comments be provided to the Project proponent.

If you have any questions or require further information, please contact Harout Sagherian by e-mail at Harout.Sagherian@valleyair.org or by phone at (559) 230-5860.

Sincerely,

Mark Montelongo
Director of Policy and Government Affairs



For: Daniel Martinez
Program Manager

APPENDIX B

CalEEMod Outputs and Health Risk Assessment

Paradise Pointe v3 Detailed Report

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Data Field	Value
Project Name	Paradise Pointe v3
Construction Start Date	1/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	6.60
Location	37.76383933815566, -121.39201370019259
County	San Joaquin
City	Tracy
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2105
EDFZ	4
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	467	1000sqft	10.7	466,977	0.00	0.00	—	Building A

Unrefrigerated Warehouse-No Rail	251	1000sqft	5.77	251,188	0.00	0.00	—	Building B
General Office Building	17.0	1000sqft	0.39	17,000	0.00	0.00	—	Office Areas
Parking Lot	569	Space	13.1	0.00	0.00	0.00	—	Parking Lots

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers
Construction	C-13	Use Low-VOC Paints for Construction
Transportation	T-14*	Provide Electric Vehicle Charging Infrastructure
Energy	E-1	Buildings Exceed 2019 Title 24 Building Envelope Energy Efficiency Standards
Area Sources	AS-2	Use Low-VOC Paints

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.12	27.3	29.1	0.06	1.12	3.76	4.88	1.03	1.46	2.50	—	8,528	8,528	0.27	0.62	17.8	8,737
Mit.	1.93	7.65	36.3	0.06	0.12	3.76	3.88	0.12	1.46	1.59	—	8,528	8,528	0.27	0.62	17.8	8,737
% Reduced	38%	72%	-25%	—	89%	—	20%	88%	—	36%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	179	46.6	33.5	0.14	1.51	11.6	13.1	1.41	5.00	6.40	—	19,172	19,172	0.44	2.22	0.84	19,846
Mit.	42.3	20.0	36.1	0.14	0.36	11.6	11.9	0.36	5.00	5.36	—	19,172	19,172	0.44	2.22	0.84	19,846
% Reduced	76%	57%	-8%	—	76%	—	9%	74%	—	16%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	11.0	11.8	17.6	0.03	0.38	2.53	2.90	0.35	0.73	1.08	—	5,589	5,589	0.16	0.40	4.48	5,717
Mit.	3.14	5.17	19.3	0.03	0.09	2.53	2.61	0.09	0.73	0.82	—	5,589	5,589	0.16	0.40	4.48	5,717
% Reduced	71%	56%	-10%	—	77%	—	10%	75%	—	24%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.01	2.16	3.21	0.01	0.07	0.46	0.53	0.06	0.13	0.20	—	925	925	0.03	0.07	0.74	947
Mit.	0.57	0.94	3.53	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	925	925	0.03	0.07	0.74	947
% Reduced	71%	56%	-10%	—	77%	—	10%	75%	—	24%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.12	27.3	29.1	0.06	1.12	3.76	4.88	1.03	1.46	2.50	—	8,528	8,528	0.27	0.62	17.8	8,737
2027	2.51	13.9	28.0	0.05	0.38	3.50	3.88	0.36	0.86	1.22	—	8,414	8,414	0.21	0.62	15.8	8,621
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	3.43	46.6	33.5	0.14	1.51	11.6	13.1	1.41	5.00	6.40	—	19,172	19,172	0.44	2.22	0.84	19,846
2027	179	14.4	25.1	0.05	0.38	3.50	3.88	0.36	0.86	1.22	—	8,155	8,155	0.23	0.63	0.41	8,349

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.61	11.8	17.6	0.03	0.38	2.53	2.90	0.35	0.73	1.08	—	5,589	5,589	0.16	0.40	4.48	5,717
2027	11.0	7.34	13.1	0.02	0.20	1.73	1.93	0.19	0.42	0.61	—	4,111	4,111	0.11	0.31	3.36	4,210
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.29	2.16	3.21	0.01	0.07	0.46	0.53	0.06	0.13	0.20	—	925	925	0.03	0.07	0.74	947
2027	2.01	1.34	2.39	< 0.005	0.04	0.32	0.35	0.03	0.08	0.11	—	681	681	0.02	0.05	0.56	697

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.64	7.65	36.3	0.06	0.12	3.76	3.88	0.12	1.46	1.59	—	8,528	8,528	0.27	0.62	17.8	8,737
2027	1.93	7.37	29.9	0.05	0.12	3.50	3.62	0.12	0.86	0.98	—	8,414	8,414	0.21	0.62	15.8	8,621
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.55	20.0	36.1	0.14	0.36	11.6	11.9	0.36	5.00	5.36	—	19,172	19,172	0.44	2.22	0.84	19,846
2027	42.3	7.83	27.0	0.05	0.12	3.50	3.62	0.12	0.86	0.98	—	8,155	8,155	0.23	0.63	0.41	8,349
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.91	5.17	19.3	0.03	0.09	2.53	2.61	0.09	0.73	0.82	—	5,589	5,589	0.16	0.40	4.48	5,717
2027	3.14	3.86	14.0	0.02	0.06	1.73	1.79	0.06	0.42	0.48	—	4,111	4,111	0.11	0.31	3.36	4,210
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.17	0.94	3.53	0.01	0.02	0.46	0.48	0.02	0.13	0.15	—	925	925	0.03	0.07	0.74	947
2027	0.57	0.71	2.56	< 0.005	0.01	0.32	0.33	0.01	0.08	0.09	—	681	681	0.02	0.05	0.56	697

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	37.8	99.2	287	1.35	1.74	77.0	78.7	1.65	19.8	21.5	696	146,930	147,626	74.2	14.8	393	154,299
Mit.	37.0	99.2	287	1.35	1.74	77.0	78.7	1.65	19.8	21.5	696	146,914	147,610	74.2	14.8	393	154,283
% Reduced	2%	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	< 0.5%	—	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	31.8	108	206	1.30	1.68	77.0	78.7	1.60	19.8	21.5	696	142,015	142,712	74.3	15.0	10.2	149,063
Mit.	31.0	108	206	1.30	1.68	77.0	78.7	1.60	19.8	21.5	696	141,999	142,696	74.3	15.0	10.2	149,047
% Reduced	2%	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	< 0.5%	—	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	34.3	105	229	1.32	1.71	76.7	78.4	1.62	19.8	21.4	696	143,202	143,899	74.2	15.0	170	150,383
Mit.	33.6	105	229	1.32	1.71	76.7	78.4	1.62	19.8	21.4	696	143,186	143,882	74.2	15.0	170	150,367
% Reduced	2%	< 0.5%	< 0.5%	—	—	—	—	—	—	—	—	< 0.5%	< 0.5%	< 0.5%	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.27	19.1	41.7	0.24	0.31	14.0	14.3	0.30	3.61	3.90	115	23,709	23,824	12.3	2.48	28.1	24,898
Mit.	6.13	19.1	41.7	0.24	0.31	14.0	14.3	0.30	3.61	3.90	115	23,706	23,821	12.3	2.48	28.1	24,895
% Reduced	2%	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%	< 0.5%	—	< 0.5%	—	< 0.5%	< 0.5%	< 0.5%	< 0.5%	—	< 0.5%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.7	97.7	254	1.34	1.59	77.0	78.6	1.51	19.8	21.4	—	140,388	140,388	2.84	14.0	393	145,011
Area	22.0	0.27	32.0	< 0.005	0.06	—	0.06	0.04	—	0.04	—	131	131	0.01	< 0.005	—	132
Energy	0.07	1.20	1.01	0.01	0.09	—	0.09	0.09	—	0.09	—	6,102	6,102	0.88	0.09	—	6,153
Water	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Waste	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	37.8	99.2	287	1.35	1.74	77.0	78.7	1.65	19.8	21.5	696	146,930	147,626	74.2	14.8	393	154,299
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.9	106	205	1.30	1.59	77.0	78.6	1.51	19.8	21.4	—	135,605	135,605	2.91	14.2	10.2	139,907
Area	16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.07	1.20	1.01	0.01	0.09	—	0.09	0.09	—	0.09	—	6,102	6,102	0.88	0.09	—	6,153
Water	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Waste	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	31.8	108	206	1.30	1.68	77.0	78.7	1.60	19.8	21.5	696	142,015	142,712	74.3	15.0	10.2	149,063
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.9	103	212	1.31	1.59	76.7	78.3	1.51	19.8	21.3	—	136,727	136,727	2.87	14.1	170	141,161
Area	19.3	0.13	15.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	64.8	64.8	< 0.005	< 0.005	—	65.1
Energy	0.07	1.20	1.01	0.01	0.09	—	0.09	0.09	—	0.09	—	6,102	6,102	0.88	0.09	—	6,153
Water	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Waste	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	34.3	105	229	1.32	1.71	76.7	78.4	1.62	19.8	21.4	696	143,202	143,899	74.2	15.0	170	150,383

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.72	18.9	38.7	0.24	0.29	14.0	14.3	0.28	3.61	3.88	—	22,637	22,637	0.47	2.33	28.1	23,371
Area	3.53	0.02	2.88	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Energy	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,010	1,010	0.15	0.02	—	1,019
Water	—	—	—	—	—	—	—	—	—	—	53.6	51.0	105	5.51	0.13	—	282
Waste	—	—	—	—	—	—	—	—	—	—	61.6	0.00	61.6	6.16	0.00	—	216
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01	
Total	6.27	19.1	41.7	0.24	0.31	14.0	14.3	0.30	3.61	3.90	115	23,709	23,824	12.3	2.48	28.1	24,898

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15.7	97.7	254	1.34	1.59	77.0	78.6	1.51	19.8	21.4	—	140,388	140,388	2.84	14.0	393	145,011
Area	21.3	0.27	32.0	< 0.005	0.06	—	0.06	0.04	—	0.04	—	131	131	0.01	< 0.005	—	132
Energy	0.07	1.19	1.00	0.01	0.09	—	0.09	0.09	—	0.09	—	6,086	6,086	0.88	0.09	—	6,136
Water	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Waste	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	37.0	99.2	287	1.35	1.74	77.0	78.7	1.65	19.8	21.5	696	146,914	147,610	74.2	14.8	393	154,283
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.9	106	205	1.30	1.59	77.0	78.6	1.51	19.8	21.4	—	135,605	135,605	2.91	14.2	10.2	139,907
Area	16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.07	1.19	1.00	0.01	0.09	—	0.09	0.09	—	0.09	—	6,086	6,086	0.88	0.09	—	6,136
Water	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701

Waste	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	31.0	108	206	1.30	1.68	77.0	78.7	1.60	19.8	21.5	696	141,999	142,696	74.3	15.0	10.2	149,047
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	14.9	103	212	1.31	1.59	76.7	78.3	1.51	19.8	21.3	—	136,727	136,727	2.87	14.1	170	141,161
Area	18.6	0.13	15.8	< 0.005	0.03	—	0.03	0.02	—	0.02	—	64.8	64.8	< 0.005	< 0.005	—	65.1
Energy	0.07	1.19	1.00	0.01	0.09	—	0.09	0.09	—	0.09	—	6,086	6,086	0.88	0.09	—	6,136
Water	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Waste	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	33.6	105	229	1.32	1.71	76.7	78.4	1.62	19.8	21.4	696	143,186	143,882	74.2	15.0	170	150,367
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.72	18.9	38.7	0.24	0.29	14.0	14.3	0.28	3.61	3.88	—	22,637	22,637	0.47	2.33	28.1	23,371
Area	3.39	0.02	2.88	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Energy	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	1,008	1,008	0.15	0.02	—	1,016
Water	—	—	—	—	—	—	—	—	—	—	53.6	51.0	105	5.51	0.13	—	282
Waste	—	—	—	—	—	—	—	—	—	—	61.6	0.00	61.6	6.16	0.00	—	216
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	6.13	19.1	41.7	0.24	0.31	14.0	14.3	0.30	3.61	3.90	115	23,706	23,821	12.3	2.48	28.1	24,895

3. Construction Emissions Details

3.1. Site Preparation (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.14	29.2	28.8	0.05	1.24	—	1.24	1.14	—	1.14	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	7.72	7.72	—	3.95	3.95	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.80	0.79	< 0.005	0.03	—	0.03	0.03	—	0.03	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.15	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	17.4	4.00	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,731	13,731	0.22	2.17	0.83	14,385
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	0.01	4.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.47	0.11	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	376	376	0.01	0.06	0.38	394
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	62.3	62.3	< 0.005	0.01	0.06	65.3

3.2. Site Preparation (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	2.59	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,298	5,298	0.21	0.04	—	5,316
Dust From Material Movement	—	—	—	—	—	7.72	7.72	—	3.95	3.95	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	—	143	143	< 0.005	0.01	0.01	145
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.22	17.4	4.00	0.09	0.26	3.71	3.97	0.26	1.02	1.28	—	13,731	13,731	0.22	2.17	0.83	14,385
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	0.01	4.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.01	0.47	0.11	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	376	376	0.01	0.06	0.38	394
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	62.3	62.3	< 0.005	0.01	0.06	65.3

3.3. Grading (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.04	27.2	27.6	0.06	1.12	—	1.12	1.03	—	1.03	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.29	2.61	2.64	0.01	0.11	—	0.11	0.10	—	0.10	—	633	633	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	0.34	0.34	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.48	0.48	< 0.005	0.02	—	0.02	0.02	—	0.02	—	105	105	< 0.005	< 0.005	—	105
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.96	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	181	181	< 0.005	0.01	0.62	184
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.02	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Grading (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	4.43	35.3	0.06	0.12	—	0.12	0.12	—	0.12	—	6,599	6,599	0.27	0.05	—	6,621
Dust From Material Movement	—	—	—	—	—	3.59	3.59	—	1.42	1.42	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.06	0.42	3.39	0.01	0.01	—	0.01	0.01	—	0.01	—	633	633	0.03	0.01	—	635
Dust From Material Movement	—	—	—	—	—	0.34	0.34	—	0.14	0.14	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.62	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	105	105	< 0.005	< 0.005	—	105
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.05	0.96	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	181	181	< 0.005	0.01	0.62	184
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	164	164	< 0.005	0.01	0.02	166
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.1	16.1	< 0.005	< 0.005	0.03	16.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.66	2.66	< 0.005	< 0.005	< 0.005	2.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.57	5.23	6.88	0.01	0.20	—	0.20	0.18	—	0.18	—	1,271	1,271	0.05	0.01	—	1,276
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.10	0.95	1.25	< 0.005	0.04	—	0.04	0.03	—	0.03	—	210	210	0.01	< 0.005	—	211
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.20	0.77	14.8	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,781	2,781	0.05	0.10	9.54	2,822
Vendor	0.11	4.06	1.36	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,350	3,350	0.06	0.50	8.23	3,510
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12	0.97	11.7	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,514	2,514	0.07	0.11	0.25	2,548
Vendor	0.10	4.32	1.41	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,353	3,353	0.06	0.50	0.21	3,505
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.46	6.36	0.00	0.00	1.36	1.36	0.00	0.32	0.32	—	1,366	1,366	0.03	0.06	2.19	1,386
Vendor	0.06	2.24	0.73	0.01	0.03	0.49	0.51	0.03	0.13	0.16	—	1,777	1,777	0.03	0.27	1.89	1,860
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.08	1.16	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.41	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	294	294	0.01	0.04	0.31	308
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2026) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	1.50	7.86	0.01	0.04	—	0.04	0.04	—	0.04	—	1,271	1,271	0.05	0.01	—	1,276
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.27	1.43	< 0.005	0.01	—	0.01	0.01	—	0.01	—	210	210	0.01	< 0.005	—	211
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.20	0.77	14.8	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,781	2,781	0.05	0.10	9.54	2,822
Vendor	0.11	4.06	1.36	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,350	3,350	0.06	0.50	8.23	3,510
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.12	0.97	11.7	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,514	2,514	0.07	0.11	0.25	2,548
Vendor	0.10	4.32	1.41	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,353	3,353	0.06	0.50	0.21	3,505
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.59	0.46	6.36	0.00	0.00	1.36	1.36	0.00	0.32	0.32	—	1,366	1,366	0.03	0.06	2.19	1,386
Vendor	0.06	2.24	0.73	0.01	0.03	0.49	0.51	0.03	0.13	0.16	—	1,777	1,777	0.03	0.27	1.89	1,860
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.08	1.16	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	226	226	0.01	0.01	0.36	230
Vendor	0.01	0.41	0.13	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	294	294	0.01	0.04	0.31	308
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.39	12.9	0.02	0.34	—	0.34	0.31	—	0.31	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.50	4.56	6.28	0.01	0.16	—	0.16	0.15	—	0.15	—	1,163	1,163	0.05	0.01	—	1,167
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.83	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	193	193	0.01	< 0.005	—	193
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.14	0.68	13.7	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,737	2,737	0.05	0.10	8.59	2,777
Vendor	0.10	3.87	1.31	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,280	3,280	0.06	0.50	7.22	3,439
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.88	10.8	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,475	2,475	0.07	0.11	0.22	2,509
Vendor	0.10	4.14	1.35	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,283	3,283	0.06	0.50	0.19	3,435
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.38	5.41	0.00	0.00	1.25	1.25	0.00	0.29	0.29	—	1,231	1,231	0.03	0.05	1.80	1,249
Vendor	0.05	1.97	0.64	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,592	1,592	0.03	0.24	1.51	1,668
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.99	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	204	204	< 0.005	0.01	0.30	207
Vendor	0.01	0.36	0.12	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	264	264	0.01	0.04	0.25	276

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	2.82	14.8	0.02	0.07	—	0.07	0.07	—	0.07	—	2,397	2,397	0.10	0.02	—	2,405
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.37	7.19	0.01	0.04	—	0.04	0.03	—	0.03	—	1,163	1,163	0.05	0.01	—	1,167
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.25	1.31	< 0.005	0.01	—	0.01	0.01	—	0.01	—	193	193	0.01	< 0.005	—	193
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.14	0.68	13.7	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,737	2,737	0.05	0.10	8.59	2,777
Vendor	0.10	3.87	1.31	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,280	3,280	0.06	0.50	7.22	3,439
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.05	0.88	10.8	0.00	0.00	2.58	2.58	0.00	0.60	0.60	—	2,475	2,475	0.07	0.11	0.22	2,509
Vendor	0.10	4.14	1.35	0.02	0.05	0.92	0.97	0.05	0.25	0.30	—	3,283	3,283	0.06	0.50	0.19	3,435
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.51	0.38	5.41	0.00	0.00	1.25	1.25	0.00	0.29	0.29	—	1,231	1,231	0.03	0.05	1.80	1,249
Vendor	0.05	1.97	0.64	0.01	0.02	0.44	0.47	0.02	0.12	0.15	—	1,592	1,592	0.03	0.24	1.51	1,668
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.99	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	204	204	< 0.005	0.01	0.30	207
Vendor	0.01	0.36	0.12	< 0.005	< 0.005	0.08	0.09	< 0.005	0.02	0.03	—	264	264	0.01	0.04	0.25	276
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516

Paving	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.74	6.94	9.95	0.01	0.30	—	0.30	0.27	—	0.27	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.38	0.55	< 0.005	0.02	—	0.02	0.02	—	0.02	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.03	0.67	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	< 0.005	< 0.005	0.42	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.05	0.04	0.53	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.01	123
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.79	6.79	< 0.005	< 0.005	0.01	6.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	1.93	10.6	0.01	0.03	—	0.03	0.03	—	0.03	—	1,511	1,511	0.06	0.01	—	1,516
Paving	1.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.11	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	82.8	82.8	< 0.005	< 0.005	—	83.1
Paving	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.7	13.7	< 0.005	< 0.005	—	13.8
Paving	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.03	0.67	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	134	134	< 0.005	< 0.005	0.42	136
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.53	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	121	121	< 0.005	0.01	0.01	123
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.79	6.79	< 0.005	< 0.005	0.01	6.89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.12	1.12	< 0.005	< 0.005	< 0.005	1.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2027) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.83	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	178	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	9.77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	1.78	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	2.16	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	502
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.8	27.8	< 0.005	< 0.005	0.04	28.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.60	4.60	< 0.005	< 0.005	0.01	4.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2027) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	42.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	2.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22
Architectural Coatings	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	2.16	0.00	0.00	0.52	0.52	0.00	0.12	0.12	—	495	495	0.01	0.02	0.04	502
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.12	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	27.8	27.8	< 0.005	< 0.005	0.04	28.2
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.60	4.60	< 0.005	< 0.005	0.01	4.67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	4,188	4,188	0.68	0.08	—	4,229
General Office Building	—	—	—	—	—	—	—	—	—	—	—	199	199	0.03	< 0.005	—	201
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	280	280	0.05	0.01	—	283
Total	—	—	—	—	—	—	—	—	—	—	—	4,667	4,667	0.75	0.09	—	4,713
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	4,188	4,188	0.68	0.08	—	4,229
General Office Building	—	—	—	—	—	—	—	—	—	—	—	199	199	0.03	< 0.005	—	201
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	280	280	0.05	0.01	—	283
Total	—	—	—	—	—	—	—	—	—	—	—	4,667	4,667	0.75	0.09	—	4,713
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	693	693	0.11	0.01	—	700
General Office Building	—	—	—	—	—	—	—	—	—	—	—	32.9	32.9	0.01	< 0.005	—	33.2

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	0.01	< 0.005	—	46.8
Total	—	—	—	—	—	—	—	—	—	—	—	773	773	0.12	0.02	—	780

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	4,183	4,183	0.68	0.08	—	4,224
General Office Building	—	—	—	—	—	—	—	—	—	—	—	198	198	0.03	< 0.005	—	200
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	280	280	0.05	0.01	—	283
Total	—	—	—	—	—	—	—	—	—	—	—	4,661	4,661	0.75	0.09	—	4,707
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	4,183	4,183	0.68	0.08	—	4,224
General Office Building	—	—	—	—	—	—	—	—	—	—	—	198	198	0.03	< 0.005	—	200
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	280	280	0.05	0.01	—	283
Total	—	—	—	—	—	—	—	—	—	—	—	4,661	4,661	0.75	0.09	—	4,707

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	693	693	0.11	0.01	—	699
General Office Building	—	—	—	—	—	—	—	—	—	—	—	32.8	32.8	0.01	< 0.005	—	33.1
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	46.3	46.3	0.01	< 0.005	—	46.8
Total	—	—	—	—	—	—	—	—	—	—	—	772	772	0.12	0.02	—	779

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	1,279	1,279	0.11	< 0.005	—	1,282
General Office Building	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	157	157	0.01	< 0.005	—	158
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.07	1.20	1.01	0.01	0.09	—	0.09	0.09	—	0.09	—	1,436	1,436	0.13	< 0.005	—	1,440
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehou Rail	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	1,279	1,279	0.11	< 0.005	—	1,282
General Office Building	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	157	157	0.01	< 0.005	—	158
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.07	1.20	1.01	0.01	0.09	—	0.09	0.09	—	0.09	—	1,436	1,436	0.13	< 0.005	—	1,440
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.20	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	212	212	0.02	< 0.005	—	212
General Office Building	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	238	238	0.02	< 0.005	—	238

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	1.06	0.89	0.01	0.08	—	0.08	0.08	—	0.08	—	1,269	1,269	0.11	< 0.005	—	1,273

General Office Building	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	156	156	0.01	< 0.005	—	157
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.07	1.19	1.00	0.01	0.09	—	0.09	0.09	—	0.09	—	1,426	1,426	0.13	< 0.005	—	1,429
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.06	1.06	0.89	0.01	0.08	—	0.08	0.08	—	0.08	—	1,269	1,269	0.11	< 0.005	—	1,273
General Office Building	0.01	0.13	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	156	156	0.01	< 0.005	—	157
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.07	1.19	1.00	0.01	0.09	—	0.09	0.09	—	0.09	—	1,426	1,426	0.13	< 0.005	—	1,429
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	210	210	0.02	< 0.005	—	211
General Office Building	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	25.9	25.9	< 0.005	< 0.005	—	25.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.01	0.22	0.18	< 0.005	0.02	—	0.02	0.02	—	0.02	—	236	236	0.02	< 0.005	—	237

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.25	0.27	32.0	< 0.005	0.06	—	0.06	0.04	—	0.04	—	131	131	0.01	< 0.005	—	132
Total	22.0	0.27	32.0	< 0.005	0.06	—	0.06	0.04	—	0.04	—	131	131	0.01	< 0.005	—	132
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	16.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.47	0.02	2.88	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Total	3.53	0.02	2.88	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.25	0.27	32.0	< 0.005	0.06	—	0.06	0.04	—	0.04	—	131	131	0.01	< 0.005	—	132
Total	21.3	0.27	32.0	< 0.005	0.06	—	0.06	0.04	—	0.04	—	131	131	0.01	< 0.005	—	132
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	16.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.47	0.02	2.88	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
Total	3.39	0.02	2.88	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	318	303	621	32.7	0.78	—	1,671
General Office Building	—	—	—	—	—	—	—	—	—	—	5.79	5.50	11.3	0.59	0.01	—	30.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	318	303	621	32.7	0.78	—	1,671

General Office Building	—	—	—	—	—	—	—	—	—	—	5.79	5.50	11.3	0.59	0.01	—	30.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	52.7	50.1	103	5.41	0.13	—	277
General Office Building	—	—	—	—	—	—	—	—	—	—	0.96	0.91	1.87	0.10	< 0.005	—	5.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	53.6	51.0	105	5.51	0.13	—	282

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	318	303	621	32.7	0.78	—	1,671
General Office Building	—	—	—	—	—	—	—	—	—	—	5.79	5.50	11.3	0.59	0.01	—	30.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	318	303	621	32.7	0.78	—	1,671
General Office Building	—	—	—	—	—	—	—	—	—	—	5.79	5.50	11.3	0.59	0.01	—	30.4
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	324	308	632	33.3	0.80	—	1,701
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	52.7	50.1	103	5.41	0.13	—	277
General Office Building	—	—	—	—	—	—	—	—	—	—	0.96	0.91	1.87	0.10	< 0.005	—	5.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	53.6	51.0	105	5.51	0.13	—	282

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	364	0.00	364	36.4	0.00	—	1,273
General Office Building	—	—	—	—	—	—	—	—	—	—	8.52	0.00	8.52	0.85	0.00	—	29.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	364	0.00	364	36.4	0.00	—	1,273
General Office Building	—	—	—	—	—	—	—	—	—	—	8.52	0.00	8.52	0.85	0.00	—	29.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	60.2	0.00	60.2	6.02	0.00	—	211
General Office Building	—	—	—	—	—	—	—	—	—	—	1.41	0.00	1.41	0.14	0.00	—	4.94

Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	61.6	0.00	61.6	6.16	0.00	—	216

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	364	0.00	364	36.4	0.00	—	1,273
General Office Building	—	—	—	—	—	—	—	—	—	—	8.52	0.00	8.52	0.85	0.00	—	29.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	364	0.00	364	36.4	0.00	—	1,273
General Office Building	—	—	—	—	—	—	—	—	—	—	8.52	0.00	8.52	0.85	0.00	—	29.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	372	0.00	372	37.2	0.00	—	1,303

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	60.2	0.00	60.2	6.02	0.00	—	211
General Office Building	—	—	—	—	—	—	—	—	—	—	1.41	0.00	1.41	0.14	0.00	—	4.94
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	61.6	0.00	61.6	6.16	0.00	—	216

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipme Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/30/2026	2/13/2026	5.00	10.0	—
Grading	Grading	2/14/2026	4/4/2026	5.00	35.0	—
Building Construction	Building Construction	4/5/2026	9/5/2027	5.00	370	—
Paving	Paving	9/6/2027	10/4/2027	5.00	20.0	—
Architectural Coating	Architectural Coating	10/5/2027	11/2/2027	5.00	20.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40

Site Preparation	Tractors/Loaders/Back	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	4.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37

Building Construction	Cranes	Diesel	Tier 4 Final	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Final	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	200	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	307	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	120	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	61.4	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	11.9	LDA,LDT1,LDT2
Site Preparation	Vendor	—	9.10	HHDT,MHDT
Site Preparation	Hauling	200	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	11.9	LDA,LDT1,LDT2
Grading	Vendor	—	9.10	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	307	11.9	LDA,LDT1,LDT2
Building Construction	Vendor	120	9.10	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT

Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	11.9	LDA,LDT1,LDT2
Paving	Vendor	—	9.10	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	61.4	11.9	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	9.10	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	1,102,748	367,583	34,293

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	8,000	8,000	15.0	0.00	—
Grading	0.00	0.00	105	0.00	—

Paving	0.00	0.00	0.00	0.00	13.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Unrefrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%
General Office Building	0.00	0%
Parking Lot	13.1	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2027	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	1,084	1,084	1,084	395,660	34,264	34,264	34,264	12,506,506

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	1,084	1,084	1,084	395,660	34,264	34,264	34,264	12,506,506

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,102,748	367,583	34,293

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	4,872,756	204	0.0330	0.0040	2,593,980
Unrefrigerated Warehouse-No Rail	2,621,067	204	0.0330	0.0040	1,395,308
General Office Building	355,799	204	0.0330	0.0040	490,773
Parking Lot	500,678	204	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	4,866,904	204	0.0330	0.0040	2,575,338
Unrefrigerated Warehouse-No Rail	2,617,919	204	0.0330	0.0040	1,385,280
General Office Building	354,259	204	0.0330	0.0040	487,374
Parking Lot	500,678	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	107,988,431	0.00
Unrefrigerated Warehouse-No Rail	58,087,225	0.00
General Office Building	3,021,474	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	107,988,431	0.00
Unrefrigerated Warehouse-No Rail	58,087,225	0.00
General Office Building	3,021,474	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	439	—
Unrefrigerated Warehouse-No Rail	236	—
General Office Building	15.8	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	439	—
Unrefrigerated Warehouse-No Rail	236	—
General Office Building	15.8	—
Parking Lot	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.3	annual days of extreme heat
Extreme Precipitation	0.95	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	59.9
AQ-PM	46.0
AQ-DPM	50.4
Drinking Water	97.1
Lead Risk Housing	13.7
Pesticides	89.8
Toxic Releases	33.3
Traffic	67.6
Effect Indicators	—
CleanUp Sites	88.6
Groundwater	98.6
Haz Waste Facilities/Generators	96.7
Impaired Water Bodies	87.0
Solid Waste	59.2
Sensitive Population	—
Asthma	35.8
Cardio-vascular	59.3
Low Birth Weights	57.6
Socioeconomic Factor Indicators	—
Education	59.8
Housing	18.5
Linguistic	33.9
Poverty	37.4
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	54.54895419
Employed	25.29192865
Median HI	81.66303093
Education	—
Bachelor's or higher	49.85243167
High school enrollment	12.44706788
Preschool enrollment	30.05261132
Transportation	—
Auto Access	77.83908636
Active commuting	61.56807391
Social	—
2-parent households	67.3681509
Voting	76.54305146
Neighborhood	—
Alcohol availability	60.00256641
Park access	31.00218144
Retail density	7.35275247
Supermarket access	5.10714744
Tree canopy	55.16489157
Housing	—
Homeownership	70.64031823
Housing habitability	87.27062749
Low-inc homeowner severe housing cost burden	82.30463236
Low-inc renter severe housing cost burden	86.8728346
Uncrowded housing	50.16040036
Health Outcomes	—

Insured adults	42.12755037
Arthritis	49.4
Asthma ER Admissions	37.8
High Blood Pressure	37.6
Cancer (excluding skin)	52.2
Asthma	34.7
Coronary Heart Disease	74.7
Chronic Obstructive Pulmonary Disease	50.7
Diagnosed Diabetes	67.4
Life Expectancy at Birth	66.6
Cognitively Disabled	38.1
Physically Disabled	60.6
Heart Attack ER Admissions	38.6
Mental Health Not Good	45.5
Chronic Kidney Disease	79.8
Obesity	39.2
Pedestrian Injuries	82.4
Physical Health Not Good	54.5
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	40.3
Current Smoker	38.5
No Leisure Time for Physical Activity	47.2
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	44.4
Elderly	55.7

English Speaking	56.1
Foreign-born	58.2
Outdoor Workers	11.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	71.4
Traffic Density	72.5
Traffic Access	0.0
Other Indices	—
Hardship	52.4
Other Decision Support	—
2016 Voting	64.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	72.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	No demolition (no buildings on site to demolish).
Operations: Vehicle Data	Warehouse, distribution, and manufacturing uses have average trip length for passenger vehicles of 29.3 miles, medium trucks 32.3 miles, and heavy trucks have 41.8 miles. This reflects the average truck trip length within the San Joaquin Countywide Warehousing Data Collection and Travel Behavior Study completed by Fehr & Peers in 2021. For this project, this equates to Trip rate is 2.321313 per 1000 sf per day, using the first (larger) warehouse building, for purposes of simplicity, and consistent with what was provided by Kimley Horn.
Operations: Fleet Mix	Revised fleet mix to reflect fleet mix provided in Traffic Study (Kimley Horn, 2025). 0.57
Land Use	Land uses as provided in site plan. Parking lot land use includes all asphalt surfaces (total asphalt surfaces assumed to be approximately 13.1 acres).

Source: EMFAC2025 (v2.0.0) Emissions Inventory
Region Type: County
Region: San Joaquin
Calendar Year: 2026, 2027
Season: Annual
Vehicle Classification: EMFAC202Y Categories
Units: miles/day for Combustion VMT and Electric VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption, kWh/day for Energy Consumption, kg/day for Hydrogen

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	Population	Fuel Consumption	MPG	
San Joaquin	2026	LDA	Aggregate	Aggregate	Gasoline	211472.5952	6162704.736	211472.6	233.8538448	**20.51618**	
San Joaquin	2026	LDA	Aggregate	Aggregate	Diesel	483.918504	12201.37218	483.9185	0.320769314	**32.55832**	
San Joaquin	2026	LDT1	Aggregate	Aggregate	Gasoline	20587.21471	525827.1423	20587.21	23.5842697	**19.03278**	
San Joaquin	2026	LDT1	Aggregate	Aggregate	Diesel	7.285903101	99.73103588	7.285903	0.00444687	**29.47188**	
San Joaquin	2026	LDT2	Aggregate	Aggregate	Gasoline	109294.6706	3546042.924	109294.7	159.181468	**16.66946**	
San Joaquin	2026	LDT2	Aggregate	Aggregate	Diesel	186.0542748	6168.855735	186.0543	0.203377489	**22.54608**	
San Joaquin	2026	LHD1 Other	Aggregate	Aggregate	Gasoline	8355.71637	239953.4564	8355.716	25.06704108	**9.32599**	
San Joaquin	2026	LHD1 Other	Aggregate	Aggregate	Diesel	8020.796266	229945.327	8020.796	14.56636065	**17.28611**	
San Joaquin	2026	LHD1 Public	Aggregate	Aggregate	Gasoline	645.5929998	18539.6757	645.593	1.936770652	**10.02055**	
San Joaquin	2026	LHD1 Public	Aggregate	Aggregate	Diesel	42.47163489	1217.604044	42.47163	0.077131638	**24.47499**	
San Joaquin	2026	LHD2 Other	Aggregate	Aggregate	Gasoline	1306.822056	45020.77358	1306.822	4.973370822	**12.79025**	
San Joaquin	2026	LHD2 Other	Aggregate	Aggregate	Diesel	4744.652861	177942.0801	4744.653	12.96061295	**12.98307**	
San Joaquin	2026	LHD2 Public	Aggregate	Aggregate	Gasoline	207.7044979	7155.539753	207.7045	0.790460709	**9.53948**	
San Joaquin	2026	LHD2 Public	Aggregate	Aggregate	Diesel	92.28334971	3460.967891	92.28335	0.252083516	**17.58104**	
San Joaquin	2026	MCY	Aggregate	Aggregate	Gasoline	13056.7931	63139.58496	13056.79	1.603321389	**31.91136**	
San Joaquin	2026	MDV	Aggregate	Aggregate	Gasoline	95523.32075	2848956.191	95523.32	160.0482093	**15.52637**	
San Joaquin	2026	MDV	Aggregate	Aggregate	Diesel	2807.546278	99859.88166	2807.546	4.150055699	**20.15762**	
San Joaquin	2026	MH	Aggregate	Aggregate	Gasoline	1534.058439	12446.94593	1534.058	2.821349703	**3.777536**	
San Joaquin	2026	MH	Aggregate	Aggregate	Diesel	686.9616288	5539.931715	686.9616	0.590875958	**8.608129**	
San Joaquin	2026	Motor Coach	Aggregate	Aggregate	Diesel	10.45629872	1205.369294	10.4563	0.215160011	**7.498132**	
San Joaquin	2026	OBUS	Aggregate	Aggregate	Gasoline	184.8457194	5937.616279	184.8457	1.255456328	**3.187038**	
San Joaquin	2026	OBUS	Aggregate	Aggregate	Diesel	64.69158931	2743.302132	64.69159	0.329393997	**8.478566**	
San Joaquin	2026	PTO	Aggregate	Aggregate	Diesel	0	18928.26185	0	3.71295979	**2.174472**	
San Joaquin	2026	SBUS	Aggregate	Aggregate	Gasoline	53.32864631	2433.241079	53.32865	0.239221072	**40.41549**	
San Joaquin	2026	SBUS	Aggregate	Aggregate	Diesel	476.5867908	9317.64324	476.5868	1.151682791	**7.713642**	**MHD**
San Joaquin	2026	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	19.80547695	1111.539479	19.80548	0.123255243	**5.05349**	**6.394139**
San Joaquin	2026	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	35.58294757	2014.869673	35.58295	0.222682478	**5.069898**	
San Joaquin	2026	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	86.90026914	4848.617149	86.90027	0.534735403	**5.08093**	
San Joaquin	2026	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	135.914247	24626.93168	135.9142	2.520093226	**5.461696**	
San Joaquin	2026	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	207.6814683	6077.94037	207.6815	0.74196995	**4.151072**	
San Joaquin	2026	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	199.530226	5925.491583	199.5302	0.721919895	**5.170644**	
San Joaquin	2026	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	738.6660102	21665.71206	738.666	2.62570494	**5.163798**	
San Joaquin	2026	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	101.8480739	5127.401697	101.8481	0.613022643	**9.008847**	
San Joaquin	2026	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	345.8110951	12296.24594	345.8111	1.492080338	**7.314923**	
San Joaquin	2026	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	1491.335281	55559.0647	1491.335	6.556368487	**7.650304**	
San Joaquin	2026	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	1117.977177	41043.65819	1117.977	4.820115935	**5.590745**	
San Joaquin	2026	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	475.7113848	19494.57389	475.7114	2.288433178	**7.556856**	
San Joaquin	2026	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	11.9781683	598.0929394	11.97817	0.066071635	**8.22943**	
San Joaquin	2026	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	666.8969475	39451.26987	666.8969	4.117012183	**5.008823**	
San Joaquin	2026	T6 OOS Class 4	Aggregate	Aggregate	Diesel	11.44658089	655.7513505	11.44658	0.070820876	**5.120428**	
San Joaquin	2026	T6 OOS Class 5	Aggregate	Aggregate	Diesel	20.50845615	1187.262236	20.50846	0.127811991	**5.137205**	
San Joaquin	2026	T6 OOS Class 6	Aggregate	Aggregate	Diesel	50.22170016	2853.099147	50.2217	0.306671221	**5.150394**	
San Joaquin	2026	T6 OOS Class 7	Aggregate	Aggregate	Diesel	77.70043582	16599.25296	77.70044	1.655286104	**5.563806**	
San Joaquin	2026	T6 Public Class 4	Aggregate	Aggregate	Diesel	16.75159247	433.5412382	16.75159	0.059604538	**10.48711**	
San Joaquin	2026	T6 Public Class 5	Aggregate	Aggregate	Diesel	63.22129245	2178.603574	63.22129	0.282844124	**10.43131**	
San Joaquin	2026	T6 Public Class 6	Aggregate	Aggregate	Diesel	86.83401817	2595.996923	86.83402	0.341103693	**6.496618**	
San Joaquin	2026	T6 Public Class 7	Aggregate	Aggregate	Diesel	101.643324	3701.048121	101.6433	0.491438526	**8.908361**	
San Joaquin	2026	T6 Utility Class 5	Aggregate	Aggregate	Diesel	45.47474849	1704.494089	45.47475	0.20118678	**6.178827**	
San Joaquin	2026	T6 Utility Class 6	Aggregate	Aggregate	Diesel	8.30749464	294.8429846	8.307495	0.033622893	**6.474073**	
San Joaquin	2026	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.618965832	335.1399436	7.618966	0.03790023	**6.521418**	
San Joaquin	2026	T6TS	Aggregate	Aggregate	Gasoline	768.2257836	34237.71522	768.2258	7.005230398	**4.266621**	
San Joaquin	2026	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	4476.637143	685601.5249	4476.637	112.087598	**3.192374**	
San Joaquin	2026	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	3360.571014	789760.258	3360.571	121.2944759	**3.385083**	
San Joaquin	2026	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	1306.433175	280463.7988	1306.433	45.04944758	**3.241331**	
San Joaquin	2026	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	35.6037848	8108.44492	35.60378	1.303672103	**3.202801**	**HHD**
San Joaquin	2026	T7 POAK Class 8	Aggregate	Aggregate	Diesel	216.3919106	22869.78857	216.3919	3.778137432	**2.535787**	**3.207193**
San Joaquin	2026	T7 POLA Class 8	Aggregate	Aggregate	Diesel	149.0810497	28365.47435	149.081	4.670571329	**3.062828**	
San Joaquin	2026	T7 Public Class 8	Aggregate	Aggregate	Diesel	265.431363	9726.836019	265.4314	1.86501755	**5.374103**	
San Joaquin	2026	T7 Single Concrete/T	Aggregate	Aggregate	Diesel	117.0574021	6616.669784	117.0574	1.126489424	**5.895167**	
San Joaquin	2026	T7 Single Dump Clas	Aggregate	Aggregate	Diesel	631.3773299	32792.92511	631.3773	5.660359358	**1.556585**	
San Joaquin	2026	T7 Single Other Clas	Aggregate	Aggregate	Diesel	912.4140233	52854.31175	912.414	8.967050018	**2.668503**	
San Joaquin	2026	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	149.1357782	9224.810428	149.1358	3.455404323	**1.90275**	
San Joaquin	2026	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	4093.155271	337365.7524	4093.155	52.62038828	**3.196989**	
San Joaquin	2026	T7 Utility Class 8	Aggregate	Aggregate	Diesel	16.63736426	711.7717898	16.63736	0.118323098	**4.236583**	
San Joaquin	2026	T7IS	Aggregate	Aggregate	Gasoline	2.017312762	31.56851189	2.017313	0.010219204	**1.449816**	
San Joaquin	2026	UBUS	Aggregate	Aggregate	Gasoline	61.87742103	2487.89102	61.87742	0.411553184	**3.101799**	
San Joaquin	2026	UBUS	Aggregate	Aggregate	Diesel	78.4864454	6718.17369	78.48645	0.752219798	**6.467341**	
San Joaquin	2027	LDA	Aggregate	Aggregate	Gasoline	206937.5573	5937293.425	206937.6	222.3984083	**19.57804**	
San Joaquin	2027	LDA	Aggregate	Aggregate	Diesel	428.4673673	10509.88613	428.4674	0.273228791	**24.84426**	
San Joaquin	2027	LDT1	Aggregate	Aggregate	Gasoline	20229.53282	511705.4889	20229.53	22.66006472	**18.12182**	
San Joaquin	2027	LDT1	Aggregate	Aggregate	Diesel	4.758559609	63.94919326	4.75856	0.002793575	**10.12113**	
San Joaquin	2027	LDT2	Aggregate	Aggregate	Gasoline	111842.3279	3587626.125	111842.3	158.3108278	**17.30219**	
San Joaquin	2027	LDT2	Aggregate	Aggregate	Diesel	187.9950167	6133.132335	187.995	0.194935695	**23.42317**	
San Joaquin	2027	LHD1 Other	Aggregate	Aggregate	Gasoline	8178.517952	232461.2723	8178.518	24.00482514	**8.678482**	
San Joaquin	2027	LHD1 Other	Aggregate	Aggregate	Diesel	7785.708778	218055.6859	7785.709	13.6947794	**15.48498**	
San Joaquin	2027	LHD1 Public	Aggregate	Aggregate	Gasoline	631.9020063	17960.80234	631.902	1.854699991	**9.32482**	
San Joaquin	2027	LHD1 Public	Aggregate	Aggregate	Diesel	41.22680213	1154.646144	41.2268	0.07251645	**21.92481**	
San Joaquin	2027	LHD2 Other	Aggregate	Aggregate	Gasoline	1328.389042	45211.55371	1328.389	4.938189719	**11.69791**	
San Joaquin	2027	LHD2 Other	Aggregate	Aggregate	Diesel	4882.781112	178341.6273	4882.781	12.83879844	**12.60407**	
San Joaquin	2027	LHD2 Public	Aggregate	Aggregate	Gasoline	211.1323249	7185.862084	211.1323	0.784869073	**8.724769**	
San Joaquin	2027	LHD2 Public	Aggregate	Aggregate	Diesel	94.96993988	3468.739071	94.96994	0.249714228	**17.06781**	
San Joaquin	2027	MCY	Aggregate	Aggregate	Gasoline	13133.32125	62787.74919	13133.32	1.587171336	**31.20343**	
San Joaquin	2027	MDV	Aggregate	Aggregate	Gasoline	94783.68825	2789792.944	94783.69	154.389883	**14.94757**	
San Joaquin	2027	MDV	Aggregate	Aggregate	Diesel	2984.972142	104076.5289	2984.972	4.269121983	**21.36512**	**MHD**
San Joaquin	2027	MH	Aggregate	Aggregate	Gasoline	1501.092661	12054.81147	1501.093	2.732046507	**3.509734**	**6.141592**
San Joaquin	2027	MH	Aggregate	Aggregate	Diesel	673.8480849	5345.622384	673.8481	0.570366103	**7.917325**	
San Joaquin	2027	Motor Coach	Aggregate	Aggregate	Diesel	11.05916124	1242.000449	11.05916	0.218842674	**8.194215**	
San Joaquin	2027	OBUS	Aggregate	Aggregate	Gasoline	176.1190561	5358.317242	176.1191	1.128113378	**2.665584**	
San Joaquin	2027	OBUS	Aggregate	Aggregate	Diesel	65.16131577	2755.638811	65.16132	0.330827283	**9.755404**	
San Joaquin	2027	PTO	Aggregate	Aggregate	Diesel	0	18983.81306	0	3.67662308	**2.158591**	
San Joaquin	2027	SBUS	Aggregate	Aggregate	Gasoline	55.97812213	2530.60512	55.97812	0.246046737	**38.39089**	
San Joaquin	2027	SBUS	Aggregate	Aggregate	Diesel	472.2960926	9138.584807	472.2961	1.127836325	**7.570661**	
San Joaquin	2027	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	20.02006995	1108.795331	20.02007	0.121961764	**5.109428**	
San Joaquin	2027	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	36.05339837	2009.562813	36.0534	0.220478741	**5.119496**	
San Joaquin	2027	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	87.85962523	4843.376676	87.85963	0.530294362	**5.140906**	
San Joaquin	2027	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	136.8318413	24730.35039	136.8318	2.498791793	**5.62413**	
San Joaquin	2027	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	209.5862828	6091.338007	209.5863	0.738935633	**4.23303**	
San Joaquin	2027	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	201.9145183	5939.833006	201.9145	0.719509448	**5.264739**	
San Joaquin	2027	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	745.4663849	21728.0107	745.4664	2.61763493	**5.25745**	
San Joaquin	2027	T6 Instate Delivery C	Aggregate	Aggregate	Diesel	101.2285222	5150.766572	101.2285	0.613519838	**9.039074**	
San Joaquin	2027	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	354.8387445	12399.0124	354.8387	1.500392709	**7.508701**	
San Joaquin	2027	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	1529.514395	56051.89914	1529.514	6.599091316	**7.84622**	
San Joaquin	2027	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	1147.934433	41484.52377	1147.934	4.861994083	**5.782293**	
San Joaquin	2027	T6 Instate Other Clas	Aggregate	Aggregate	Diesel	485.7883088	19447.23465	485.7883	2.269053542	**7.603207**	
San Joaquin	2027	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	11.95177762	595.57871	11.95178	0.065386611	**8.818997**	
San Joaquin	2027	T6 Instate Tractor Cla	Aggregate	Aggregate	Diesel	661.5781424	39290.94105	661.5781	4.022225648	**5.054713**	
San Joaquin	2027	T6 OOS Class 4	Aggregate	Aggregate	Diesel	11.69525237	663.8567116	11.69525	0.070561925	**5.385996**	
San Joaquin	2027	T6 OOS Class 5	Aggregate	Aggregate	Diesel	20.95503084	1201.624016	20.95503	0.127267785	**5.403988**	
San Joaquin	2027	T6 OOS Class 6	Aggregate	Aggregate	Diesel	51.05309045	2876.239056	51.05309	0.304734359	**5.362193**	
San Joaquin	2027	T6 OOS Class 7	Aggregate	Aggregate	Diesel	78.04090346	16681.43234	78.0409	1.633492603	**5.800855**	
San Joaquin	2027	T6 Public Class 4	Aggregate	Aggregate	Diesel	13.69209818	350.1195577	13.6921	0.0479745	**7.562517**	
San Joaquin	2027	T6 Public Class 5	Aggregate	Aggregate	Diesel	57.8780341	2045.925879	57.87803	0.264340211	**8.178252**	
San Joaquin	2027	T6 Public Class 6	Aggregate	Aggregate	Diesel	77.86886582	2330.622487	77.86887	0.305039761	**4.725461**	
San Joaquin	2027	T6 Public Class 7	Aggregate	Aggregate	Diesel	88.68237328	3223.44107	88.68237	0.425158911	**6.979161**	
San Joaquin	2027	T6 Utility Class 5	Aggregate	Aggregate	Diesel	42.94476103	1715.44695	42.94476	0.2025642	**6.1682**	
San Joaquin	2027	T6 Utility Class 6	Aggregate	Aggregate	Diesel	8.235736494	290.9876575	8.235736	0.032910769	**6.265516**	
San Joaquin	2027	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.3229495	330.7436341	7.32295	0.037036827	**6.325553**	
San Joaquin	2027	T6TS	Aggregate	Aggregate	Gasoline	780.1377074	34640.69449	780.1377	7.016286261	**4.121311**	
San Joaquin	2027	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	4534.65678	698805.1995	4534.657	113.6036967	**3.339831**	
San Joaquin	2027	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	3433.349556	805138.0491	3433.35	120.639472	**3.607856**	
San Joaquin	2027	T7 NOOS Class 8	Aggregate	Aggregate	Diesel	1335.510088	285621.67	1335.51	44.91085803	**3.435596**	**HHD**
San Joaquin	2027	T7 Other Port Class 8	Aggregate	Aggregate	Diesel	32.7790251	8276.203327	32.77903	1.29267885	**3.424795**	**3.173977**
San Joaquin	2027	T7 POAK Class 8	Aggregate	Aggregate	Diesel	227.0782373	24968.64415	227.0782	4.032715253	**2.431433**	
San Joaquin	2027	T7 POLA Class 8	Aggregate	Aggregate	Diesel	136.9263704	29117.82498	136.9264	4.664314593	**3.305877**	
San Joaquin	2027	T7 Public Class 8	Aggregate	Aggregate	Diesel	235.3321622	8539.005234	235.3322	1.627409536	**4.196993**	
San Joaquin	2027	T7 Single Concrete/T	Aggregate	Aggregate	Diesel	120.8125695	6649.096338	120.8126	1.125011282	**5.603167**	
San Joaquin	2027	T7 Single Dump Clas	Aggregate	Aggregate	Diesel	647.7999825	33014.13928	647.8	5.670569376	**1.504079**	
San Joaquin	2027	T7 Single Other Clas	Aggregate	Aggregate	Diesel	923.1707921	52798.0655	923.1708	8.867896019	**2.682111**	
San Joaquin	2027	T7 SWCV Class 8	Aggregate	Aggregate	Diesel	140.1897838	8725.113357	140.1898	3.229072776	**1.804091**	
San Joaquin	2027	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	4122.491382	340620.6391	4122.491	52.22550296	**3.291661**	
San Joaquin	2027	T7 Utility Class 8	Aggregate	Aggregate	Diesel	16.34509184	704.1658647	16.34509	0.11558349	**4.130918**	
San Joaquin	2027	T7IS	Aggregate	Aggregate	Gasoline	2.069951804	33.08385796	2.069952	0.010606534	**1.677265**	
San Joaquin	2027	UBUS	Aggregate	Aggregate	Gasoline	62.2213275	2502.694241	62.22133	0.413746629	**2.97675**	
San Joaquin	2027	UBUS	Aggregate	Aggregate	Diesel	72.12227952	6382.91956	72.12228	0.714274297	**6.241656**	

On-road Mobile (Operational) Energy Usage

	12,518,054	365

Unmitigated:

Step 1:

Therefore:

Average Daily VMT:

34,296 Source: CalEEMod

Note: Maximum daily value used.

Step 2: Given:

Fleet Mix (CalEEMod Output) Note: Conservative values used.

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
37.18%	2.75%	15.57%	12.79%	2.35%	0.57%	10.62%	16.16%	0.03%	0.03%	1.61%	0.10%	0.25%
37.18	2.75	15.57	12.79	2.35	0.57	10.62	16.16	0.03	0.03	1.61	0.1	0.25

And:

Gasoline MPG Factors for each Vehicle Class - Year 2027 (EMFAC2021 Output)

LDA	LDT1	LDT2	MDV	MCY	MH
19.578	18.122	17.302	14.948	31.203	3.510

Diesel MPG Factors for each Vehicle Class - Year 2027 (EMFAC2021 Output)

LHD1	LHD2	MHD	HHD	OBUS	UBUS	SBUS
15.485	12.604	6.142	3.174	9.755	6.242	7.571

Therefore:

Weighted Average MPG Factors

Gasoline: **18.4** Diesel: **5.4**

Step 3: **Therefore:**

1,309 **daily gallons of gasoline** **1,901** **daily gallons of diesel**

or

477,741 **annual gallons of gasoline**	**693,911** **annual gallons of diesel**

Off-road Mobile (Construction) Energy Usage

Note: For the sake of simplicity, and as a conservative estimation, it was assumed that all off-road vehicles use diesel fuel as an energy source.

Given Factor:	**548.7**	**metric tons**	**CO2**	**(provided in CalEEMod Output File)**
Conversion Factor:	2204.6262	pounds	per metric ton	
Intermediate Result:	**1,209,625**	**pounds**	**CO2**	
Conversion Factor:	22.38	pounds	CO2 per 1 gallon of diesel fuel	Source: U.S. EIA, 2016
Final Result:	**54,049**	**gallons**	**diesel fuel**	http://www.eia.gov/tools/faqs/faq.cfm?id=307&t=11

Mitigated Onsite Scenario	Total CO2 (MT/yr) (provided in CalEEMod Output File)
Site Preparation (2026)	24.1
Grading (2026)	105.1

On-road Mobile (Construction) Energy Usage - Site Preparation

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

Total Daily Worker Trips (CalEEMod Output)

18

Total Daily Haul Trips (CalEEMod Output)

200

Note: Assumes 5% of workers are on-site on a given day.

Worker Trip Length (miles) (CalEEMod Output)

11.9

Haul Trip Length (miles) (CalEEMod Output)

20

Therefore:

Average Worker Daily VMT:

214

Average Haul Daily VMT:

4,000

Step 2:

Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.5	0.25	0.25

(Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

Fleet Mix for Workers (CalEEMod Output)

MHD	HHD
100%	0%

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2025 Output) - Year 2026

LDA	LDT1	LDT2
19.578	18.122	17.302

Diesel:

MHD	HHD
6.39	3.21

Therefore:

Weighted Average Worker MPG Factor

18.6

Weighted Average Haul (Diesel) MPG Factor

6.4

Step 3:

Therefore:

11.5 **Worker daily gallons of gasoline**

Therefore:

626 **Haul daily gallons of diesel**

Step 4:

10 **# of Days (CalEEMod Output)**

Therefore:

Result: **115** **Total gallons of gasoline**

Therefore:

71,868 **Total gallons of diesel**

On-road Mobile (Construction) Energy Usage - Grading

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

20

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

238

Step 2: Given:

Assumed Fleet Mix for Workers

LDA	LDT1	LDT2
0.5	0.25	0.25

(Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2025 Output) - Year 2026

LDA	LDT1	LDT2
19.578	18.122	17.302

Therefore:

Weighted Average Worker MPG Factor

18.6

Step 3: **Therefore:**

12.8 **Worker daily gallons of gasoline**

Step 4: 35 **# of Days (CalEEMod Output)**

Therefore:

Result: **447** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Building Construction

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1:

Total Daily Worker Trips (CalEEMod Output)

307

Note: Assumes 5% of workers are on-site on a given day.

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

3,653

Total Daily Vendor Trips (CalEEMod Output)

120

Note: Assumes 5% of workers are on-site on a given day.

Vendor Trip Length (miles) (CalEEMod Output)

9.1

Average Vendor Daily VMT:

1,092

Step 2:

Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

Assumed Fleet Mix for Vendors

MHD	HHD
100%	0%

And:

MPG Factors for each Vehicle Class (from EMFAC2025) - Year 2026

Gasoline:

LDA	LDT1	LDT2
19.578	18.122	17.302

Diesel:

MHD	HHD
6.39	3.21

Therefore:

Weighted Average Worker (Gasoline) MPG Factor

18.6

Weighted Average Vendor (Diesel) MPG Factor

6.4

Step 3:

Therefore:

196 **Worker daily gallons of gasoline**

Therefore:

171 **Vendor daily gallons of diesel**

Step 4:

370 **# of Days (CalEEMod Output)**

Therefore:

72,498 **Total gallons of gasoline**

Therefore:

63,189 **Total gallons of diesel**

On-road Mobile (Construction) Energy Usage - Paving

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

15

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

179

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2025 Output) - Year 2026

LDA	LDT1	LDT2
19.578	18.122	17.302

Therefore:

Weighted Average Worker MPG Factor

18.6

Step 3: **Therefore:**

9.6 **Worker daily gallons of gasoline**

Step 4: 20 **# of Days (CalEEMod Output)**

Therefore:

Result: **191** **Total gallons of gasoline**

On-road Mobile (Construction) Energy Usage - Architectural Coatings

Note: Year 2021 MPG factors were derived for construction-releated energy consumption (for the sake of a conservative estimate).

Step 1: **Total Daily Worker Trips (CalEEMod Output)**

61

Worker Trip Length (miles) (CalEEMod Output)

11.9

Therefore:

Average Worker Daily VMT:

731

Step 2: Given:

Assumed Fleet Mix for Workers (Percentage mix is provided on Appendix A: Calculation Details for CalEEMOD p. 15)

LDA	LDT1	LDT2
0.5	0.25	0.25

And:

Gasoline MPG Factors for each Vehicle Class (EMFAC2025 Output) - Year 2026

LDA	LDT1	LDT2
19.578	18.122	17.302

Therefore:

Weighted Average Worker MPG Factor

18.6

Step 3: **Therefore:**

39.2 **Worker daily gallons of gasoline**

Step 4: 20 **# of Days (CalEEMod Output)**

Therefore:

Result: **784** **Total gallons of gasoline**

AIR TOXICS HEALTH RISK ASSESSMENT

FOR THE

PARADISE POINTE BUSINESS PARK PROJECT

TRACY CALIFORNIA

AUGUST 6, 2025

PROJECT TITLE

Paradise Pointe Business Park

PREPARED BY:

De Novo Planning Group
1020 Suncast Lane Suite 106
El Dorado Hills, CA 95762

CONTACT PERSON AND PHONE NUMBER

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INTRODUCTION

This Health Risk Assessment (HRA) was prepared to assess potential public health risks related to toxic air pollution that may be generated by the proposed Paradise Pointe Business Park Project in the City of Tracy, San Joaquin County, California. This report analyzes the emissions of toxic air pollutants within the Project area and their impacts on public health.

PROJECT DESCRIPTION

PROJECT LOCATION

The Project site consists of approximately 52.7 acres located at the northwest corner of Chrisman Road and Paradise Avenue in the northeast quadrant of the City of Tracy, adjacent to State Route 205 (SR-205) to the north. The Project site is located on Assessor Parcel Numbers (APNs) 213-06-012 and 213-06-013. The Project's regional location is shown in Figure 1. The Project site plan is shown in Figure 2.

FIGURE-1: PROJECT REGIONAL LOCATION

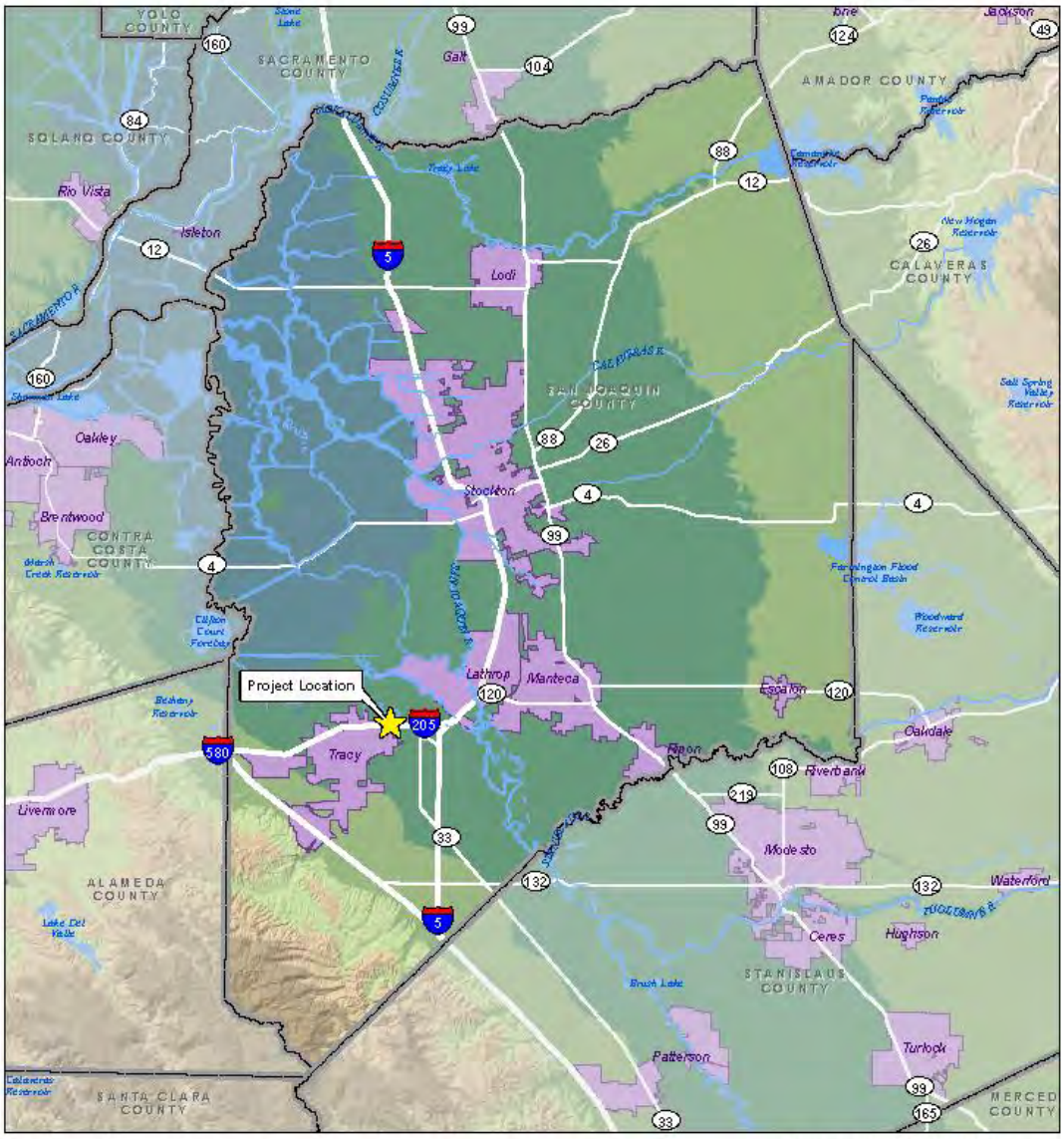
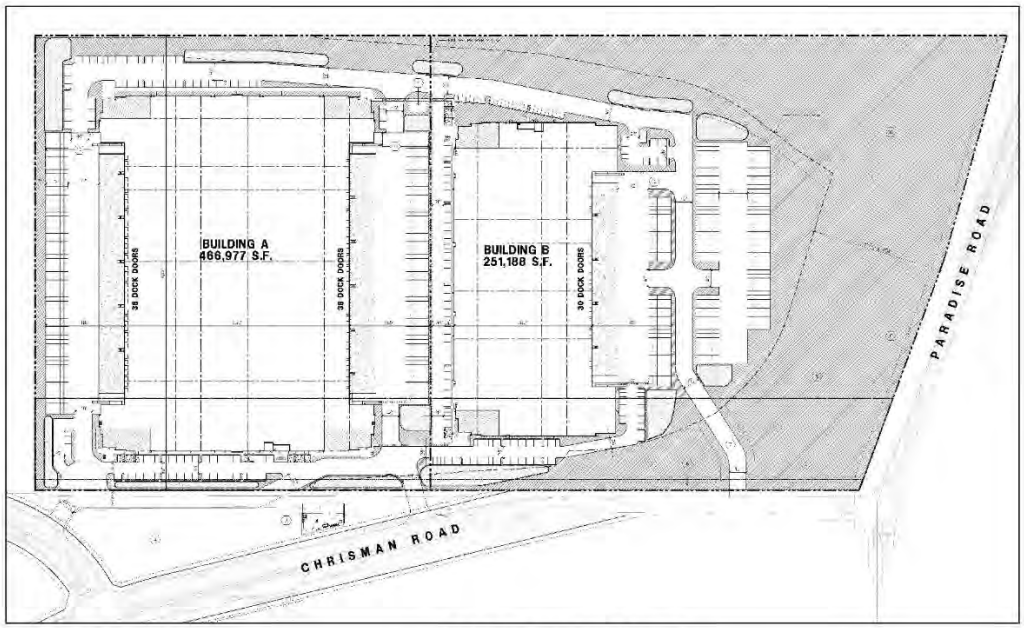


FIGURE-2: SITE PLAN



PROJECT DATA

SITE AREA	BLDG. A	BLDG . B	TOTAL
in s.f.	994,085	1,275,456	**2,269,461** s.f.
in acres	22.8	29.3	**52.1** ac
BUILDING AREA			
office	10,000	7,000	**17,000** s.f.
warehouse	456,977	244,188	**701,165** s.f.
TOTAL	**466,977**	**251,188**	**718,165** s.f.
FLOOR AREA RATIO			
maximum	0.50	0.50	
actual	0.47	0.20	
AUTO PARKING REQUIRED			
office @ 1/250 s.f.	40	28	**68** stalls
warehouse 1st 20K @ 1/1,000 s.f.	20	20	**40** stalls
2nd 20K @ 1/2,000 s.f.	10	10	**20** stalls
above 40K @ 1/4,000 s.f.	104	51	**155** stalls
TOTAL	**174**	**109**	**283** stalls
AUTO PARKING PROVIDED			
Standard (9' x 18'-6")	148	174	**322** stalls
Total Accessible Parking			
Accessible parking (9' x 18'-6")	4	2	**6** stalls
Accessible Van (9' x 18'-6" + 5' Aisle)	4	2	**6** stalls
Total Clean air/ Van pool (12%)			
Standard Clean Air Parking (2%)	4	4	**8** stalls
Total EV Charging (10%)			
Standard EV Charging	16	18	**34** stalls
Accessible Standard EV Charging	1	1	**2** stalls
Accessible Van EV Charging	1	1	**2** stalls
Accessible EV Ambulatory	0	0	**0** stalls
TOTAL	177	202	**379** stalls
TRAILER PARKING PROVIDED			
trailer (10'x53')	126	121	**247** stalls
BICYCLE PARKING REQUIRED			
Short term (5% of total stalls)	9	11	**20** stalls
Long term (5% of total stalls)	9	11	**20** stalls
BICYCLE PARKING PROVIDED			
Short term (5% of total stalls)	10	12	**22** stalls
Long term (5% of total stalls)	10	12	**22** stalls
ZONING ORDINANCE FOR THE CITY			
Zoning Designation - Northeast Industrial Specific Plan			
SETBACKS			
Building	Landscape		
front / Street - 25'	15'		
side & rear (non street) - 15'	5'		

SITE PLAN KEYNOTES

1. EXTERIOR AMENITY AREA
2. (E) PUMP STATION WITH SCREEN WALL
3. FUTURE PUBLIC ART
4. BASIN BY SEEFRIED DEVELOPMENT
5. TEMPORARY LANDSCAPE
6. TEMPORARY PERIMETER LANDSCAPING
7. TEMPORARY ACCESS; FULL MOVEMENT INTERSECTION, SEE CIVIL DWG
8. THIS AREA WILL CONTINUE TO BE FARMED UNTIL THE FUTURE ROAD IMPROVEMENTS ARE CONSTRUCTED
9. EXISTING PARCEL LINE
10. EXTEND OF SCREEN WALL, SEE SCREEN WALL EXHIBIT

PARADISE POINTE BUSINESS PARK

Figure 2. Site Plan

De Novo Planning Group

A Land Use Planning, Design, and Environmental Firm

Sources: HPA Architecture. Map date: November 1, 2024.

EXISTING SURROUNDING USES

The Project site is located in an industrial area within the City's Northeast Industrial Specific Plan area. The surrounding area adjacent to the Project site includes light industrial, agricultural areas, and SR-205. The Project site and the areas to the north, east, south, and west are designated Industrial by the City's General Plan. The area to the northeast, north of SR-205, is designated for agricultural land uses by San Joaquin County. The City of Tracy has zoned the parcels to the west as light industrial (M-1) and the parcels to the south as Northeast Industrial Specific Plan Zone (NEI).

PROJECT CHARACTERISTICS

The proposed project would include development of two general light industrial warehouse buildings totaling 718,165 square feet (sf). Building A would be 466,977 sf and Building B would be 251,188 sf. One-hundred-and-six dock doors would be located along the east and west sides of Building A (38 dock doors on each side) and the east side of Building B (30 dock doors).

Parking would be provided throughout the Development Area, including 322 automobile stalls, 247 trailer stalls, and 22 bicycle parking stalls. Landscaping, including trees, street frontage plantings, accent shrubs and groundcover plantings, native shrub and grass mixes, and screening shrubs would be provided throughout the Development Area. Temporary landscaping would be placed between Building B and Chrisman Road. An exterior amenity area for employees would be included in the northern portion of the Development Area between the proposed warehouse buildings. The amenity area would include outdoor seating, picnic areas, bike parking, and landscaping. The eastern-most corner of the Project site will continue to be utilized as agricultural land until future roadway improvements are completed (by others).

SCOPE OF RISK ASSESSMENT

Preparation of health risk assessments is a three-step process. The first step is to identify potential contaminants that may lead to public health risks. The second step is to assess the magnitude of contaminants that may reach the public (exposure assessment). The last step is to calculate the magnitude of the health risk that may potentially occur as a result of exposure to harmful contaminants on the basis of the toxicology of the contaminants.

The Office of Environmental Health Hazard Assessment (OEHHA), and the San Joaquin Valley Air Pollution Control District (SJVAPCD) provide guidance on the procedures that should be used, including, toxicological data for individual contaminants. This risk assessment is based on the guidance provided within these guidance documents. It should be noted that while this risk assessment uses certain procedures and data from these Guidelines, this assessment is not intended to satisfy the reporting requirements under AB-2588 "Air Toxics" Hot Spots program.

The operational health risks that are evaluated in this study include:

- Residential Cancer Risk (70-year exposure; start at third trimester);
- Workplace Cancer Risk (40-year exposure; start at age 16); and
- Acute and Chronic Hazard Indices.

The 70-year risk applies to residential areas where exposure may potentially occur 24 hours/day, 365 days/year depending on the amount of activities of the emission source. The 40-year risk is applicable to workplace exposure and therefore accounts for a reduced exposure for the fact that individuals typically would be exposed 8-hrs per day, 5 days per week, and 50 weeks per year. Non-cancer risks can be described as acute (short-term, exposure) or chronic health impacts.

Additionally, construction-related health risks are also evaluated in this study, addressed cumulatively (i.e. in conjunction) with the operational health risks. Since the construction schedule would occur over less than approximately 2 years, the construction-related health risks include:

- Residential Cancer Risk (2-year exposure; start at third trimester);
- Workplace Cancer Risk (2-year exposure; start at age 16); and
- Acute and Chronic Hazard Indices.

MODELING ASSUMPTIONS

The Intake Rate Percentile utilized to assess both the operational and construction-related health risks was the "Inhalation Only" pathway. In non-cancer chronic assessments, the inhalation pathway is always considered a driving pathway. The pathways to evaluate selected was the 'Inhalation Only' selection, which accounts for the inhaled toxics.

SIGNIFICANCE CRITERIA

The following significance criteria shown in Table 1, based on guidance from the SJVAPCD, are used in this report to assess the significance of public health risks.

TABLE 1 THRESHOLDS OF SIGNIFICANCE FOR PUBLIC HEALTH RISKS

Risk Metric	*Significance Threshold*
Residential Cancer Risk	20 per million
Workplace Cancer Risk	20 per million
Chronic and Acute non-cancer hazard Indices	non-cancer health hazard exposure index of 1.0

SOURCE: SJVAPCD, 2015.

If a project contributes a cancer risk in excess of 20 new cases in a population of one million persons at identified receptors, or a non-cancer hazard index of greater than or equal to 1.0, Project related emissions would be considered to have a significant project-level impact.

EMISSION SOURCES AND EXPOSURE

The main source of toxic air pollutants (TACs) by the proposed Project is diesel particulate matter (DPM) from construction vehicles and truck idle and mobile emissions during the construction phase and heavy-duty trucks during the operations phase. Based on numerous studies by the California Air Resources Board (ARB), DPM represents the largest single contributor to public health risks. Additionally, in its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks.

Emissions from the following project sources were analyzed and are shown in Table 2:

- Truck on-site and off-site mobile emissions
- Truck on-site idling emissions
- Truck on-site TRU idling emission
- Construction-related emissions

TABLE 2: EMISSION SOURCE ASSUMPTIONS

Source Type / Emission	Configuration	Assumptions
Operation - On- and Off-site Mobile Diesel Truck Circulation (DPM)	*Modeled as volume sources* -Release Height = 2.55 meters -Truck Width = 3 meters -Truck Height = 3 meters -Line Lengths = based on path of travel -Base Elevation = Flat terrain	• On-site and off-site truck travel includes 290 truck trips per day (Kimley Horn, 2025). • Traveling distance based on proposed site plan layout and anticipated ingress/egress routes. • Both on-site and off-site mobile circulation modeled. • PM_{10} mobile emissions factor provided by EMFAC2025 • Modeling parameters based on methods established by the San Joaquin Valley Air Pollution Control District.

Operation - On-site Diesel Truck Idling (DPM)	*Modeled as point sources* -Release Height = 4 meters (typical truck height) -Gas Exit Velocity = 51.71 m/s -Stack Height = 3.84 meters -Stack Exit Diameter = 0.1 meters (based on typical stack inside diameters for heavy-duty vehicles). -Stack Temperature = 366 K (based on typical diesel exit temperatures) -Base Elevation = Flat terrain (approximately 26 feet above sea level)	• On-site Idle of 145 trucks per day assumed for purposes of analysis. • PM_{10} mobile emissions factor provided by EMFAC2025. All daily truck idling emissions were assumed to occur within the Project site (as opposed to being split among multiple locations throughout the day), which represents a conservative assumption. • Modeling parameters based on methods established by the San Joaquin Valley Air Pollution Control District.
TRUs (DPM)	*Modeled as point sources* -Release Height = 4 meters (typical truck height) -Gas Exit Velocity = 51.71 m/s -Stack Height = 3.84 meters -Stack Exit Diameter = 0.1 meters (based on typical stack inside diameters for heavy-duty vehicles). -Stack Temperature = 366 K (based on typical diesel exit temperatures) -Base Elevation = Flat terrain (approximately 26 feet above sea level)	• Trucks are assumed to run their TRUs for 15 minutes per hour. • 34 hp rated TRUs • Emission factor (Source: ARB Guidelines for in-use Diesel-Fueled Transport Refrigeration Units TRU) • 0.53 load factor • 100% of trucks are assumed to have TRUs, for the sake of a conservative assessment.
Construction - Off-road Vehicles	*Modeled as an area source* -Release Height = 5 meters -Base Elevation based on flat terrain (approximately 26 feet above sea level)	• On-site construction-related off-road emissions were modeled (based on the CalEEMod off-road emissions data).

DAILY TRUCK TRIPS AND ROUTES

The total diesel truck trips generated by the proposed project is based on the trip generation data provided by Kimley Horn in 2025. According to Kimley Horn, the average total daily traffic includes 1,084 trips per day, with 290 of those daily trips being for trucks.

The off-site diesel truck routes were modeled at a distance in excess of 0.5 miles away from the Project site. Separately, the on-site circulation of trucks was modeled to account for the diesel truck travel throughout the entirety of the internal circulation route. Specifically, on-site circulation was modelled to account for internal Project site travel via the Chrisman Road

ingress/egress location, and circulation through to the far northern part of the central circulation route, located between the Project's Building A and Building B (warehouses). This represents an approximately average route that would be taken by on-site truck traffic, between the warehouses (for docking and loading/unloading) and the diesel truck parking areas.

EMISSION RATES

Table 3 provides emissions rates by source and emissions factors. For calculations, data outputs, and reference documents please see Appendix 1.

TABLE 3: EMISSION RATES BY SOURCE

Source	Pollutant	Volume/Size	Emissions Pounds/Year
Operation – On-site Mobile Diesel Truck Circulation	DPM	290 truck trips per day	0.2
Operation – Off-site Mobile Diesel Truck Circulation	DPM	290 truck trips per day	1.5
Operation - On-site Diesel Truck Idling	DPM	145 trucks per day idling 5 min	1.1
Operation - On-site TRU Idling	DPM	145 trucks per day idling 15 min	10.5
Construction – Off-Road Vehicles	DPM	All Off-Road Equipment Activities	31.4

SOURCES: EMFAC 2025; LAKES AERMOD VERSION 13.0.0 (U.S. EPA VERSION 21142).

EXPOSURE ASSESSMENT

The exposure assessment involves converting the emission rate (e.g., lbs/hr, g/hr) of individual toxic air contaminants into the concentration (e.g., grams/cubic meter g /sec m^2 or parts per million) of each toxic air contaminant. The key step in performing an exposure assessment is the application of an air dispersion model. The dispersion model incorporates the local meteorological data (wind speed, wind direction, local temperature, inversions, etc.), stack height, and exhaust flow characteristics, into the dispersion of individual air contaminant. The Lakes AERMOD Version 13.0.0 (U.S EPA version 21142) dispersion model was employed for this assessment.

Modeling Receptors: Receptors were placed at locations of nearby receptors, including residential, school, and workplace locations.[1] The locations of the nearby receptors are:

- Various rural residences located north of the Project site, along Arbor Avenue;
- Residences located at the intersection of Arbor Avenue and Paradise Road, northeast of the Project site;
- Residential receptors located along California Avenue, east of the Project site;
- Residential receptors located along Grant line Road, south and southeast of the Project site;

[1] The nearest sensitive receptors to the Project site are those residences located approximately 0.25 miles to the northeast and east of the Project site, along Paradise Road and I-205, respectively.

- Banta Elementary School, located along Grant Line Road, southeast of the Project site;
- An additional residence, located southeast of the Project site, off of Banta Road and Grante Line Road.

Additionally, workplace receptors were placed at various locations proximate to the Project site. A grid of receptors at a distance of approximately 100 meters was placed surrounding the modeled Project emission sources. This ensures that the maximum off-site workplace receptor are accounted for in this assessment. This allows for an analysis of the receptors that have the potential to be most affected by the TACs generated by the proposed project. This approach to modeling receptors is consistent with the SJVAPCD's *Guidance for Air Dispersion Modeling* document, which requires receptor coverage to ensure that the maximum pollutant concentration is captured.

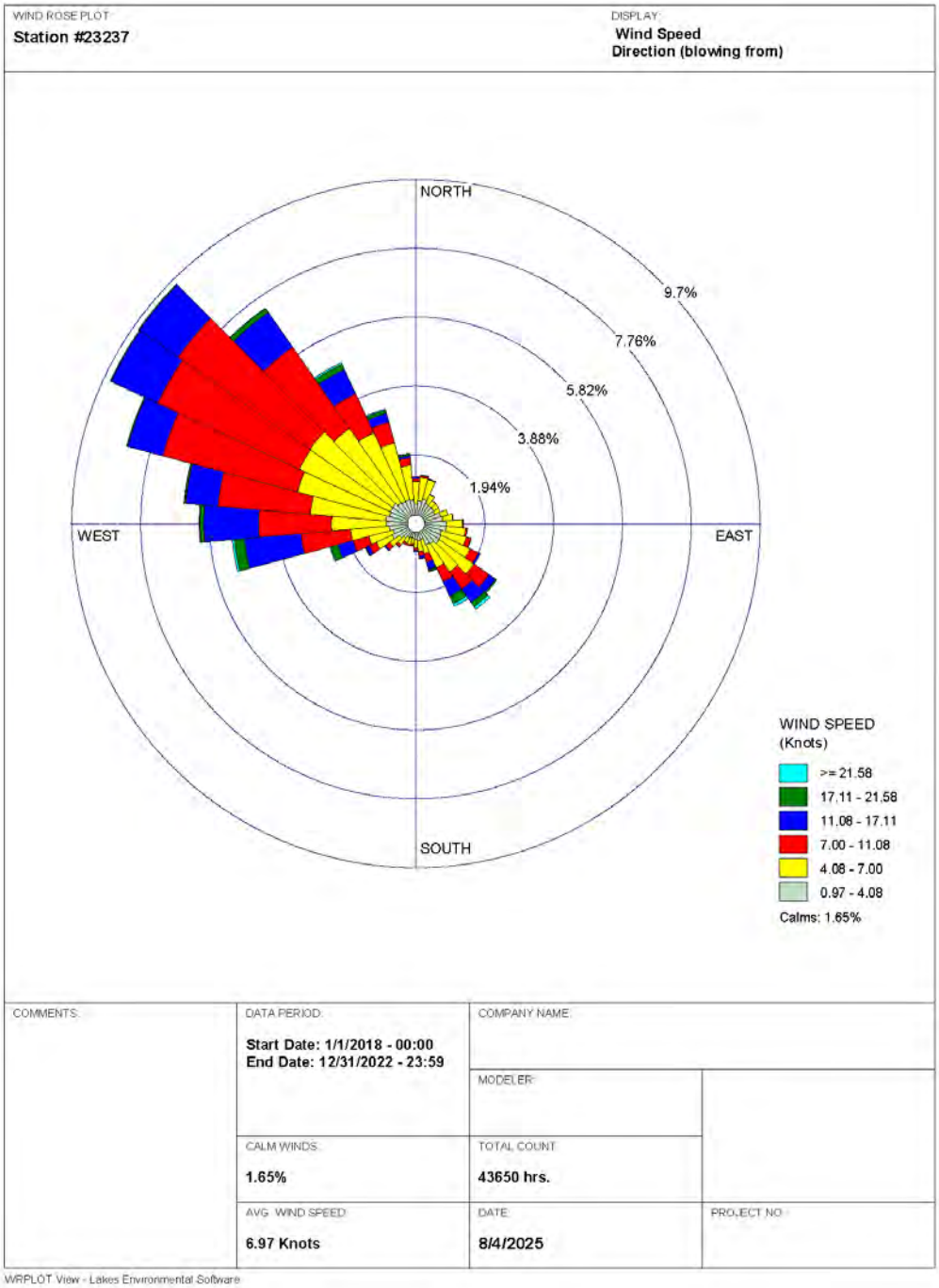
Meteorological Data: Five years of meteorological data was used in the exposure assessment. The meteorological ("Met") data (wind speed, wind direction, temperature, etc.) were recorded at the Stockton Metropolitan Airport, CA, which is the closest meteorological location to the Project site with recent meteorological data. Data was provided by the SJVAPCD.[2] Figure 3 provides wind patterns at the Stockton Metropolitan Airport which, was used for the AERMOD modeling.

RISK ASSESSMENT

Once the emissions rates of individual air contaminants have been calculated, and the AERMOD air dispersion model has been run to provide air pollutant concentrations. The next step in determining health risks is to determine the cancer risk, and acute and chronic incidence rates based on these air pollutant concentrations. Period and 1-hour dispersion files were used in combination with the Hotspots Analysis and Reporting Program (HARP) risk modelling software to calculate risk scenarios for residential, school, and workplace cancer rates, as well as acute and chronic incidences. The HARP model is a software suite developed by the California Air Resources Board and used to assist with the programmatic requirements of the Air Toxics "Hot Spots" Program [Assembly Bill (AB) 2588]. HARP combines the tools needed to implement the requirements of AB 2588, such as reporting a facilities emissions inventory, determining a facilities prioritization score, conducting air dispersion modeling, and performing a facility health risk assessment. This study utilized the HARP Air Dispersion and Risk Tool with dispersion plot files created in AERMOD. After the risk assessment was complete, HARP plot files were then imported back into AREMOD for spatial and visual representation, and analysis of impact areas.

[2] See: https://www.valleyair.org/permitting/air-dispersion-modeling/

FIGURE-3: WIND PATTERNS (STOCKTON METROPOLITAN AIRPORT – 2018-2022) LOCATION



Sources: Prepared by De Novo Planning group (2025)

RISK ASSESSMENT RESULTS

The TAC emissions from operation of the Project result from the on-site and off-site truck travel, and on-site idling (including both engine idling and TRU idling) of diesel-fueled vehicles. The TAC emissions from construction of the Project result from on-site off-road construction vehicle activity emissions. The nearest sensitive receptors to the Project site are those residences located approximately 0.25 miles to the northeast and east of the Project site, along Paradise Road and I-205, respectively. Cancer and non-cancer risks vary depending on the exposure scenario (e.g. residential, school, or worker) and on location. As would be expected, locations nearest the Project site have the greatest exposure and the associated risks are considerably lower as distance from the project site increases. Table 4 displays the residential, school, and workplace cancer risk, and acute and chronic incidence rate results at nearest receptors.

TABLE 4: SUMMARY OF MAXIMUM HEALTH RISKS

RISK METRIC	*MAXIMUM PROJECT RISK*	*SIGNIFICANCE THRESHOLD*	*IS THRESHOLD EXCEEDED?*
OPERATIONAL			
Residential Cancer Risk (70-year exposure)	<1 per million	20 per million	No
Workplace Cancer Risk (40-year exposure)	<1 per million	20 per million	No
Chronic (non-cancer)	<0.1	Hazard Index ≥1	No
Acute (non-cancer)	0	Hazard Index ≥1	No
CONSTRUCTION			
Residential Cancer Risk (70-year exposure)	<1 per million	20 per million	No
Workplace Cancer Risk (4-year exposure)	<1 per million	20 per million	No
Chronic (non-cancer)	<0.1	Hazard Index ≥1	No
Acute (non-cancer)	0	Hazard Index ≥1	No
TOTAL			
Residential Cancer Risk (Aggregate)	<1 per million	20 per million	No
Workplace Cancer Risk (Aggregate)	<1 per million	20 per million	No
Chronic (non-cancer)	<0.1	Hazard Index ≥1	No
Acute (non-cancer)	0	Hazard Index ≥1	No

SOURCES: AERMOD 13.0.0; AND HARP-2 AIR DISPERSION AND RISK TOOL (VERSION 22118).

Overall, the results show that the operational residential cancer risk would remain below the SJVAPCD threshold of 20 in a million at areas near the project site that contain residential receptors, at a total of less than 1 per million (at the location of maximum residential cancer risk), during Project operation. Figure 4 shows the residential operational cancer risk contours surrounding the Project site. It should be noted that this is a highly conservative estimate, since the modeled results assume that the same individual has a 70-year exposure timeframe starting at the third trimester, and therefore the real risk is anticipated to be far below this risk level since the majority of people would be exposed to a much shorter period which results in lower risk levels.

Furthermore, as shown in Figure 5, operational workplace cancer risk would also be below the threshold, at less than 1 in a million at its peak value, for workers that may be located at or near the analyzed locations. The analysis of offsite worker exposure is also conservative since it assumes that the same individual would be at this location near the Project site for 40 years.

The results also show that construction-related cancer risks would be below the SJVAPCD's cancer risk threshold of 20 in a million, as shown in Figure 6 and Figure 7. Construction-related residential cancer risk would be less than 1 in a million; and construction-related workplace cancer risk would also be less than one in a million.

Overall, as shown in Table 4, aggregate risk levels (i.e. combined operational and construction-related health risks) are estimated to not exceed 1 in a million, and is less than the 20 in a million threshold for residences and workers, consistent with SJVAPCD guidance. Receptors located further away from those included in the analysis would result in lower levels of air pollutant exposure and consequently would likewise be below the significance thresholds.

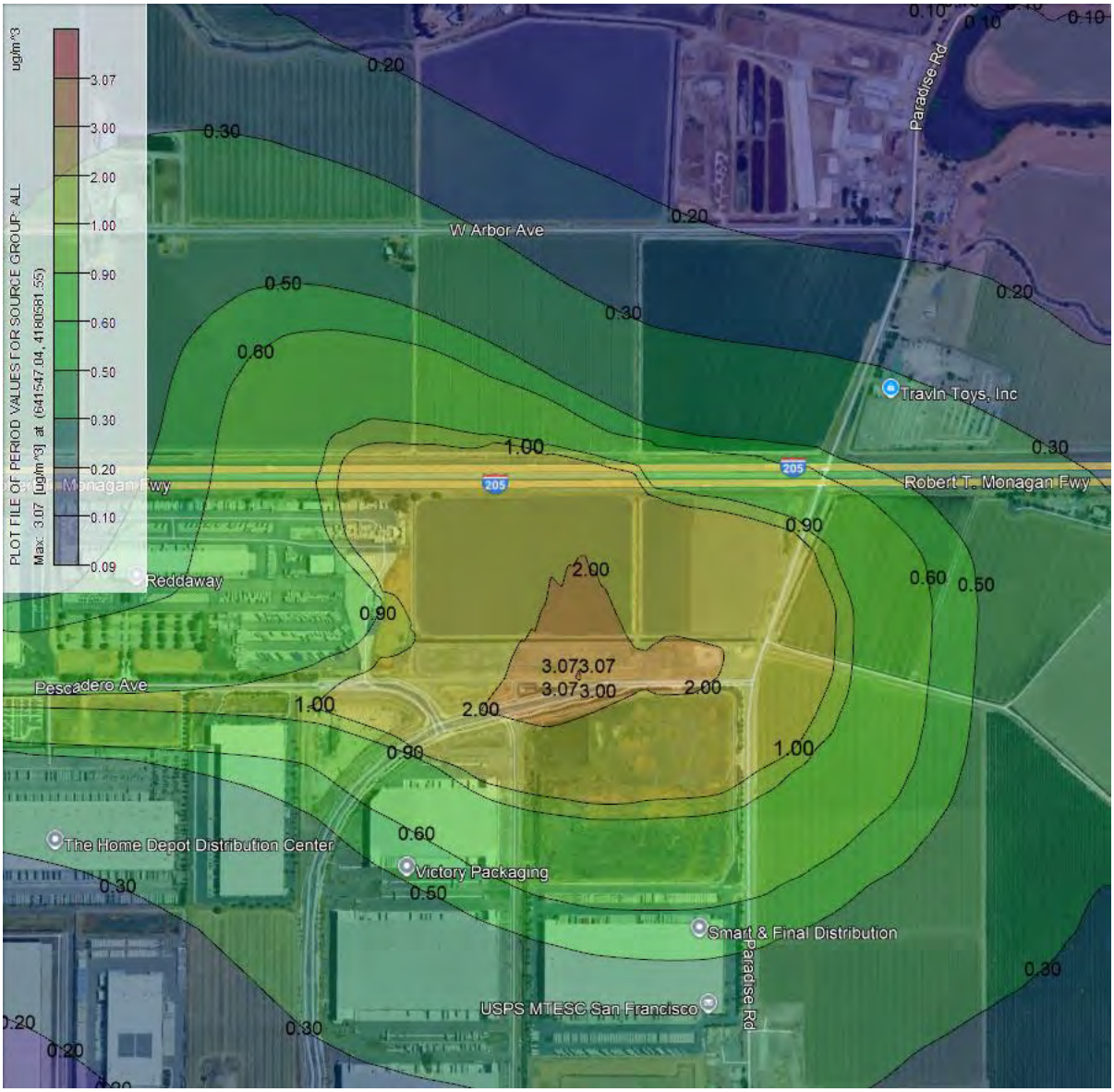
Chronic or long-term exposures and acute exposure to DPM can result in non-cancer health effects. Chronic and acute non-cancer hazards results show that the acute and chronic risk on and near the project site would remain below the hazard index of ≥1. It should be noted that DPM does not generate acute health risks, and therefore the acute health risks from the Project site would be zero.

CONCLUSION

The exposure of toxic air contaminants resulting from the construction and operations phases of the Project were calculated based on the air pollutant concentrations produced from the USEPA's AERMOD air pollutant dispersion model as well as the California Air Resources Board's Hot Spots Analysis & Reporting Program. This assessment was calculated at the nearest sensitive receptors proximate to the Project site. The results of these computer models indicate that combined construction and operations phase health risks related to the proposed Project would result in cancer risk, acute, and chronic exposure that are below the significance thresholds adopted by the San Joaquin Valley Air Pollution Control District. Consequently, the Project would result in less than significant impacts to health risk from toxic air contaminants.

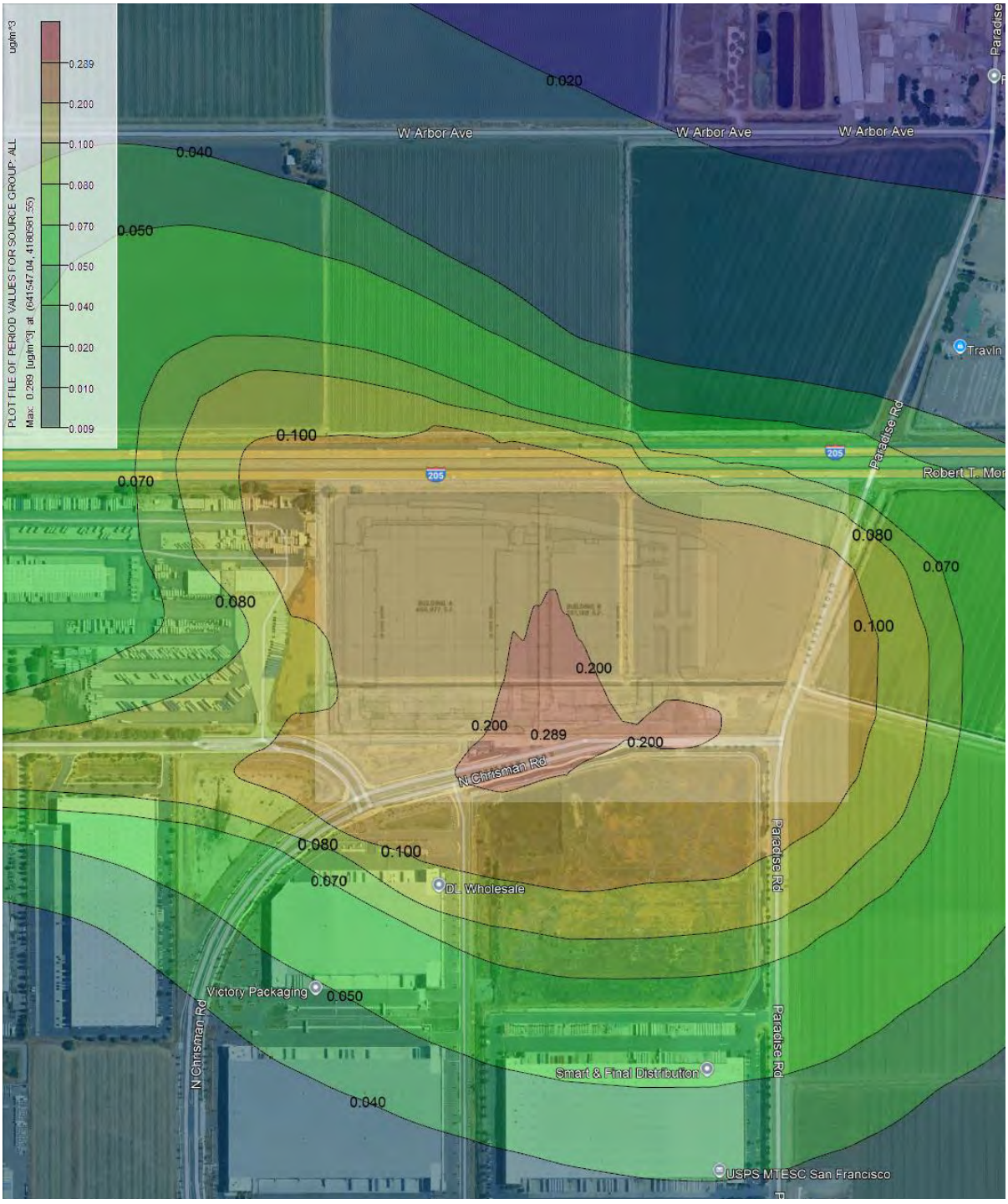
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FIGURE-4: RESIDENTIAL CANCER RISK - OPERATIONAL



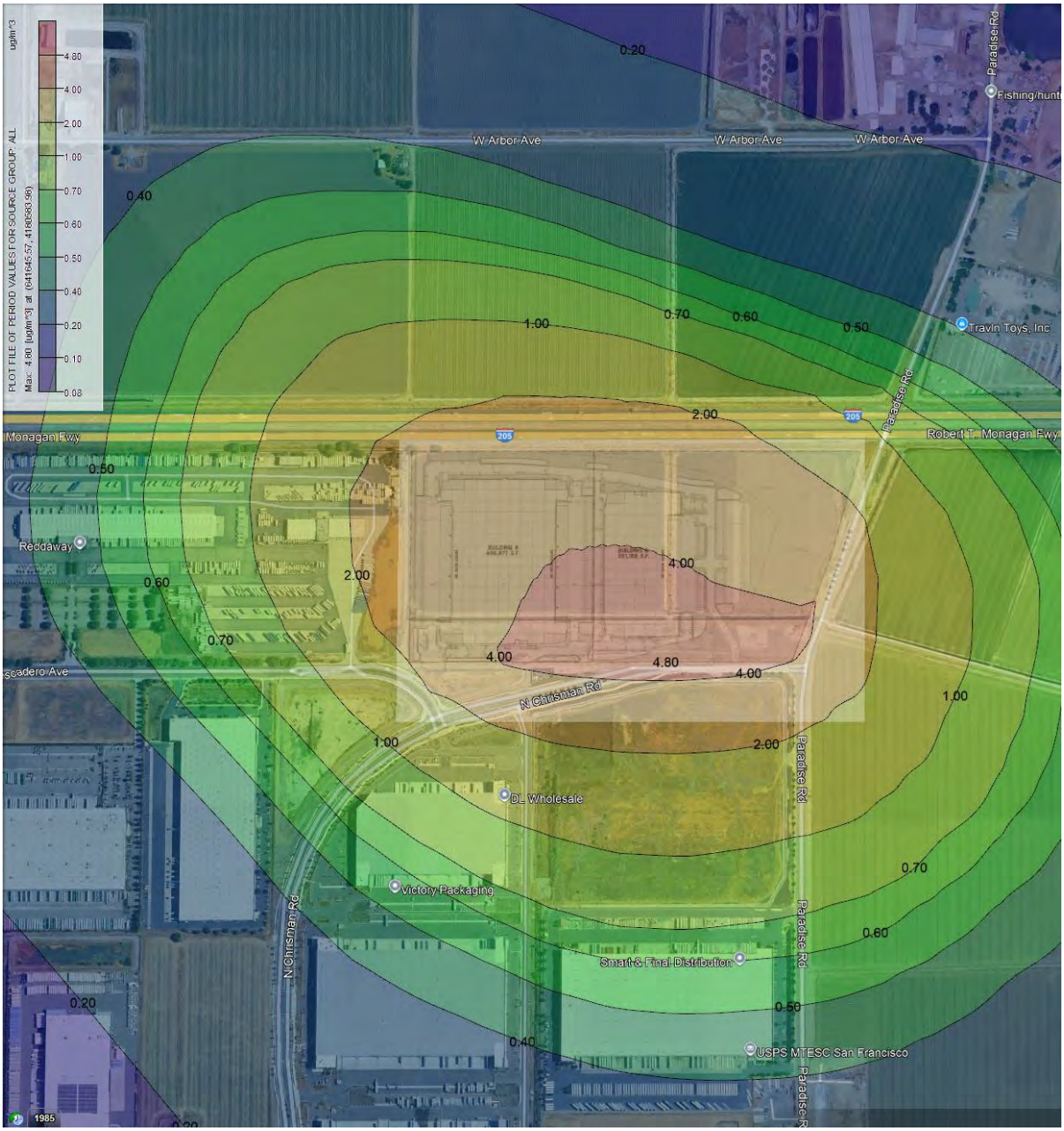
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FIGURE-5: WORKPLACE CANCER RISK - OPERATIONAL



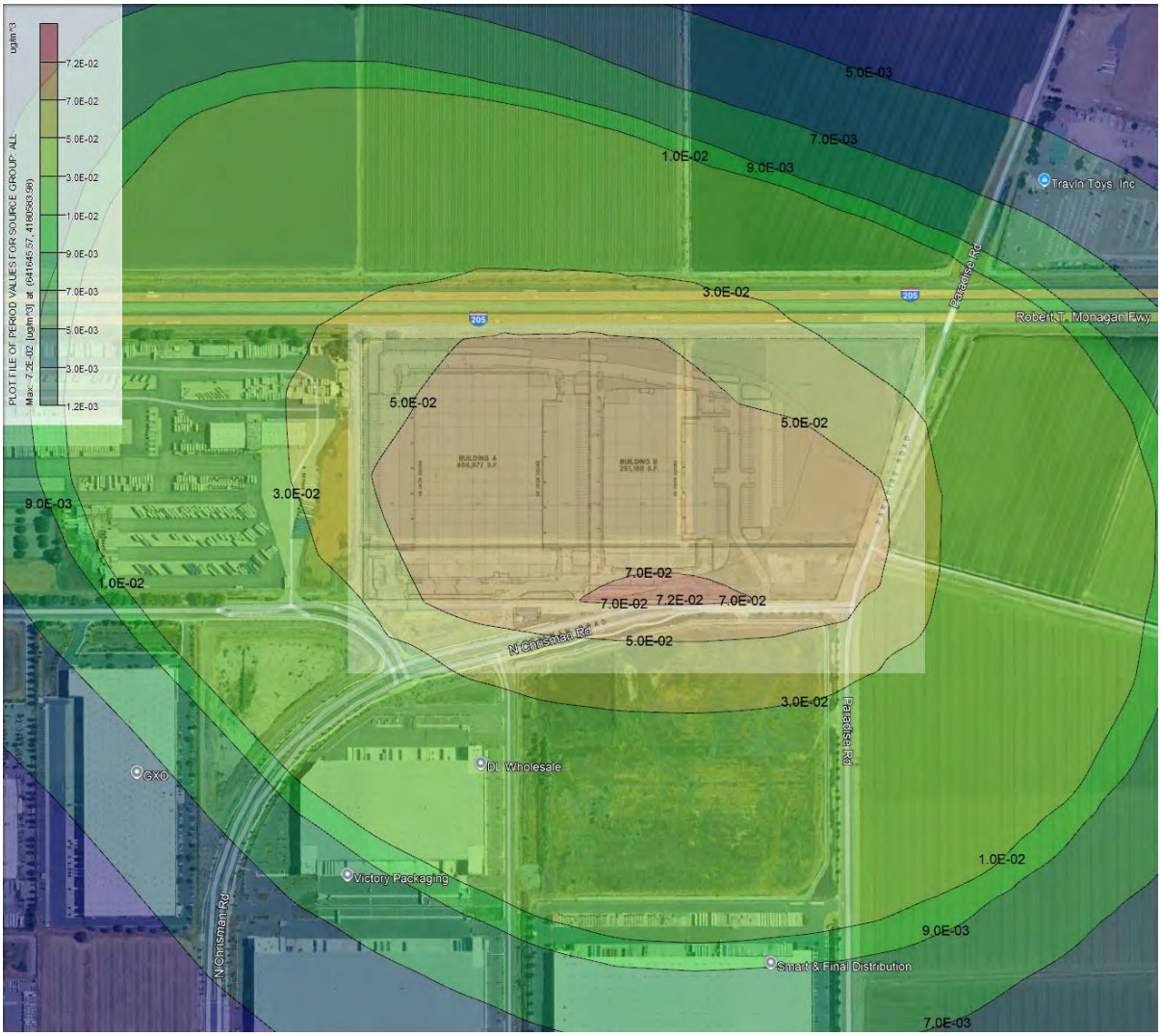
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FIGURE-6: RESIDENTIAL CANCER RISK - CONSTRUCTION



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FIGURE-7: WORKPLACE CANCER RISK - CONSTRUCTION



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REPORT PREPARERS

This document was prepared by De Novo Planning Group, Inc. under the direction of the City of Tracy. De Novo Planning Group staff participating in document preparation included the following:

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Appendix 1 - Emissions Calculations:

Construction Emissions (Off-Road Equipment)

365 days per year

Phase	PM2.5E		
2026	0.015678507	tons/year	Source: CalEEMod (v2022.1)
2027	0.010964448	tons/year	Source: CalEEMod (v2022.1)
	0.026643	**tons (total)**	
	53.29	**lbs (total)**	Includes all on and offsite emissions

5. Activity Data

5.1 Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Days per Phase
Site Preparation	Site Preparation	1/30/2026	2/13/2026	5	10
Grading	Grading	2/14/2026	4/4/2026	5	35
Building Construction	Building Construction	4/5/2026	9/5/2027	5	370
Paving	Paving	9/6/2027	10/4/2027	5	20
Architectural Coating	Architectural Coating	10/5/2027	11/2/2027	5	20

455 Total

260 CalEEMod Work days/year

1.75

Split into sources: **Split into:** 1 **AERMOD sources (note: depends on final number of sources used in AERMOD)**

Mobile Truck Emissions - On-site Mobile

meters per mile: 1609.34 pounds per gram: 0.002205

Assumptions:			Source:	Notes:
1. Distance travelled on-site per truck per day (line segment)[1]:	0.4325	miles per truck	AERMOD	The line measure out to be 696.3 meters in AERMOD, which is equivalent to 0.435 miles.
2. # of trucks per day (total):	145	trucks	Kimley Horn	This is equal to half of all truck trips.
4. PM10 Mobile Em. Factor[2] (San Joaquin County, Year 2027 10 MPH, T7 Tractor Class 8)[3]:			EMFAC2025	
Note: T7 Tractor Class 8 EF was used for a conservative EF (large truck class).	**0.004876638**	g/mile		

Number of sources: 1

Therefore:
Total daily PM10 Exhaust On-site Mobile Emissions Generated by the project:

0.305807966	**g/day-all trucks**
0.00067419	lbs/day-all trucks
0.24607948	**lbs/year-all trucks**
1	Volume Sources
0.24607948	**lbs/year per Volume Source**

Max Hr Emissions

29	Peak hour truck trips	Kimley Horn	Maximum peak hour truck trips is used for the sake of a conservative analysis (i.e. 29 truck trips her max hour, out of a total of 290 truck trips per day).
0.00210902	**grams/truck**		
14.5	**Peak hour trucks**		
0.030580797	**peak hour grams for all trucks**		
6.7419E-05	**peak hour lbs for all trucks**		
1	Volume Sources		
0.0000674190	**lbs/hour per Volume Source**		

Notes:
[1]Travel through the middle of the Project site to from the southern entrance to the north of the Project site was used as an consesrvative average case scenario.
[2]10 MPH Emission factor was utilized for on-site truck travel.
[3]First year of operation is is Year 2027 (see CalEEMod).

Mobile Truck Emissions - Off-site Mobile

meters per mile: 1609.34 pounds per gram: 0.002205

Assumptions:			Source:	Notes
1. Distance travelled off-site per truck trip per day:	1.408	miles per individual trip	AERMOD	The line measure out to be 2266.0 meters in AERMOD, which is equivalent to 1.408 miles.
2. # of trucks trips (total):	290	truck trips	Fehr & Peers	
3. DPM Mobile EF (San Joaquin, Year 2027, 40 MPH, T7 Tractor Class 8):			EMFAC2025	
Note: T7 Tractor Class 8 EF was used for a conservative EF (large truck class).[1]				
	0.00466291	g/mile		

Number of sources: 1

Therefore:
Total daily PM10 Exhuast Off-site Mobile Emissions Generated:

1.90399704	**g/day-all trucks**
0.00419759	lbs/day-all trucks
1.53212033	lbs/year-all trucks
1	Volume Sources
1.53212033	**lbs/year per Volume Source**

Max Hr Emissions:

29	Peak hour truck trips	Kimley Horn	Maximum peak hour truck trips is used for the sake of a conservative analysis
0.00656551	grams/trip		
29	Peak hour truck trips		
0.1903997	**peak hour grams for all trucks**		
0.00041976	**peak hour lbs for all trucks**		
1	Volume Sources		
0.00041976	**lbs/hour per Volume Source**		

Notes:
[1]40 MPH Emission factor (assumed average vehicle speed) was utilized for on-site truck travel, based on road type.
The speed limit on Pescadero is 45 mph.

Truck Idling

CARB EMFAC2021 idling emission factors for 2027 T7 Tractor Class 8 diesel trucks: PM2.5 **0.009283682** g/truck per day Source: EMFAC 2025

Note: This is a highly conservative assumption, as it assumes that the average idling per truck per day would occur entirely within the Project site. This also assumes all trucks are HHD (conservative assumption).

145 Total # of trucks per day Source: Kimley Horn

1.346133853 g/day-all trucks

491.3388563 g/year-all trucks

1.083215469 lbs/year-all trucks

pounds per gram: 0.00220462

As provided by the Kimley Horn Traffic Study: 29 Peak hour truck trips (maximum peak hour truck trips is used for the sake of a conservative analysis)

Number of idling points modeled in AERMOD: 6

Annual Emissions:	**0.180535912** lbs/year-all trucks for each of the	**6**	idling points
Max Hr Emissions:	**0.0000495** lbs/hour-peak hour trucks for each of the	**6**	idling points

Truck TRU (Idling)

pounds per gram: 0.00220462

0.02 g/hp-hr source: ARB
34 hp rated TRU engines

100% 15% of trucks are refrigerated trucks (based on the # of 500,000 trucks in the U.S being reefers and approximately 3.2 million trucks in use nationwide). Source ATA
Note: However, we are assuming 100% of trucks are refrigerated, for the sake of a conservative analysis (based on Project applicant preference).
0.53 Load Factor of 0.53 based Walmart Riverwalk Marketplace HRA Impact Sciences, Inc

0.25 Trucks are expected to run their TRUs for 15 minutes per hour (SJVAPCD's Leland Vilalvazo, phone conversation) On/Off Cycle Factor Note: This is also a legal requirement as promulgated by the CARB (no more than 15 minutes of TRU use per truck per hour).

145 Total # of trucks per day (note: truck trips are round trips; hence, total # of trucks is equal to half the number of truck trips)
Source: Kimley Horn
1 Max hours trucks are assumed to be idle on-site (SJVAPCD's Leland Vilalvazo, phone conversation)

13.0645 Emissions (g/day)

6 Number of point sources

Total
13.0645 Emissions (g/day)

4,769 Emissions (g/year)
10.513 Emissions (lbs/year)
6 Number of point sources
1.752 Emissions (lbs/year) for each of the individual point sources

Total Max 1 Hr
1.30645 Emissions (g/hr)

1.30645 Emissions (g/hour)
0.00288 Emissions (lbs/hour)
6 Number of point sources
0.0004800 Emissions (lbs/hour) for each of the individual point sources

Source: EMFAC2025 (v2.0.0) Emission Rates
Region Type: County
Region: San Joaquin
Calendar Year: 2026, 2027
Season: Annual
Vehicle Classification: EMFAC202Y Categories
Units: miles/day for Combustion VMT and Electric VMT, g/mile for RUNEX, PMBW and PMTW, mph for Speed, gallon/mile for Fuel Consumption, kWh/mile for Energy Consumption, kg/mile for Hydrogen Consumption.

Region	Calendar Ye:	Vehicle Category	Model Year	Speed	Fuel	**PM2.5_RUNEX**
San Joaquin	2026	T7 Tractor Class 8	Aggregate	10	Diesel	**0.005227103**
San Joaquin	2026	T7 Tractor Class 8	Aggregate	40	Diesel	**0.00495334**
San Joaquin	2027	T7 Tractor Class 8	Aggregate	10	Diesel	**0.004876638**
San Joaquin	2027	T7 Tractor Class 8	Aggregate	40	Diesel	**0.004662913**

Source: EMFAC2025 (v2.0.0) Emission Rates
Region Type: County
Region: San Joaquin
Calendar Year: 2027
Season: Annual
Vehicle Classification: EMFAC202Y Categories
Units: miles/day for Combustion VMT and Electric VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HOTSOAK and RUNLOSS, g/vehicle/day for IDLEX and DIURN.

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	**PM2.5_IDLEX**
San Joaquin	2027	T7 Tractor Class 8	Aggregate	Aggregate	Diesel	**0.009283682**

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Appendix 2 – AERMOD Output Files:

Due to the extensive size, the output files will be provided by request.

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Appendix 3 – HARP2 Output Files:

Due to the extensive size, the output files will be provided by request.

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APPENDIX C

Phase I Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT
ASTM Standard E 1527-13



FORMER HALEY'S FLYING SERVICE PROPERTY
APN 213-060-13
21000 Paradise Road and 2395 Pescadero Avenue
Tracy, San Joaquin County, California

Brusca Project No. 194-006

Prepared for: **Diepenbrock Elkin**

January 7, 2020

Brusca Associates, Inc.
Environmental Engineering Geology

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EXECUTIVE SUMMARY

General

Brusca Associates, Inc. has prepared this *Phase I Environmental Site Assessment* of the subject property in general accordance with ASTM Standard E 1527-13. Our assessment has been performed to determine if the potential exists for significant site contamination from either on- or off-site sources for the purpose of identifying any *recognized environmental conditions* in connection with the subject property. We understand that this report will be used for environmental due diligence purposes related to a commercial real estate transaction involving the subject property.

Site Location and Description

The approximate ten-acre subject site is located northwesterly of the intersection of Paradise Road and Pescadero Avenue in a mixed agricultural and commercial/light industrial area of Tracy, San Joaquin County, California. The subject property is addressed as 21000 Paradise Road and 2395 Pescadero Avenue and is identified by the San Joaquin County Assessor's Office as parcel number (APN) 213-060-13. The subject site currently is vacant and generally unused. Portions of the property generally are void of vegetation and other portions support low to medium-high volunteer vegetation/grasses; vegetation on portions of the site appears to have burned in the past. The far easterly portion of the property supports a number of remnant concrete slabs and other concrete structures (including a raised platform/former loading dock and depressed structures/pits) that apparently were associated with a previous onsite agricultural air strip/crop dusting facility (referred to as Haley's Flying Service). A narrow strip of remnant pavement generally traverses the property from east to west; this feature evidently is the former airstrip used by Haley's Flying Service. At the time of our site reconnaissance, a small area within the central portion of the site supported a number of beehive boxes (labelled Valdez Bee Service). Assorted debris and rubbish were observed on portions of the site, including discarded tires, wood debris, and piles of household-type items and garbage. A small area of the site appears to be used as a homeless encampment; a notable amount of debris, materials, and rubbish were observed in this area. Additionally, small areas of burned debris were observed at a number of locations on the property.

Site History

Our research indicates that the subject property historically consisted of vacant farmland until around 1950 when the former Haley's Flying Service facility was constructed on the easterly portion of the property; the former airstrip was constructed across the site in an east-west orientation. The former Haley's Flying Service operated an agricultural airstrip and crop-dusting facility on the subject property from 1951 until about 1989. The onsite facility included hangar buildings, an office, a concrete-lined washout pit (where aircraft agricultural chemical tanks were rinsed), a loading dock (to facilitate the loading of agricultural chemicals into crop dusting aircraft), and a concrete-paved area where agricultural pesticides were stored and handled. Subsequent to the 1980s, the property reportedly was occupied by various businesses, including a trucking company (Continental Express), a tomato packing company, and a truck repair business. It is indicated that one or more of the buildings on the property were destroyed by fire in 2018, and the remaining structures were razed thereafter. The site apparently has been vacant and generally unused since 2018, save for the storage of beehive boxes and some unauthorized homeless habitation.

Past Site Inspections and Investigations

General

A number of environmental investigations and regulatory agency site inspections have taken place at the subject property dating back to the 1970s. Most of the environmental documentation pertaining to the property is related to inspections and investigative work performed to evaluate the area of the former onsite agricultural air strip/crop dusting facility (Haley's Flying Service) and associated hazardous materials use and storage practices. Additionally, past site investigations were performed to evaluate site impact from former underground fuel storage tank usage at the Haley's Flying Service facility. The past environmental reports and documentation were obtained via our research with the San Joaquin County Environmental Health Department (SJCEHD), the Central Valley Regional Water Quality Control Board (CVRWQCB), and the California Department of Toxic Substances Control (DTSC).

Site Inspections

A number of site inspections were performed by various regulatory agency representatives between the 1970s and 2018. Some of the site inspections revealed inappropriate hazardous materials and wastewater handling practices (primarily during the time that Haley's Flying Service operated on the property).

Underground Storage Tanks

In 1990, two underground storage tanks (USTs) were removed from the far easterly portion of the property (area of the former Haley's Flying Service facility). One of the tanks (a 1,000-gallon gasoline UST) was situated directly easterly of the eastern-most hangar building, and the other tank (a 5,000-gallon aviation fuel UST) was situated southerly of the raised loading dock platform. The USTs were removed under permit with the SJCEHD. Soil sampling and testing performed in conjunction with the tank removal activities reportedly did not reveal petroleum hydrocarbon impact beneath the removed gasoline UST. However, soil sampling beneath the removed 5,000-gallon aviation fuel UST revealed elevated concentrations of total petroleum hydrocarbons (TPH) as gasoline, benzene, and xylenes. A groundwater sample taken from the tank pit for the 5,000-gallon UST contained relatively low concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX). In 1996, a number of borings were advanced on the easterly portion of the property to evaluate the nature and extent of soil and groundwater impact attributable to the former 5,000-gallon UST. Additionally, in 1997, three groundwater monitoring wells were installed at the site. In general, the results of the soil and groundwater investigation and monitoring revealed that the onsite petroleum hydrocarbon impact from the 5,000-gallon UST was relatively minor and limited. Groundwater monitoring was reportedly conducted on two occasions in 1997 and did not reveal detectible concentrations of petroleum hydrocarbons or BTEX, with the exception that two of the wells contained low concentrations of TPH as kerosene. The SJCEHD reviewed the data and issued a No Further Action (NFA) status for the underground tank case in July 1998. The CVRWQCB issued a letter indicating concurrence with the NFA status in October 1998.

Our review of SJCEHD records indicates that additional USTs may have been located at the site (beyond the two mentioned above that were removed in 1990). It is reported that the SJCEHD received

payment for a total of four USTs in 1986. No further information regarding potential additional USTs at the site was revealed by our research, other than a 2001 complaint record on file with the SJCEHD.

Preliminary Endangerment Assessment

In 2005, the property owner at that time (Ms. Dorothy Haley) entered into a Voluntary Cleanup Agreement (VCA) with the DTSC for review and oversight of assessment of site conditions attributable to past site operations, including the former onsite crop-dusting facility activities. With DTSC oversight per the VCA, a *Preliminary Endangerment Assessment* (PEA) and a follow-up *Addendum* report were prepared by Geo-Phase Environmental in 2006. The PEA was performed to evaluate: the potential for site impact from the historical crop-dusting facility operations (including use of an onsite "washout pit"); areas of oily staining on the property; and, the reported release of oily water from two drums on the property in 2001. The PEA included shallow soil sampling at a number of selected locations within the area of the former onsite crop-dusting facility, including near the aircraft loading pad, near the loading dock, near the washout pit, near the hangars, and near the runway. The soil samples generally were collected at depths ranging from the surface to a depth of 12 inches. Nearly all of the soil samples were analyzed for organochlorine pesticides. A limited number of soil samples also were tested for organo-phosphorous herbicides/pesticides, chlorinated herbicides, n-methyl carbamate pesticides, petroleum hydrocarbons, and/or volatile organic compounds (VOCs). The results of the analytical laboratory testing of the soil samples revealed very high concentrations of contaminants (primarily the organochlorine pesticides DDT, DDD, DDE, and toxaphene) at a number of locations, including within the vicinities of the aircraft loading dock, the surrounding loading pad, and the washout pad. The report characterized the soils in these areas as "severely contaminated" and the associated health risks as "extremely high." The report suggested that the data demonstrated vertical attenuation of the detected contaminant in soils; however, neither the full vertical nor lateral extent of site impact was characterized. The pesticide soil impact was primarily identified on the far easterly portion of the property, although some impact was identified along the runway at some distance to the west. The soil sampling/testing did not reveal petroleum hydrocarbon or VOC impact; however, very few soil samples were tested for these analytes. Additionally, it does not appear that the 2006 PEA included analysis of soil samples for metals.

Groundwater sampling was conducted as a part of the PEA and in conjunction with the PEA Addendum. The results of the sampling and testing revealed pesticide impact to groundwater beneath the site.

The PEA generally concluded that further site investigation and remedial action were warranted. In 2006, the DTSC prepared a letter indicating concurrence with the recommendations of the PEA report. Our research has not revealed that further work to address the identified pesticide contamination conditions has been performed since the time of the 2006 PEA investigation.

Findings and Conclusions

This *Phase I Environmental Site Assessment* has evidence of the following *recognized environmental conditions* in connection with the subject property:

- Past site inspections by regulatory agencies revealed a number of violations with respect to historical onsite hazardous materials and wastewater handling practices (primarily during the time that the former Haley's Flying Service operated on the property). Additionally, soil and groundwater sampling performed in conjunction with the 2006 PEA revealed significant pesticide contamination conditions on the property. It does not appear that further investigative or remedial work regarding these conditions has been performed since the time of the 2006 PEA. Our review suggests that the past investigative work was not sufficient to characterize the site contamination conditions; the extent of pesticide impact to soils and groundwater was not determined, the past sampling did not include evaluation of metals, and the extent of testing for petroleum hydrocarbons and VOCs was minimal. Additionally, it does not appear that the area of the onsite septic system was specifically targeted during past investigation. The known site contamination conditions and potential yet unidentified contamination conditions attributable to past site activities are considered a *recognized environmental condition*.

- Our site observations revealed a number of areas of burned debris on the property. Additionally, it is indicated that a structure fire occurred on the property around 2018. In our experience, burned debris and ash from structure fires can contain contaminants, including elevated concentrations of metals. The potential for site contamination conditions attributable to past fires on the property and burned debris is considered a *recognized environmental condition*.

- Two underground fuel storage tanks were removed from the property in 1990. Subsequent site investigations reportedly revealed only minor petroleum hydrocarbon impact to soil and groundwater attributable to one of the removed USTs. Based on the data, the UST case received regulatory agency closure in 1998. Given on the closed agency status, the past UST case at the site is considered a *historical recognized environmental condition* that does not require further environmental work. However, our research indicates that additional USTs may have been located at the site (beyond the two that were removed in 1990). It is reported that the SJCEHD received payment for a total of four USTs in 1986; additionally, a complaint record on file with the SJCEHD dated 2001 noted the potential of remnant USTs at the site. The potential for remnant USTs at the site (and the associated potential for contamination conditions attributable to any such USTs) is considered a *recognized environmental condition*.

Upon request, our firm could develop a scope of work to evaluate the *recognized environmental conditions* summarized above. In consideration of the environmental condition of the property, please refer to the information contained in the remainder of this report.

Brusca Associates, Inc.
Environmental Engineering Geology

January 7, 2020

Diepenbrock Elkin
Attention: Bradley Elkins, Esq.
500 Capitol Mall, Suite 2200
Sacramento, CA. 95814

PHASE I ENVIRONMENTAL SITE ASSESSMENT
FORMER HALEY'S FLYING SERVICE PROPERTY
APN 213-060-13
21000 Paradise Road and 2395 Pescadero Avenue
Tracy, San Joaquin County, California
Brusca Project No. 194-006

1.0 INTRODUCTION

Brusca Associates, Inc. has completed this *Phase I Environmental Site Assessment* of the subject property at the request of Diepenbrock Elkin. The approximate ten-acre subject property is situated northwesterly of the intersection of Paradise Road and Pescadero Avenue in Tracy, San Joaquin County, California. The subject property is addressed as 21000 Paradise Road and 2395 Pescadero Avenue and is identified by the San Joaquin County Assessor's Office as parcel number (APN) 213-060-13. The subject site currently is vacant and generally unused; remnant concrete slabs associated with a previous agricultural airstrip/crop dusting facility (Haley's Flying Service) are located on the far easterly portion of the site.

We understand that this report will be used for environmental due diligence purposes related to a commercial real estate transaction involving the subject property. This *Phase I Environmental Site Assessment* has been performed in general accord with the scope and limitations of the 2013 American Society for Testing and Materials (ASTM) *Standard Practice for Phase I Environmental Site Assessments Process* (E 1527-13).

1.1 PURPOSE AND KEY DEFINITIONS

The purpose of our assessment has been to identify any *recognized environmental conditions* in connection with the subject property to determine if the potential exists for significant site contamination from either on- or off-site sources. A *recognized environmental condition* is defined in the referenced standard as:

> "*the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions."* A *de minimis condition* is defined as *"a condition that generally does not present a threat to human health or the environment and that*

> *generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be de minimis conditions are not recognized environmental conditions nor controlled recognized environmental conditions".*

We have also considered whether any *historical recognized environmental conditions* or *controlled recognized environmental conditions* are associated with the property. A *historical recognized environmental condition* is defined as:

> *"a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)".*

A *controlled recognized environmental condition* is defined as:

> *"a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls)".*

1.2 PROPERTY INFORMATION AND LOCATION

General Property Information/Location			
Property Name: Former Haley's Flying Service Property		Addresses: 21000 Paradise Road and 2395 Pescadero Avenue, Tracy, California	
APN: 213-060-13	County: San Joaquin	Owner: Mary Bacchetti	
Location: See *Vicinity Map*, Plate 1			Size: Approx. ten acres
Latitude/Longitude: 37.7619290, -121.3928840		Current Use: Vacant/unused	
Considered Future Use: Commercial/Industrial			

1.3 SCOPE OF WORK

Protocol and ASTM Scope Items

This *Phase I Environmental Site Assessment* has been performed in general accord with the scope and limitations of the 2013 ASTM *Standard Practice for Phase I Environmental Site Assessments Process* (E 1527-13). A *Phase I Environmental Site Assessment* is the primary component of an "*All Appropriate Inquiry*" designed to evaluate the environmental integrity of a property as part of the due diligence required to qualify for Landowner Liability Protections under the Comprehensive Environmental

Response, Compensation, and Liability Act (CERCLA). The regulatory requirements and standards for Phase I environmental site assessment were established by the Federal Environmental Protection Agency and are outlined in 40 CFR Part 312, *"The Final Rule for Standards and Practices for All Appropriate Inquiries (AAI)"*.

The scope of this investigation included:

- Review of physical setting information sources
- Historical research, including review of any available, relevant environmental reports
- Site reconnaissance and observations of adjacent and nearby properties
- Interviews of individuals knowledgeable of the property and agency representatives
- Review of regulatory agency listings and records, including an agency database report
- Evaluation of the collected information, and preparation of this report

Non-ASTM Scope Items

The scope of work associated with this *Phase I Environmental Site Assessment* has not included soil, soil gas, or groundwater sampling/testing, a chain-of-title document search, an evaluation of business environmental risk, an environmental compliance audit, research regarding use limitations (deed restrictions), or a property lien search. Our study also has not included evaluation of the following non-ASTM scope items: asbestos-containing building materials or naturally-occurring asbestos; lead-based paint; indoor air quality; industrial hygiene or safety; cultural or historic resources; ecological resources or endangered species; wetlands; biological agents; or, mold. We could develop a scope and cost estimate for performance of non-ASTM scope items upon request.

1.4 EXCEPTIONS AND LIMITATIONS

No significant exceptions to or deviations from the ASTM standard (E 1527-13) were made during the course of our work. The ASTM Standard E 1527-13 is designed to establish good commercial and customary practices to be implemented by the Environmental Professional in performing Phase I assessment of a property in a manner that satisfies CERCLA requirements. Our services are performed in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings and conclusions presented herein are based on the cited reference materials, conversations, reconnaissance, and other information obtained from a variety of sources deemed to be reliable. No warranty regarding the accuracy of our opinions or conclusions is expressed or implied. It should be understood that the scope of investigation described herein is not exhaustive, and performance of a *Phase I Environmental Site Assessment* cannot completely eliminate uncertainties regarding the potential for environmental impairment of a property.

1.5 USER RELIANCE AND CONFIDENTIALITY

Diepenbrock Elkin and Ridge Capital, Inc. may read and rely upon the information, findings, conclusions, and recommendations contained herein. Without prior written consent of the client, Brusca Associates, Inc. will keep confidential and not disclose to any person or entity, any data or information provided by the client or generated in conjunction with the performance of this study. Provisions of confidentiality shall not apply to data or information obtained from the public domain or acquired from third parties not under obligation to the client to maintain confidentiality.

2.0 PHYSICAL SETTING

2.1 PHYSICAL SETTING SOURCES

Sources used to determine the regional setting during this study have included the following:

- 1977 CGS Geologic Map of California (1:750,000)
- 1991 CGS Geologic Map of the San Francisco – San Jose Quadrangle (1:250,000)
- 1985 USGS Geologic Map of the Late Cenozoic Deposits of the Sacramento Valley (1:62,500)
- USGS Union Island Quadrangle (1:24,000)

2.2 TOPOGRAPHY

As shown on the USGS Union Island Quadrangle (see Plate 1), the subject property is situated at elevations on the order of 25 feet above sea level. The site is relatively flat, and surface gradients in the vicinity slope gently toward the north.

2.3 GEOLOGY AND SOILS

The subject property is situated within the San Joaquin Valley in the Great Valley geomorphic province of California. The valley was formed by tilting of the Sierran Block with the western side dropping to form the valley and the eastern side uplifting to form the Sierra Nevada. The valley is characterized by a thick sequence of sediments derived from erosion of the adjacent Sierra Nevada to the east and the Coast Ranges to the west. These sedimentary rocks are mainly Cretaceous in age. The depth of the sediments varies from a thin veneer at the edges of the valley to depths in excess of 50,000 feet near the western edge of the valley. Available geological maps of the area indicate that the subject site is underlain by Quaternary alluvium; this unit is comprised of unweathered gravel, sand, silt and clay deposited by present-day river systems.

Soil mapping by the the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) indicates that onsite soils are identified as Capay clay. This soil unit is indicated to be moderately well drained.

2.4 SURFACE WATER AND GROUNDWATER

There are no surface water bodies on the subject property. The nearest prominent surface water feature, Tom Paine Slough, is situated approximately 3,000 feet northerly of the subject property, at its closest point. An irrigation ditch is situated along the northerly margin of the property, and a stormwater retention basin is located southerly of the property, across Pescadero Avenue. Storm water generated on the subject property would appear to be directed towards adjoining properties or roadways. We observed no evidence of suspicious run-off to, or from the subject property during our recent site visit.

Groundwater conditions within the general area of the subject property have been considered utilizing information obtained from the California Department of Water Resources, San Joaquin County, and the California Regional Water Quality Control Board. We also have considered groundwater data obtained from past site investigations and groundwater monitoring. These sources indicate that groundwater

generally occurs at depths on the order of ten feet in the site vicinity; the groundwater flow direction is indicated to be northerly to northeasterly. Information regarding the past site investigations, including groundwater assessment, is presented later in this report.

3.0 SITE RECONNAISSANCE

Site Reconnaissance		
Date: November 25, 2019	Brusca Associates, Inc. Representative: Joe Brusca	Weather: Sunny
Site Layout: See Plate 2, *Site Map*	Site Photographs: See Appendix A	Limiting Conditions: None

3.1 SITE DESCRIPTION

The approximate ten-acre subject property is located northwesterly of the intersection of Paradise Road and Pescadero Avenue in a mixed agricultural and commercial/light-industrial area of Tracy, San Joaquin County, California. The site is long and rectangular in shape, measuring approximately 2,000 feet long by 200 feet wide. The subject property currently is vacant and generally unused. Portions of the property generally are void of vegetation and other portions support low to medium-high volunteer vegetation/grasses. Vegetation on portions of the site appears to have burned in the past.

The far easterly portion of the property supports a number of remnant concrete slabs and other concrete structures (including a raised platform/former loading dock and depressed structures/pits) that apparently were associated with a previous onsite agricultural airstrip/crop dusting facility (referred to as Haley's Flying Service). Some remnant debris, including piping, was observed in the vicinity of the concrete slabs and structures.

A narrow strip of remnant pavement generally traverses the property from east to west; this feature evidently is the former airstrip used by Haley's Flying Service. At the time of our site reconnaissance, a small area within the central portion of the site supported a number of beehive boxes (labelled Valdez Bee Service).

Assorted debris and rubbish were observed on portions of the site, including discarded tires, wood debris, and piles of household-type items and garbage. A small area of the site appears to be used as a homeless encampment; a notable amount of debris, materials, and rubbish were observed in this area. Small areas of burned debris were observed at a number of locations on the site.

A pole-mounted transformer was observed on the far northeasterly corner of the property. It is unknown if this transformer contains polychlorinated biphenyl (PCB) fluids; however, we observed no evidence of discharge or leakage from the transformer at the time of our reconnaissance.

3.2 HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS

No hazardous substances or petroleum products are currently used/stored on the subject site.

3.3 UTILITIES

Electricity and natural gas are provided to the general area of subject site by the Pacific Gas and Electric Company (PG&E). Municipal drinking water and sewer service in the general region are provided by the City of Tracy.

Our research, including review of records on file with the San Joaquin County Environmental Health Department (SJCEHD), indicates that at least two water supply wells were situated on the property in the past. Records from 1978 indicate that a well situated on the far easterly portion of the site was replaced at that time. It is indicated that the well installed in 1978 was abandoned in 2018. Additionally, it is indicated that an onsite septic system was abandoned in 2018; however, the available records do not include details regarding the former septic system (such as location and configuration). Considering the nature of past site usage (including a long period of crop-dusting business operation), past discharges of hazardous substances to the former onsite septic system cannot be ruled out by the available information. The SJCEHD records pertaining to past onsite wells and septic system are included in Appendix E.

3.4 COMMON SITE-SPECIFIC ENVIRONMENTAL CONCERNS

Potential Environmental Concern	Observations/Comments
Storage Tanks, Vent/Fill Pipes	None revealed by our reconnaissance; however, underground fuel storage tanks reportedly were used on the property in the past. See *Section 6.0*
Petroleum Pipelines or Oil & Gas Wells	None revealed by our reconnaissance or research
Drums	None revealed by our reconnaissance
Unidentified Substance Containers	None revealed by our reconnaissance
Sumps	None revealed by our reconnaissance; however, sumps reportedly were used on the property in the past. See *Section 6.0*
Floor Drains	None revealed by our reconnaissance
Stains	None revealed by our reconnaissance
Septic Systems	A septic system reportedly was used on the property in the past; see *Section 3.3*
Stressed Vegetation	None revealed by our reconnaissance
Solid Waste Disposal/Fill Placement	Discarded debris/rubbish was observed on portions of the property; see *Section 3.1*
Pools of Liquid/Standing Water	None revealed by our reconnaissance
Unusual Odors	None revealed by our reconnaissance
Polychlorinated Biphenyls (PCBs)	A pole-mounted transformer is situated on the northeasterly corner of the property; see *Section 3.1*
Pits, Ponds, or Lagoons; Wastewater Treatment	None revealed by our reconnaissance; however, it is indicated that past wastewater generated at the site was historically treated via evaporation. See *Section 6.0*
Wells	None revealed by our reconnaissance; however, our research indicates that water supply wells were previously located on the easterly portion of the site (see *Section 3.3*). Additionally, three groundwater monitoring wells previously were situated on the easterly portion of the property (see *Section 6.0*).

3.5 RESULTS OF SITE RECONNAISSANCE

We observed no obvious evidence of contamination conditions or hazardous substance/petroleum products use or storage at the time of our site reconnaissance. However, as described later in this report, it is known that significant contamination (most notably pesticide impact) exists on the easterly portion of the property attributable to the past onsite agricultural airstrip/crop dusting facility operations. Additionally, as described in *Section 3.1*, we observed a number of areas of burned debris on the property. The areas of burned debris generally are relatively small; however, in our experience, this type of debris/ash can often contain elevated concentrations of metals.

4.0 ADJOINING SITE CONDITIONS AND USE

The approximate ten-acre subject site is located within a mixed agricultural and commercial/light-industrial area of Tracy, San Joaquin County. The subject site is generally bounded Pescadero Avenue to the south and Paradise Road to the east. Vacant land borders the site to the north and west. Information regarding adjoining and nearby site use is presented below.

Direction	Description
Northerly	Vacant farmland
Southerly (across Pescadero Avenue)	Vacant farmland, stormwater retention basin, and Silva Brothers Dairy (1899 E Grant Line Road)
Easterly (across Paradise Road)	Vacant farmland
Westerly	Small area of vacant land, beyond which is a trucking facility (YRC Freight, 1535 Pescadero Avenue)

Our research and visual observations of adjoining and nearby properties did not identify current conditions or activities considered likely to have resulted in a significant release of hazardous substances or petroleum products affecting the environment on the subject property.

5.0 INTERVIEWS AND USER QUESTIONNAIRE

5.1 INTERVIEWS

The following individuals were contacted in person, by phone, or by written communication to obtain information relevant to the environmental status and condition of the subject property.

Relationship to Property	Name/Affiliation	Comments
User Representative	Mike Diepenbrock, Ridge Capital, Inc.	See *Section 5.2*
Owner Representative/ Key Site Manager	Mary Bacchetti	See below
Agency Official	Leona Winner/California Department of Toxic Substance Control	See *Section 6.0*
Agency Official	Garrett Backus/San Joaquin County Environmental Health Department	See *Section 6.0*
Agency Official	Isabella Bencomo, Central Valley Regional Water Quality Control Board	See *Section 6.0 and 8.1*

Information obtained from interviews is presented in the relevant sections of this report. The current property owner, Ms. Mary Bacchetti, indicated via email that she was unwilling to respond to questions regarding the environmental condition of the property.

5.2 USER QUESTIONNAIRE

In order to qualify for one of the Landowner Liability Protections offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments"), the user of this report must provide specific information (if available) to the environmental professional. A user representative (Mike Diepenbrock of Ridge Capital, Inc.) completed a *User Questionnaire* for the subject property; a copy of the completed *User Questionnaire* is presented in Appendix B. Responses on the *User Questionnaire* refer to known contamination conditions at the site and related past reports and regulatory agency database listings. Past site investigations and regulatory agency involvement are summarized below in *Section 6.0*.

6.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

General

Our research indicates that a number of environmental investigations and regulatory agency site inspections have taken place at the subject property dating back to the 1970s. Most of the environmental documentation pertaining to the property is related to inspections and investigative work performed to evaluate the area of the former onsite agricultural airstrip/crop dusting facility (Haley's Flying Service) and associated hazardous materials use and storage practices. Additionally, past site investigations were performed to evaluate site impact from former underground fuel storage tank usage at the Haley's Flying Service facility. The past environmental reports and documentation were obtained via our research with the San Joaquin County Environmental Health Department (SJCEHD), the Central Valley Regional Water Quality Control Board (CVRWQCB), and the California Department of Toxic Substances Control (DTSC). The past environmental investigations and agency site inspections are summarized below; copies of relevant reports and documentation are included in Appendix E.

1974 CVRWQCB Site Inspection

In 1974, a representative of the CVRWQCB visited the subject property to observe onsite agricultural chemicals (pesticides and herbicides) and wastewater handling practices. At that time, a crop-dusting business (Haley Aircraft) was operational at the site. The inspection revealed inappropriate wastewater disposal activities; reportedly, wastewater from washing activities (including rinsing of "tanks on the aircraft") and stormwater were discharged to site surfaces and the ditch north of the site. The CVRWQCB indicated that site operations should be improved such that "all wastes are contained on the property".

1982 SJEHD Drive-By Inspection

In 1982, a representative of the SJEHD conducted a drive-by inspection of the property. The inspection noted ponded water, an apparent washdown area, a crusted, yellow-white substance on the site surface, and drums of pesticides on the property. The inspection concluded that follow-up action was warranted regarding wastewater disposal practices at the site.

1985 CVRWQCB Site Survey

In 1985, the CVRWQCB conducted surveys of a number of pesticide and fertilizer rinse water disposal sites in San Joaquin County, including the subject property. The survey report indicates that the subject site had been used for "aerial application" for over 20 years at that time. The site inspection revealed a sump feature covered by an inclined roof; apparently, rinse water from site activities was collected in the sump and subsequently pumped onto the roof structure to accelerate evaporation (as a method to treat/dispose of the wastewater). The CVRWQCB indicated that the wastewater system did not comply with applicable regulations and that soils and rinse water at the site should be sampled.

1988 DTSC Preliminary Assessment

In 1988, the DTSC performed a *Preliminary Assessment* of the property, which apparently included documentation review and a site inspection. At the time of the assessment, the property reportedly was occupied by Haley's Flying Service and used as a pesticide aerial application (i.e. crop-dusting) facility. Features on the property at that time included "a trailer house, two large storage buildings and one small storage shed, a fenced container storage area and concrete sump, a runway, and a concrete wash down pad." The report noted onsite pesticide and herbicide storage as well as plane fueling activities. The *Preliminary Assessment* concluded that a site investigation should be performed to determine whether releases to the environment at the property had occurred as a result of the onsite crop-dusting facility operations.

The 1988 report also indicated that a fire had occurred at the onsite facility in 1981, pesticides inside a hangar building had burned, and pesticide-contaminated water from the fire-fighting operations had discharged onsite. The report also indicated that "cleanup" of the area reportedly was subsequently performed by the IT corporation; however, no details of the cleanup or related documentation were available. Additionally, a 1981 site inspection performed by the Department of Health Services following the fire noted that the burnt hangar building contained "broken and torn bags of insecticide all over the floor." Information and evaluation presented in subsequent documentation (including the 2006 *Preliminary Endangerment Assessment* discussed below) concluded that the 1981 fire incident reported for the subject property actually occurred at another airstrip located about five miles away. As such, there in some uncertainty regarding whether the fire and related pesticide release occurred on the subject property. Nonetheless, as discussed later in this report, the 2006 *Preliminary Endangerment Assessment* revealed significant pesticide impact at the subject property, and whether or not a fire occurred onsite in 1981 may not be entirely relevant to the understanding of the current conditions on the property.

1988 CVRWQCB Site Inspection and Soil Sampling

In 1988, the CVRWQCB performed an inspection of the Haley's Flying Service facility. Onsite features noted at that time include hangar buildings, an office, a "recycle/evaporation tank," a wash pad, sumps, and piping. Discharge of wash water and stormwater to the irrigation ditch northerly of the site was observed, and composite soil samples from the ditch were collected for laboratory analysis. Evidently, some discrepancies and inadequacies were identified in the laboratory analyses and reporting; however, some detections of the tested analytes were confirmed.

1990 CVRWQCB Site Inspection

In 1990, the CVRWQCB performed an inspection of the Haley's Flying Service facility and noted a number of violations regarding pesticide and wastewater handling, including discharge of wastewater to site surfaces.

1990-1998 Underground Storage Tank Investigations, Monitoring, and Closure

In 1990, two underground storage tanks (USTs) were removed from the far easterly portion of the property (area of the former Haley's Flying Service facility). One of the tanks (a 1,000-gallon gasoline UST) was situated directly easterly of the eastern-most hangar building, and the other tank (a 5,000-gallon aviation fuel UST) was situated southerly of the raised loading dock platform. The USTs were removed under permit with the SJCEHD. Soil sampling and testing performed in conjunction with the tank removal activities reportedly did not reveal petroleum hydrocarbon impact beneath the removed gasoline UST. However, soil sampling beneath the removed 5,000-gallon aviation fuel UST revealed elevated concentrations of total petroleum hydrocarbons (TPH) as gasoline, benzene, and xylenes. A groundwater sample taken from the tank pit for the 5,000-gallon UST contained relatively low concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX).

In 1996, a number of borings were advanced on the easterly portion of the property to evaluate the nature and extent of soil and groundwater impact attributable to the former 5,000-gallon UST. Additionally, in 1997 three groundwater monitoring wells were installed at the site. In general, the results of the soil and groundwater investigation and monitoring revealed that the onsite petroleum hydrocarbon impact from the 5,000-gallon UST was relatively minor and limited. Groundwater monitoring was reportedly conducted on two occasions in 1997 and did not reveal detectible concentrations of petroleum hydrocarbons or BTEX, with the exception that two of the wells contained low concentrations of TPH as kerosene. The SJCEHD reviewed the data and issued a No Further Action (NFA) status for the underground tank case in July 1998. The CVRWQCB issued a letter indicating concurrence with the NFA status in October 1998.

Our review of SJCEHD records indicates that additional USTs may have been located at the site (beyond the two mentioned above that were removed in 1990). It is reported that the SJCEHD received payment for a total of four USTs in 1986. No further information regarding potential additional USTs at the site was revealed by our research, other than a 2001 complaint record on file with the SJCEHD (see below).

2001 Complaints

Records on file with the SJCEHD include complaint forms associated with the subject property that were submitted in 2001. One complaint asserted that "two more gasoline tanks are on this site." The other complaint indicates that a "diesel/waste oil spill" occurred at the site. The diesel/waste oil spill apparently was investigated to some degree during a *Preliminary Endangerment Assessment* performed in 2006 (discussed below).

2005-2006 Preliminary Endangerment Assessment

In 2005, the property owner at that time (Ms. Dorothy Haley) entered into a Voluntary Cleanup Agreement (VCA) with the DTSC for review and oversight of assessment of site conditions attributable to past site operations, including the former onsite crop-dusting facility activities. The former Haley's Flying Service operations reportedly had discontinued around 1989, and the property had since been occupied by several non-aviation related businesses; these businesses included a tomato packing company and a truck repair business. At the time of the 2005 VCA, the property was occupied by Continental Express, a trucking company.

With DTSC oversight per the VCA, a *Preliminary Endangerment Assessment* (PEA) and a follow-up *Addendum* report were prepared by Geo-Phase Environmental in 2006. The PEA report indicates that the investigative work was generally performed to evaluate concerns identified in a *2004 Phase I Environmental Site Assessment* of the property prepared by Geo-Phase Environmental; we have been unable to locate a copy of the 2004 Phase I report via our research. However, the 2006 PEA report contains summary information regarding the 2004 Phase I study. Concerns that had been identified in the 2004 Phase I report included: the potential for site impact from the historical crop-dusting facility operations (including use of an onsite "washout pit"); areas of oily staining on the property; and, the reported release of oily water from two drums on the property in 2001.

The PEA included shallow soil sampling at a number of selected locations within the area of the former onsite crop-dusting facility, including near the aircraft loading pad, near the loading dock, near the washout pit, near the hangars, and near the runway. The soil samples generally were collected at depths ranging from the surface to a depth of 12 inches. Nearly all of the soil samples were analyzed for organochlorine pesticides. A limited number of soil samples also were tested for organo-phosphorous herbicides/pesticides, chlorinated herbicides, n-methyl carbamate pesticides, petroleum hydrocarbons, and/or volatile organic compounds (VOCs). The results of the analytical laboratory testing of the soil samples revealed very high concentrations of contaminants (primarily the organochlorine pesticides DDT, DDD, DDE, and toxaphene) at a number of locations, including within the vicinities of the aircraft loading dock, the surrounding loading pad, and the washout pad. The report characterized the soils in these areas as "severely contaminated" and the associated health risks as "extremely high." The report suggested that the data demonstrated vertical attenuation of the detected contaminant in soils; however, neither the full vertical nor lateral extent of site impact was characterized. The pesticide soil impact was primarily identified on the far easterly portion of the property, although some impact was identified along the runway at some distance to the west. The soil sampling/testing did not reveal petroleum hydrocarbon or VOC impact; however, very few soil samples were tested for these analytes. Additionally, it does not appear that the 2006 PEA included analysis of soil samples for metals.

Groundwater sampling was conducted within two borings advanced in conjunction with the PEA; the borings were performed on the far northeasterly portion of the site near the former washout pit. Groundwater samples from this location contained elevated concentrations of organochlorine pesticides. At that time, concern was raised that cross-contamination from shallow soils to groundwater may have occurred during the groundwater sampling, and additional groundwater sampling subsequently was performed (and reported in a PEA *Addendum* report). The PEA *Addendum* work included the advancement of six borings for grab groundwater sampling, utilizing methodologies

to minimize the potential for cross-contamination. Two of the six additional groundwater samples collected contained organochlorine pesticides.

The PEA generally concluded that further site investigation and remedial action were warranted. In 2006, the DTSC prepared a letter indicating concurrence with the recommendations of the PEA report. Our research has not revealed that further work to address the identified pesticide contamination conditions has been performed since the time of the 2006 PEA investigation. As a part of our study, we attempted to contact and interview Ms. Leona Winner of the DTSC to discuss the current status of the case. As of this writing, Ms. Leona Winner has not responded to our inquiry.

2018 Inspection

Documentation on file with the SJCEHD indicates that a site inspection was performed in July 2018. Reportedly, the "main structure" at the site had recently been destroyed by fire at that time. A number of violations were recorded, including discharge of waste and improper disposal of hazardous waste. SJCEHD required that wastes and fire debris be removed from the property for property disposal. At that time, notations were made regarding the potential for remnant USTs at the site; however, the presence of remaining USTs was not confirmed.

As a part of our research, we conducted an interview with the SJCEHD representative who conducted the July 2018 site inspection, Mr. Garrett Backus. Mr. Backus indicated that wastes and debris had been removed from the property; however, he was not aware of any recent investigation or remedial work at the site to address the known site contamination conditions (i.e. pesticide impact).

7.0 HISTORICAL RESEARCH

7.1 HISTORICAL INFORMATION SOURCES

General

As a part of this *Phase I Environmental Site Assessment*, historical research was performed to determine the past usage of the subject property and to evaluate the potential that past site usage resulted in recognized environmental conditions on the property. In accordance with ASTM Standard E 1527-13, our research has included evaluation of obvious uses of the property back to initial site development, or the 1940s, whichever is earlier. A number of different historical resources have been considered; the historical information sources considered are discussed below. Selected historical information (including aerial photographs, topographic maps, and city directory listings) is presented in Appendix C.

Aerial Photographs

We reviewed historical aerial photographs dated 1937, 1940, 1957, 1963, 1968, 1972, 1975, 1982, 1993, 2006, 2009, 2012, 2016, and 2018. The aerial photographs dated 1937 and 1940 show the subject property as vacant farmland. By the time of the 1957 aerial photograph, structures were evident of the far easterly portion of the site (former Haley's Flying Service facility) and the associated runway/airstrip was in place traversing the southerly portion of the site in an east-west orientation. No significant changes are evident on the subsequent aerial photographs through 2016, although the configuration of some of the onsite structures and pavements/pads may have changes somewhat over the years, and in

recent years the appearance of the former runway is less distinct. On the 2018 aerial photograph, the former structures on the property apparently had been razed and only concrete slabs remained.

USGS Topographic Maps

We reviewed U.S. Geological Survey topographic quadrangle maps (Union Island Quadrangle) dated 1914, 1952, 1968, 1976, and 2012. No structures or features of environmental significance are depicted on the quadrangle map dated 1914. On the quadrangle map dated 1952, an apparent water pipeline is mapped across the far easterly margin of the property. By the time of the 1968 quadrangle map, three structures are shown on the easterly portion of the subject property. On the 1976 quadrangle map, the runway/airstrip is shown on the property (labelled as "Paradise Strip") and the water pipeline on the easterly portion of the site is no longer shown. No onsite features are depicted on the quadrangle map dated 2012.

Sanborn Fire Insurance Maps

Our research indicates that the area of the subject property is not covered by available Sanborn Fire Insurance Maps.

Local Street Directories

Our historical research included review of city directories (EDR Digital Archive, Haines Criss-Cross Directory, and Polk's City Directory) to establish past occupants of the subject property. We reviewed listings for the site addresses of 21000 Paradise Road and 2395 Pescadero Avenue. Past occupant history was available from 1982 to 2014. Listings were generally documented in about five-year increments; the directory listings are included in Appendix C and are summarized below.

Address	Occupant	Year(s)
21000 Paradise Road	Haley's Flying Service Inc Johnson, Marc Continental C Express	1982 and 1987 1992, 1995, 2000, 2005, 2010 and 2014 2000, 2005 and 2010
2395 Pescadero Avenue	No listings	---

Oil and Gas Well Maps

Our review of California Department of Conservation Division of Oil and Gas records indicates no evidence of past or present oil or gas wells on the subject property.

EDR Proprietary Listings

Environmental Data Resources (EDR) maintains proprietary databases of historic potential high-risk sites, including dry cleaners, gasoline stations, automotive stations, and manufactured gas plants. The proprietary databases were developed largely from historic business directories. As shown in the database report presented in Appendix D, the subject property does not appear in any of these databases.

Interviews

Interview information is presented in *Section 5.1* of this report.

Previous Environmental Reports

Previous environmental investigations and inspections of the property were discussed in *Section 6.0* of this report.

7.2 SUMMARY OF PAST SITE CONDITIONS AND USAGE

The historical information obtained from the sources described above indicate that the subject property historically consisted of vacant farmland until around 1950 when the former Haley's Flying Service facility was constructed on the easterly property and the airstrip was constructed across the site in an east-west orientation. The former Haley's Flying Service operated an agricultural airstrip and crop-dusting facility on the subject property from 1951 until about 1989. The onsite facility included hangar buildings, an office, a concrete-lined washout pit (where aircraft agricultural chemicals tanks were rinsed), a loading dock (to facilitate loading of agricultural chemicals into crop dusting aircraft), and a concrete-paved area where agricultural pesticides were stored and handled.

Subsequent to the 1980s, the property reportedly was occupied by various businesses, including a trucking company (Continental Express), a tomato packing company, and a truck repair business. It is indicated that one or more of the buildings on the property were destroyed by fire in 2018, and the remaining structures were razed thereafter. The site apparently has been vacant and generally unused since, save for the storage of beehive boxes and some unauthorized homeless habitation.

7.3 PAST ADJOINING SITE USAGE

Information obtained from historical sources cited in *Section 7.1* indicates that adjoining and nearby properties historically were used for farming (row and dry crops). The adjoining roadways (Paradise Road and Pescadero Avenue) were in place by the late 1930s. The irrigation ditch along the northerly site margin is depicted as early as the 1950s. By the early 1980s, the westerly portion of the southerly adjoining property (across Pescadero Avenue) is shown supporting a dairy facility (Silva Brothers Dairy). Around the mid-2000s, a stormwater retention basin was in place on the central portion of the southerly adjoining property; the stormwater retention basin was expanded during the late 2000s. The property to the west was developed with light-industrial/warehouse buildings (occupied by YRC Freight) and associated pavements by the early 1990s. The easterly adjoining property (across Paradise Road) and the northerly adjoining property have generally remained undeveloped and continue to support farmland.

Our research has not identified past adjoining or nearby site usage considered likely to have resulted in a release of hazardous substances or petroleum products that would have affected the environment on the subject property.

8.0 AGENCY RECORDS REVIEW

8.1 INFORMATION SOURCES

As a part of this *Phase I Environmental Site Assessment*, agency listings and records were reviewed and considered to evaluate the environmental status and condition of the subject property. Agency research has included obtaining an agency listings database report through a third-party provider; the database records search (including search radii) meets and exceeds the agency listings search provisions of ASTM Standard E 1527-13. The database report was obtained from Environmental Data Resources (EDR) and is presented in Appendix D. In addition to review of the agency database report, supplemental research was performed via online environmental databases (including Geotracker[1] and Envirostor[2]), and through direct communications and file review (as warranted) with various agencies (including local agencies not included in the database report).

Federal, State, and Tribal Listings/Records

A partial summary of federal, state, and tribal agency records and listings reviewed/researched, including the *Standard Environmental Record Sources* required by ASTM E 1527-13, is presented below. A significant number of additional lists were reviewed; for a comprehensive listing of the agency sources researched and descriptions of the agency listings, refer to the appended database report.

Federal Databases	Search Radius	Comments
NPL Site List	1 mile	No relevant listings/records identified
Proposed NPL Site List	1 mile	No relevant listings/records identified
NPL Liens List	Subject Property	No relevant listings/records identified
Delisted NPL Site List	1 mile	No relevant listings/records identified
CERCLIS List	0.5 mile	No relevant listings/records identified
CERCLIS Federal Facility List	0.5 mile	No relevant listings/records identified
CERCLIS NFRAP Site List	0.5 mile	No relevant listings/records identified
RCRA CORRACTS Facilities List	1 mile	No relevant listings/records identified
RCRA Non-CORRACTS TSD Facilities List	0.5 mile	No relevant listings/records identified
RCRA Generators List	0.25 mile	No relevant listings/records identified
US Engineering Controls Registry	0.5 mile	No relevant listings/records identified
US Institutional Controls Registry	0.5 mile	No relevant listings/records identified
LUCIS	0.5 mile	No relevant listings/records identified
ERNS List	Subject Property	No relevant listings/records identified

[1] Geotracker (www.geotracker.waterboards.ca.gov); environmental database of regulated facilities in California maintained by the State Water Resources Control Board.
[2] Envirostor (www.envirostor.dtsc.ca.gov); online database of contaminated sites, environmental cleanups, and permitted facilities in California maintained by the Department of Toxic Substances Control.

State/Tribal Databases	Search Radius	Comments
CA RESPONSE (equiv. NPL)	1 mile	No relevant listings/records identified
CA ENVIROSTOR (equiv. CERCLIS)	1 mile	The subject property appears on this list; see *Section 6.0.*
RWQCB SLIC List	0.5 mile	The subject property appears on this list; see *Section 6.0.*
Landfill/Solid Waste Disposal Site Lists	0.5 mile	No relevant listings/records identified
Leaking Storage Tank Lists	0.5 mile	The subject property appears on this list; see *Section 6.0.*
Registered Storage Tank Lists	0.25 mile	The subject property appears on this list; see *Section 6.0.*
Voluntary Cleanup Sites Lists	0.5 mile	The subject property appears on this list; see *Section 6.0.*
Brownfield Sites	0.5 mile	No relevant listings/records identified

Local Agency Listings/Records

The San Joaquin County Environmental Health Department (SJCEHD) is the local *Certified Unified Program Agency (CUPA)* responsible for sites located within San Joaquin County. As the local CUPA, the SJCEHD is certified and responsible for oversight of the following consolidated programs: Hazardous Materials Release Response Plans and Inventories (Business Plans); California Accidental Release Program; Underground Storage Tank Program; Aboveground Petroleum Storage Act; Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs; and, California Uniform Fire Code: Hazardous Materials Management Plans and Hazardous Material Inventory Statements. We obtained records on file with the SJCEHD for the subject property. Additionally, we obtained records pertaining to the subject property from the Central Valley Regional Water Quality Control Board (CVRWQCB) and the Department of Toxic Substances Control (DTSC). Copies of relevant documentation obtained from the regulatory agencies are included in Appendix F.

8.2 SUBJECT PROPERTY LISTINGS/RECORDS

The subject property (addressed as 21000 Paradise Road and 2395 Pescadero Avenue) appears on several listings/databases related to the known pesticide impact conditions at the site and for the for former the past underground storage tank case associated with the property. Documentation related to these listing was obtained from a number of sources (including the SJCEHD, the CVRWQCB, and the DTSC); the listings and documentation generally pertain to the past site inspections and environmental investigations summarized in *Section 6.0* of this report.

8.3 NEARBY SITES LISTINGS/RECORDS

Our research of agency listings and records indicates that there are no nearby sites on agency listings within the search radii considered (up to one mile from the subject property).

9.0 SIGNIFICANT DATA GAPS

Environmental assessment data gaps may affect the ability to identify recognized environmental conditions. Data gaps may include the inability to access relevant on-site structures or to communicate with individuals knowledgeable of the subject property or nearby contamination conditions. Lack of adequate historical information sources can also result in data gaps. In general, minor data gaps do not hinder an environmental professional's ability to render an opinion regarding potential environmental conditions associated with the subject property. There were no significant data gaps identified for this study. The current property owner, Ms. Mary Bacchetti, indicated via email that she was unwilling to answer questions regarding the environmental condition of the property. The lack of interview information from the property owner is not considered a significant data gap as substantial information was obtained regarding the site from the other sources researched.

10.0 FINDINGS, OPINIONS, AND CONCLUSIONS

Brusca Associates, Inc. has performed *Phase I Environmental Site Assessment* in conformance with the scope and limitations of ASTM Standard E 1527-13 of the Former Haley's Flying Service Property identified by the San Joaquin County Assessor's Office as APN 213-060-13. Any exceptions to, or deletions from, this practice are described in *Section 1.4* of this report. This assessment has revealed no evidence of existing, controlled, or historical recognized environmental conditions in connection with the property, except for the following:

- Past site inspections by regulatory agencies revealed a number of violations with respect to historical onsite hazardous materials and wastewater handling practices (primarily during the time that Haley's Flying Service operated on the property). Additionally, soil and groundwater sampling performed in conjunction with the 2006 PEA revealed significant pesticide contamination conditions on the property. It does not appear that further investigative or remedial work regarding these conditions has been performed since the time of the 2006 PEA. Our review suggests that the past investigative work was not sufficient to characterize the site contamination conditions; the extent of pesticide impact to soils and groundwater was not determined, the past sampling did not include evaluation of metals, and the extent of testing for petroleum hydrocarbons and VOCs was minimal. Additionally, it does not appear that the area of the onsite septic system was specifically targeted during past investigation. The known site contamination conditions and potential yet unidentified contamination conditions attributable to past site activities are considered a *recognized environmental condition*.

- Our site observations revealed a number of areas of burn debris on the property. Additionally, it is indicated that a structure fire occurred on the property around 2018. In our experience burn debris and ash from structure fires can contain contaminants, including elevated concentrations of metals. The potential for site contamination conditions attributable to past fires on the property and burn debris is considered a *recognized environmental condition*.

- Two underground fuel storage tanks were removed from the property in 1990. Subsequent site investigation reportedly revealed only minor petroleum hydrocarbon impact to soil and groundwater attributable to one of the removed USTs. Based on the data, the UST case received regulatory agency closure in 1998. Given the closed agency status, the past UST case

at the site is considered a *historical recognized environmental condition* that does not require further environmental work. However, our research indicates that additional USTs may have been located at the site (beyond the two that were removed in 1990). It is reported that the SJCEHD received payment for a total of four USTs in 1986; additionally, a complaint record on file with the SJCEHD dated 2001 noted the potential of remnant USTs at the site. The potential for remnant USTs at the site (and the associated potential for contamination conditions attributable to any such USTs) is considered a *recognized environmental condition*.

Upon request, our firm could develop a scope of work to evaluate the *recognized environmental conditions* summarized above.

11.0 STATEMENT OF QUALIFICATIONS

Brusca Associates, Inc. is a multi-disciplinary geoscience consulting firm serving private and public-sector clients throughout Central and Northern California, and beyond. The firm specializes in environmental assessment and engineering geology consulting related to property acquisition, finance, due diligence, development, and regulatory compliance. Environmental services include: initial site assessment; soil, soil gas, and groundwater investigations; site characterization; groundwater monitoring; remedial feasibility studies; remedial design; and, clean-up oversight.

The Project Manager for this study, Alycia Cridebring, holds a Bachelor of Science degree in Environmental Science and Management from the University of California at Davis, California. Ms. Cridebring has been an Environmental Specialist for Brusca Associates, Inc. since 2017.

The firm's founder and President, Joe Brusca, directly oversees all firm operations. Mr. Brusca holds a Bachelor of Science degree in Geology from the University of California at Davis, California, is a Professional Geologist and Certified Engineering Geologist in the State of California, and has over 30 years of environmental and geological consulting experience spanning a broad range of geographic areas, project types, and client needs. Mr. Brusca and key staff are certified for Hazardous Waste Site Operations training in accord with 29 CFR 1910.120.

12.0 ENVIRONMENTAL PROFESSIONAL STATEMENT

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professionals as defined in §312.10 of 40 CFR 312. An *Environmental Professional* is "*a person who possesses sufficient specific education, training, and experience necessary to exercise professional judgment to develop opinions and conclusions regarding conditions indicative of releases on, at, in, or to a property, sufficient to meet the objectives and performance factors in §312.20(e) and (f) of 40 CFR 312.*"

13.0 CLOSING

If you have any questions or require additional information, please contact the undersigned at (916) 677-1470.

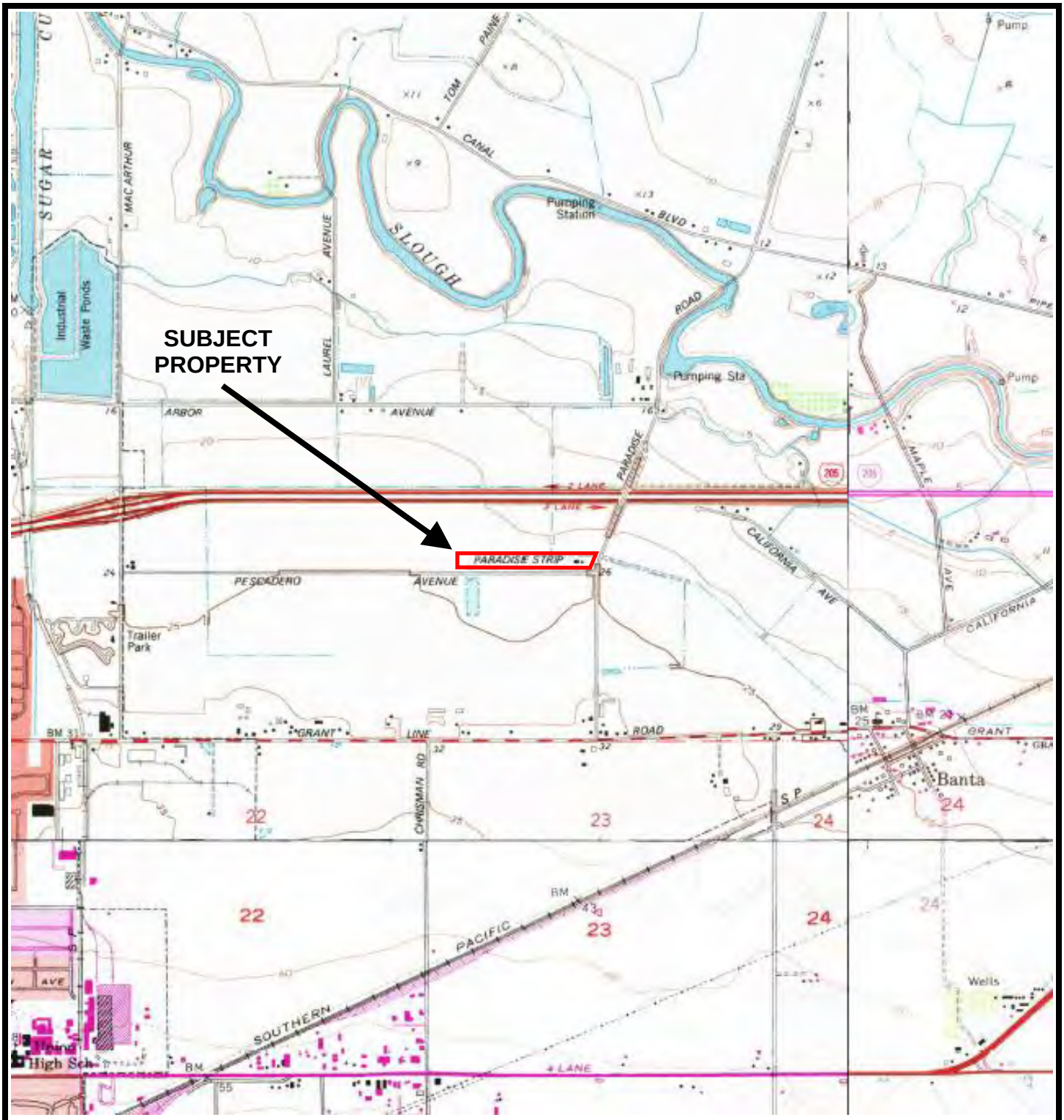
Sincerely,

BRUSCA ASSOCIATES, INC.

Alycia Cridebring
Environmental Specialist



Joe Brusca
Principal Engineering Geologist
Certified Engineering Geologist No. 1948



SOURCE: U.S.G.S. 7.5-minute Union Island Quadrangle, California, 1978
Scale 1:24,000

Boundaries are approximate

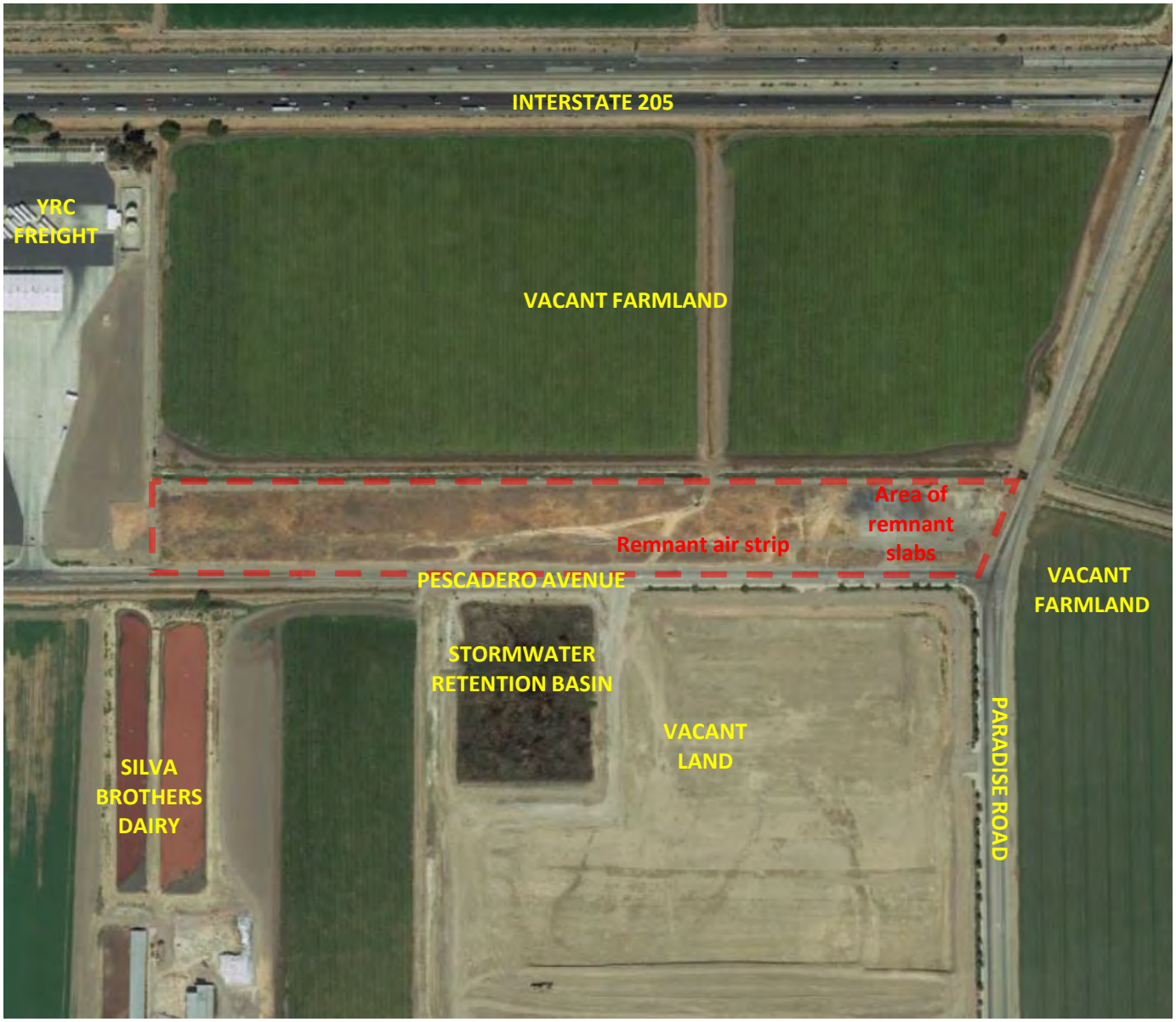
NORTH

Brusca Associates, Inc.
Environmental Engineering Geology

PLATE 1 - VICINITY MAP

Formers Haley's Flying Service Property
21000 Paradise Road
Tracy, California

PREPARED FOR:	**Diepenbrock Elkin**		
PROJ. MGR:	**Joe Brusca**	**DATE:**	**11/23/19**
DRAWN BY:	**AC**	**PROJ. #:**	**194-006**



Approximate boundary of subject property

NORTH

All features and locations are approximate only

Brusca Associates, Inc.
Environmental Engineering Geology

PLATE 2 - SITE MAP
Formers Haley's Flying Service Property
21000 Paradise Road
Tracy, California

PREPARED FOR:	**Diepenbrock Elkin**		
PROJ. MGR:	**Joe Brusca**	**DATE:**	**11/23/19**
DRAWN BY:	**AC**	**PROJ. #:**	**194-006**

APPENDIX A – Photographs



Westerly view from southeasterly portion of the property



Northerly view from southeasterly portion of the property



Southerly view from northeasterly portion of the property



Westerly view from northeasterly portion of the property



Easterly view from westerly portion of the property



Northerly view from southwesterly portion of the property

Date of Photography: November 25, 2019

APPENDIX A – PHOTOGRAPHS



Remnant concrete slabs on easterly portion of the property



Remnant concrete structures on easterly portion of the property



Elevated concrete platform on easterly portion of the property



Depressed concrete structures on easterly portion of the property



Remnant pavement traversing the property (former air strip)



Debris/rubbish on the property



Burn debris on the property



Bee hive boxes on central portion of the property



Burn debris on the property



View of central and westerly portion of the property



Rubble mound on central portion of the property



Homeless encampment and debris on central portion of the property

Date of Photography: November 25, 2019

APPENDIX A – PHOTOGRAPHS

APPENDIX B – User Questionnaire

USER QUESTIONNAIRE

Phase I ESA

This *User Questionnaire* is part of the *Phase I Environmental Site Assessment* (ESA). To qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments") the user must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that "all appropriate inquiry" is not complete. Attach additional sheets if necessary for further explanation.

User Representative Name:	Michael Siemenbrenk	***Signature:***		***Date:***	1-6-20
Property Address:	2395 East Pescadero Ave	***Parcel Number(s):***	213-060-130-000		

1. Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?
☒ No ☐ Yes, Explain:

2. Are you aware of any activity and use limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?
☒ No ☐ Yes, Explain:

3. Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?
☒ No ☐ Yes, Explain:

4. Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?
☐ No ☒ Yes, Explain:

5. Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases?
☐ No ☒ Yes, Explain: There is information about contamination available on government data base.

5a. Do you know the past uses of the property?
☐ No ☒ Yes, Explain: Crop dusting operations

5b. Do you know of specific chemicals that are present or once were present at the property?
☐ No ☒ Yes, Explain: See government data bases

5c. Do you know of spills or other chemical releases that have taken place at the property?
☐ No ☒ Yes, Explain: See government data bases

5d. Do you know of any environmental cleanups that have taken place at the property?
☒ No ☐ Yes, Explain:

6. As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?
☐ No ☒ Yes, Explain: See government data bases

ADDITIONAL INFORMATION

Certain information should be collected, if available, and provided to the environmental professional selected to conduct the Phase I ESA. This information is intended to assist the environmental professional but is not necessarily required to qualify for one of the LLPs.

Why is the Phase I ESA required? Normal due diligence prior to purchase.
What is the nature of the property transaction (sale, purchase, exchange, bank loan, etc.)? Purchase
What is the planned use of the property? Industrial development - non residential
Is there any scope of services desired or required beyond ASTM 1527 Phase I ESA 1527? Not unless recommended
Identify all parties who will rely on the Phase I ESA report. Ridge Capital, Inc and its related entities.
Are there any special terms or agreements which must be agreed upon by the environmental professional? No
Is there any other knowledge or experience with the property (for example, copies of prior environmental reports or documents relative to the environmental conditions of the property)? Delivered via email
Identify the current owner of the property and how the owner can be reached. Mary C. Bacchetti, Trustee of The Pescadero Charitable Trust (mary@gloriannfarms.com)
Identify the site contact and how the contact can be reached. Contact should be through Patrick A. Richelle, P.C. 209-367-6997

APPENDIX C – Historical Information

- Aerial Photographs
- Topographical Quadrangle Maps
- Sanborn Fire Insurance Map Report
- Historical City Directories

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 2018
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 2016
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 2012
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 2009
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 2006
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1993
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials

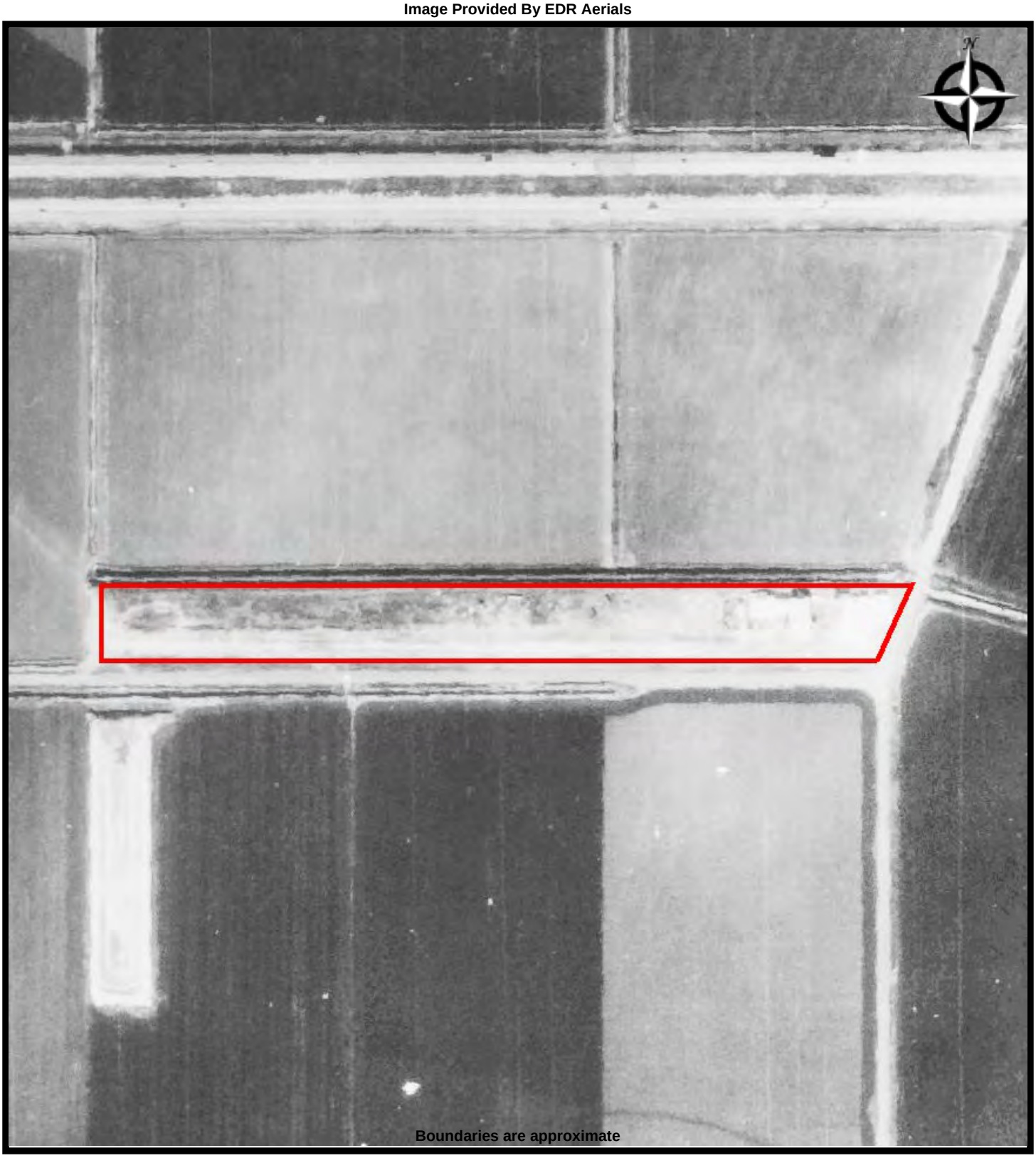


Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1982
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials

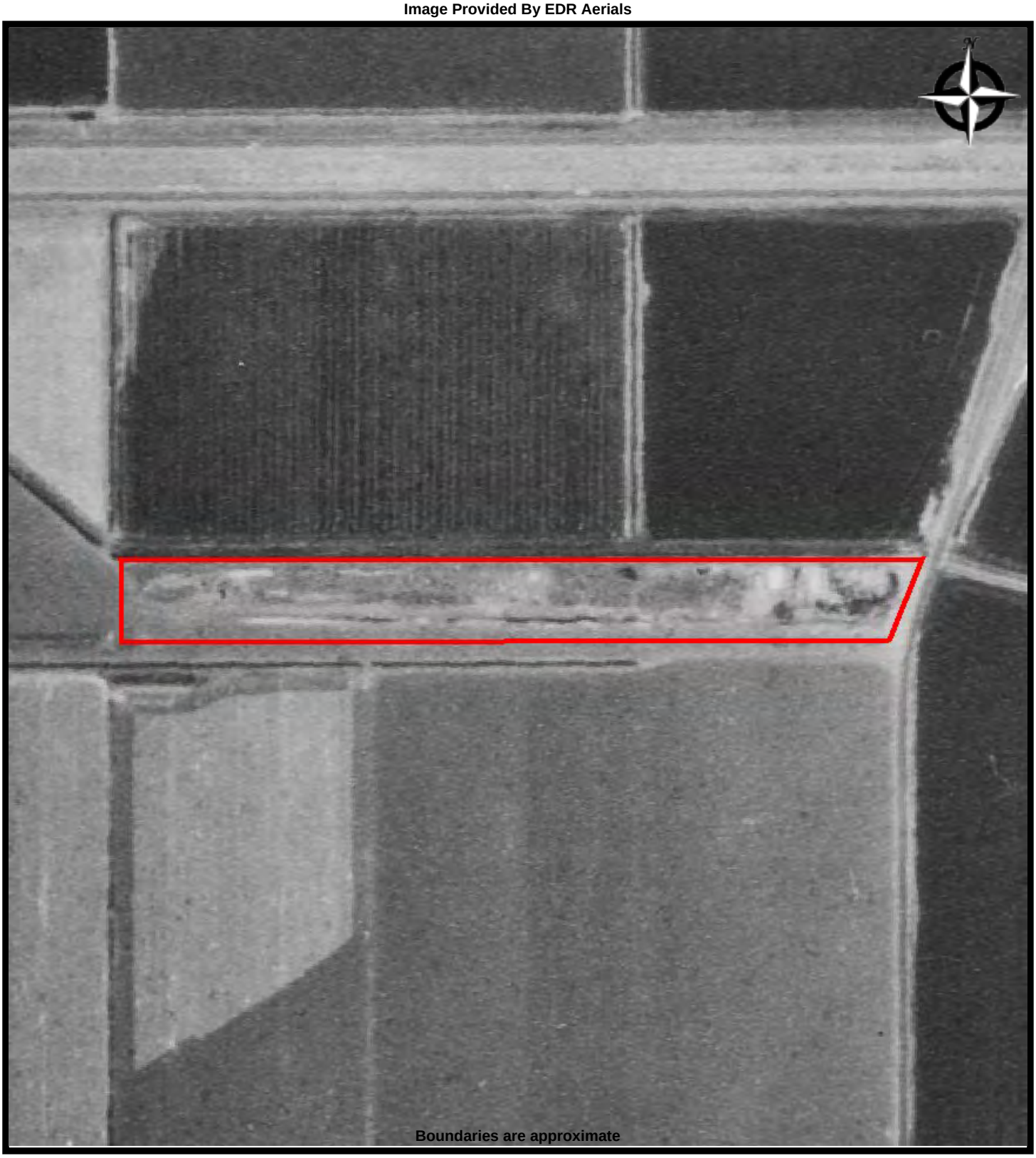


Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1975
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1972
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1968
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1963
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials



Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1957
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR Aerials

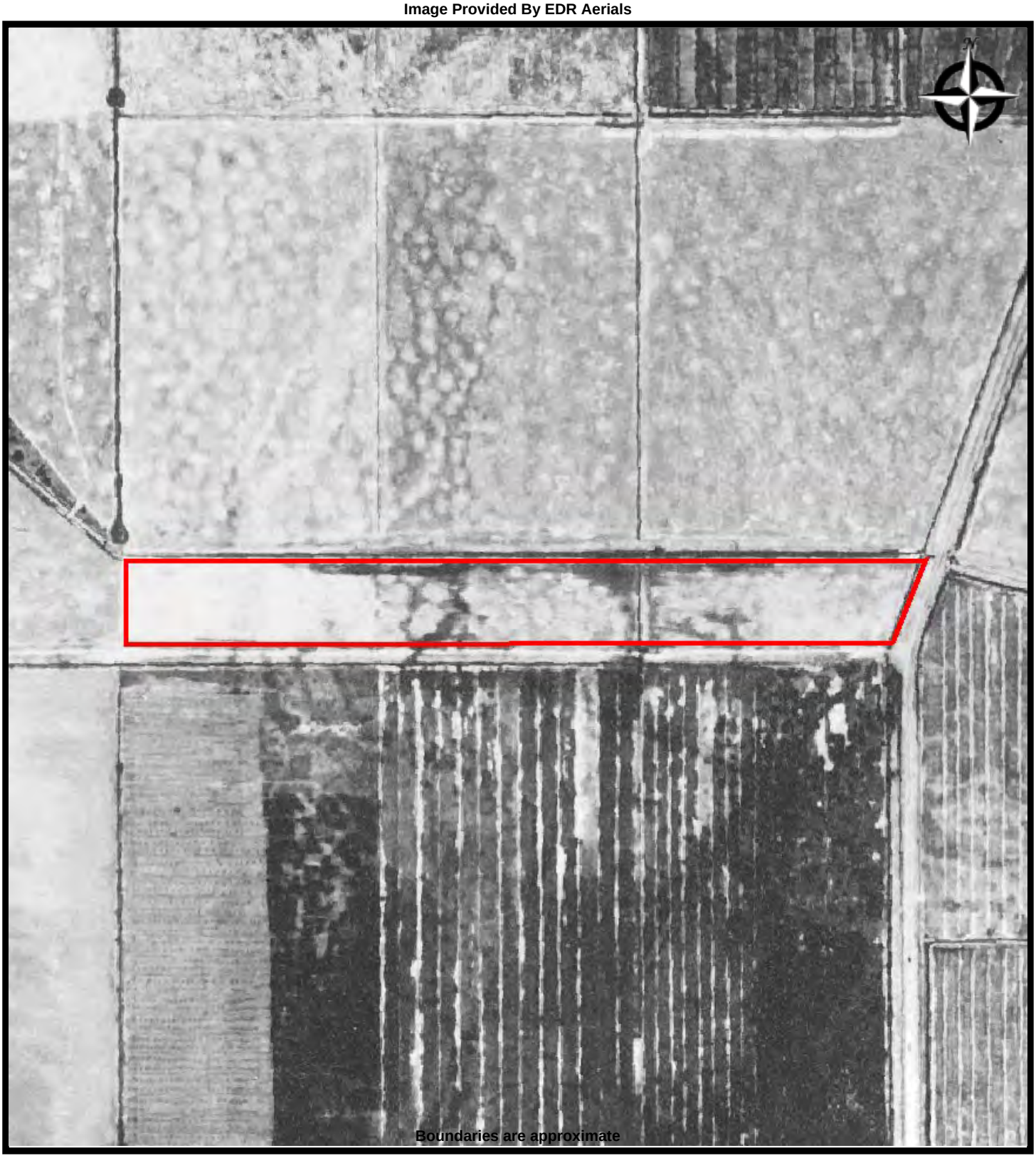


Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1940
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
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DATE: 11/24/2019
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Image Provided By EDR Aerials

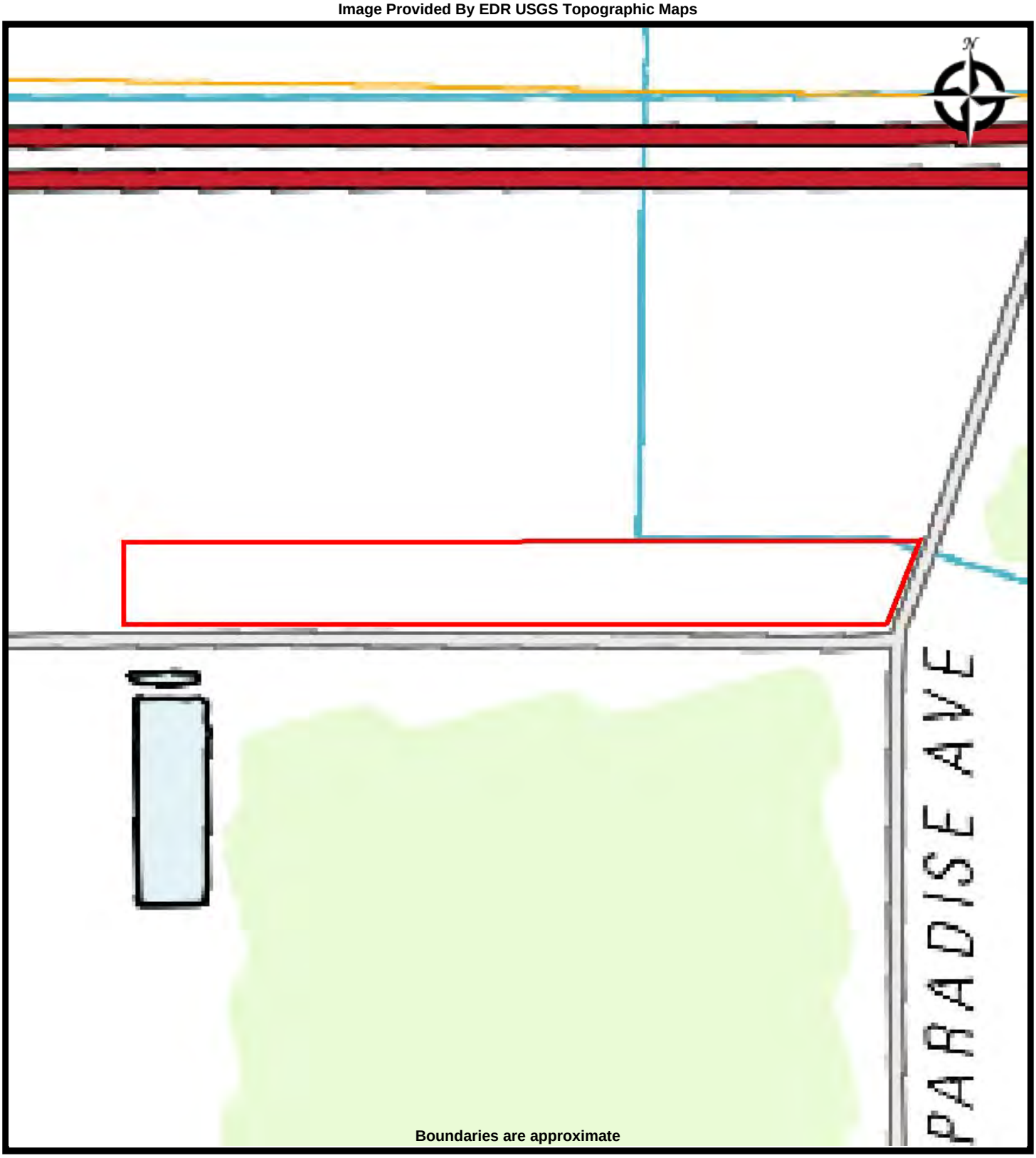


Brusca Associates, Inc.
Environmental Engineering Geology

AERIAL PHOTOGRAPH- 1937
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR USGS Topographic Maps

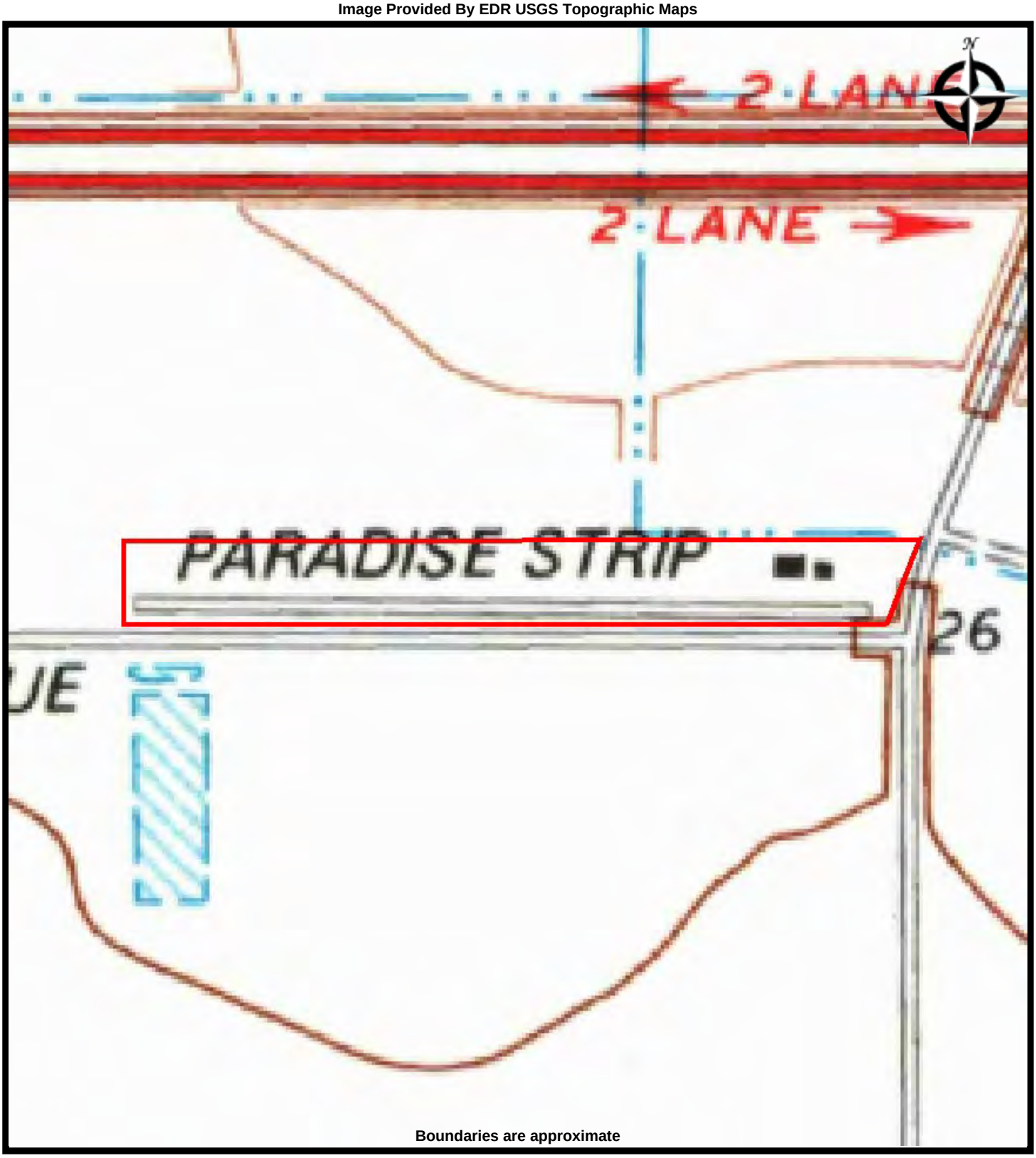


Brusca Associates, Inc.
Environmental Engineering Geology

TOPO MAP - 2012
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR USGS Topographic Maps



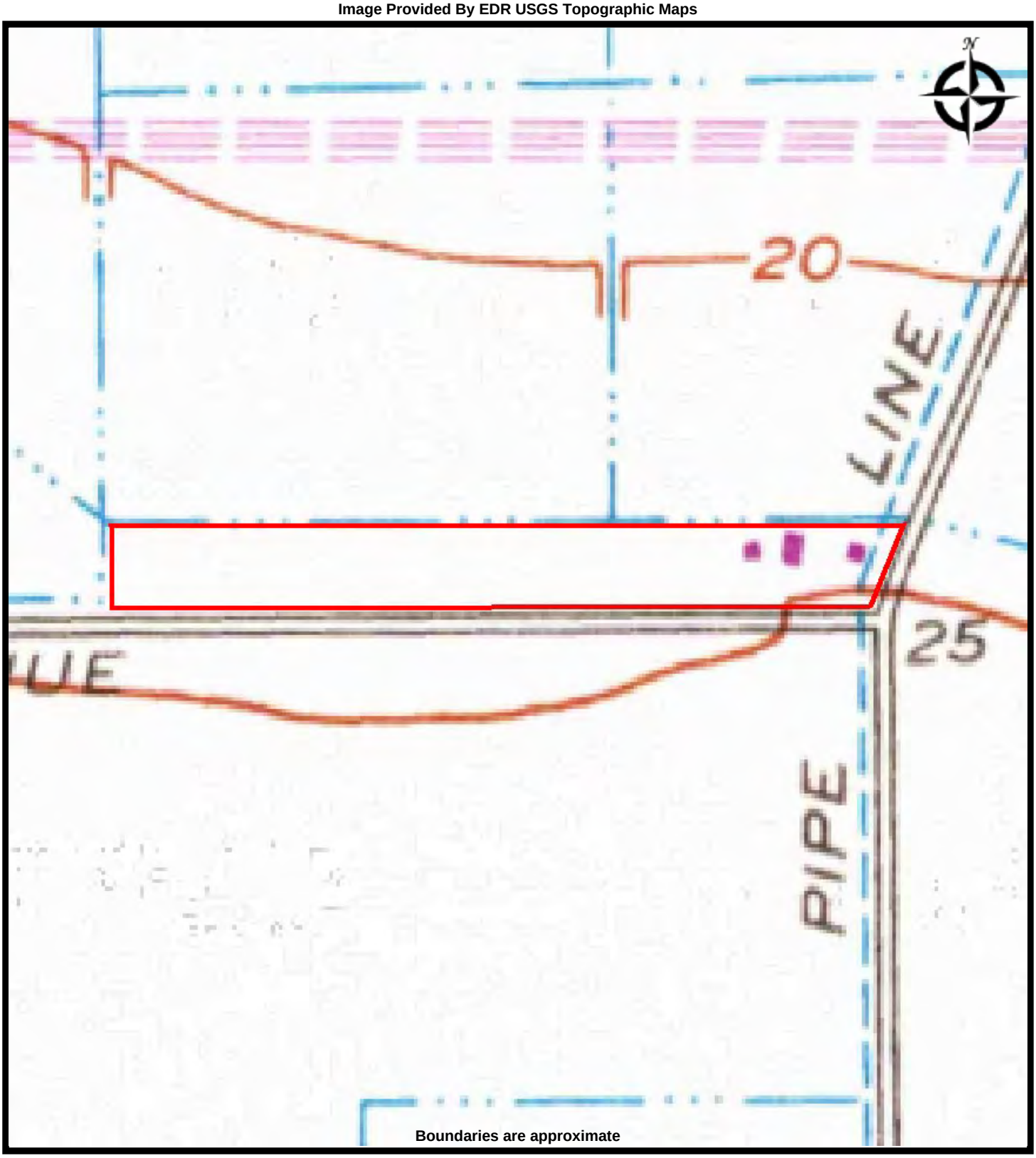
Boundaries are approximate

Brusca Associates, Inc.
Environmental Engineering Geology

TOPO MAP - 1976
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR USGS Topographic Maps

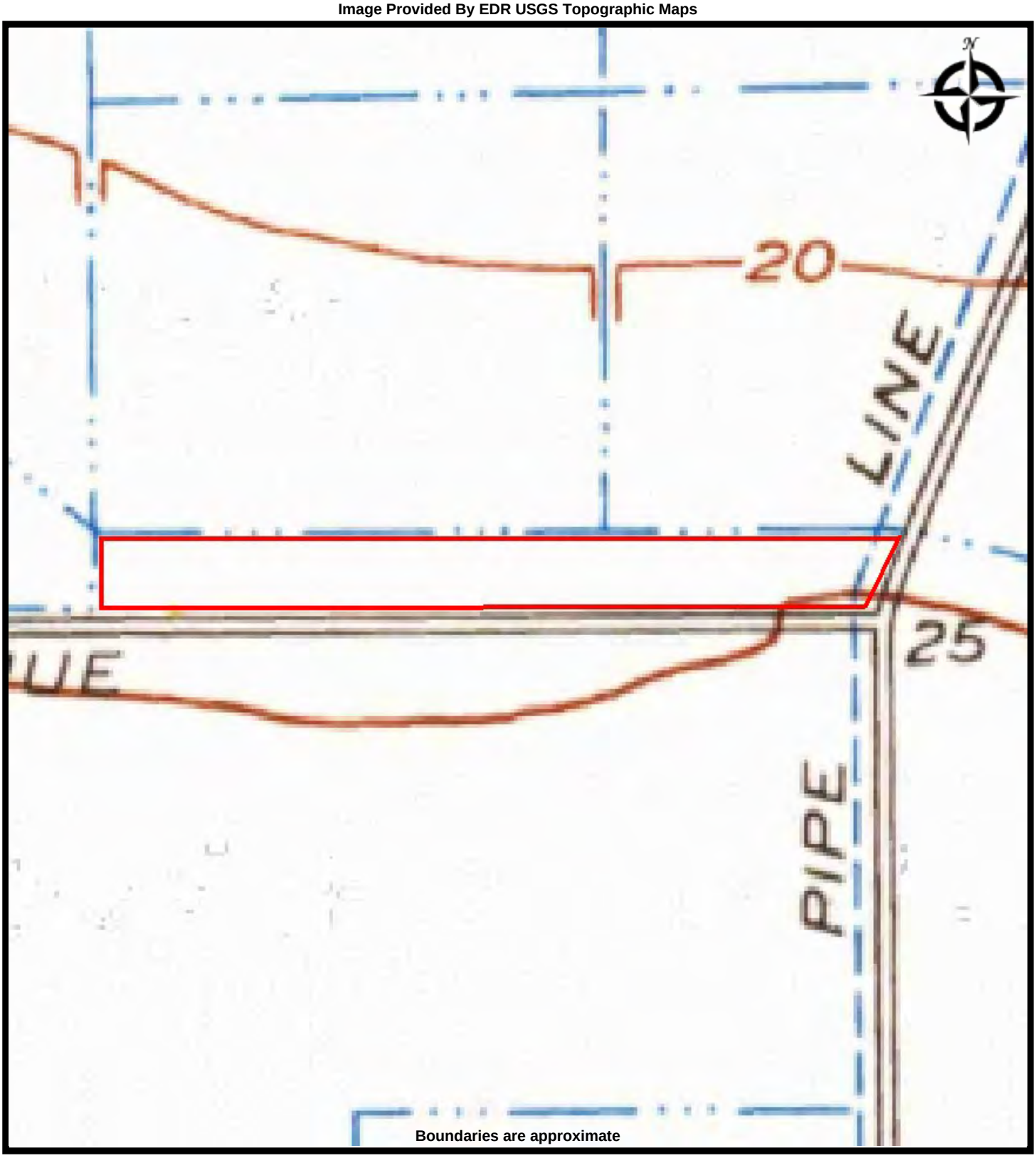


Brusca Associates, Inc.
Environmental Engineering Geology

TOPO MAP - 1968
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
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Image Provided By EDR USGS Topographic Maps

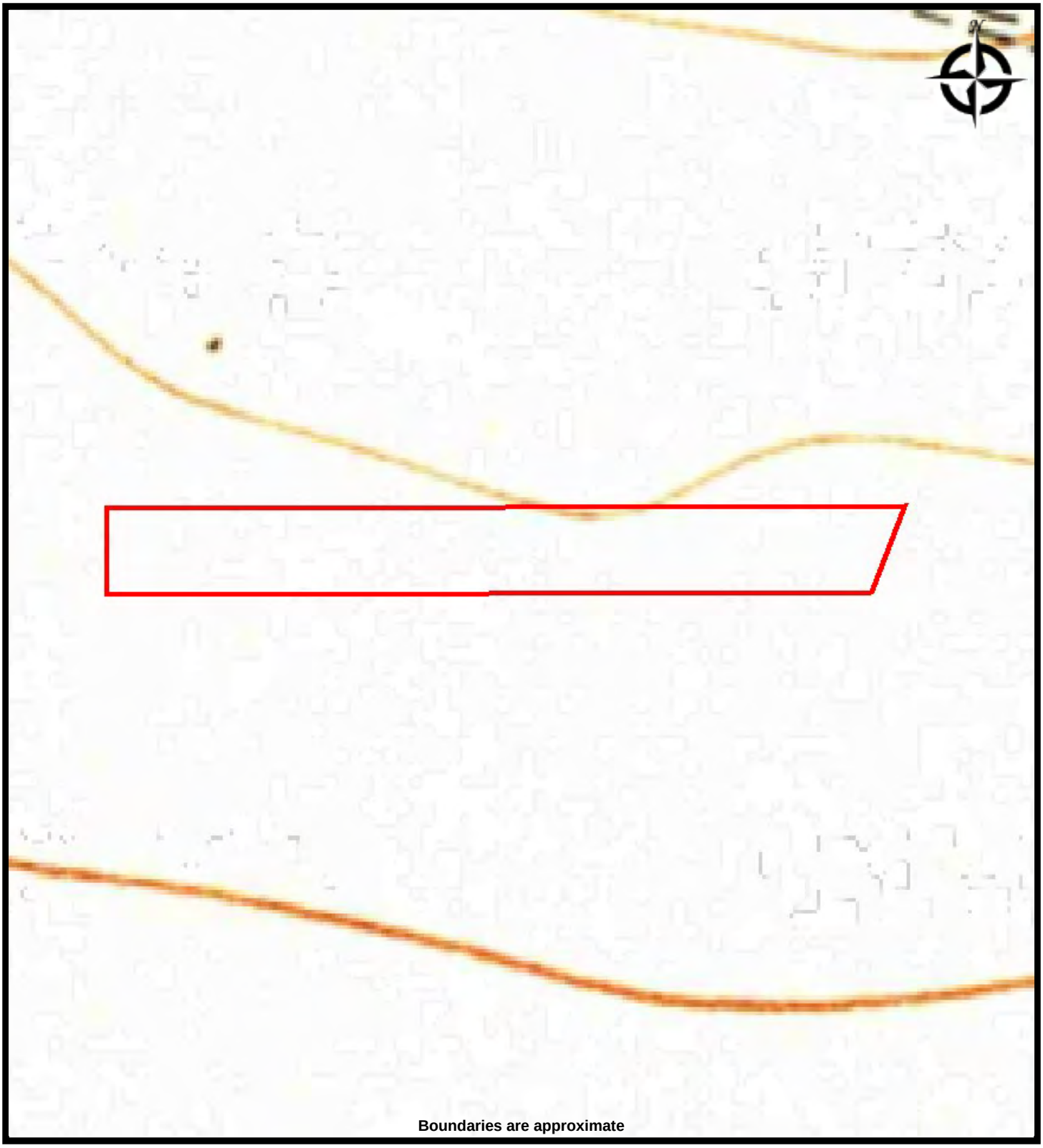


Brusca Associates, Inc.
Environmental Engineering Geology

TOPO MAP - 1952
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Image Provided By EDR USGS Topographic Maps



Boundaries are approximate

Brusca Associates, Inc.
Environmental Engineering Geology

TOPO MAP - 1914
FORMER HALEY'S FLYING SERVICE PROPERTY
21000 Paradise Road
Tracy, California 95304

PREPARED FOR: Diepenbrock Elkin
PROJ. MGR: Joe Brusca
DRAWN BY: AC
DATE: 11/24/2019
PROJ. #: 194-006

Former Haleys Flying Service Property
21000 Paradise Road
Tracy, CA 95304

Inquiry Number: 5874534.3
November 18, 2019

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/18/19

Site Name:

Former Haleys Flying Service F
21000 Paradise Road
Tracy, CA 95304
EDR Inquiry # 5874534.3

Client Name:

Brusca Associates, Inc.
PO Box 332
Roseville, CA 95661
Contact: Joe Brusca

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by Brusca Associates, Inc. were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 0CFE-45E2-8139

PO # NA

Project Haley s Flying Service Propert

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 0CFE-45E2-8139

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

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Former Haleys Flying Service Property
21000 Paradise Road
Tracy, CA 95304

Inquiry Number: 5874534.5
November 21, 2019

The EDR-City Directory Image Report

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Findings

City Directory Images

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EXECUTIVE SUMMARY

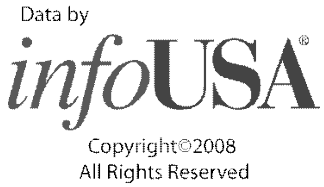
DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☑	☑	EDR Digital Archive
2010	☑	☑	EDR Digital Archive
2005	☑	☑	EDR Digital Archive
2000	☑	☑	EDR Digital Archive
1995	☑	☑	EDR Digital Archive
1992	☑	☑	EDR Digital Archive
1987	☑	☐	EDR Digital Archive
	☑	☐	Haines Criss-Cross Directory
1982	☑	☐	EDR Digital Archive
	☑	☐	Haines Criss-Cross Directory
1976	☐	☐	Polk's City Directory
1971	☐	☐	Polk's City Directory
1965	☐	☐	Polk's City Directory
1959	☐	☐	Polk's City Directory

EXECUTIVE SUMMARY

Year	***Target Street***	***Cross Street***	***Source***

FINDINGS

TARGET PROPERTY STREET

21000 Paradise Road
Tracy, CA 95304

Year	CD Image	Source	
PARADISE RD			
2014	pg A2	EDR Digital Archive	
2010	pg A4	EDR Digital Archive	
2005	pg A6	EDR Digital Archive	
2000	pg A8	EDR Digital Archive	
1995	pg A10	EDR Digital Archive	
1992	pg A12	EDR Digital Archive	
1987	pg A13	EDR Digital Archive	
1982	pg A14	EDR Digital Archive	
1976	-	Polk's City Directory	Street not listed in Source
1971	-	Polk's City Directory	Street not listed in Source
1965	-	Polk's City Directory	Street not listed in Source
1959	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
E PESCADERO AVE			
2014	pg. A1	EDR Digital Archive	
2010	pg. A3	EDR Digital Archive	
2005	pg. A5	EDR Digital Archive	
2000	pg. A7	EDR Digital Archive	
1995	pg. A9	EDR Digital Archive	
1992	pg. A11	EDR Digital Archive	
1987	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source
1982	-	Haines Criss-Cross Directory	Target and Adjoining not listed in Source
1976	-	Polk's City Directory	Street not listed in Source
1971	-	Polk's City Directory	Street not listed in Source
1965	-	Polk's City Directory	Street not listed in Source
1959	-	Polk's City Directory	Street not listed in Source

City Directory Images

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

E PESCADERO AVE 2014

800	MCLANE COMPANY INC
	MCLANE FOODSERVICE INC
	PENSKE TRUCK LEASING CO LP
1005	ASIRI INC
	BEDI BIKRAM S
	DRESS BARN INC
	FAYS CO SPT & MEMORABILIA
	GAP INC
	GAP OUTLET 1932
	LANE BRYANT INC
	LCI HOLDINGS INC
	LUXURY PERFUME
	MAURICES INCORPORATED
	PUBLISHNG HOUSE EVANGLCL LUTHR
	ROXYS QUILT AND SEWING OUTLET
	RUE21 INC
	TRACY OUTLET CENTER CUSTO
	WILLIAM CARTER COMPANY
	WORLD KITCHEN LLC
1400	ELC LOGISTICS TRACY
	HOME DEPOT USA INC
	RDC 5641 TRACY
1535	YRC INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 2014

20415 KILLER CUSTOMS
20547 OCON, ROBERT
PREMIERE SPORTS WARRIOR ELITE
20599 GRAYSON, ANTHONY E
WILD CATS DIRECT INC
20902 SILVA, EVELYN
20964 GOULART, MANUEL M
20969 PARREIRAS, SUSANA
20977 BRASIL, JOSE
20989 DELGADO, RUBEN O
21000 JOHNSON, MARC
21048 DELGADO, EZEQUIEL
TODD PADDACK INSTALLATIONS
21200 TRAVLN TOYS INC

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

E PESCADERO AVE 2010

800	MCLANE FOODSERVICE INC
	PENSKE TRUCK LEASING CO LP
1005	20 BELOW OF TRACY
	ASIRI INC
	BEDI BIKRAM S
	BIG DOG USA INC
	BROWN GROUP RETAIL INC
	CARTERSS RETAIL
	CASUAL MALE RETAIL GROUP INC
	ELIZ MENS WEAR
	GAP INC
	GOLF DISCOUNT WAREHOUSE
	HARVEST FARMS
	HUB DISTRIBUTING INC
	JOHNNYS DINER & CREAMERY
	KELLYS VARIETY DISCOUNT
	LANE BRYANT INC
	LEATHER & LUGGAGE PLUS
	LITTLE LABELS OF TRACY
	LIZ CLAIBORNE INC
	MAURICES INCORPORATED
	MODESTO CITY OF
	OSHKOSH BGOSH INC
	PRIME OUTLETS ACQUISITION LLC
	PUBLISHNG HOUSE EVANGLCL LUTHR
	REEBOK INTERNATIONAL LTD
	ROCKPORT COMPANY LLC
	RUE21 INC
	SAMSONITE COMPANY STORES LLC
	SONY ELECTRONICS INC
	SPORTS LEGEND COLLECTIBLES
	TOYS R US
	TRACY OUTLET CENTER CUSTO
	VANHUSEN OUTLET
	VANS INC
	WORLD KITCHEN LLC
1400	ELC LOGISTICS TRACY
	ESTENSON LOGISTICS LLC
	HOME DEPOT USA INC
1535	YRC INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 2010

20415 KILLER CUSTOMS
20547 OCCUPANT UNKNOWN,
PREMIERE SPORTS WARRIOR ELITE
20599 GRAYSON, ANTHONY E
WILD CATS DIRECT INC
20902 OCCUPANT UNKNOWN,
20964 GOULART, MANUEL M
20967 MOREDA DAIRY
20969 PARREIRAS, NOEMIA D
20977 OCCUPANT UNKNOWN,
20989 DELGADO, RUBEN O
21000 CONTINENTAL C EXPRESS
JOHNSON, MARC
21038 MENESES, ADAM
21048 OCCUPANT UNKNOWN,
TODD PADDACK INSTALLATIONS
21200 TRAVELING TOYS

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

E PESCADERO AVE 2005

800	CS INTEGRATED LLC
	PENSKE TRUCK LEASING CO LP
	UNIFIED WESTERN GROCERS INC
1005	ANNAS LINENS
	BASIC 17
	BASS G H & CO
	BEDI BIKRAM S
	BIG DOG HOLDINGS INC
	BROWN GROUP RETAIL INC
	CASUAL MALE RETAIL GROUP INC
	DRESS BARN INC
	GAP INC
	GARLIC CITY CAFE
	GENERAL NUTRITION CORPORATION
	HUB DISTRIBUTING INC
	L A DELI AND ESPRESSO
	LCI HOLDINGS INC
	LEATHER & LUGGAGE PLUS
	LEGGS & HANES
	MAGNIFIQUE PARFUMES AND COSMT
	MIKASA INC
	MODESTO CITY OF
	OCEAN NAILS
	OSHKOSH BGOSH INC
	PARTY CONCEPTS INC
	PRIME OUTLETS ACQUISITION LLC
	PUBLISHNG HOUSE EVANGLCL LUTHR
	REBEL RIDERS
	RETAIL BRAND ALLIANCE INC
	REVLON INC
	ROCKPORT COMPANY LLC
	RUE21 INC
	SAMSONITE COMPANY STORES INC
	SARAHS NAIL SALON
	SHOE PAVILION CORPORATION
	SOFTWARE OUTLET
	SONY ELECTRONICS INC
	SPORTS LEGEND COLLECTIBLES
	STROUDS ACQUISITION CORP
	VANHUSEN OUTLET
	VANS INC
	WORLD KITCHEN INC
	WORTH BON INC
1535	YELLOW TRANSPORTATION INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 2005

20599 GRAYSON, ANTHONY E
20902 SILVA, JOSE M
20967 BENEVIDES, MANUEL A
20976 AVILA, EDDIE
20977 ALVEREZ, MARIA H
JOSE BRASIL
20989 ROCHA, DANIEL
21000 CONTINENTAL C EXPRESS
JOHNSON, MARC
21038 OCCUPANT UNKNOWN,
21048 HUNSINGER, THOMA
21200 TRAVELING TOYS

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

E PESCADERO AVE 2000

800	PENSKE TRUCK LEASING CO L P
1005	AMERICAN COMMERCIAL INC
	ASLANYAN AND KOCOGLU INC
	BASS G H & CO
	BIG DOG HOLDINGS INC
	BROWN GROUP RETAIL INC
	CASUAL CORNER GROUP INC
	CASUAL MALE INC
	DRESS BARN INC
	FILA SPORTS INC
	GENERAL NUTRITION INCORPORATED
	HI-TEC SPORTS USA INC
	HUB DISTRIBUTING INC
	L A DELI AND ESPRESSO
	LCI HOLDINGS INC
	MAGNIFIQUE PERFUMES AND COSMT
	MELRU CORPORATION
	NINE WEST GROUP INC
	OSHKOSH BGOSH INC
	PARTY CONCEPTS INC
	PENNSYLVANIA FASHIONS INC
	PRIME RETAIL INC
	REEBOK INTERNATIONAL LTD
	ROCKPORT COMPANY INC
	SAMSONITE CORPORATION
	SHOE PAVILION INC
	SONY ELECTRONICS INC
	STROUDS INC
	VANS INC
1535	YELLOW FREIGHT SYSTEM INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 2000

20360 KEISER, MICHAEL L
20415 CONWAY, MICHAEL P
20599 ROCHA, KEITH E
20902 SILVA, J M
20976 AVILA, EDDIE
20977 ALVEREZ, MARIA H
20989 DUARTE, ANA M
21000 CONTINENTAL C EXPRESS
JOHNSON, MARC
21038 RANGEL, MARTIN T
21200 TRAVELING TOYS

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

E PESCADERO AVE 1995

800	BAY AREA FOODS INC
1005	JONES APPAREL GROUP INC
	LCI HOLDINGS INC
	LECHTERS CALIFORNIA INC
	REEBOK INTERNATIONAL LTD
	REVLON INC
1535	YELLOW FREIGHT SYSTEM INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 1995

20415 RICH, MARY
20969 OCCUPANT UNKNOWNN
20976 AVILA, EDDIE
20977 BRASIL, JOSE
21000 JOHNSON, MARC

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

E PESCADERO AVE 1992

800 PROVIGO CORP
1535 YELLOW FREIGHT SYSTEM INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 1992

20360 CUNNINGHAM, THOMAS E
20969 AZEVEDO, JOHN D
20976 AVILA, EDDIE
20977 BRASIL, JOSE
21000 JOHNSON, MARC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 1987

21000 HALEY FLYING SERVICE INC

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

PARADISE RD 1982

21000 HALEY FLYING SERVICE INC

APPENDIX D – Agency Listings Database Report

Former Haleys Flying Service Property
21000 Paradise Road
Tracy, CA 95304

Inquiry Number: 5874534.2s
November 19, 2019

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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TARGET PROPERTY INFORMATION

ADDRESS

21000 PARADISE ROAD
TRACY, CA 95304

COORDINATES

Latitude (North):	37.7619290 - 37° 45' 42.94''
Longitude (West):	121.3928840 - 121° 23' 34.38''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	641563.6
UTM Y (Meters):	4180412.0
Elevation:	31 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640094 UNION ISLAND, CA
Version Date:	2012
Northeast Map:	5640064 LATHROP, CA
Version Date:	2012
Southeast Map:	5640096 VERNALIS, CA
Version Date:	2012
Southwest Map:	5640426 TRACY, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140606, 20140628
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
21000 PARADISE ROAD
TRACY, CA 95304

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	HALEY FLYING SERVICE	21000 PARADISE ROAD	RGA LUST		TP
A2	1X HALEY, DOROTHY	21000 PARADISE AVENU	HAZNET		TP
A3	HALEY FLYING SERVICE	21000 PARADISE RD	RGA LUST		TP
A4	HALEYS FLYING SERVIC	21000 PARADISE RD	UST		TP
A5	HALEY FLYING SERVICE	21000 PARADISE	SEMS-ARCHIVE, RCRA-SQG, ENVIROSTOR, LUST, VCP,...		TP
A6	HALEY FLYING SERVICE	21000 PARADISE RD	HIST UST		TP
A7	HALEY FLYING SERVICE		WMUDS/SWAT		TP
A8	HALEY FLYING SERVICE	2395 E PESCADERO AVE	CPS-SLIC, CERS		TP

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
HALEY FLYING SERVICE 21000 PARADISE ROAD TRACY, CA	RGA LUST	N/A
1X HALEY, DOROTHY 21000 PARADISE AVENU TRACY, CA 92705	HAZNET GEPAID: CAC000271937	N/A
HALEY FLYING SERVICE 21000 PARADISE RD TRACY, CA	RGA LUST	N/A
HALEYS FLYING SERVIC 21000 PARADISE RD TRACY, CA 95376	UST Database: UST SAN JOAQUIN, Date of Government Version: 06/22/2018 Facility Id: FA0005265 Tank Status: 02 - Inactive, non-billable	N/A
HALEY FLYING SERVICE 21000 PARADISE TRACY, CA 95376	SEMS-ARCHIVE Site ID: 0903244 EPA Id: CAD046005484 RCRA-SQG EPA ID:: CAD046005484 ENVIROSTOR Status: Inactive - Needs Evaluation Facility Id: 39070037 LUST Database: LUST REG 5, Date of Government Version: 07/01/2008 Database: LUST, Date of Government Version: 09/09/2019 Status: Completed - Case Closed Status: Case Closed Global Id: T0607700410 VCP Status: Inactive - Needs Evaluation Facility Id: 39070037 SWEEPS UST Comp Number: 1992 HIST UST Facility Id: 00000002309 CA FID UST	CAD046005484

	Facility Id: 39000424 Status: I LIENS Envirostor Id: 39070037 FINDS Registry ID:: 110002646192 ECHO Registry ID: 110002646192 HIST CORTESE Reg Id: 390525 Reg Id: 39070037 CERS	
HALEY FLYING SERVICE 21000 PARADISE RD TRACY, CA 93576	HIST UST Facility Id: 00000016270	N/A
HALEY FLYING SERVICE , CA	WMUDS/SWAT	N/A
HALEY FLYING SERVICE 2395 E PESCADERO AVE TRACY, CA 95304	CPS-SLIC Database: CPS-SLIC, Date of Government Version: 09/09/2019 Facility Status: Open - Inactive Global Id: SL0607752832 CERS	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

EXECUTIVE SUMMARY

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-VSQG..... RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE..... State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing
AST..... Aboveground Petroleum Storage Tank Facilities
INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Considered Brownfieds Sites Listing

EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY ..... Recycler Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
ODI ..... Open Dump Inventory
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register
HIST Cal-Sites ..... Historical Calsites Database
SCH ..... School Property Evaluation Program
CDL ..... Clandestine Drug Labs
CERS HAZ WASTE ..... CERS HAZ WASTE
Toxic Pits ..... Toxic Pits Cleanup Act Sites
US CDL ..... National Clandestine Laboratory Register
PFAS ..... PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

CERS TANKS ..... California Environmental Reporting System (CERS) Tanks

Local Land Records

LIENS 2 ..... CERCLA Lien Information
DEED ..... Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ..... Hazardous Materials Information Reporting System
CHMIRS ..... California Hazardous Material Incident Report System
LDS ..... Land Disposal Sites Listing
MCS ..... Military Cleanup Sites Listing
SPILLS 90 ..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ..... RCRA - Non Generators / No Longer Regulated
FUDS ..... Formerly Used Defense Sites
DOD ..... Department of Defense Sites
SCRD DRYCLEANERS ..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ..... Financial Assurance Information
EPA WATCH LIST ..... EPA WATCH LIST
2020 COR ACTION ..... 2020 Corrective Action Program List
TSCA ..... Toxic Substances Control Act

EXECUTIVE SUMMARY

TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
UXO	Unexploded Ordnance Sites
DOCKET HWC	Hazardous Waste Compliance Docket Listing
FUELS PROGRAM	EPA Fuels Program Registered Listing
CA BOND EXP. PLAN	Bond Expenditure Plan
Cortese	"Cortese" Hazardous Waste & Substances Sites List
CUPA Listings	CUPA Resources List
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
ICE	ICE
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
NPDES	NPDES Permits Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
UIC GEO	UIC GEO (GEOTRACKER)
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
MILITARY PRIV SITES	MILITARY PRIV SITES (GEOTRACKER)
PROJECT	PROJECT (GEOTRACKER)
WDR	Waste Discharge Requirements Listing
CIWQS	California Integrated Water Quality System
NON-CASE INFO	NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS	OTHER OIL & GAS (GEOTRACKER)

PROD WATER PONDS..... PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT..... SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ..... Well Stimulation Project (GEOTRACKER)
MINES MRDS..... Mineral Resources Data System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants
EDR Hist Auto..... EDR Exclusive Historical Auto Stations
EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF..... Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were not identified.

Unmappable (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 5 records.

Site Name	Database(s)
KATERRA TRACY FACILITY	CERS HAZ WASTE, CIWQS, CERS CDL
DEFENSE DEPOT, TRACY - SOIL REMOVA	HIST Cal-Sites, CA BOND EXP. PLAN
CHEVERON PIPELINE- GRANT LINE	CPS-SLIC
TRACY D.D.- CENT.	CA BOND EXP. PLAN

OVERVIEW MAP - 5874534.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

Special Flood Hazard Area (1%)

0.2% Annual Chance Flood Hazard

National Wetland Inventory

State Wetlands

Areas of Concern

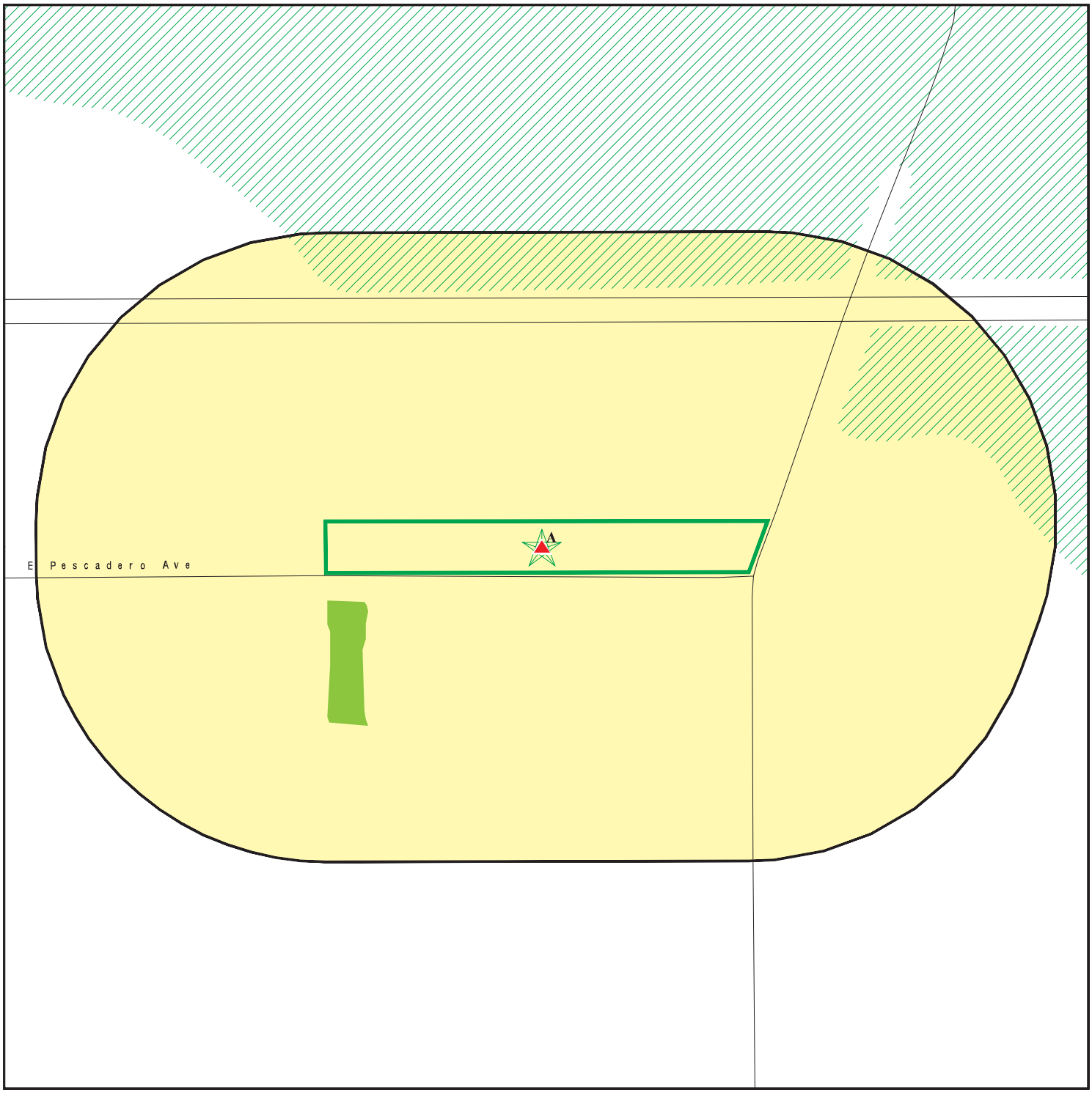
N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Former Haleys Flying Service Property	CLIENT:	Brusca Associates, Inc.
ADDRESS:	21000 Paradise Road Tracy CA 95304	CONTACT:	Joe Brusca
LAT/LONG:	37.761929 / 121.392884	INQUIRY #:	5874534.2s
		DATE:	November 19, 2019 10:54 am

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DETAIL MAP - 5874534.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- Indian Reservations BIA
- Special Flood Hazard Area (1%)
- 0.2% Annual Chance Flood Hazard
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Former Haleys Flying Service Property ADDRESS: 21000 Paradise Road Tracy CA 95304 LAT/LONG: 37.761929 / 121.392884	CLIENT: Brusca Associates, Inc. CONTACT: Joe Brusca INQUIRY #: 5874534.2s DATE: November 19, 2019 10:54 am

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500	1	0	0	0	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250	1	0	0	NR	NR	NR	1
RCRA-VSQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000	1	0	0	0	0	NR	1
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500	1	0	0	0	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500	1	0	0	0	NR	NR	1
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250	1	0	0	NR	NR	NR	1
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500	1	0	0	0	NR	NR	1
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500	1	0	0	0	NR	NR	1
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
CERS HAZ WASTE	0.250		0	0	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250	1	0	0	NR	NR	NR	1
HIST UST	0.250	2	0	0	NR	NR	NR	2
CERS TANKS	0.250		0	0	NR	NR	NR	0
CA FID UST	0.250	1	0	0	NR	NR	NR	1
Local Land Records								
LIENS	0.001	1	0	NR	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	0.001	1	0	NR	NR	NR	NR	1
UXO	1.000		0	0	0	0	NR	0
ECHO	0.001	1	0	NR	NR	NR	NR	1
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001		0	NR	NR	NR	NR	0
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001	1	0	NR	NR	NR	NR	1
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500	1	0	0	0	NR	NR	1
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
UIC GEO	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	0.001		0	NR	NR	NR	NR	0
PROJECT	0.001		0	NR	NR	NR	NR	0
WDR	0.001		0	NR	NR	NR	NR	0
CIWQS	0.001		0	NR	NR	NR	NR	0
CERS	0.001	2	0	NR	NR	NR	NR	2
NON-CASE INFO	0.001		0	NR	NR	NR	NR	0
OTHER OIL GAS	0.001		0	NR	NR	NR	NR	0
PROD WATER PONDS	0.001		0	NR	NR	NR	NR	0
SAMPLING POINT	0.001		0	NR	NR	NR	NR	0
WELL STIM PROJ	0.001		0	NR	NR	NR	NR	0
MINES MRDS	0.001		0	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001	2	0	NR	NR	NR	NR	2
- Totals --		21	0	0	0	0	0	21

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **HALEY FLYING SERVICES** **RGA LUST** **S114630212**
Target **21000 PARADISE ROAD** **N/A**
Property **TRACY, CA**

Site 1 of 8 in cluster A

Actual: RGA LUST:
31 ft.
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE ROAD
City: TRACY
State: TRACY
1992 HALEY FLYING SERVICES 21000 PARADISE ROAD

A2 **1X HALEY, DOROTHY** **HAZNET** **S123725973**
Target **21000 PARADISE AVENUE** **N/A**
Property **TRACY, CA 92705**

Site 2 of 8 in cluster A

Actual: HAZNET:
31 ft.
Name: 1X HALEY, DOROTHY
Address: 21000 PARADISE AVENUE
City,State,Zip: TRACY, CA 927050000
Year: 1990
GEPAID: CAC000271937
Contact: DOROTHY HALEY, OWNER
Telephone: 2098354725
Mailing Name: Not reported
Mailing Address: 1311 MADISON ST
Mailing City,St,Zip: TRACY, CA 953760000
Gen County: San Joaquin
TSD EPA ID: CAD083166728
TSD County: Stanislaus
Tons: 1.251
CA Waste Code: 223-Unspecified oil-containing waste
Method: R01-Recycler
Facility County: San Joaquin

A3 **HALEY FLYING SERVICES** **RGA LUST** **S114630211**
Target **21000 PARADISE RD** **N/A**
Property **TRACY, CA**

Site 3 of 8 in cluster A

Actual: RGA LUST:
31 ft.
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2012 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2011 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY

HALEY FLYING SERVICES (Continued) **S114630211**

State: TRACY
2010 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2009 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2008 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2007 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2006 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2005 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2003 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2002 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2001 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
2000 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
1998 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
1997 HALEY FLYING SERVICES 21000 PARADISE RD

HALEY FLYING SERVICES (Continued) **S114630211**

Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
1996 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
1995 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
1994 HALEY FLYING SERVICES 21000 PARADISE RD
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
State: TRACY
1993 HALEY FLYING SERVICES 21000 PARADISE RD

A4 **HALEYS FLYING SERVICE** **UST** **U004260547**
Target **21000 PARADISE RD** **N/A**
Property **TRACY, CA 95376**

Site 4 of 8 in cluster A

Actual:
31 ft.

UST SAN JOAQUIN:
Name: HALEYS FLYING SERVICE
Address: 21000 PARADISE RD
City,State,Zip: TRACY, CA 95376
Region: SJ
Facility Id: FA0005265
Mail Address: 1311 N MADISON
Mail Address 2: Not reported
Mail Care of: DOROTHY HALEY
Mail City,St,Zip: TRACY, CA 95376

Tank Rec ID: Not reported
Tank Number: 1
Tank Status: 02 - Inactive, non-billable
Tank Capacity: 1000
Product Type Desc: 09 - OTHER PETROLEUM
Program Element: 2380
Decode for Program Element: 2380 - ADDITIONAL EXISTING UST - obsolete
Chemical Form: (none)
CAS#: Not reported
CERS ID: Not reported
Cross Ref Tank ID: Not reported
LEA ID: 9
Common Name: Not reported
Date Installed: Not reported
Date of Closure: Not reported
Latitude: Not reported
Longitude: Not reported

Tank Rec ID: Not reported

HALEYS FLYING SERVICE (Continued) **U004260547**

Tank Number:	2
Tank Status:	02 - Inactive, non-billable
Tank Capacity:	10000
Product Type Desc:	09 - OTHER PETROLEUM
Program Element:	2380
Decode for Program Element:	2380 - ADDITIONAL EXISTING UST - obsolete
Chemical Form:	(none)
CAS#:	Not reported
CERS ID:	Not reported
Cross Ref Tank ID:	Not reported
LEA ID:	9
Common Name:	Not reported
Date Installed:	Not reported
Date of Closure:	Not reported
Latitude:	Not reported
Longitude:	Not reported

A5 **HALEY FLYING SERVICE** **SEMS-ARCHIVE** **1000226059**
Target **21000 PARADISE** **RCRA-SQG** **CAD046005484**
Property **TRACY, CA 95376** **ENVIROSTOR**
LUST
Site 5 of 8 in cluster A **VCP**
SWEEPS UST
Actual: **HIST UST**
31 ft. **CA FID UST**
LIENS
FINDS
ECHO
HIST CORTESE
CERS

SEMS Archive:

Site ID:	0903244
EPA ID:	CAD046005484
Cong District:	18
FIPS Code:	06077
FF:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

SEMS Archive Detail:

Region:	09
Site ID:	0903244
EPA ID:	CAD046005484
Site Name:	HALEY FLYING SERVICE
NPL:	N
FF:	N
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	Not reported
Finish Date:	1988-11-29 05:00:00
Qual:	N
Current Action Lead:	St Perf
Region:	09
Site ID:	0903244

HALEY FLYING SERVICE (Continued) **1000226059**

EPA ID: CAD046005484
Site Name: HALEY FLYING SERVICE
NPL: N
FF: N
OU: 00
Action Code: VS
Action Name: ARCH SITE
SEQ: 1
Start Date: Not reported
Finish Date: 1988-11-29 05:00:00
Qual: Not reported
Current Action Lead: EPA Perf In-Hse

Region: 09
Site ID: 0903244
EPA ID: CAD046005484
Site Name: HALEY FLYING SERVICE
NPL: N
FF: N
OU: 00
Action Code: DS
Action Name: DISCVRY
SEQ: 1
Start Date: 1988-01-01 05:00:00
Finish Date: 1988-01-01 05:00:00
Qual: Not reported
Current Action Lead: St Perf

RCRA-SQG:
Date form received by agency: 1996-09-01 00:00:00.0
Facility name: HALEY FLYING SERVICE
Facility address: 21000 PARADISE
TRACY, CA 95376
EPA ID: CAD046005484
Mailing address: PO BOX 1049
TRACY, CA 95376
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported

HALEY FLYING SERVICE (Continued) **1000226059**

Owner/operator telephone: 415-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: 415-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 1981-04-16 00:00:00.0
Site name: HALEY FLYING SERVICE
Classification: Large Quantity Generator

Violation Status: No violations found

ENVIROSTOR:
Name: HALEY FLYING SERVICE
Address: 21000 S PARADISE RD
City,State,Zip: TRACY, CA 95304
Facility ID: 39070037
Status: Inactive - Needs Evaluation
Status Date: 10/04/2018
Site Code: 101755
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 10

HALEY FLYING SERVICE (Continued) **1000226059**

NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Leona Winner
Supervisor: Steven Becker
Division Branch: Cleanup San Joaquin
Assembly: 13
Senate: 05
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 37.76200
Longitude: -121.3899
APN: 213-060-13, 21306013
Past Use: AIRFIELD OPERATIONS
Potential COC: * Pesticides - Rinse Waters * Pesticides - Wastes From Production * CONTAMINATED SOIL * EMPTY PESTICIDE CONTAINERS, 30 GALLONS OR MORE * EMPTY CONTAINERS, LESS THAN 30 GALLONS
Confirmed COC: NONE SPECIFIED
Potential Description: AQUI, SOIL
Alias Name: AERONAUTICS (HALEY FLYING SERVICE DIV)
Alias Type: Alternate Name
Alias Name: PARADISE AIRSTRIP
Alias Type: Alternate Name
Alias Name: 213-060-13
Alias Type: APN
Alias Name: 21306013
Alias Type: APN
Alias Name: 110002646192
Alias Type: EPA (FRS #)
Alias Name: 101755
Alias Type: Project Code (Site Code)
Alias Name: 39070037
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Letter - Demand
Completed Date: 05/17/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Triage Meeting
Completed Date: 08/25/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: De-Certification
Completed Date: 06/30/1995
Comments: Site has been "decertified" and the previous cert is considered a removal action.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

HALEY FLYING SERVICE (Continued) **1000226059**

Completed Document Type: * Discovery
Completed Date: 03/17/1982
Comments: FACILITY IDENTIFIED DMI LIST

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 01/01/1982
Comments: CERTIFICATION. An unspecified amount of hazardous waste was removed. Month and day information was not available. This date was selected because it gives the earliest statute of limitations.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 06/30/1995
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 02/23/1988
Comments: PRELIMINARY ASSESSMENT DONE. DEPARTMENT OF HEALTH SERVICES SI; GATHER & ANALYZE FURTHER DATA ON SUMPS AND SOIL CONTAMINATION.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 02/19/1987
Comments: SITE SCREENING DONE. NO CLEANUP DOCUMENTED.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 08/15/2005
Comments: Work plan approved for soil and groundwater grab sampling of this former crop dusting site. Analytical methods include organochlorinated and organophosphorus herbicides and pesticides. Sampling tentatively scheduled for 8/24/2005.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/09/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien Satisfaction
Completed Date: 08/14/2017
Comments: Payment has been made and lien has been released.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/11/2005
Comments: VOLUNTARY CLEANUP AGREEMENT TO CONDUCT A PRELIMINARY ENDANGERMENT

HALEY FLYING SERVICE (Continued) **1000226059**

ASSESSMENT SIGNED 5/11/05

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 07/20/2012
Comments: Lien document was recorded on July 5, 2012. DTSC received a copy on July 20, 2012.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

LUST REG 5:
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City: TRACY
Region: 5
Status: Case Closed
Case Number: 390525
Case Type: Drinking Water Aquifer affected
Substance: GASOLINE
Staff Initials: JLB
Lead Agency: Local
Program: LUST
MTBE Code: N/A

LUST:
Name: HALEY FLYING SERVICES
Address: 21000 PARADISE RD
City,State,Zip: TRACY, CA 95376
Lead Agency: SAN JOAQUIN COUNTY
Case Type: LUST Cleanup Site
Geo Track: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607700410
Global Id: T0607700410
Latitude: 37.7686979
Longitude: -121.3862542
Status: Completed - Case Closed
Status Date: 10/16/1998
Case Worker: Not reported
RB Case Number: 390525
Local Agency: Not reported
File Location: Not reported
Local Case Number: 1992
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: Gasoline
Site History: Not reported

LUST:
Global Id: T0607700410
Contact Type: Regional Board Caseworker

HALEY FLYING SERVICE (Continued) **1000226059**

Contact Name: Alan Buehler
Organization Name: CENTRAL VALLEY RWQCB (REGION 5S)
Address: 11020 SUN CENTER DRIVE #200
City: RANCHO CORDOVA
Email: alan.buehler@waterboards.ca.gov
Phone Number: Not reported

LUST:
Global Id: T0607700410
Action Type: Other
Date: 06/26/1990
Action: Leak Reported

Global Id: T0607700410
Action Type: Other
Date: 06/26/1990
Action: Leak Discovery

LUST:
Global Id: T0607700410
Status: Open - Case Begin Date
Status Date: 06/26/1990

Global Id: T0607700410
Status: Open - Site Assessment
Status Date: 06/26/1990

Global Id: T0607700410
Status: Completed - Case Closed
Status Date: 10/16/1998

VCP:
Name: HALEY FLYING SERVICE
Address: 21000 S PARADISE RD
City,State,Zip: TRACY, CA 95304
Facility ID: 39070037
Site Type: Voluntary Cleanup
Site Type Detail: Voluntary Cleanup
Site Mgmt. Req.: NONE SPECIFIED
Acres: 10
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Leona Winner
Supervisor: Steven Becker
Division Branch: Cleanup San Joaquin
Site Code: 101755
Assembly: 13
Senate: 05
Special Programs Code: Voluntary Cleanup Program
Status: Inactive - Needs Evaluation
Status Date: 10/04/2018
Restricted Use: NO
Funding: Responsible Party

HALEY FLYING SERVICE (Continued) **1000226059**

Lat/Long:	37.76200 / -121.3899
APN:	213-060-13, 21306013
Past Use:	AIRFIELD OPERATIONS
Potential COC:	10076, 10077, 10097, 10099, 20005
Confirmed COC:	NONE SPECIFIED
Potential Description:	AQUI, SOIL
Alias Name:	AERONAUTICS (HALEY FLYING SERVICE DIV)
Alias Type:	Alternate Name
Alias Name:	PARADISE AIRSTRIP
Alias Type:	Alternate Name
Alias Name:	213-060-13
Alias Type:	APN
Alias Name:	21306013
Alias Type:	APN
Alias Name:	110002646192
Alias Type:	EPA (FRS #)
Alias Name:	101755
Alias Type:	Project Code (Site Code)
Alias Name:	39070037
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Letter - Demand
Completed Date:	05/17/2017
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Triage Meeting
Completed Date:	08/25/2015
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	De-Certification
Completed Date:	06/30/1995
Comments:	Site has been "decertified" and the previous cert is considered a removal action.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	03/17/1982
Comments:	FACILITY IDENTIFIED DMI LIST

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	01/01/1982
Comments:	CERTIFICATION. An unspecified amount of hazardous waste was removed. Month and day information was not available. This date was selected because it gives the earliest statute of limitations.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening

HALEY FLYING SERVICE (Continued) **1000226059**

Completed Date: 06/30/1995
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 02/23/1988
Comments: PRELIMINARY ASSESSMENT DONE. DEPARTMENT OF HEALTH SERVICES SI; GATHER & ANALYZE FURTHER DATA ON SUMPS AND SOIL CONTAMINATION.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 02/19/1987
Comments: SITE SCREENING DONE. NO CLEANUP DOCUMENTED.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 08/15/2005
Comments: Work plan approved for soil and groundwater grab sampling of this former crop dusting site. Analytical methods include organochlorinated and organophosphorus herbicides and pesticides. Sampling tentatively scheduled for 8/24/2005.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/09/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien Satisfaction
Completed Date: 08/14/2017
Comments: Payment has been made and lien has been released.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/11/2005
Comments: VOLUNTARY CLEANUP AGREEMENT TO CONDUCT A PRELIMINARY ENDANGERMENT ASSESSMENT SIGNED 5/11/05

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Lien
Completed Date: 07/20/2012
Comments: Lien document was recorded on July 5, 2012. DTSC received a copy on July 20, 2012.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported

HALEY FLYING SERVICE (Continued) **1000226059**

Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SWEEPS UST:
Name: HALEY'S FLYING SERVICE
Address: 21000 PARADISE RD
City: TRACY
Status: Not reported
Comp Number: 1992
Number: Not reported
Board Of Equalization: 44-024956
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 39-000-001992-000001
Tank Status: Not reported
Capacity: 1000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: LEADED
Number Of Tanks: 2

Name: HALEY'S FLYING SERVICE
Address: 21000 PARADISE RD
City: TRACY
Status: Not reported
Comp Number: 1992
Number: Not reported
Board Of Equalization: 44-024956
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 39-000-001992-000002
Tank Status: Not reported
Capacity: 5000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: AVIA. GAS
Number Of Tanks: Not reported

HIST UST:
Name: HALEY FLYING SERVICE INC
Address: 21000 PARADISE RD
City,State,Zip: TRACY, CA 93576
File Number: 0002FCEE
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002FCEE.pdf
Region: STATE
Facility ID: 00000002309
Facility Type: Other
Other Type: CROP DUSTING
Contact Name: Not reported

HALEY FLYING SERVICE (Continued) **1000226059**

Telephone: 2098354983
Owner Name: HALEY FLYING SERVICE INC
Owner Address: 21000 PARADISE RD
Owner City,St,Zip: TRACY, CA 95376
Total Tanks: 0002

Tank Num: 001
Container Num: 1
Year Installed: Not reported
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Pressure Test

Tank Num: 001
Container Num: 1
Year Installed: Not reported
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: Not reported
Leak Detection: Pressure Test

Tank Num: 002
Container Num: 1
Year Installed: 1973
Tank Capacity: 00002000
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 6
Leak Detection: Visual

Tank Num: 002
Container Num: 1
Year Installed: 1973
Tank Capacity: 00002000
Tank Used for: WASTE
Type of Fuel: Not reported
Container Construction Thickness: 6
Leak Detection: Visual

Click here for Geo Tracker PDF:

CA FID UST:
Facility ID: 39000424
Regulated By: UTNKI
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: Not reported
Mail To: Not reported
Mailing Address: 21000 PARADISE RD
Mailing Address 2: Not reported
Mailing City,St,Zip: TRACY 95376
Contact: Not reported
Contact Phone: Not reported

HALEY FLYING SERVICE (Continued) **1000226059**

DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

LIENS:

Name: HALEY FLYING SERVICE
City,State,Zip: TRACY, CA 95304
Envirostor Id: 39070037
Latitude: 37.762008
Longitude: -121.38996
Project Mgr: LEONA WINNER
Project Code: 101755
If Satisfied: YES
Date Satisfied: 8/14/2017
Site Status: INACTIVE - NEEDS EVALUATION
Site Type: VOLUNTARY CLEANUP
Completed: 07/20/2012
Lien Amount: $13,952.48
Amount Remaining: Not reported
APNS: 213-060-13, 21306013
Description: The site is a former aerial agricultural chemical application operation. Herbicides and pesticides were applied to local agricultural fields and the spray tanks of the airplanes were rinsed at the site. The tank rinse water was pumped into a concrete-lined washout pit. Next to the washout pit is a loading dock where bulk chemicals were stored and loaded into the aircraft. Spills from the loading operations and tank rinsing is believed to have caused the soil contamination at the site. The site had unpaid invoices and a lien was placed on the property. The lien was satisfies and the lien was released on August 14, 2017.

FINDS:

Registry ID: 110002646192

Environmental Interest/Information System

California Department of Toxic Substances Control EnviroStor System (DTSC-EnviroStor) is an online search and Geographic Information System (GIS) tool for identifying sites that have known contamination or sites for which there may be reasons to investigate further. The EnviroStor database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

HALEY FLYING SERVICE (Continued) **1000226059**

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
- Envid: 1000226059
- Registry ID: 110002646192
- DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002646192

HIST CORTESE:
- edr_fname: HALEY FLYING SERVICES
- edr_fadd1: 21000 PARADISE
- City,State,Zip: TRACY, CA 95376
- Region: CORTESE
- Facility County Code: 39
- Reg By: LTNKA
- Reg Id: 390525

- edr_fname: HALEY FLYING SERVICE
- edr_fadd1: 21000 PARADISE
- City,State,Zip: TRACY, CA 95376
- Region: CORTESE
- Facility County Code: 39
- Reg By: CALSI
- Reg Id: 39070037

CERS:
- Name: HALEY FLYING SERVICES
- Address: 21000 PARADISE RD
- City,State,Zip: TRACY, CA 95376
- Site ID: 209173
- CERS ID: T0607700410
- CERS Description: Leaking Underground Storage Tank Cleanup Site

Affiliation:
- Affiliation Type Desc: Regional Board Caseworker
- Entity Name: Alan Buehler - CENTRAL VALLEY RWQCB (REGION 5S)
- Entity Title: Not reported
- Affiliation Address: 11020 SUN CENTER DRIVE #200
- Affiliation City: RANCHO CORDOVA
- Affiliation State: CA
- Affiliation Country: Not reported
- Affiliation Zip: Not reported
- Affiliation Phone: Not reported

A6 **HALEY FLYING SERVICE INC.** **HIST UST** **U001587193**
Target **21000 PARADISE RD** **N/A**
Property **TRACY, CA 93576**

Site 6 of 8 in cluster A

Actual: **31 ft.**

HIST UST:
- Name: HALEY FLYING SERVICE INC.
- Address: 21000 PARADISE RD
- City,State,Zip: TRACY, CA 93576
- File Number: Not reported

HALEY FLYING SERVICE INC. (Continued) **U001587193**

URL:	Not reported
Region:	STATE
Facility ID:	00000016270
Facility Type:	Other
Other Type:	CROPDUSTING
Contact Name:	Not reported
Telephone:	2098354983
Owner Name:	HALEY FLYING SERVICE INC.
Owner Address:	21000 PARADISE RD
Owner City,St,Zip:	TRACY, CA 95376
Total Tanks:	0001
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00005000
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	Not reported
Leak Detection:	Pressure Test

A7 Target Property **HALEY FLYING SERVICE, INC.** **WMUDS/SWAT** **S103442211 N/A**

, CA

Site 7 of 8 in cluster A

Actual: 31 ft.

WMUDS/SWAT:

Edit Date:	Not reported
Complexity:	Not reported
Primary Waste:	WSHWTR
Primary Waste Type:	Designated/Influent or Solid Wastes that pose a significant threat to water quality because of their high concentrations (E.G., BOD, Hardness, TRF, Chloride). 'Manageable' hazardous wastes (E.G., inorganic salts and heavy metals) are included in this category.
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Base Meridian:	Not reported
NPID:	Not reported
Tonnage:	0
Regional Board ID:	Not reported
Municipal Solid Waste:	False
Superorder:	False
Open To Public:	False
Waste List:	False
Agency Type:	Private
Agency Name:	HALEY FLYING SERVICE, INC.
Agency Department:	Not reported
Agency Address:	PO BOX 1049
Agency City,St,Zip:	TRACY CA 95376
Agency Contact:	GARY DEL CARLO
Agency Telephone:	2098360213
Land Owner Name:	Not reported
Land Owner Address:	Not reported
Land Owner City,St,Zip:	Not reported
Land Owner Contact:	Not reported
Land Owner Phone:	Not reported
Region:	5S

HALEY FLYING SERVICE, INC. (Continued) **S103442211**

Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Description:	Not reported
Facility Telephone:	Not reported
SWAT Facility Name:	Not reported
Primary SIC:	0721
Secondary SIC:	Not reported
Comments:	Not reported
Last Facility Editors:	Not reported
Waste Discharge System:	True
Solid Waste Assessment Test Program:	False
Toxic Pits Cleanup Act Program:	False
Resource Conservation Recovery Act:	False
Department of Defence:	False
Solid Waste Assessment Test Program:	Not reported
Threat to Water Quality:	Not reported
Sub Chapter 15:	True
Regional Board Project Officer:	CMH
Number of WMUDS at Facility:	1
Section Range:	Not reported
RCRA Facility:	Not reported
Waste Discharge Requirements:	A
Self-Monitoring Rept. Frequency:	No Reporting Requirements
Waste Discharge System ID:	5B392045N01
Solid Waste Information ID:	Not reported

A8 **HALEY FLYING SERVICE** **CPS-SLIC** **S119777477**
Target **2395 E PESCADERO AVE (FORMERLY 21000 PARADISE RD)** **CERS** **N/A**
Property **TRACY, CA 95304**

Site 8 of 8 in cluster A

Actual:
31 ft.

CPS-SLIC:

Name:	HALEY FLYING SERVICE
Address:	2395 E PESCADERO AVE (FORMERLY 21000 PARADISE RD)
City,State,Zip:	TRACY, CA 95304-8500
Region:	STATE
Facility Status:	**Open - Inactive**
Status Date:	11/01/2006
Global Id:	SL0607752832
Lead Agency:	CENTRAL VALLEY RWQCB (REGION 5S)
Lead Agency Case Number:	Not reported
Latitude:	37.7619627260891
Longitude:	-121.389914431244
Case Type:	Cleanup Program Site
Case Worker:	ZZZ
Local Agency:	Not reported
RB Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affected:	Soil
Potential Contaminants of Concern:	* Pesticides/Herbicides
Site History:	Issues with this site seem to stem from a sump (pictured in file) and the site's system of evaporation. The disposal system seems to work ok but does not comply with Subchapter 15.

HALEY FLYING SERVICE (Continued) **S119777477**

Click here to access the California GeoTracker records for this facility:

CERS:

Name:	HALEY FLYING SERVICE
Address:	2395 E PESCADERO AVE (FORMERLY 21000 PARADISE RD)
City,State,Zip:	TRACY, CA 95304-8500
Site ID:	220280
CERS ID:	SL0607752832
CERS Description:	Cleanup Program Site

Affiliation:

Affiliation Type Desc:	Regional Board Caseworker
Entity Name:	zzz - CENTRAL VALLEY RWQCB (REGION 5S)
Entity Title:	Not reported
Affiliation Address:	11020 SUN CENTER DRIVE #200
Affiliation City:	RANCHO CORDOVA
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

Count: 5 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
TRACY	S100833238	TRACY D.D.- CENT.	5600 SOUTH CHRISMAN ROAD	95376	CA BOND EXP. PLAN
TRACY	S100833237	DEFENSE DEPOT, TRACY - SOIL REMOVA	5600 SOUTH CHRISMAN ROAD	95376	HIST Cal-Sites, CA BOND EXP. PLAN
TRACY	S106707864	CHEVERON PIPELINE- GRANT LINE	GRANT LINE RD, W		CPS-SLIC
TRACY	S107539433		MOSSDALE RD & PARADISE CUT, S		CDL
TRACY	S124440530	KATERRA TRACY FACILITY	2302 EAST PARADISE ROAD	95304	CERS HAZ WASTE, CIWQS, CERS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 10
Telephone 206-553-8665

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: N/A
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/04/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/13/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 14

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 08/12/2019
Date Data Arrived at EDR: 08/13/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 57

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 11/12/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing

For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22
Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27
Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 79
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/12/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 07/02/2019
Date Data Arrived at EDR: 10/16/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 8

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/16/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/02/2019
Date Data Arrived at EDR: 10/22/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 20

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 08/27/2019
Date Data Arrived at EDR: 08/28/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 75
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases

UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 09/06/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

UST: Active UST Facilities

Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities

A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/02/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/16/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 79

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 79

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/02/2019
Date Data Arrived at EDR: 10/22/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 20

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/08/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/12/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 09/23/2019
Date Data Arrived at EDR: 09/24/2019
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 43

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/03/2019
Date Data Arrived at EDR: 06/04/2019
Date Made Active in Reports: 08/26/2019
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 59

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/30/2019
Number of Days to Update: 34

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 11/01/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/29/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/24/2019
Number of Days to Update: 70

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/22/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 06/11/2019
Date Data Arrived at EDR: 06/13/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 82

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 57

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/11/2019
Number of Days to Update: 70

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/22/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 08/29/2019
Date Data Arrived at EDR: 08/30/2019
Date Made Active in Reports: 10/29/2019
Number of Days to Update: 60

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/30/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 09/03/2019
Date Data Arrived at EDR: 09/04/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 62

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 05/15/2019
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 58

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 57

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 57

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 113

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 05/15/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 79

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/23/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/07/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/11/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/24/2019
Date Data Arrived at EDR: 06/26/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 89
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73
Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 11/08/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198
Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/23/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 09/30/2018
Date Data Arrived at EDR: 04/24/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 106

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/23/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019
Date Data Arrived at EDR: 05/02/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/21/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 09/05/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 18

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2019
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 34

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 10/07/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 06/20/2019
Date Data Arrived at EDR: 06/20/2019
Date Made Active in Reports: 08/08/2019
Number of Days to Update: 49

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 11/06/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 09/03/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/06/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 11/12/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 85

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 78

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/06/2019
Next Scheduled EDR Contact: 01/19/2020
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/21/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 82

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/15/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/27/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 76

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/27/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 06/06/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 140
Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49
Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97
Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 37
Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/10/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/03/2019
Date Data Arrived at EDR: 06/05/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 90
Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/17/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 74
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/10/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 07/06/2019
Date Data Arrived at EDR: 07/09/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 85

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/08/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 07/26/2018
Date Made Active in Reports: 10/05/2018
Number of Days to Update: 71

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 83

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List

The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 09/23/2019
Date Data Arrived at EDR: 09/24/2019
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 43

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/24/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 68

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing

list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64

Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 09/27/2019
Date Data Arrived at EDR: 10/01/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 37

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/28/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 55

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 08/28/2019
Date Data Arrived at EDR: 08/30/2019
Date Made Active in Reports: 10/29/2019
Number of Days to Update: 60

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/24/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 59

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/18/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/22/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 66

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/30/2019
Next Scheduled EDR Contact: 02/02/2020
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 69

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 08/16/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 05/29/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 54

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 08/19/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/02/2019
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 10/07/2019
Date Data Arrived at EDR: 10/08/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 30

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/08/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 57
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 09/04/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 62
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 08/12/2019
Date Data Arrived at EDR: 08/13/2019
Date Made Active in Reports: 10/16/2019
Number of Days to Update: 64
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 11/12/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 09/03/2019
Date Data Arrived at EDR: 09/04/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 62
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 57
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 09/16/2019
Date Data Arrived at EDR: 09/18/2019
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 49
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 11/18/2019
Number of Days to Update: 90
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 08/20/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 05/08/2018
Date Data Arrived at EDR: 07/11/2018
Date Made Active in Reports: 09/13/2018
Number of Days to Update: 64
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/11/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing

In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 58

Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 09/03/2019
Date Data Arrived at EDR: 09/04/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 62

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 08/21/2019
Number of Days to Update: 7

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/22/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 09/09/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/01/2019
Number of Days to Update: 53

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Varies

MINES MRDS: Mineral Resources Data System
Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/30/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 10/02/2019
Date Data Arrived at EDR: 10/03/2019
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 34

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 09/06/2019
Date Data Arrived at EDR: 09/10/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 51

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 08/05/2019
Date Data Arrived at EDR: 08/07/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 63

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/23/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 08/20/2019
Date Data Arrived at EDR: 08/23/2019
Date Made Active in Reports: 10/22/2019
Number of Days to Update: 60

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 07/30/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 68

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 09/06/2019
Date Data Arrived at EDR: 09/12/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 49

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 07/11/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/08/2019
Date Data Arrived at EDR: 07/10/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 72

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 10/30/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

INYO COUNTY:

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

KERN COUNTY:

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/06/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 63

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 08/16/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/15/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/22/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 09/12/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 09/26/2019
Date Data Arrived at EDR: 10/04/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 34

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/17/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 71

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/16/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 01/15/2019
Date Made Active in Reports: 03/07/2019
Number of Days to Update: 51

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/27/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LOS ANGELES CO LF METHANE: Methane Producing Landfills
This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 04/30/2012
Date Data Arrived at EDR: 04/17/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 42
Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/18/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory
A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/27/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory
A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58
Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/27/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 07/15/2019
Date Data Arrived at EDR: 07/17/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 19
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 06/27/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/22/2019
Date Data Arrived at EDR: 08/26/2019
Date Made Active in Reports: 10/29/2019
Number of Days to Update: 64

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/29/2019
Date Data Arrived at EDR: 05/30/2019
Date Made Active in Reports: 07/22/2019
Number of Days to Update: 53

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

MONO COUNTY:

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 08/21/2019
Date Data Arrived at EDR: 09/03/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 58

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 07/25/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 62

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 09/30/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/23/2019
Date Data Arrived at EDR: 07/30/2019
Date Made Active in Reports: 10/02/2019
Number of Days to Update: 64

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 08/07/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 63
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 08/09/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 61
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 08/06/2019
Date Made Active in Reports: 10/09/2019
Number of Days to Update: 64
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 11/05/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/03/2019
Date Data Arrived at EDR: 09/05/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 61
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/20/2019
Number of Days to Update: 71
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Quarterly

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 07/10/2019
Date Data Arrived at EDR: 07/11/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 74
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/16/2019
Next Scheduled EDR Contact: 12/30/2019
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 08/06/2019
Date Data Arrived at EDR: 10/01/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 37
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/01/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/07/2019
Date Data Arrived at EDR: 10/01/2019
Date Made Active in Reports: 11/08/2019
Number of Days to Update: 38
Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/01/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 07/16/2019
Date Data Arrived at EDR: 07/16/2019
Date Made Active in Reports: 09/24/2019
Number of Days to Update: 70
Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 08/29/2019
Date Data Arrived at EDR: 08/30/2019
Date Made Active in Reports: 10/29/2019
Number of Days to Update: 60
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 09/03/2019
Date Data Arrived at EDR: 09/04/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 62

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 09/04/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 06/19/2018
Number of Days to Update: 56

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/16/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 69

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/01/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 67

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/11/2019
Next Scheduled EDR Contact: 12/29/2019
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 09/03/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 11/05/2019
Number of Days to Update: 57

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/05/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/14/2019
Date Data Arrived at EDR: 08/20/2019
Date Made Active in Reports: 10/18/2019
Number of Days to Update: 59

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/21/2019
Next Scheduled EDR Contact: 12/09/2019
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 07/30/2019
Date Data Arrived at EDR: 08/02/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 67

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 10/31/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 08/28/2019
Date Data Arrived at EDR: 08/30/2019
Date Made Active in Reports: 10/29/2019
Number of Days to Update: 60

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 06/18/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 07/24/2019
Number of Days to Update: 29

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 10/01/2019
Date Data Arrived at EDR: 10/02/2019
Date Made Active in Reports: 11/07/2019
Number of Days to Update: 36

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/19/2019
Next Scheduled EDR Contact: 01/06/2020
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 07/18/2019
Date Data Arrived at EDR: 07/18/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 70

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/28/2019
Next Scheduled EDR Contact: 01/27/2020
Data Release Frequency: Varies

SUTTER COUNTY:

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 08/29/2019
Date Data Arrived at EDR: 09/03/2019
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 64

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/28/2019
Next Scheduled EDR Contact: 12/16/2019
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 05/20/2019
Date Data Arrived at EDR: 05/21/2019
Date Made Active in Reports: 07/18/2019
Number of Days to Update: 58

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/19/2019
Date Data Arrived at EDR: 07/23/2019
Date Made Active in Reports: 09/26/2019
Number of Days to Update: 65

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 08/12/2019
Date Data Arrived at EDR: 08/14/2019
Date Made Active in Reports: 10/17/2019
Number of Days to Update: 64

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 11/04/2019
Next Scheduled EDR Contact: 02/17/2020
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/17/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Varies

VENTURA COUNTY:

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 05/29/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 63

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/21/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 11/07/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/29/2019
Date Data Arrived at EDR: 07/29/2019
Date Made Active in Reports: 09/30/2019
Number of Days to Update: 63

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/21/2019
Next Scheduled EDR Contact: 02/03/2020
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 07/26/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/09/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 09/25/2019
Date Data Arrived at EDR: 10/01/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 30

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/25/2019
Next Scheduled EDR Contact: 01/13/2020
Data Release Frequency: Annually

YUBA COUNTY:

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/26/2019
Date Data Arrived at EDR: 07/31/2019
Date Made Active in Reports: 10/08/2019
Number of Days to Update: 69

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/25/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 05/14/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 08/05/2019
Number of Days to Update: 83

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/11/2019
Next Scheduled EDR Contact: 02/24/2020
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/02/2019
Next Scheduled EDR Contact: 01/20/2020
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/29/2019
Next Scheduled EDR Contact: 02/10/2020
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/09/2019
Next Scheduled EDR Contact: 12/07/2020
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/14/2019
Next Scheduled EDR Contact: 03/02/2020
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/06/2019
Next Scheduled EDR Contact: 12/23/2019
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

FORMER HALEYS FLYING SERVICE PROPERTY
21000 PARADISE ROAD
TRACY, CA 95304

TARGET PROPERTY COORDINATES

Latitude (North):	37.761929 - 37° 45' 42.94''
Longitude (West):	121.392884 - 121° 23' 34.38''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	641563.6
UTM Y (Meters):	4180412.0
Elevation:	31 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5640094 UNION ISLAND, CA
Version Date:	2012
Northeast Map:	5640064 LATHROP, CA
Version Date:	2012
Southeast Map:	5640096 VERNALIS, CA
Version Date:	2012
Southwest Map:	5640426 TRACY, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

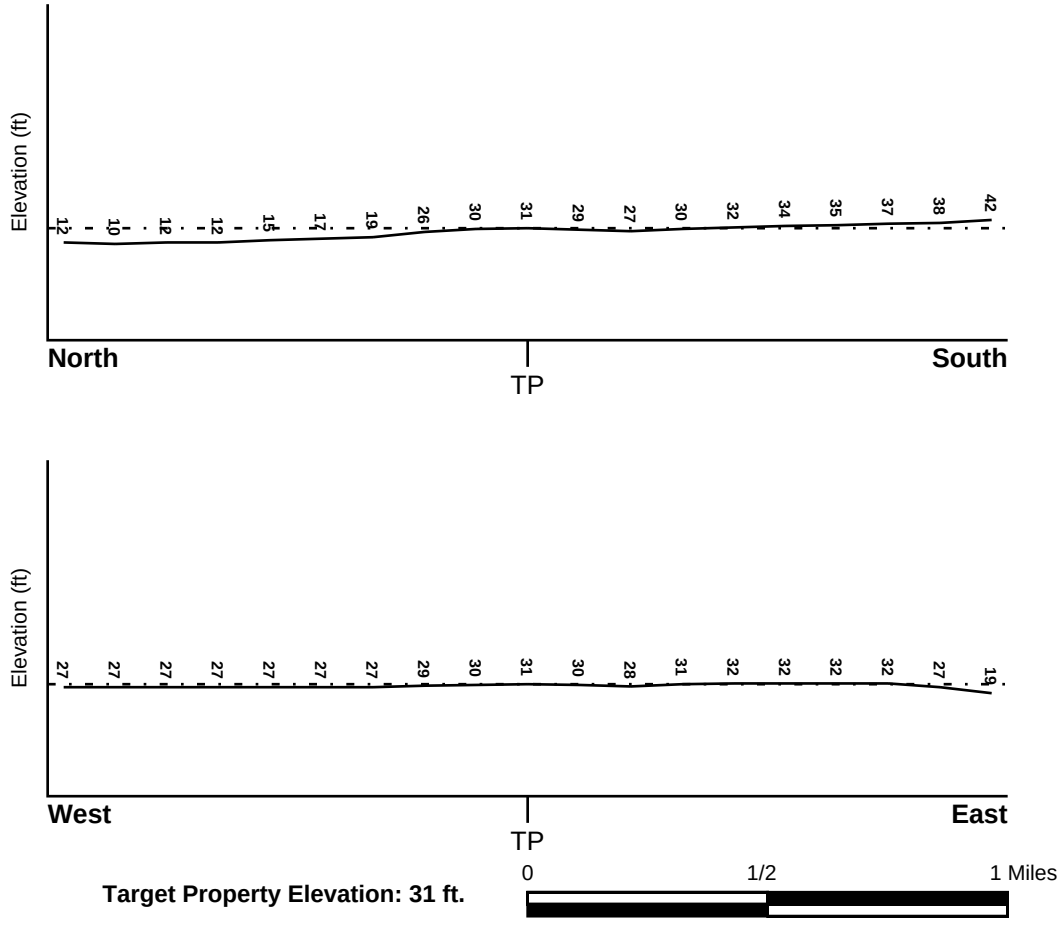
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General North

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Target Property Elevation: 31 ft.

Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06077C0595F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06077C0615F	FEMA FIRM Flood data
0603030005A	FEMA Q3 Flood data
0602990570B	FEMA Q3 Flood data
0602990710A	FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
UNION ISLAND	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

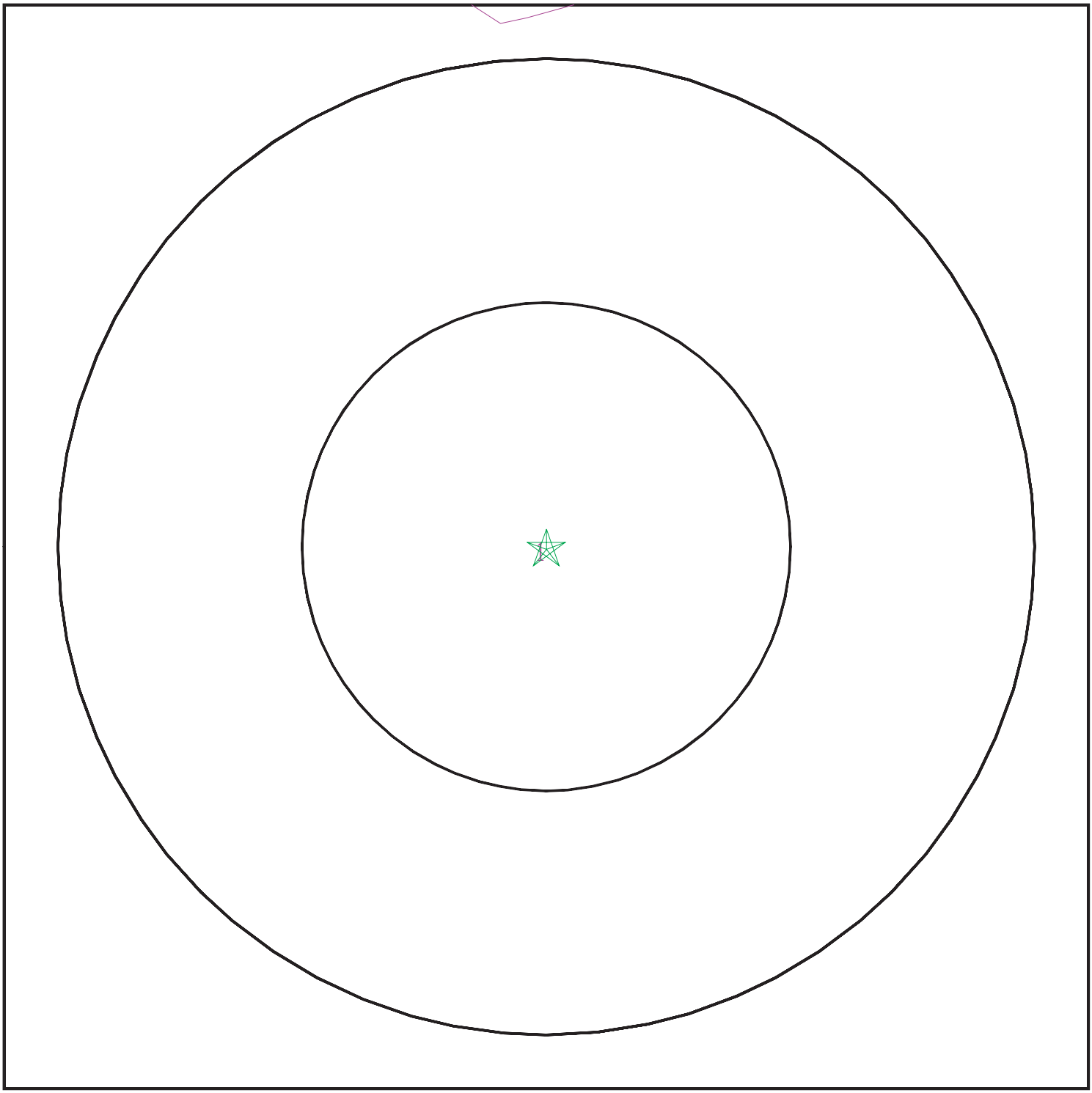
Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5874534.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Former Haleys Flying Service Property	CLIENT:	Brusca Associates, Inc.
ADDRESS:	21000 Paradise Road Tracy CA 95304	CONTACT:	Joe Brusca
LAT/LONG:	37.761929 / 121.392884	INQUIRY #:	5874534.2s
		DATE:	November 19, 2019 10:55 am

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Capay

Soil Surface Texture: clay

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	20 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6
2	20 inches	59 inches	clay	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit 50% or more), Fat Clay.	Max: 1.4 Min: 0.42	Max: 8.4 Min: 6.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	USGS40000185434	1/8 - 1/4 Mile East
2	USGS40000185383	1/2 - 1 Mile SSE
A3	USGS40000185485	1/2 - 1 Mile NW
A4	USGS40000185484	1/2 - 1 Mile NW
A5	USGS40000185491	1/2 - 1 Mile NW
B7	USGS40000185386	1/2 - 1 Mile ESE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
B6	CADWR8000036282	1/2 - 1 Mile ESE

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

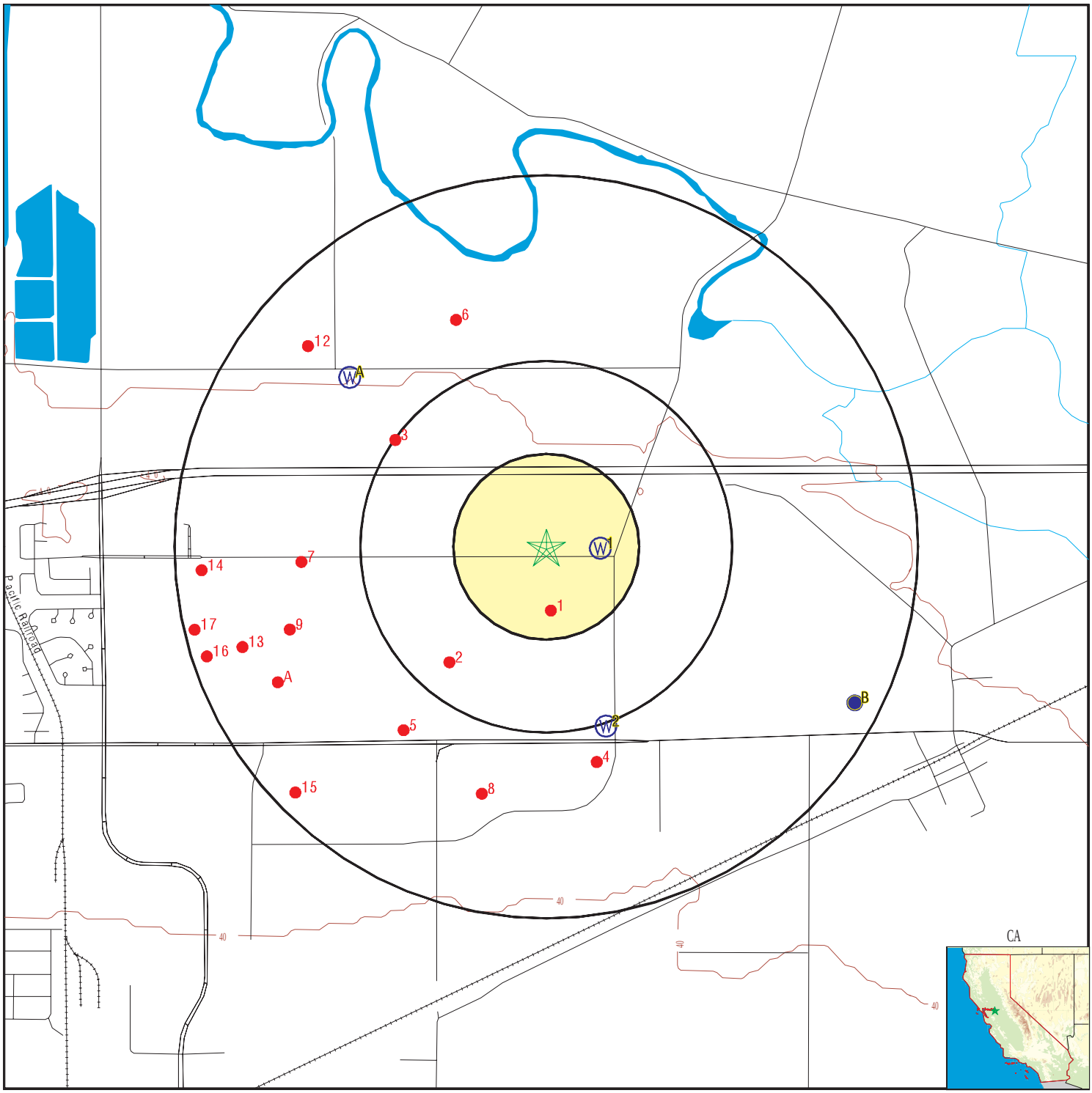
MAP ID	WELL ID	LOCATION FROM TP
1	CAOG13000221044	1/8 - 1/4 Mile South
2	CAOG13000221056	1/4 - 1/2 Mile SW
3	CAOG13000221035	1/4 - 1/2 Mile NW
4	CAOG13000221029	1/2 - 1 Mile SSE
5	CAOG13000221045	1/2 - 1 Mile SW
6	CAOG13000008189	1/2 - 1 Mile NNW
7	CAOG13000221037	1/2 - 1 Mile West
8	CAOG13000221052	1/2 - 1 Mile SSW
9	CAOG13000221047	1/2 - 1 Mile WSW
A10	CAOG13000221050	1/2 - 1 Mile WSW
A11	CAOG13000221033	1/2 - 1 Mile WSW
12	CAOG13000221042	1/2 - 1 Mile NW
13	CAOG13000221049	1/2 - 1 Mile WSW
14	CAOG13000221030	1/2 - 1 Mile West

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
15	CAOG13000221051	1/2 - 1 Mile SW
16	CAOG13000221039	1/2 - 1 Mile WSW
17	CAOG13000221046	1/2 - 1 Mile WSW

PHYSICAL SETTING SOURCE MAP - 5874534.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Former Haleys Flying Service Property	CLIENT:	Brusca Associates, Inc.
ADDRESS:	21000 Paradise Road Tracy CA 95304	CONTACT:	Joe Brusca
		INQUIRY #:	5874534.2s
LAT/LONG:	37.761929 / 121.392884	DATE:	November 19, 2019 10:55 am

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

1
East **FED USGS** **USGS40000185434**
1/8 - 1/4 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	002S005E14F001M	Type:	Well
Description:	Not Reported	HUC:	18040003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19550320	Well Depth:	82
Well Depth Units:	ft	Well Hole Depth:	82
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1955-03-20
Feet below surface:	13.00	Feet to sea level:	Not Reported
Note:	Not Reported		

2
SSE **FED USGS** **USGS40000185383**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	002S005E14P001M	Type:	Well
Description:	Not Reported	HUC:	18040003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Alluvium Above E-Clay	Aquifer Type:	Not Reported
Construction Date:	19540101	Well Depth:	100
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-05-01
Feet below surface:	12.00	Feet to sea level:	Not Reported
Note:	Not Reported		

A3
NW **FED USGS** **USGS40000185485**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	002S005E10R003M	Type:	Well
Description:	Not Reported	HUC:	18040003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19751010	Well Depth:	96

Well Depth Units:	ft	Well Hole Depth:	111
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1975-10-10
Feet below surface:	12.00	Feet to sea level:	Not Reported
Note:	Not Reported		

A4
NW
1/2 - 1 Mile
Lower

FED USGS **USGS40000185484**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	002S005E10R002M	Type:	Well
Description:	Not Reported	HUC:	18040003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Alluvium Above E-Clay	Aquifer Type:	Not Reported
Construction Date:	19650101	Well Depth:	102
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1967-05-01
Feet below surface:	10.00	Feet to sea level:	Not Reported
Note:	Not Reported		

A5
NW
1/2 - 1 Mile
Lower

FED USGS **USGS40000185491**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	002S005E10R001M	Type:	Well
Description:	Not Reported	HUC:	18040003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Alluvium Above E-Clay	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	90
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

B6
ESE
1/2 - 1 Mile
Lower

CA WELLS **CADWR8000036282**

State Well #:	02S05E13N001M	Station ID:	3017
Well Name:	02S05E13N001	Well Use:	Residential
Well Type:	Single Well	Well Depth:	135
Basin Name:	Tracy	Well Completion Rpt #:	47193

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

B7
ESE
1/2 - 1 Mile
Lower

FED USGS **USGS40000185386**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	002S005E13N001M	Type:	Well
Description:	Not Reported	HUC:	18040003
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Central Valley aquifer system		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19690320	Well Depth:	115
Well Depth Units:	ft	Well Hole Depth:	135
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	1	Level reading date:	1969-03-20
Feet below surface:	11.00	Feet to sea level:	Not Reported
Note:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1
South **OIL_GAS** **CAOG13000221044**
1/8 - 1/4 Mile

API #:	0407720081	Well #:	1
Well Status:	Plugged	Well Type:	DH
Operator Name:	Oil Securities and Metals Corp.		
Lease Name:	Amerada-Ender	Field Name:	Tracy Gas (ABD)
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
SPUD Date:	04/04/1965		

2
SW **OIL_GAS** **CAOG13000221056**
1/4 - 1/2 Mile

API #:	0407700249	Well #:	1
Well Status:	Plugged	Well Type:	DH
Operator Name:	John M. Young	Lease Name:	Young No. Tracy
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	09/01/1964

3
NW **OIL_GAS** **CAOG13000221035**
1/4 - 1/2 Mile

API #:	0407720260	Well #:	1
Well Status:	Plugged	Well Type:	DH
Operator Name:	Lawrence Barker, Jr	Lease Name:	North Tracy
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	06/14/1975

4
SSE **OIL_GAS** **CAOG13000221029**
1/2 - 1 Mile

API #:	0407720553	Well #:	1-23
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Nahama & Weagant Energy Company		
Lease Name:	East Tracy	Field Name:	Tracy Gas (ABD)
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	Y
SPUD Date:	08/12/1991		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

5
SW
1/2 - 1 Mile

OIL_GAS **CAOG13000221045**

API #:	0407700238	Well #:	1
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Amerada Hess Corp.	Lease Name:	F.D.L.
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	04/17/1935

6
NNW
1/2 - 1 Mile

OIL_GAS **CAOG13000008189**

API #:	0407700343	Well #:	17-11
Well Status:	Plugged	Well Type:	DH
Operator Name:	Great Basins Petroleum Co.		
Lease Name:	Intex-Bettinzoli	Field Name:	Any Field
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
SPUD Date:	05/27/1960		

7
West
1/2 - 1 Mile

OIL_GAS **CAOG13000221037**

API #:	0407720403	Well #:	1
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Marathon Oil Company	Lease Name:	Bacchetti
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	08/28/1982

8
SSW
1/2 - 1 Mile

OIL_GAS **CAOG13000221052**

API #:	0407700245	Well #:	11-23
Well Status:	Plugged	Well Type:	DH
Operator Name:	Amerada Hess Corp.	Lease Name:	Tracy
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	11/10/1935

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

9
WSW
1/2 - 1 Mile

OIL_GAS **CAOG13000221047**

API #:	0407700240	Well #:	2
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Amerada Hess Corp.	Lease Name:	F.D.L.
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	07/18/1935

A10
WSW
1/2 - 1 Mile

OIL_GAS **CAOG13000221050**

API #:	0407700243	Well #:	1
Well Status:	Plugged	Well Type:	DH
Operator Name:	Amerada Hess Corp.	Lease Name:	Tracy Community 1
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	02/08/1964

A11
WSW
1/2 - 1 Mile

OIL_GAS **CAOG13000221033**

API #:	0407720295	Well #:	1
Well Status:	Plugged	Well Type:	DH
Operator Name:	Resources Investment Corp.		
Lease Name:	Tracy Community	Field Name:	Tracy Gas (ABD)
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
SPUD Date:	05/24/1977		

12
NW
1/2 - 1 Mile

OIL_GAS **CAOG13000221042**

API #:	0407720060	Well #:	2
Well Status:	Plugged	Well Type:	DH
Operator Name:	Amerada Hess Corp., Operator		
Lease Name:	Rossi-Stewart Unit	Field Name:	Tracy Gas (ABD)
Area Name:	Any Area	GIS Source:	hud
Confidential Well:	N	Directionally Drilled:	N
SPUD Date:	08/20/1968		

Map ID
Direction
Distance

Database EDR ID Number

13
WSW **OIL_GAS** **CAOG13000221049**
1/2 - 1 Mile

API #:	0407700242	Well #:	5
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Amerada Hess Corp.	Lease Name:	F.D.L.
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	GPS	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	02/21/1936

14
West **OIL_GAS** **CAOG13000221030**
1/2 - 1 Mile

API #:	0407720540	Well #:	3-15
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Nahama & Weagant Energy Company		
Lease Name:	Tracy	Field Name:	Tracy Gas (ABD)
Area Name:	Any Area	GIS Source:	GPS
Confidential Well:	N	Directionally Drilled:	N
SPUD Date:	12/22/1990		

15
SW **OIL_GAS** **CAOG13000221051**
1/2 - 1 Mile

API #:	0407700244	Well #:	31-22
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Amerada Hess Corp.	Lease Name:	Lease by Amerada Hess Corp.
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	09/24/1935

16
WSW **OIL_GAS** **CAOG13000221039**
1/2 - 1 Mile

API #:	0407720588	Well #:	1-15
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Tri-Valley Oil & Gas Co.	Lease Name:	Pimental
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	GPS	Confidential Well:	N
Directionally Drilled:	Y	SPUD Date:	01/13/1997

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

17
WSW
1/2 - 1 Mile

OIL_GAS **CAOG13000221046**

API #:	0407700239	Well #:	3
Well Status:	Plugged	Well Type:	GAS
Operator Name:	Amerada Hess Corp.	Lease Name:	F.D.L.
Field Name:	Tracy Gas (ABD)	Area Name:	Any Area
GIS Source:	hud	Confidential Well:	N
Directionally Drilled:	N	SPUD Date:	12/19/1935

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
95304	4	0

Federal EPA Radon Zone for SAN JOAQUIN County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SAN JOAQUIN COUNTY, CA

Number of sites tested: 20

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	2.530 pCi/L	90%	10%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	2.050 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX E – Additional Information

- Assessor’s Parcel Map

- Past Reports and Regulatory Agency Records

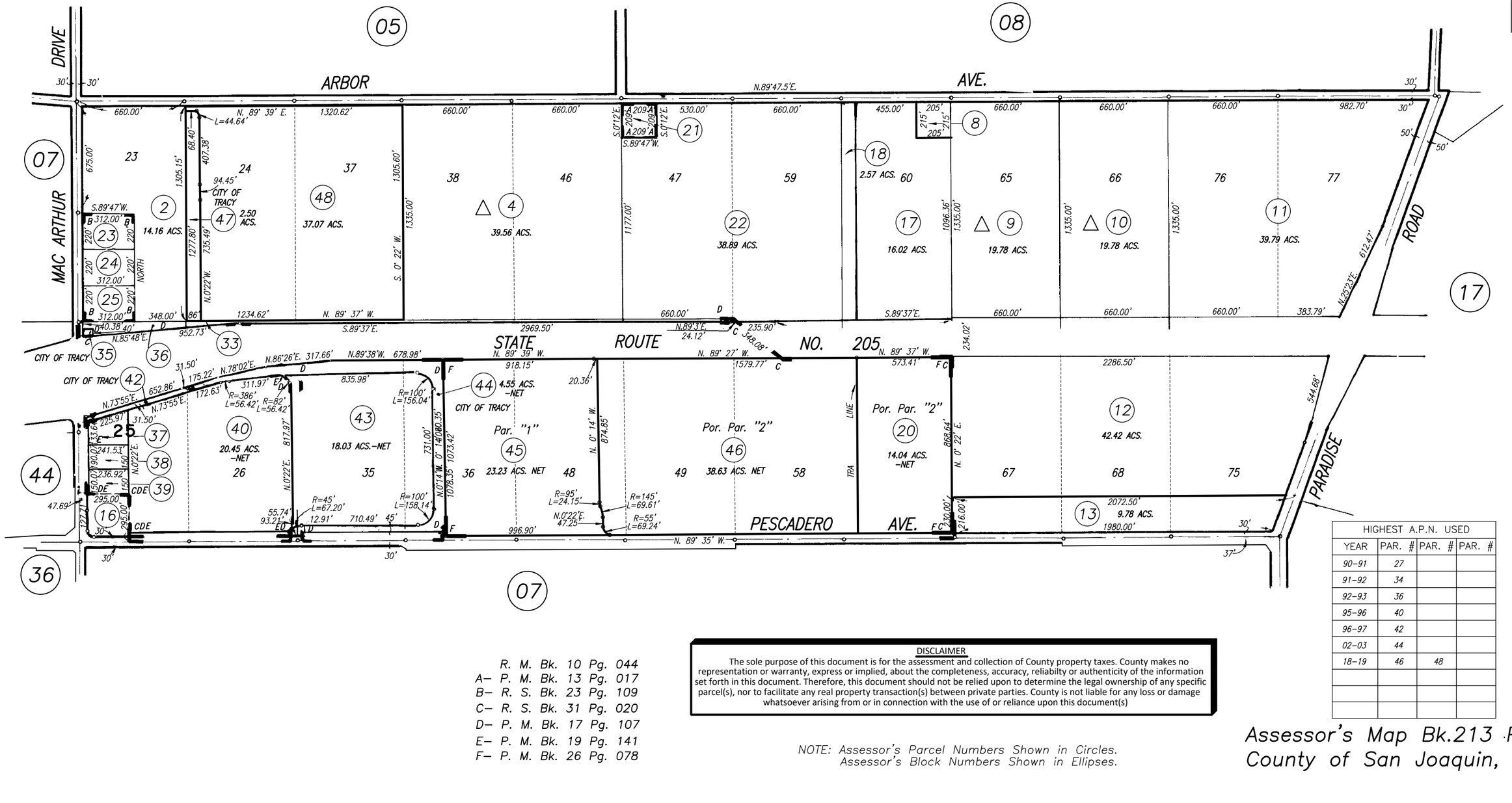
POR. PESCADERO COLONY, UNIT NO. 1

THIS MAP IS FOR ASSESSMENT USE ONLY

213–06

SAN JOAQUIN COUNTY CALIFORNIA ASSESSOR

1" = 600'


05
08
07
DRIVE
ARBOR
AVE.
MAC ARTHUR
ROAD
PARADISE
STATE ROUTE NO. 205
PESCADERO AVE.
CITY OF TRACY
Par. "1"
Por. Par. "2"
Por. Par. "2"
N. 89° 39' E.
N.89°47.5'E.
N. 89° 39' W.
N. 89° 37' W.
S.89°37'E.
N. 89° 27' W.
N. 89° 35' W.
S.89°47'W.
S.0°12'E.
S.89°47'W.
N.0°22'W.
S. 0° 22' W.
N. 0° 14' W.
N. 0° 22' E.
N.25°53'E.
N.89°3'E.
N.85°48'E.
N.86°26'E.
N.89°38'W.
N.78°02'E.
N.73°55'E.
N.73°55'E.
S.0°14'W.
N.0°22'E.
S.89°47'W.
N.0°22'E.
R=386'
L=56.42'
R=82'
L=56.42'
R=100'
L=156.04'
R=45'
L=67.20'
R=100'
L=158.14'
R=95'
L=24.15'
R=145'
L=69.61'
R=55'
L=69.24'
660.00'
1320.62'
530.00'
455.00'
982.70'
1305.15'
1305.60'
1335.00'
1177.00'
1096.36'
1277.80'
735.49'
407.38'
675.00'
68.40'
94.45'
CITY OF TRACY
L=44.64'
2.50 ACS.
14.16 ACS.
37.07 ACS.
39.56 ACS.
38.89 ACS.
2.57 ACS.
16.02 ACS.
19.78 ACS.
19.78 ACS.
39.79 ACS.
42.42 ACS.
4.55 ACS. -NET
20.45 ACS. -NET
18.03 ACS.-NET
23.23 ACS. NET
38.63 ACS. NET
14.04 ACS. -NET
9.78 ACS.
23
24
25
2
47
48
4
22
17
9
10
11
12
44
40
43
45
46
20
13
16
39
42
35
36
33
37
38
1234.62'
348.00'
952.73'
2969.50'
1579.77'
573.41'
2286.50'
2072.50'
1980.00'
383.79'
612.47'
544.88'
868.64'
731.00'
817.97'
1078.35'
1073.42'
874.85'
996.90'
710.49'
93.21'
55.74'
12.91'
47.25'
20.36'
234.02'
348.08'
235.90'
24.12'
216.00'
312.00'
220'
215'
205'
209'
209' A
209' A
209' A
1234.62'
1277.80'
735.49'
1335.00'
1096.36'
1177.00'
1305.15'
1305.60'
1335.00'
1335.00'
1335.00

SAN JOAQUIN COUNTY
Department of Agriculture
1868 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
P. O. BOX 1869 · PHONE 944-2493

LODI OFFICE
210 N. SACRAMENTO ST.

MANTECA OFFICE
392 S. MOFFATT BLVD.

TRACY OFFICE
503 E. 10TH STREET

ESCALON OFFICE
1540 ROOSEVELT ST.

ROBERT C. ROBERSON
AGRICULTURAL COMMISSIONER

March 27, 1974

Sargeant J. Green
California Regional Water
Quality Control Board
3201 S Street
Sacramento, CA 95816

Dear Mr. Green:

Your memorandum regarding the Haley Aircraft operation has been received and studied by us. Even though we agree that this is a deplorable condition, it is our opinion that there are no violations of the regulations which we have the authority to enforce. Consequently, we will not be able to take action in this case.

We will be quite willing to assist you and make available our expertise in any such matter, however, our enforcement capability is limited to the state Agricultural Code.

Please let us know when we can be of help.

Sincerely,

Robert C. Roberson, Jr.
Agricultural Commissioner

RCR:cz

MEMORANDUM

TO: James A. Robertson
FROM: Sargeant J. Green
SUBJECT: Haley Aircraft Investigation

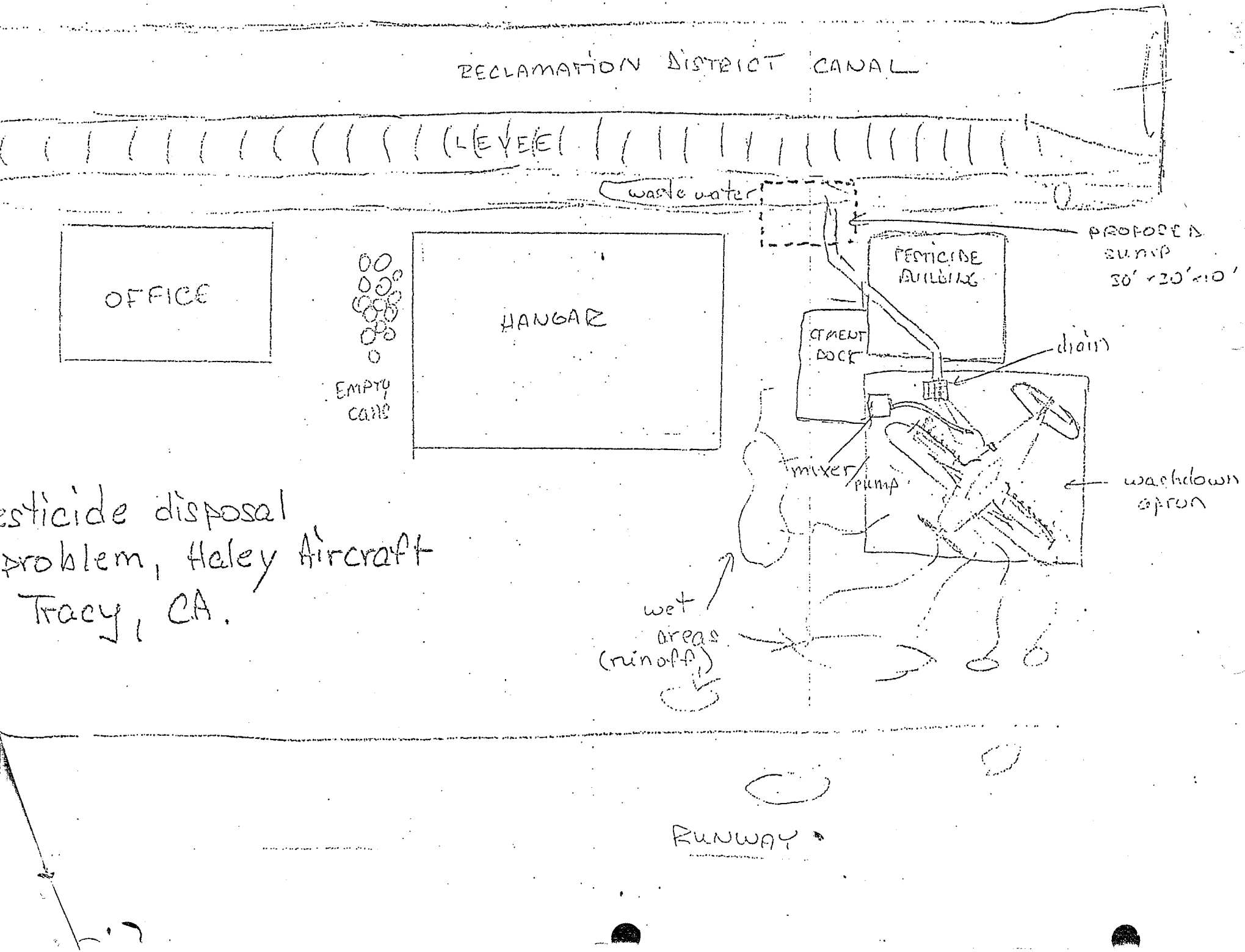
On 6 March 1974, I visited the Haley Airfield, Paradise Road, Tracy, at the request of Will DeVore, San Joaquin County Environmental Health Department. Haley Aircraft is a crop dusting operation that serves the Tracy & Delta area. The reason we visited the operation was to see what steps they were taking to prevent pesticide or herbicide spills from leaving the property by runoff or by washdown of the tanks on the aircraft. They apparently have management problems, including poor supervision and no collection or treatment system. The washings from the aircraft run off the apron pavement into a drain that empties into a ditch behind the buildings. No attempt is made to collect this drainage. This small ditch is parallel to a large reclamation district distribution canal. Mr. Steve Haley, one of the operators, explained future plans to contain this runoff and excess biocide problem. He has contacted a Mr. Norm Ackerman of U.C. Davis, who is developing a treatment/disposal system to collect and evaporate this waste. According to Mr. Haley, the plans did not contain provision to collect and dispose of rainfall runoff, which carries the biocides off the apron and surrounding areas to the aforementioned ditch. I told him that his plans should be modified to include provision for the runoff problem. This operation will need to be checked after the treatment system is built, to assure that all wastes are contained on the property.

How we know this and so what

22/March 1974
SJG:kim

cc: Will DeVore, San Joaquin Co. Environmental Health
Robert Roberson, San Joaquin Co. Agricultural Commissioner
Erwin Ebe, San Joaquin Co. Assistant Agricultural Commissioner
Haley Aircraft

esticide disposal
problem, Haley Aircraft
Tracy, CA.



Alan C. Lloyd, Ph.D.
Agency Secretary
Cal/EPA

Department of Toxic Substances Control

8800 Cal Center Drive
Sacramento, California 95826-3200

Arnold Schwarzenegger
Governor

May 16, 2005

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

VOLUNTARY CLEANUP AGREEMENT, HALEY'S FLYING SERVICE
APN-213-060-13; TRACY, CALIFORNIA

Dear Ms. Haley:

The Department of Toxic Substances Control (DTSC) has enclosed a fully executed copy of the Voluntary Cleanup Agreement (VCA) for the Haley's Flying Service on APN-213-060-13, Tracy, California 95304 (Site). Additionally, DTSC acknowledges receipt of check #14530 in the amount of fifteen thousand dollars ($15,000) from CRV Enterprises as advance payment for DTSC services in connection with the oversight of the completion of a Preliminary Endangerment Assessment (PEA) on the Site. Oversight costs in excess of the advance payment will be due and payable within (60) days of receipt of a bill from DTSC as specified in the VCA. The PEA work plan (including health and safety plan, Quality Assurance/Quality Control plan, and community profile) is due sixty (60) calendar days from the effective date of the VCA.

If you have any questions, please call Mr. Eric Wallberg, Project Manager for this VCA at (916) 255-3749.

Sincerely,

Steven R. Becker, P.G., Chief
Site Evaluation and Remediation Unit

Enclosure

cc: See next page.

Printed on Recycled Paper

cc: Mr. Steve Lankford, RG, REA
Geo-Phase Environmental
2937 Veneman, #B240
Modesto, California 95356

Mr. Eric Wallberg
Project Manager
Site Evaluation and Remediation Unit
Northern California-Central Cleanup Operations Branch
Site Mitigation and Brownfields Reuse Program
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of:	)	Docket No. HSA-A 04/05-170
	)	
Haley Flying Service	)	Voluntary Cleanup
	)	Agreement
	)	
Project Proponent:	)	Health and Safety Code
Dorothy Haley	)	Section 25355.5(a)(1)(C)
1311 Madison Avenue	)	
Tracy, California 95376	)	
	)	

I. INTRODUCTION

1.1 Parties. The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) enters into this Voluntary Cleanup Agreement (Agreement) with Dorothy Haley (Proponent).

1.2 Site. The property which is the subject of this Agreement (Site) is located at 21000 Paradise Road, Tracy, San Joaquin, California 95304. The Site property consists of approximately ten acres and is identified by Assessor's Parcel Number 213-060-13. A diagram of the Site and a location map are attached as Exhibit A and Exhibit B.

1.3 Jurisdiction. This Agreement is entered into by DTSC and Proponent pursuant to Health and Safety Code (H&SC) section 25355.5(a)(1)(C). This section authorizes DTSC to enter into an enforceable agreement with Proponents to oversee the characterization and cleanup of a Site.

1.4 Purpose. The purpose of this Agreement is for the Proponent to complete a Preliminary Endangerment Assessment under the oversight of DTSC. The purpose of this Agreement is also for DTSC to obtain reimbursement from the Proponent for DTSC's oversight costs.

II. BACKGROUND

2.1 Ownership. The Site is owned by Ms. Dorothy Haley.

2.2 Substances Found at the Site. Historical crop dusting operations indicate that the soil and/or groundwater may be contaminated with hazardous substances, including organo-chlorine pesticides and petroleum products.

2.3 Physical Description. The site occupies approximately 10-acres in a mixed use area that is zoned for commercial and agricultural purposes. There are no nearby residences. A disabled runway runs east-west in the approximate center of the rectangular lot. A mobile home that is used by the caretaker of the property, a small shed, and a storage trailer are located in the north-east corner of the site. An aircraft hangar/office complex is located in the approximate center of the north property boundary. An aircraft washout pit, aircraft loading pad, storage container, loading dock, and water well are located in the north-east corner of the property.

2.4 Site History. The owner and a partner operated the site as Haley's Flying Service, a crop dusting operation, beginning in 1951. Air photos from 1937 and 1952 suggest that Property was in agricultural use at that time. The existing buildings were constructed at various times during the 1960's. Mr. Haley passed away in 1975, but the partner continued to operate the business until about 1989. Since then, the facility has been leased to several non-aviation related persons or companies. Since the mid to late 1990's the principal tenant has been Continental Express, a small trucking company. An individual serves as an informal caretaker and he maintains two mobile buildings on

the site next to the former hangars. Prior tenants have included a tomato packing company, and a truck repair business.

The precise chemicals used in crop dusting are not known, but given the years of operation; they are assumed to include DDT. In addition to the aircraft hangars and the remains of the runway, features on the site that remain from crop dusting include an outdoor elevated loading dock and concrete apron near the east end of the parcel.

The paved area east of the hangars is adjacent to the loading dock and this was where aircraft were loaded with pesticides or other agricultural chemicals for spraying. The loading dock was where bulk chemicals were stored and mixed and then pumped into waiting aircraft. Upon returning from a flight, the crop dusting aircraft would have their tanks rinsed and the rinse water was pumped into an adjacent concrete-lined washout pit. The pit is about 40 feet long, 8 feet wide and four to five feet deep. The water in the pit would then be aerated in an attempt to evaporate any residual chemicals.

III. AGREEMENT

3.0 IT IS HEREBY AGREED THAT DTSC will provide review and oversight of the response activities conducted by the Proponent in accordance with the Scope of Work contained in Exhibit C. The Proponent shall conduct the activities in the manner specified herein and in accordance with the schedule specified in Exhibit E. All work shall be performed consistent with H&SC section 25300 et seq., as amended; the National Contingency Plan (40 Code of Federal Regulations (CFR) Part 300), as amended; U.S. EPA and DTSC Superfund guidance documents regarding site investigation and remediation.

3.1 Scope of Work and DTSC Oversight. DTSC shall review and provide Proponent with written comments on all Proponent deliverables as described in Exhibit C (Scope of Work) and other documents applicable to the scope of the project. DTSC

shall provide oversight of field activities, including sampling and remedial activities, as appropriate. DTSC's completion of activities described above shall constitute DTSC's complete performance under this Agreement.

3.2 Additional Activities. Additional activities may be conducted and DTSC oversight provided by amendment to this Agreement or Exhibits hereto in accordance with Paragraph 3.17. If DTSC expects additional oversight costs to be incurred related to these additional activities, it will provide an estimate of the additional oversight cost to the Proponent.

3.3 Agreement Managers. Mr. James L. Tjosvold, P.E. is designated by DTSC as its Manager for this Agreement. Mr. Steve Lankford, R.G. is assigned by the Proponent as Manager for this Agreement. Each Party to this Agreement shall provide at least ten (10) days advance written notice to the other of any change in its designated manager.

3.4 Notices and Submittals. All notices, documents and communications required to be given under this Agreement, unless otherwise specified herein, shall be sent to the respective parties at the following addresses in a manner that produces a record of the sending of the notice, document or communication such as certified mail, overnight delivery service, facsimile transmission or courier hand delivery service:

3.4.1 To DTSC:

Mr. James L. Tjosvold, P.E., Chief
Northern California-Central Cleanup Operations Branch
Site Mitigation and Brownfields Reuse Program
Attn: Mr. Eric L. Wallberg
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

3.4.2 To the Proponent:

Mr. Steve Lankford, R.G.

2937 Veneman, #B240

Modesto, California 95356

3.4.3 To the Property Owner:

Ms. Dorothy Haley

1311 Madison Avenue

Tracy, California 95376

3.5 DTSC Review and Approval. If DTSC determines that any report, plan, schedule or other document submitted for approval pursuant to this Agreement fails to comply with this Agreement or fails to protect public health or safety or the environment, DTSC may (a) Return comments to the Proponent with recommended changes; or (b) Modify the document as deemed necessary and approve the document as modified.

3.6 Communications. All DTSC approvals and decisions made regarding submittals and notifications will be communicated to the Proponent in writing by DTSC's Agreement Manager or his/her designee. No informal advice, guidance, or suggestions or comments by DTSC regarding reports, plans, specifications, schedules or any other writings by the Proponent shall be construed to relieve the Proponent of the obligation to obtain such written approvals.

3.7 Endangerment During Implementation. In the event DTSC determines that any activity (whether or not pursued in compliance with this Agreement) may pose an imminent or substantial endangerment to the health and safety of people on the Site or in the surrounding area or to the environment, DTSC may order the Proponent to stop further implementation of this Agreement for such period of time as may be needed to abate the endangerment.

3.8 Payment. The Proponent agrees to pay (1) all costs incurred by DTSC in association with preparation of this Agreement and for review of documents submitted prior to the effective date of the Agreement, and (2) all costs incurred by DTSC in providing oversight pursuant to this Agreement, including review of the documents described in Exhibit C and associated documents, and in providing oversight of field activities. An estimate of DTSC's oversight costs is attached as Exhibit D. It is understood by the parties that Exhibit D is an estimate and cannot be relied upon as the final cost figure. DTSC will bill the Proponent quarterly. Proponent agrees to make payment within sixty (60) days of receipt of DTSC's billing. Such billings will reflect any amounts that have been advanced to DTSC by the Proponent.

3.8.1 In anticipation of services to be rendered, Proponent shall make an advance payment of thirteen thousand-six hundred-forty-five dollars ($13,645.00) to DTSC. That payment shall be made no later than ten (10) days after this Agreement is fully executed. If the Proponent's advance payment does not cover all costs payable to DTSC under this paragraph, Proponent agrees to pay the additional costs within sixty (60) days of receipt of a bill from DTSC.

3.8.2 If any bill is not paid by the Proponent within sixty (60) days after it is sent by DTSC, the Proponent may be deemed to be in material default of this Agreement.

3.8.3 All payments made by the Proponent pursuant to this Agreement shall be by a cashier's or certified check made payable to the "Department of Toxic Substances Control", and bearing on its face the project code for the site (site # 101755-11) and the docket number of this Agreement. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

A photocopy of the check shall be sent concurrently to DTSC's Agreement Manager/Regional Branch Chief.

3.8.4 If the advance payment exceeds DTSC's actual oversight costs, DTSC will provide an accounting for expenses and refund the difference within one hundred-twenty (120) days after termination of this Agreement in accordance with Paragraph 3.18. In no other case shall the Proponent be entitled to a refund from DTSC or to assert a claim against DTSC for any amount paid or expended under this Agreement.

3.9 Condition Precedent. It is expressly understood and agreed that DTSC's receipt of the advance payment described in Paragraph 3.8.1. is a condition precedent to DTSC's obligation to provide oversight, review and/or comment on documents.

3.10 Record Retention. DTSC shall retain all cost records associated with the work performed under this Agreement for such time periods as may be required by applicable state law. The Proponent may request to inspect all documents which support DTSC's cost determination in accordance with the Public Records Act, Government Code section 6250 et seq.

3.11 Project Coordinator. The work performed pursuant to this Agreement shall be under the direction and supervision of a qualified project coordinator, with expertise in hazardous substance site cleanup. The Proponent shall submit: a) the name and address of the project coordinator; and b) in order to demonstrate expertise in hazardous substance site cleanup, the resume of the coordinator. The Proponent shall promptly notify DTSC of any change in the identity of the Project Coordinator. All engineering and geological work shall be conducted in conformance with applicable state law, including but not limited to, Business and Professions Code sections 6735 and 7835.

3.12 Access. Proponent shall provide, and/or obtain access to the Site and offsite areas to which access is necessary to implement this Agreement. Such access shall be provided to DTSC's employees, contractors, and consultants at all reasonable times. Nothing in this paragraph is intended or shall be construed to limit in any way the right of entry or inspection that DTSC or any other agency may otherwise have by operation of any law. DTSC and its authorized representatives shall have the authority to enter and move freely about all property at the Site at all reasonable times for purposes including, but not limited to: inspecting records, operating logs, sampling and analytic data, and contracts relating to this Site; reviewing the progress of the Proponent in carrying out the terms of this Agreement; conducting such tests as DTSC may deem necessary; and verifying the data submitted to DTSC by the Proponent.

3.13 Sampling, Data and Document Availability. When requested by DTSC, the Proponent shall make available to DTSC, and shall provide copies of, all data and information concerning contamination at the Site, including technical records and contractual documents, sampling and monitoring information and photographs and maps, whether or not such data and information was developed pursuant to this Agreement.

3.14 Notification of Field Activities. The Proponent shall inform DTSC at least seven (7) days in advance of all field activities pursuant to this Agreement and shall allow DTSC and its authorized representatives to take duplicates of any samples collected by the Proponent pursuant to this Agreement.

3.15 Notification of Environmental Condition. The Proponent shall notify DTSC's Agreement Manager immediately upon learning of any condition posing an immediate threat to public health or safety or the environment. Within seven (7) days of the onset of such a condition, the Proponent shall furnish a report to DTSC, signed by the Proponent's Agreement Manager, setting forth the events which occurred and the measures taken in the response thereto.

3.16 Preservation of Documentation. The Proponent shall maintain a central repository of the data, reports, and other documents prepared pursuant to this Agreement. All such data, reports and other documents shall be preserved by the Proponent for a minimum of six (6) years after the conclusion of all activities carried out under this Agreement. If DTSC requests that some or all of these documents be preserved for a longer period of time, the Proponent shall eithercomply with that request, deliver the documents to DTSC, or permit DTSC to copy the documents prior to destruction. The Proponent shall notify DTSC in writing at least ninety (90) days prior to the expiration of the six-year minimum retention period before destroying any documents prepared pursuant to this Agreement. If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the six year period, the related records shall be retained until the completion and resolution of all issues arising therefrom or until the end of the six-year period, which ever is later.

3.17 Amendments. This Agreement may be amended or modified solely upon written consent of all parties. Such amendments or modifications may be proposed by any party and shall be effective the third business day following the day the last party signing the amendment or modification sends its notification of signing to the other party. The parties may agree to a different effective date.

3.18 Termination for Convenience. Except as otherwise provided in this Paragraph, each party to this Agreement reserves the right unilaterally to terminate this Agreement for any reason. Termination may be accomplished by giving a thirty (30) day advance written notice of the election to terminate this Agreement to the other Party in the event that this Agreement is terminated under this Paragraph, the Proponent shall be responsible for DTSC costs through the effective date of termination.

3.19 Exhibits. All exhibits attached to this Agreement are incorporated herein by this reference.

3.20 Time Periods. Unless otherwise specified, time periods begin from the date this Agreement is fully executed, and "days" means calendar days. "Business days" means all calendar days that are not weekends or official State holidays.

3.21 Proponent Liabilities. Nothing in this Agreement shall constitute or be considered a satisfaction or release from liability for any condition or claim arising as a result of Proponent's past, current, or future operations. Nothing in this Agreement is intended or shall be construed to limit the rights of any of the parties with respect to claims arising out of or relating to the deposit or disposal at any other location of substances removed from the Site.

3.22 Government Liabilities. The State of California (State) shall not be liable for any injuries or damages to persons or property resulting from acts or omissions by the Proponent or by related parties in carrying out activities pursuant to this Agreement, nor shall the State of California be held as a party to any contract entered into by the Proponent or its agents in carrying out the activities pursuant to this Agreement.

3.23 Third Party Actions. In the event that the Proponent is a party to any suit or claim for damages or contribution relating to the Site to which DTSC is not a party, the Proponent shall notify DTSC in writing within ten (10) days after service of the complaint in the third-party action. Proponent shall pay all costs incurred by DTSC relating to such third-party actions, including but not limited to responding to subpoenas.

3.24 Reservation of Rights. DTSC and the Proponent reserve the following rights.

3.24.1 DTSC reserves its right to pursue cost recovery under the Comprehensive Environmental Response, Compensation and Liability act of 1980 (CERCLA), as amended, the California Health and Safety Code section 25360, and any other applicable section of the law.

3.24.2 Nothing in this Agreement is intended or shall be construed to limit or preclude DTSC from taking any action authorized by law or equity to protect public health and safety or the environment and recovering the costs thereof.

3.24.3 Nothing in this Agreement shall constitute or be construed as a waiver of the Proponent's rights, (including any covenant not to sue or release) with respect to any claim, cause of action, or demand in law or equity that the Proponent may have against any "person", as defined in Section 101(21) of CERCLA, or Health and Safety Code section 25319, that is not a signatory to this Agreement.

3.24.4 By entering into this Agreement, Proponent does not admit to any fact, fault or liability under any statute or regulation.

3.25 Compliance with Applicable Laws. Nothing in this Agreement shall relieve the Proponent from complying with all applicable laws and regulations, and the Proponent shall conform all actions required by this Agreement with all applicable federal, state and local laws and regulations.

3.26 California Law. This Agreement shall be governed, performed and interpreted under the laws of the State of California.

3.27 Severability. If any portion of this Agreement is ultimately determined not to be enforceable, that portion will be severed from the Agreement and the severability shall not affect the enforceability of the remaining terms of the Agreement.

3.28 Parties Bound. This Agreement applies to and is binding, jointly and severally, upon each signatory and its officers, directors, agents, receivers, trustees, heirs, executors, administrators, successors, and assigns, and upon any successor agency of the State of California that may have responsibility for and jurisdiction over the subject matter of this Agreement. No change in the ownership or corporate or

business status of any signatory, or of the facility or Site shall alter any signatory's responsibilities under this Agreement.

3.29 Effective Date. The effective date of this Agreement is the date when this Agreement is fully executed.

3.30 Representative Authority. Each undersigned representative of the parties to this Agreement certifies that she or he is fully authorized to enter into the terms and conditions of this Agreement and to execute and legally bind the parties to this Agreement.

3.31 Counterparts. This Agreement may be executed and delivered in any number of counterparts, each of which when executed and delivered shall be deemed to be an original, but such counterparts shall together constitute one and the same document.

_____ Date 5/11/05

James L. Tjosvold, P.E., Chief
Northern California-Central Cleanup Operations Division
Department of Toxic Substances Control

Dorothy E. Haley Date May 9, 2005

Dorothy Haley
Property Owner

EXHIBITS

A - SITE DIAGRAM

B - SITE LOCATION MAP

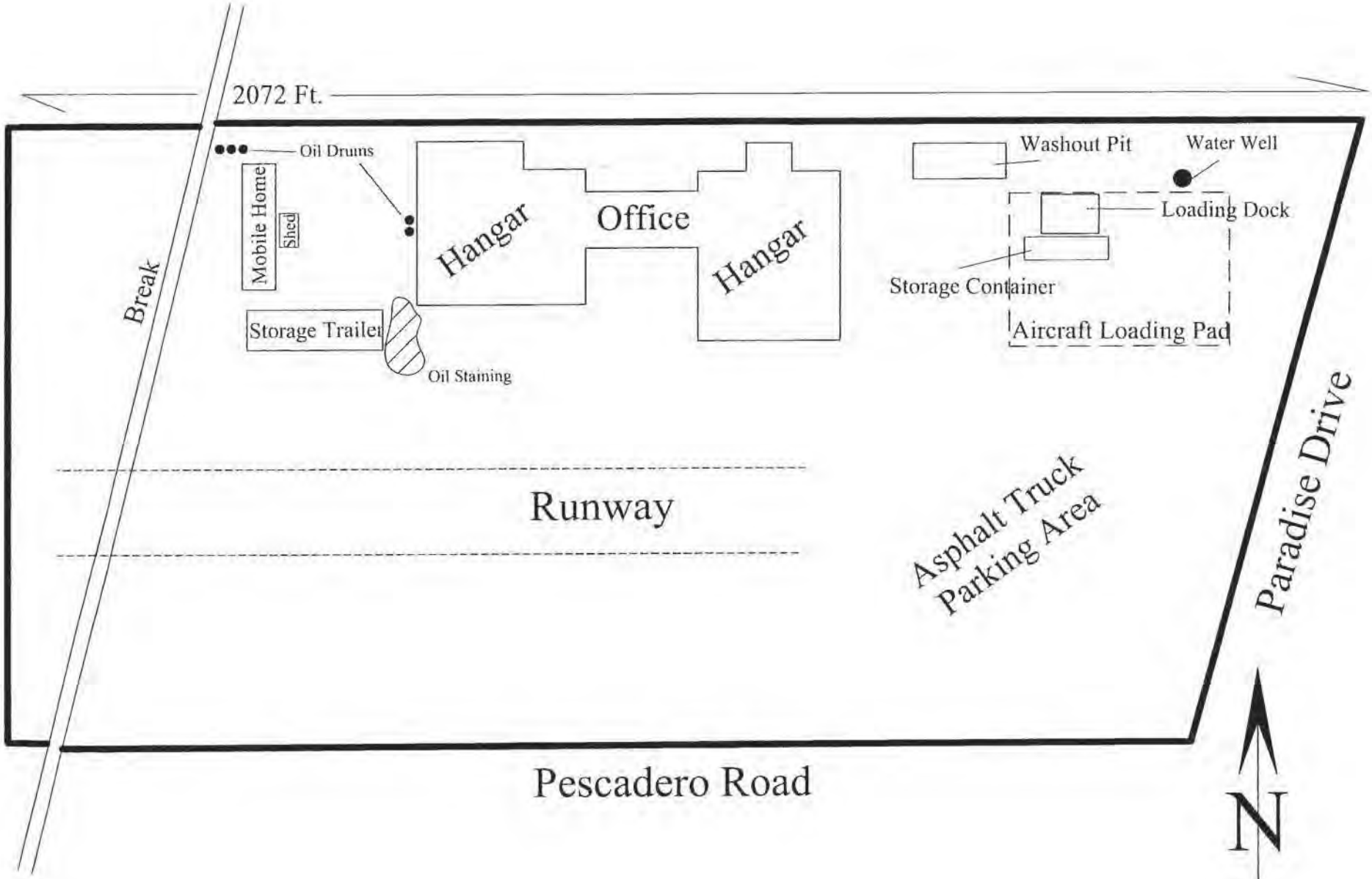
C - SCOPE OF WORK

D - COST ESTIMATE

E - SCHEDULE

EXHIBIT A

SITE DIAGRAM



Site Sketch Map
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

Scale 1 In. = 50 Ft.

EXHIBIT B

SITE LOCATION MAP

MAPQUEST.

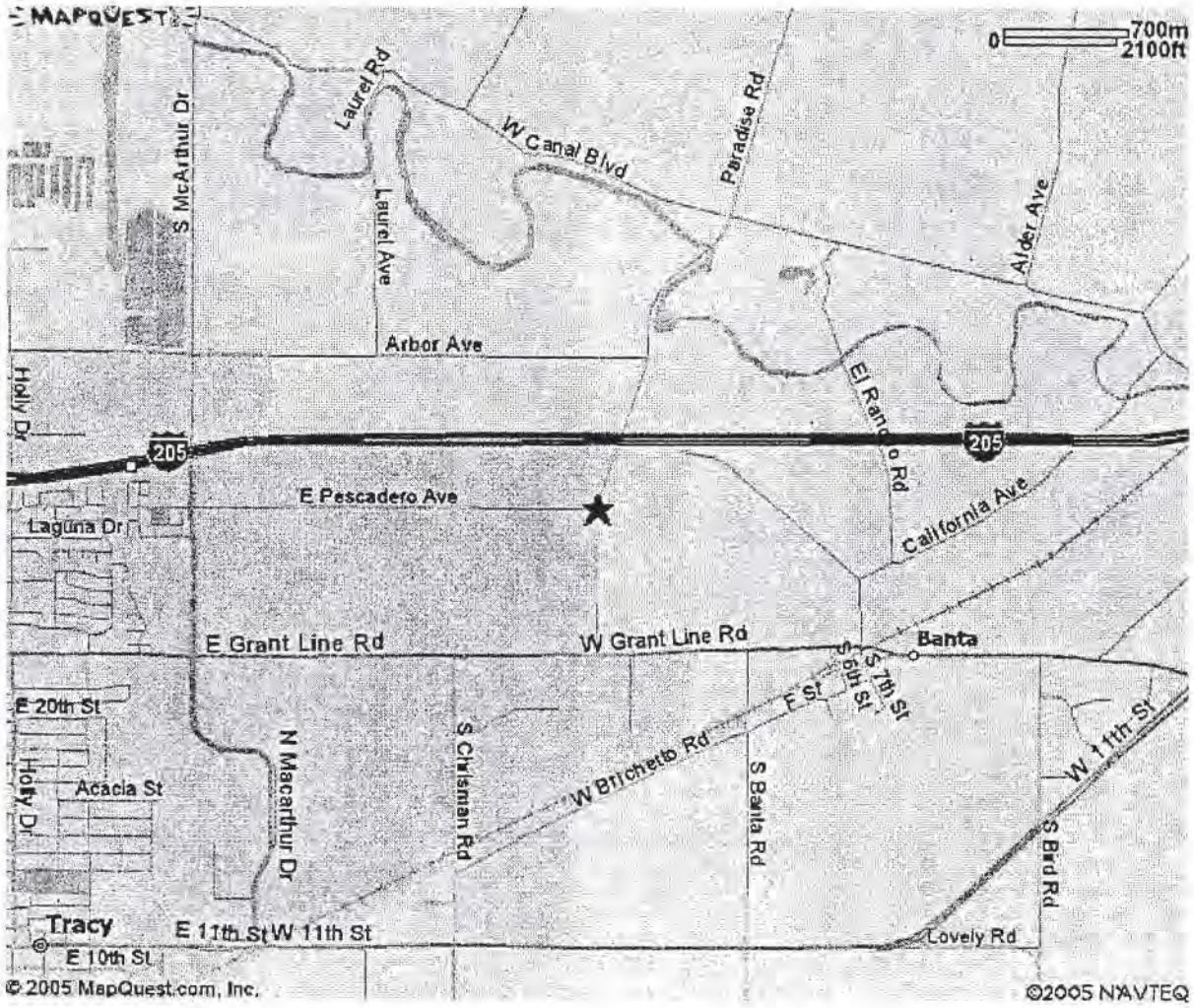
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EXHIBIT C

SCOPE OF WORK

EXHIBIT C

SCOPE OF WORK

The following Tasks will be completed as part of this Agreement:

TASK 1. Preliminary Endangerment Assessment (PEA). Proponent shall conduct a PEA to determine whether a release or threatened release of hazardous substances exists at the Site which poses a threat to human health or the environment. The PEA shall be conducted in accordance with the DTSC guidance manual for evaluating hazardous substance release sites, titled: "Preliminary Endangerment Assessment Guidance Manual," State of California, Environmental Protection Agency, Department of Toxic Substances Control (January 1994). Documents which may be required as part of the PEA are:

(a) PEA Work Plan. This work plan shall include a sampling plan designed to determine the type and general extent of contamination at the Site; a health and safety plan addressing health and safety issues and safe work practices; and a quality assurance/quality control plan to produce data of known quality.

(b) PEA Report. This report will document whether a release has occurred or threatened release exists, the threat the Site poses to human health and the environment, and whether further action is necessary.

TASK 2. Public Participation

2.1 Proponent shall conduct appropriate public participation activities given the nature of the community surrounding the Site and the level of community interest. Proponent shall work cooperatively with DTSC to ensure that the affected and interested public and community are involved in DTSC's decision-making process. Any such public participation activities shall be conducted in accordance with Health and Safety Code sections 25358.7, the DTSC Public Participation Policy and Procedures Manual, and with DTSC's review and approval.

2.2 The Proponent shall prepare a community profile to examine the level of the community's knowledge of the Site; the types of community concerns; the proximity of the Site to homes and/or schools, day care facilities, churches, etc.; the current and proposed use of the Site; media interest; and involvement of community groups and elected officials.

2.3 The Proponent shall develop and submit fact sheets to DTSC for review and approval when specifically requested by DTSC. Proponent shall be responsible for printing and distribution of fact sheets upon DTSC approval using the approved community mailing list.

TASK 3. Quality Assurance/Quality Control (QA/QC) Plan. All sampling and analysis conducted by the Proponent under this Agreement shall be performed in accordance with a QA/QC Plan submitted by the Proponent and approved by DTSC. The QA/QC Plan will describe:

(a) the procedures for the collection, identification, preservation and transport of samples;
(b) the calibration and maintenance of instruments;
(c) the processing, verification, storage and reporting of data, including chain of custody procedures and identification of qualified person(s) conducting the sampling and of a laboratory certified or approved by DTSC pursuant to Health and Safety Code section 25198; and
(d) how the data obtained pursuant to this Agreement will be managed and preserved in accordance with the Preservation of Documentation section of this Agreement.

TASK 4. Health and Safety Plan. The Proponent will submit a Site Health and Safety Plan in accordance with California Code of Regulations, Title 8, section 5192 and DTSC guidance, which covers all measures, including contingency plans, which will be taken

during field activities to protect the health and safety of the workers at the Site and the general public from exposure to hazardous waste, substances or materials. The Health and Safety Plan should describe the specific personnel, procedures and equipment to be utilized.

EXHIBIT D

COST ESTIMATE

Department of Toxic Substances Control

Exhibit D

COST ESTIMATE: Haley Flying Service

*Includes Direct and Indirect Cost Rates **

TITLE	Project Manager	Legal	Toxicology	Geology	HQ CEQA	Industrial Hygiene	Public Participation	Supervisor	Tech. Sr.	Clerical
CLASSIFICATION	HSS/HSE	Staff Counsel	Staff Toxicologist	HSEG	AEP	AIH	PPS	SHSE/ SHSS	SHSE/ SHSS	WPT
TASKS										
Agreement Negotiation/Preparation	4	2						2		2
PEA	60		25	6			12	4	2	2
RI/FS Workplan										
RI Report										
FS Report										
Baseline Risk Assessment										
Public Participation										
CEQA										
RAP/RAW										
Response to Comments										
Health and Safety Plan										
Implementation Oversight										
Completion/ Implementation Report										
Deed Restriction										
O&M Agreement										
Certification										
O&M Manual										
Total Hours/Class	64	2	25	6	0	0	12	6	2	4
Total Hours	121									
Hourly Rate/Class	$110	$152	$123	$122	$108	$115	$103	$127	$134	$57
Total Cost/Class	$7,040	$304	$3,075	$732	$0	$0	$1,236	$762	$268	$228

Total Estimated Costs	$13,645
Past Costs	
Grand Total Costs	$13,645

* Indirect rate used for calculations = 172.79%

5/3/2005

EXHIBIT E

SCHEDULE

EXHIBIT E

SCHEDULE

HALEY FLYING SERVICE TASK SCHEDULE

TASK	SCHEDULE*
Draft PEA work plan (including health and safety, QA/QC plan, and community profile	Within 60-days of signing of VCA
DTSC review/comment on the draft work plans	Within 15-days of submittal of the draft work plans
Revised work plans	Within 10-days of DTSC comments on the draft work plans
Finalize work plans	Within 5-days of receipt of revised work Plan
Field work	Within 30-days of receipt of finalized work plan
Draft PEA report	Within 60-days of completion of field work
DTSC review/comment on PEA report	Within 60-days of receipt of draft PEA report
Finalize PEA report	Within 10-days of DTSC comments on the draft PEA report
DTSC PEA report approval	Within 15-days of receipt of finalized PEA report

*All days are calendar days unless specified otherwise.

GEO-PHASE ENVIRONMENTAL

REPORT

ADDENDUM TO PRELIMINARY ENDANGERMENT ASSESSMENT

Former Haley Flying Service
21,000 Paradise Road, Tracy, CA
(Cal-Site # 39070037)

June 23, 2006

GPE Project No. 474.2

Submitted to:

Mr. Eric Wallberg
Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826

2937 Veneman Avenue, Suite B240
Modesto, Ca 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

GEO-PHASE ENVIRONMENTAL

June 23, 2006

Mr. Eric Wallberg
California Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826

RE: REPORT – ADDENDUM TO PRELIMINARY ENDANGERMENT ASSESSMENT
Former Haley Flying Service, 21,000 Paradise Road, Tracy
(Cal-Site # 39070037)

Mr. Wallberg:

The attached report is an addendum to the original PEA, dated January 18, 2006 and submitted on behalf of Mrs. Dorothy Haley, the owner of the subject site, formerly operated as a crop-dusting service. The site is listed on the DTSC "Cal-Site" database. The purpose of this addendum is to assess groundwater conditions in the vicinity of the pesticide soil contamination documented in the original PEA.

Sincerely,

Geo-Phase Environmental Inc.
Stephen M. Lankford, PG, REA
President

cc: Dorothy Haley
Ryan Voorhees
San Joaquin County EHD

2937 Veneman Avenue, Suite B240
Modesto, Ca 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

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- 3.2 Waste Disposal
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- 3.4 Summary of Groundwater Analytical Results
- 3.5 Deviations From the Work Plan

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GEO-PHASE ENVIRONMENTAL

ADDENDUM TO
PRELIMINARY ENDANGERMENT ASSESSMENT

Former Haley Flying Service
21,000 Paradise Road, Tracy
Cal-Site # 39070037

June 23, 2006
GPE Project No. 474.2

EXECUTIVE SUMMARY

Reference is made to our original Preliminary Endangerment Assessment (PEA) dated January 18, 2006 (Geo-Phase Environmental 2006a). The PEA identified the presence of significant pesticide contamination in the shallow soil in an area near the east end of the subject site. Two grab groundwater samples collected during the original assessment contained detectable concentrations of various pesticides. These sample results were, however, not considered definitive due to suspected cross-contamination of the sampling equipment from the high concentrations of pesticides in the shallow soil.

Section 2 of the original PEA provides a site description, the background, and status of the Haley site. Section 5 of the PEA describes the sample results of soil and groundwater previously collected samples.

Scope of Work

This Addendum describes a series of 6 Power-Probe soil borings that were installed in the vicinity of the former chemical mixing and loading area, and the adjacent washout pit. Groundwater samples were collected from the borings and from the on-site domestic water well (see Figure 2 for boring locations). The samples were tested for the possible presence of organo-chlorine pesticides.

Sample Analytical Results

The analytical testing documented in the original PEA indicates the soil in the vicinity of the aircraft loading dock, surrounding loading pad, and the washout pit, is severely contaminated by a variety of pesticides, mostly of the organo-chlorine group. The bulk of the contaminant mass consists of the DDT sub-group (DDT, DDD, DDE) and Toxaphene. Other contaminants include Chlordane, Aldrin, Methoxychlor, and the Endosulfan sub-group.

The groundwater surface at the time these new soil boring were installed was found at a depth of about 8 to 9 feet below grade. This is two to three feet shallower than when soil borings B-1 and B-2 were installed for the original PEA. Several of the groundwater samples contained detectable concentrations of organo-chlorine pesticides, primarily of the Endosulfan sub-group and Toxaphene. The most severely impacted sample contained 22 parts per billion (ppb) of Toxaphene. The boring that produced this sample (B-6) was located west of the washout pit near the east hangar (see figure 2).

Human Health Hazard Assessment

Based on the information contained in the original PEA, there are no nearby water production wells save the on-site well, which was sampled and did not contain pesticides. This means there are no likely receptors for pesticide-contaminated groundwater. This part of Tracy has been zoned for industrial development, and the future water supply will rely on the municipal water system rather than shallow domestic wells. Moreover, since pesticides are non-volatile, vapor will not be exuded that can penetrate up through the soil and be inhaled. It thus appears that there is little likelihood that future development of land in this area will produce new human receptors capable of contacting the groundwater. Based on the absence of exposure pathways, the groundwater contamination should not result in any net increased risk to human health above and beyond the risk associated with the previously documented shallow soil contamination.

General Observations

1. The groundwater in the vicinity of the pesticide release has been impacted with very low concentrations of organo-chlorine pesticides believed to have been leached from the shallow soil. The largest source of leaching is suspected to have been the washout pit. The Chemicals of Potential Concern (COPCs) in groundwater are identified as Toxaphene, Endrin, and the Endosulfans.

2. The pesticides in groundwater represent an impermissible degradation of groundwater quality, but do not appear to constitute a human health risk.

Recommended Actions

1. As a part of the RI/FS investigation of this site, groundwater monitoring wells should be drilled and constructed to define the extent of the groundwater contamination.

2. Additional groundwater samples should be collected in the assumed down-gradient direction (north) to obtain information on the possible presence of pesticides in the groundwater. Sample locations should include sites on the agricultural parcel lying north of the irrigation ditch.

1.0 INTRODUCTION

The general purpose and scope of the PEA is described in Section 1 of the PEA. The purpose of the supplemental work documented in this addendum was to determine whether the shallow groundwater has been impacted by the pesticide release documented in the original PEA.

1.1 Purpose and Scope of Work

To accomplish the goal of evaluating possible pesticide impact to the groundwater, the following tasks were completed:

1. Collected six groundwater samples and tested them for the presence of organo-chlorine pesticides,
2. Evaluated health-risk impacts, and
3. Provided recommendations based on the findings of this addendum.

1.2 Report Organization

The organization of this addendum loosely follows that of the original PEA. Section 2 is a brief description of the problem identified in this addendum. The actual sampling and laboratory analytical results are documented in Section 3, while Section 4 evaluates the quality of the information so obtained. Section 5 describes the associated human health implications. The conclusions and recommendations are detailed in Section 6. Two figures with graphical information are also provided, and four appendices containing laboratory data sheets and other basic information support the text.

2.0 APPARENT PROBLEM

The original PEA identified a limited area near the east end of the parcel where the shallow soil has been severely impacted with several agricultural chemicals. The primary contaminants are the DDT group, Dieldrin, and Toxaphene, although low concentrations of other chemicals are present as well. The area of most concern is the exposed soil surrounding and beneath the pesticide loading dock, and pad and the washout pit. The dates of the releases are unknown, but it is likely there were a series of small spills or leaks extending for many years from the 1950's and ending when flight operations ended in the late 1980's.

Groundwater samples collected from two soil borings contained various pesticides, but these results were considered unreliable due to suspected cross-contamination. The groundwater sample results obtained for this addendum are considered to be much more reliable. Organo-chlorine pesticides, primarily Toxaphene, were detected in the groundwater in the vicinity of the severely impacted shallow soil. The groundwater contamination is believed to be a result of leaching of soil contaminants, possibly from the washout pit and loading dock.

3.0 SAMPLING ACTIVITIES AND RESULTS

The sampling strategy and protocols are described in the Work Plan for this PEA, entitled *Work Plan Addendum – Preliminary Endangerment Assessment, Former Haley's Flying Service, 21,000 Paradise Road, Tracy, CA* (Geo-Phase Environmental, 2006b). There were few deviations from the Work Plan (see Section 3.5).

3.1 Groundwater Sampling and Analysis

The installations suspected to be the primary sources of pesticide contamination are the washout pit and nearby loading dock. Groundwater samples were collected from 6 points around this area (see Figure 2). Power-Probe™ soil borings (designated B-3 through B-8) were advanced to a depth sufficient to penetrate the groundwater surface, and a sample of the shallow groundwater was collected from each of the borings. An additional sample of groundwater from the onsite domestic water production well was also collected and tested.

On May 12, 2006, the Power-Probe™ soil borings were installed using 1.5-inch outside diameter, Power-Probe™ drilling equipment owned and operated by RSI Drilling (C-57 License #802334). The borings, (B-3 thru B-8) were advanced to a depth sufficient to penetrate the groundwater surface, which was found at approximately 8 to 9 feet below grade.

The Power-Probe™ uses direct-push methodology in which the drilling tools are pushed directly into the ground using a hydraulic ram and hammer system. The drilling process involved the use of a duel-tube drill stem in which the outer drill string acts as a temporary casing while soil and groundwater samples are collected through the inner tube. In a further attempt to reduce the risk of cross contamination, the inner drill string and sampling equipment was removed from each boring at the approximate depth of the groundwater surface, and then steam cleaned prior to advancing the boring to its total depth and collecting the groundwater sample. The soil at the level of the groundwater surface consists of poorly permeable clay and silt. In order to obtain adequate water entry for suitable water samples, the borings were advanced to depths of 16 to 20 feet below grade.

During drilling, a log was made of each boring. Information noted includes such data as sample depths, horizons of detectable contamination (detected by field methods), soil classification utilizing the Unified Soil Classification System and sediment description (color, texture, composition, hardness, moisture content, and post-depositional changes that have occurred in the sediments). The boring logs are attached as Appendix B.

Upon reaching total depth of the each boring, a groundwater sample was collected. The inner drill string was removed, and ¾-inch diameter, new, dedicated, flush-joint PVC tubing was lowered to the groundwater through the temporary casing. The lead 5 or 10 feet of PVC tubing was slotted with 0.010-inch openings, thus creating a temporary well. The groundwater sample was then collected with a stainless steel bailer that was carefully steam-

cleaned between uses. The sample material was transferred from the bailer to laboratory-supplied 1-liter amber glass bottles provided by the laboratory. Each sample container was then labeled and immediately transferred to a cooler chilled with water ice for transport to the laboratory under chain-of-custody.

After collecting the final sample, each boring was filled to grade with Class G neat cement under the supervision of a San Joaquin County Department of Environmental Health inspector, Mr. Harlin Knoll.

The on-site domestic water well was sampled from a tap located at the loading dock. The valve was opened and the water was allowed to flow for several minutes so that the piping and well tubing would be purged, and fresh formation water allowed to enter, and be collected. The sample was collected directly into a 1-liter sample container, which then was treated in the same manner as the other samples.

Upon retrieval, each groundwater sample was transported to Argon Laboratories of Ceres, CA for analytical testing. Argon forwarded the samples to McCampbell Labs, and this laboratory performed the following analysis:

- Organo-chlorine pesticides by EPA method 8081B

The specific chemicals and their reporting limits are listed in the Summary Table 1 and in the laboratory data sheets in Appendix A.

3.2 Waste Disposal

About 15 to 20 gallons of decon water from washing sample equipment was containerized in an appropriate DOT container. The water contains 1.4 ppb of Endosulfan II and 0.75 ppb of Endosulfan sulphate. The water will be allowed to evaporate. No waste soil cuttings were generated during the Power-Probe™ drilling process.

3.3 Documentation

A general field log was maintained during the fieldwork, and soil boring logs were maintained of each boring. Notes were made of the date and time of the work, the personnel on site, the general weather, and the sequence and time of significant field events. Photographs supplemented the log information. Photocopies of the field notes are attached as Appendix D. Site photos are attached as Appendix C, and boring logs are attached as Appendix B.

3.4 Summary of Groundwater Analytical Results

As shown in Summary Table 1, and the text table below, organo-chlorine pesticides were detected in three of the six groundwater samples collected from the soil borings. Three of the soil boring samples and the domestic water well sample did not contain detectable organo-chlorine pesticides. The principal contaminants are Toxaphene and the chemicals of the Endosulfan sub-group. One sample also contained a trace of Endrin.

Text Table 1 - Groundwater Laboratory Results

Sample I.D.	DWW (µg/L)	B-3 (µg/L)	B-4 (µg/L)	B-5 (µg/L)	B-6 (µg/L)	B-7 (µg/L)	B-8 (µg/L)
Method 8081B							
Endosulfan I	ND<0.02	ND<0.02	ND<0.02	ND<0.02	1.2	ND<0.02	ND<0.02
Endosulfan II	ND<0.01	ND<0.01	ND<0.01	ND<0.01	0.84	ND<0.01	ND<0.01
Endosulfan sulphate	ND<0.05	0.096	ND<0.05	ND<0.05	2.3	ND<0.05	ND<0.05
Endrin	ND<0.01	ND<0.01	ND<0.01	ND<0.01	1.0	ND<0.01	ND<0.01
Toxaphene	ND<0.5	ND<0.5	ND<0.5	1.7	22	ND<0.5	ND<0.5

Note: ND = Non Detectable
DWW = Domestic Water Well

3.5 Deviations From the Work Plan

The following points summarize material deviations from the Work Plan.

- The actual boring locations were moved slightly from those indicated in the Work Plan. These minor changes were made to accommodate actual site conditions and minor inaccuracies in the original site map with respect to the relative positions of the east hangar and the washout pit.

4.0 DATA QUALITY EVALUATION

Data evaluation is the process of analyzing site characteristics and data to identify Chemicals of Potential Concern (COPCs) to be evaluated in the human health risk assessment. This section identifies data of sufficient quality for use in the risk assessment, summarizes the chemical characterizations of soil and groundwater, and provides a summary of COPCs.

4.1 Data Quality

The following criteria were considered to evaluate the quality of the laboratory data points:

- Laboratory QC data sheets are reviewed to verify that the analytical laboratory analytical procedures were within acceptable limits as regards repeatability and contaminant recoverability.

- Blank contamination is evaluated based on the results of field and laboratory blank data. Common laboratory contaminants are eliminated if detected concentrations are within 10 times the associated blank concentrations (Cal-EPA, 1994). All other chemicals are eliminated if detected concentrations are within 5 times blank concentrations.

- Sample Quantitation Limits (SQLs) must be sufficiently low such that chemicals can be selected at levels of potential concern. Data are reviewed to determine if SQLs are sufficiently low.

4.2 Groundwater Sample Data

The temperature blank from the ice chest in which the samples were transported to the laboratory was measured upon reaching the lab with an infrared digital thermometer. (See CofC form for details). The temperature blank indicated the temperature in the ice chest was less than 4 degrees C. The travel blank provided by the laboratory did not contain detectable concentrations of any chemical that was tested for. Laboratory data sheets describing QC analytical tests indicate that laboratory procedures were of an acceptable quality (see Appendix A). All matrix spike and matrix spike duplicate analytical results were within the acceptable range of recovery for the analytical methods, and all laboratory blanks were non-detect for the chemicals tested for.

During soil boring installation, an equipment blank was created to verify the reusable sample equipment was being cleaned adequately between uses. The equipment blank was obtained by pouring uncontaminated water over the lead inner drill string tube and the bailer after they had been steam cleaned and before installing the final boring. The equipment blank did not contain detectable organo-chlorine pesticides.

4.3 Chemical Characterization

This sub-section briefly summarizes the nature and extent of chemicals detected in the groundwater for purposes of providing context to the risk assessment. Based on the information from the laboratory analytical results (Summary Table 1), the following table was prepared to summarize the identity of detected chemicals, total number of samples

analyzed, total number of detections, range of detection limits, and range of concentrations detected

Not all chemicals detected at a site warrant a quantitative evaluation. In many cases, chemicals are detected at so low a concentration as to pose a negligible risk and may be eliminated from further consideration. On the other hand, it can not be assumed that chemicals that were tested for, but not detected, are altogether absent. For the purposes of this PEA, it is assumed that a chemical detected in any sample is present in all samples at a concentration of ½ the SQL. This is considered an acceptable approach to evaluating chemicals that may be present at less than detectable concentrations (U.S. EPA, 1989). In this case, one sample (B-6) was diluted by a factor of 10 to 1 prior to the analytical testing.

Text Table 2 - Groundwater Sample Characterization Table

Chemical	No. of Spls	No. of Detects	Range of SQL (µg/L)	Range of Reported Concentrations (µg/L)
Method 8081B				
Endosulfan I	6	1	0.01-0.1	<0.01-1.2
Endosulfan II	6	2	0.02-0.2	<0.02-0.84
Endosulfan sulphate	6	2	0.05-0.5	<0.05-2.3
Endrin	6	1	0.01-0.1	<0.01-1.0
Toxaphene	6	2	0.05-0.5	<0.05-22

Note: No. of Samples does not include QA Samples or water well sample

All of these chemicals are identified as chemicals of potential concern with respect to groundwater. Based on these sample results, and in view of the concerns regarding cross-contamination in the two groundwater samples collected for the original PEA, the pesticides DDT, DDD, and DDE are no longer considered to be COPCs with regard to the groundwater.

5.0 HUMAN HEALTH SCREENING EVALUATION

5.1 Exposure Pathways and Media of Concern

Exposure assessment is the process of describing, measuring or estimating the intensity, frequency, and duration of potential human exposure to chemicals of potential concern (COPCs) in environmental media (e.g., soil, water and air) at a site. A general discussion of exposure assessment is included in Section 7 of the original PEA. For the purposes of this addendum, only the exposure pathways associated with the groundwater need be addressed.

Since pesticides are non-volatile, the only possible exposure pathway is by ingestion of groundwater. The only known water production well in which ground water could reasonably hold potential to be contaminated is the onsite domestic water well (see Section 4.3 of the original PEA). The sample from this well did not, however, contain detectable organo-chlorine pesticides. The driller's log for the well was obtained by DTSC, but is considered by State law to be confidential and is therefore not attached to this report. The log indicates the water production interval is below 50 feet, and what appears to be an effective clay aquitard is present between 25 and 31 feet. A second clay layer is identified between 62 and 83 feet. Based on the presence of the aquitard and the absence of detectable COPCs in the well water, it appears unlikely that humans will be exposed to pesticides in the groundwater.

It is theoretically possible that a new water well could be constructed near the site that could produce contaminated water, however this part of Tracy has been zoned for industrial development. The newly constructed industrial facilities will be connected to the municipal water system and are therefore unlikely to need a domestic water source.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The conclusions contained in the original PEA remain in effect except as follows.

1. Toxaphene, Endrin, and Endosulfan were detected in groundwater samples and are identified as chemicals of potential concern.

2. Additional work will be needed to define the direction of groundwater flow and the lateral and vertical extent of groundwater contamination.

6.2 Recommendations

The recommendations contained in the original PEA remain in effect. We also recommend that groundwater monitoring wells be drilled and constructed to help characterize the extent of groundwater contamination.

6.3 Preliminary Scoping Recommendation

The scoping recommendation contained in the original PEA stands, but the Remedial Investigation / Feasibility Study (RI/FS) process should include construction of groundwater monitoring wells to further characterize the extent of groundwater contamination.

7.0 REFERENCES

1. Cal-EPA, 1994, Preliminary Endangerment Assessment Guidance Manual, Dept. of Toxic Substances Control (DTSC), Sacramento, CA

2. Geo-Phase Environmental, Inc., 2006a, Report – Preliminary Endangerment Assessment, Former Haley's Flying Service, 21,000 Paradise Road, Tracy, CA

3. Geo-Phase Environmental, Inc., 2006b, Work Plan Addendum – Preliminary Endangerment Assessment, Former Haley's Flying Service, 21,000 Paradise Road, Tracy, CA

4. U.S. EPA, 1989, Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual, Part A, Interim Final, Office of Emergency and Remedial Response, Washington, D.C.

8.0 SIGNATURE AND CERTIFICATION

Geo-Phase Environmental Inc. was performed in accordance with accepted geologic and hydrologic standards of the State of California including the DTSC document entitled Preliminary Endangerment Assessment, Guidance Manual. Geo-Phase Environmental Inc. is not responsible for undisclosed conditions.

This report was prepared by:

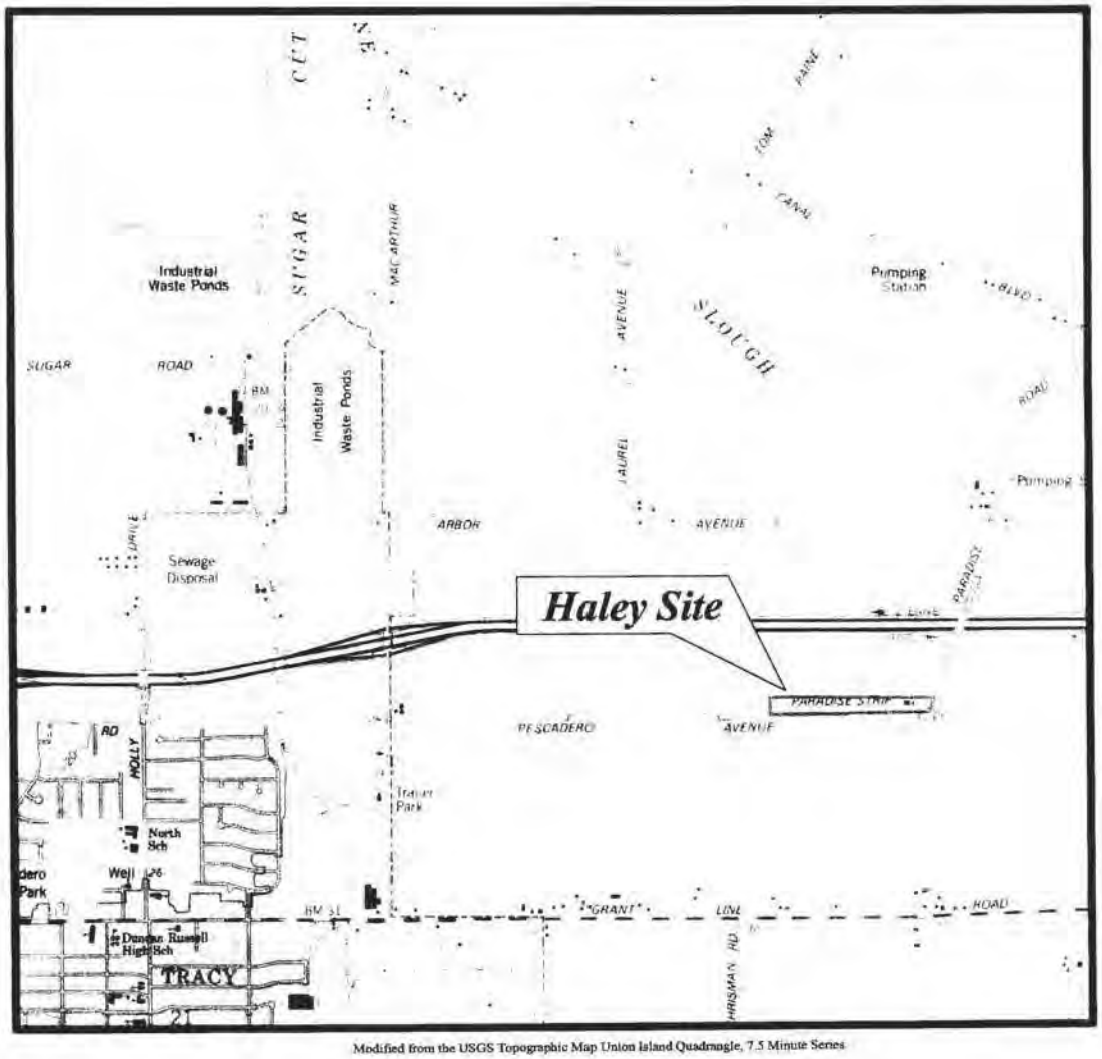
Geo-Phase Environmental Inc.



Stephen M Lankford,
California Professional Geologist #4283
Registered Environmental Assessor #05549

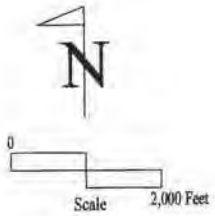
Figures

Vicinity Map	**1**
Overall Site Sketch with Soil Sample Locations	**2**



Modified from the USGS Topographic Map Union Island Quadrangle, 7.5 Minute Series

Figure 1
USGS Topographic Map
Former Haley's Flying Service
21000 Paradise Road
Tracy, CA



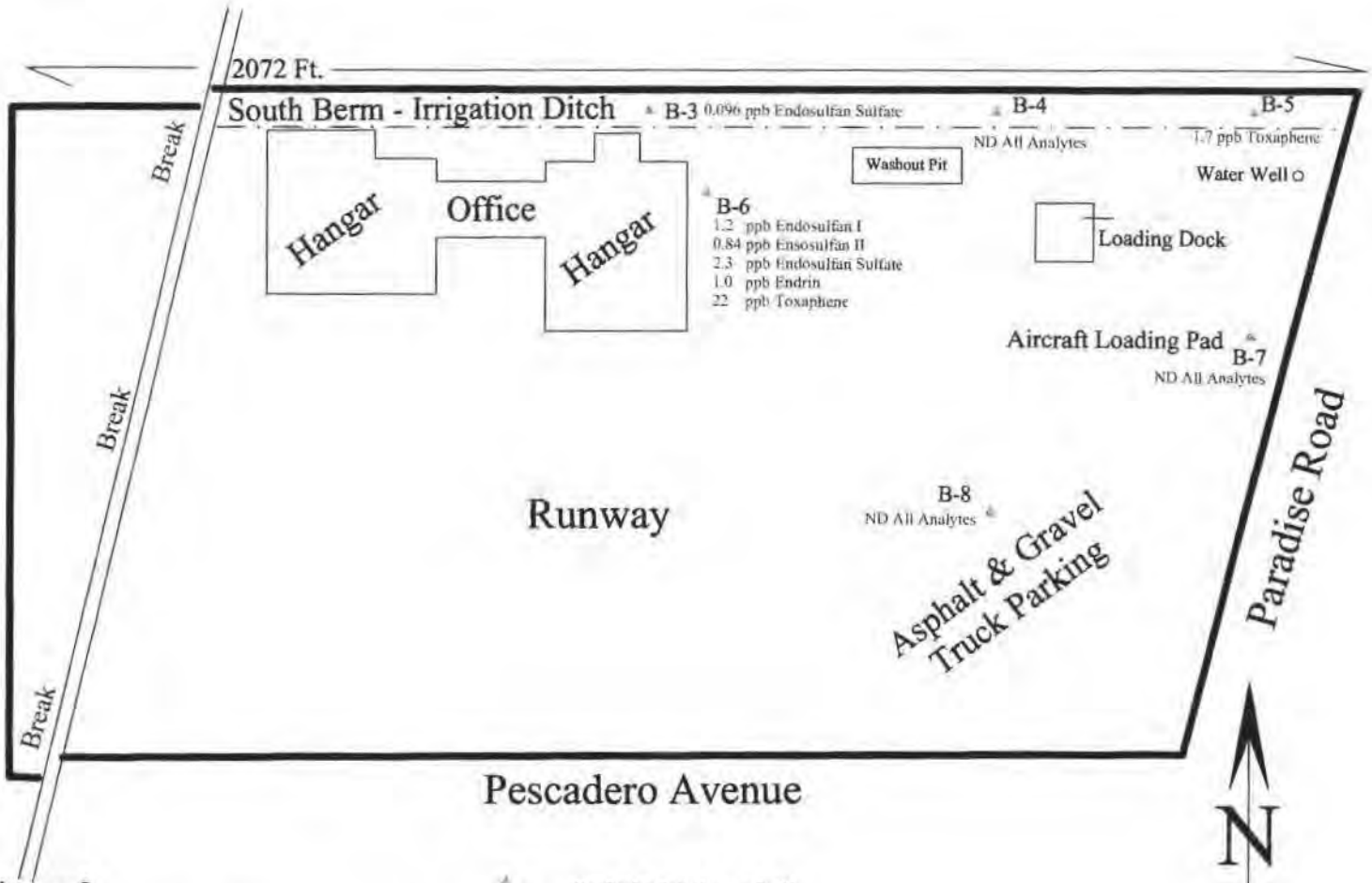


Figure 2
Detail Site Sketch Map
With Soil Boring Locations of 5/12/06
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

Summary Table 1

Summary of Laboratory Data - Groundwater

2937 Veneman Ave., #B240
Modesto, CA 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

Summary Table 1

Laboratory Data - Groundwater

Sample I.D.	B-3	B-4	B-5	B-6	B-7	B-8	DWW	TB
Dilution	1	1	1	10	1	1	1	1
8081 Analytes								
Aldrin	ND<0.005	ND<0.005	ND<0.005	ND<0.05	ND<0.005	ND<0.005	ND<0.005	ND<0.005
a-Chlordane	ND<0.05	ND<0.05	ND<0.05	ND<0.5	ND<0.05	ND<0.05	ND<0.05	ND<0.05
g-Chlordane	ND<0.05	ND<0.05	ND<0.05	ND<0.5	ND<0.05	ND<0.05	ND<0.05	ND<0.05
p,p-DDD	ND<0.01	ND<0.01	ND<0.01	ND<0.1	ND<0.01	ND<0.01	ND<0.01	ND<0.01
p,p-DDE	ND<0.01	ND<0.01	ND<0.01	ND<0.1	ND<0.01	ND<0.01	ND<0.01	ND<0.01
p,p-DDT	ND<0.01	ND<0.01	ND<0.01	ND<0.1	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Dieldrin	ND<0.01	ND<0.01	ND<0.01	ND<0.1	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Endosulfan I	ND<0.02	ND<0.02	ND<0.02	ND<0.2	ND<0.02	ND<0.02	ND<0.02	ND<0.02
Endosulfan II	ND<0.01	ND<0.01	ND<0.01	1.2	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Endosulfan sulfate	0.096	ND<0.05	ND<0.05	0.84	ND<0.05	0.014	ND<0.05	ND<0.05
Endrin	ND<0.01	ND<0.01	ND<0.01	2.3	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Endrin Aldehyde	ND<0.01	ND<0.01	ND<0.01	ND<0.1	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Heptachlor	ND<0.01	ND<0.01	ND<0.01	ND<0.1	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Heptachlor Epoxide	ND<0.01	ND<0.01	ND<0.01	ND<0.1	ND<0.01	ND<0.01	ND<0.01	ND<0.01
Methoxychlor	ND<0.1	ND<0.1	ND<0.1	ND<1	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Toxaphene	ND<0.5	ND<0.5	1.7	22	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L

DWW = Water Well Sample
TB = Trip Blank

Appendix A

Laboratory Data Sheets

2937 Veneman Ave., #B240
Modesto, CA 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

argon laboratories

GEOPHASE ENVIRONMENTAL
2937 VENEMAN AVE. #B240
MODESTO, CA 95356

REPORT DATE: 05/26/06
SAMPLE DATE: 05/12/06

ATTN: STEVE LANKFORD
CLIENT PROJ. ID: 474.2
HALEY

WORK ORDER#: G605030

Project Summary:

On May 12, 2006, this laboratory received 10 water samples.

The samples were analyzed according to instructions in accompanying chain-of-custody.

8081B analyses were subcontracted to McCampbell Analytical with DHS Cert. No. 1644 [see attached reports].

The samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. The sample may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (209) 581-9280.

Hiram Cueto
Lab Director

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argenlabs.com

CHAIN OF CUSTODY RECORD

GEO-PHASE ENVIRONMENTAL

Geo-Phase Environmental Inc.
2937 Veneman Ave., Suite B-240
Modesto, CA 95356
(209) 569-0293
Fax (209) 569-0295

Lab: Argon | Need EDF: Y☐ N☒ | Page 1 of 1

Job Number	P.O. #	Project Name
474.2	474.2	Haley

Sampler (Signature): JM Sanford

Site Address: 21000 Paradise, Tracy

SAMPLE I.D.	DATE	TIME	NUMBER of Containers	TYPE Grab or Composite	SAMPLE MATRIX	BTEX (8020)	TPH-G (8015M)	TEPH (8015M)	Oxygenates (8260)	8081/B	REMARKS
B 3	5/12	923	1	G	Water					X	
B 4		1015	1							X	
B 5		1058	1							X	
B 6		1244	1							X	
B 7		1135	1							X	
B 8		1240	1							X	
DW		1248	1							X	
TB	↓		1	↓	↓					X	
Equip Blank		1215	1	↓	↓					X	
Decon		1350	1	↓	↓					X	
Temp Blank											3.4° on arrival

Relinquished By: Signature	Date/Time	Recieved By: (Signature)	Date/Time
JM Sanford	5/12/06 1503	Christie Reed	5/12/06 15:05
Relinquished By: Signature	Date/Time	Recieved By: (Signature)	Date/Time
Relinquished By: Signature	Date/Time	Recieved By: (Signature)	Date/Time

TURNAROUND TIME
24 HOUR ☐
48 HOUR ☐
5 DAY ☒

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental 2937 Veneman Ave., Suite B240 Modesto, CA 95356	Client Project ID: #474.2; Haley	Date Sampled: 05/12/06
		Date Received: 05/12/06
	Client Contact: Steve Lankford	Date Reported: 05/19/06
	Client P.O.: G1197	Date Completed: 05/19/06

WorkOrder: 0605256

May 19, 2006

Dear Steve:

Enclosed are:

1). the results of **10** analyzed samples from your **#474.2; Haley project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley	Date Sampled: 05/12/06
		Date Received: 05/12/06
2937 Veneman Ave., Suite B240	Client Contact: Steve Lankford	Date Extracted 05/12/06
Modesto, CA 95356	Client P.O.: G1197	Date Analyzed 05/18/06

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C Analytical Method: SW8081B Work Order: 0605256

Lab ID	0605256-001A	0605256-002A	0605256-003A	0605256-004A	Reporting Limit for DF =1	
Client ID	B3	B4	B5	B6		
Matrix	W	W	W	W	S	W
DF	1	1	1	10		
Compound	**Concentration**				µg/kg	µg/L
Aldrin	ND	ND	ND	ND<0.050	NA	0.005
a-BHC	ND	ND	ND	ND<0.10	NA	0.01
b-BHC	ND	ND	ND	ND<0.050	NA	0.005
d-BHC	ND	ND	ND	ND<0.050	NA	0.005
g-BHC	ND	ND	ND	ND<0.20	NA	0.02
Chlordane (Technical)	ND	ND	ND	ND<1.0	NA	0.1
a-Chlordane	ND	ND	ND	ND<0.50	NA	0.05
g-Chlordane	ND	ND	ND	ND<0.50	NA	0.05
p,p-DDD	ND	ND	ND	ND<0.10	NA	0.01
p,p-DDE	ND	ND	ND	ND<0.10	NA	0.01
p,p-DDT	ND	ND	ND	ND<0.50	NA	0.05
Dieldrin	ND	ND	ND	ND<0.10	NA	0.01
Endosulfan I	ND	ND	ND	1.2	NA	0.02
Endosulfan II	ND	ND	ND	0.84	NA	0.01
Endosulfan sulfate	0.096	ND	ND	2.3	NA	0.05
Endrin	ND	ND	ND	1.0	NA	0.01
Endrin aldehyde	ND	ND	ND	ND<0.10	NA	0.01
Heptachlor	ND	ND	ND	ND<0.10	NA	0.01
Heptachlor epoxide	ND	ND	ND	ND<0.10	NA	0.01
Methoxychlor	ND	ND	ND	ND<1.0	NA	0.1
Toxaphene	ND	ND	1.7	22	NA	0.5
Surrogate Recoveries (%)						
%SS:	99	104	104	84		
Comments	i	i	i	i		

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016, (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260, (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content/matrix interference; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley	Date Sampled: 05/12/06
		Date Received: 05/12/06
2937 Veneman Ave., Suite B240	Client Contact: Steve Lankford	Date Extracted 05/12/06
Modesto, CA 95356	Client P.O.: G1197	Date Analyzed 05/18/06

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C Analytical Method: SW8081B Work Order: 0605256

Lab ID	0605256-005A	0605256-006A	0605256-007A	0605256-008A	Reporting Limit for DF =1	
Client ID	B7	B8	DWW	TB		
Matrix	W	W	W	W	S	W
DF	1	1	1	1		
Compound	**Concentration**				µg/kg	µg/L
Aldrin	ND	ND	ND	ND	NA	0.005
a-BHC	ND	ND	ND	ND	NA	0.01
b-BHC	ND	ND	ND	ND	NA	0.005
d-BHC	ND	ND	ND	ND	NA	0.005
g-BHC	ND	ND	ND	ND	NA	0.02
Chlordane (Technical)	ND	ND	ND	ND	NA	0.1
a-Chlordane	ND	ND	ND	ND	NA	0.05
g-Chlordane	ND	ND	ND	ND	NA	0.05
p,p-DDD	ND	ND	ND	ND	NA	0.01
p,p-DDE	ND	ND	ND	ND	NA	0.01
p,p-DDT	ND	ND	ND	ND	NA	0.05
Dieldrin	ND	ND	ND	ND	NA	0.01
Endosulfan I	ND	ND	ND	ND	NA	0.02
Endosulfan II	ND	0.014	ND	ND	NA	0.01
Endosulfan sulfate	ND	ND	ND	ND	NA	0.05
Endrin	ND	ND	ND	ND	NA	0.01
Endrin aldehyde	ND	ND	ND	ND	NA	0.01
Heptachlor	ND	ND	ND	ND	NA	0.01
Heptachlor epoxide	ND	ND	ND	ND	NA	0.01
Methoxychlor	ND	ND	ND	ND	NA	0.1
Toxaphene	ND	ND	ND	ND	NA	0.5
Surrogate Recoveries (%)						
%SS:	102	103	105	101		
Comments	i	i				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content/matrix interference; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley	Date Sampled: 05/12/06
		Date Received: 05/12/06
2937 Veneman Ave., Suite B240	Client Contact: Steve Lankford	Date Extracted 05/12/06
Modesto, CA 95356	Client P.O.: G1197	Date Analyzed 05/18/06

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C Analytical Method: SW8081B Work Order: 0605256

Lab ID	0605256-009A	0605256-010A			Reporting Limit for DF =1	
Client ID	Eq Blank	Decom				
Matrix	W	W			S	W
DF	1	5				
Compound	**Concentration**				µg/kg	µg/L
Aldrin	ND	ND<0.025			NA	0.005
a-BHC	ND	ND<0.050			NA	0.01
b-BHC	ND	ND<0.025			NA	0.005
d-BHC	ND	ND<0.025			NA	0.005
g-BHC	ND	ND<0.10			NA	0.02
Chlordane (Technical)	ND	ND<0.50			NA	0.1
a-Chlordane	ND	ND<0.25			NA	0.05
g-Chlordane	ND	ND<0.25			NA	0.05
p,p-DDD	ND	ND<0.050			NA	0.01
p,p-DDE	ND	ND<0.050			NA	0.01
p,p-DDT	ND	ND<0.25			NA	0.05
Dieldrin	ND	ND<0.050			NA	0.01
Endosulfan I	ND	1.4			NA	0.02
Endosulfan II	ND	0.75			NA	0.01
Endosulfan sulfate	ND	ND<0.25			NA	0.05
Endrin	ND	ND<0.050			NA	0.01
Endrin aldehyde	ND	ND<0.050			NA	0.01
Heptachlor	ND	ND<0.050			NA	0.01
Heptachlor epoxide	ND	ND<0.050			NA	0.01
Methoxychlor	ND	ND<0.50			NA	0.1
Toxaphene	ND	ND<2.5			NA	0.5
Surrogate Recoveries (%)						
%SS:	104	94				
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content/matrix interference; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0605256

EPA Method: SW8081B	Extraction: SW3510C			BatchID: 21691		Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldrin	N/A	0.50	N/A	N/A	N/A	128	129	0.70	N/A	70 - 130
g-BHC	N/A	0.50	N/A	N/A	N/A	105	106	0.843	N/A	70 - 130
p,p-DDT	N/A	1.25	N/A	N/A	N/A	91.9	93.4	1.66	N/A	70 - 130
Dieldrin	N/A	1.25	N/A	N/A	N/A	127	129	1.04	N/A	70 - 130
Endrin	N/A	1.25	N/A	N/A	N/A	123	124	1.31	N/A	70 - 130
Heptachlor	N/A	0.50	N/A	N/A	N/A	106	107	1.42	N/A	70 - 130
%SS	N/A	2.5	N/A	N/A	N/A	98	96	1.68	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 21691 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0605256-001A	5/12/06 9:23 AM	5/12/06	5/18/06 12:43 AM	0605256-002A	5/12/06 10:15 AM	5/12/06	5/18/06 1:39 AM
0605256-003A	5/12/06 10:58 AM	5/12/06	5/18/06 2:35 AM	0605256-004A	5/12/06 12:44 PM	5/12/06	5/18/06 3:31 AM
0605256-005A	5/12/06 11:35 AM	5/12/06	5/18/06 5:22 AM	0605256-006A	5/12/06 12:40 PM	5/12/06	5/18/06 6:18 AM
0605256-007A	5/12/06 12:48 PM	5/12/06	5/18/06 7:13 AM	0605256-008A	5/12/06	5/12/06	5/18/06 11:54 AM
0605256-009A	5/12/06 12:15 PM	5/12/06	5/18/06 12:50 PM	0605256-010A	5/12/06 1:50 PM	5/12/06	5/18/06 1:47 PM

MS = Matrix Spike, MSD = Matrix Spike Duplicate, LCS = Laboratory Control Sample, LCSD = Laboratory Control Sample Duplicate, RPD = Relative Percent Deviation

% Recovery = 100 * (MS-Sample) / (Amount Spiked), RPD = 100 * (MS - MSD) / ((MS + MSD) / 2)

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0605256 **ClientID: GPEM** **EDF: NO**

Report to:
Steve Lankford
Geophase Environmental
2937 Veneman Ave., Suite B240
Modesto, CA 95356
TEL: (209) 581-9280
FAX: (209) 581-9282
ProjectNo: #474.2; Haley
PO: G1197

Bill to:
Irina Cueto
Argon Laboratories
2905 Railroad Avenue
Ceres, CA 95307

Requested TAT: 5 days
Date Received: 05/12/2006
Date Printed: 05/19/2006

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
0605256-001	B3	Water	05/12/2006	☐	A											
0605256-002	B4	Water	05/12/2006	☐	A											
0605256-003	B5	Water	05/12/2006	☐	A											
0605256-004	B6	Water	05/12/2006	☐	A											
0605256-005	B7	Water	05/12/2006	☐	A											
0605256-006	B8	Water	05/12/2006	☐	A											
0605256-007	DWW	Water	05/12/2006	☐	A											
0605256-008	TB	Water	05/12/2006	☐	A											
0605256-009	Eq Blank	Water	05/12/2006	☐	A											
0605256-010	Decom	Water	05/12/2006	☐	A											

Test Legend:

1	8081_W	2		3		4		5	
6		7		8		9		10	
11		12							

Prepared by: Kathleen Owen

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Appendix B

Soil Boring Logs

2937 Veneman Ave., #B240
Modesto, CA 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

Project Name Haley PEA

Address 21,000 Paradise, Tracy

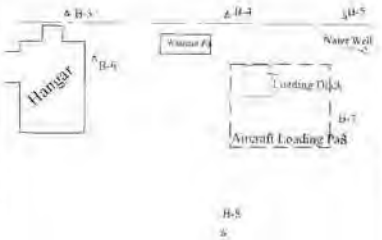
Geologist SL

Boring No. B-3

Date/Time Started-Finished 5/12/06 0800 - 0930

Boring Location W. Side Irrigation Berm

Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
▽=Depth to Water

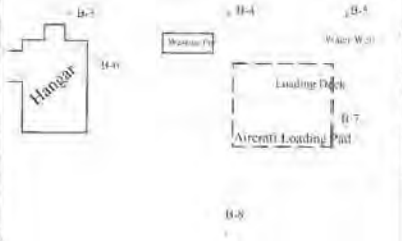
Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
5.0			0804	Direct Push Drilling	Boring Grouted to Surface			Fill	
			0808				CL	Silty Clay. Plastic Deformation Yellowish Brown 10YR5/6	No Odor/Stain
10.0			0810				CL	Silty Clay. Plastic Deformation Yellowish Brown 10YR5/6	No Odor/Stain
15.0			0826				ML	Clayey Silt. Semi-Plastic Def Dk Yellowish Brown 10YR4/4	No Odor/Stain
20.0			0850				CL	Silty Clay. Plastic Deformation Yellowish Brown 10YR5/4	No Odor/Stain
25.0									
30.0									

Notes:
Grab GW sample collected at 0923 using 10' screen.

Project Name Haley PEA
Address 21,000 Paradise, Tracy

Geologist SL
Boring No. B-4
Date/Time Started-Finished 5/12/06 0930 - 1015
Boring Location Irrigation Berm above Pit

Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
=Depth to Water

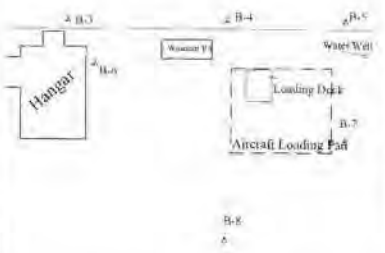
Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
5.0			0936	Direct Push Drilling	Boring Grouted to Surface			Fill	
			0939				ML	Clayey Silt. Semi-Plastic Deformation Brown 10YR4/3	No Odor/Stain
10.0			0943				CL	Clay. Plastic Deformation Brown 10YR4/4	No Odor/Stain
15.0			0947				ML	Clayey Silt. Semi-Plastic Def. Yellowish Brown 10YR5/4	No Odor/Stain
20.0			0952				CL	Clay. Plastic Deformation Yellowish Brown 10YR5/6	No Odor/Stain
25.0									
30.0									

Notes:
Grab GW sample collected at 1015 using 10' screen.

Project Name Haley PEA
Address 21,000 Paradise, Tracy

Geologist SL
Boring No. B-5
Date/Time Started-Finished 5/12/06 1015-1100
Boring Location E. Side Irrigation Berm

Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
▽=Depth to Water

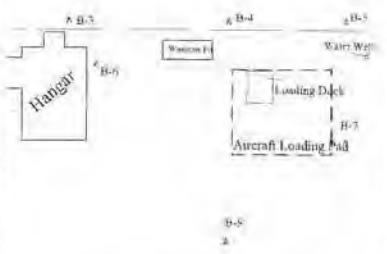
Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
5.0			1025	Direct Push Drilling	Boring Grouted to Surface			Fill	
			1032				SM	Silty Sand. Friable Dk. Yellowish Brown 10YR4/4	No Odor/Stain
10.0			1036				CL	Clay. Plastic Deformation Brown 10YR4/4	No Odor/Stain
15.0			1040				ML	Sandy Silt. Semi-Plastic Def. Brown 10YR4/4	No Odor/Stain
20.0			1045				ML	Sandy Silt. Semi-Plastic Def. Brown 10YR4/4	No Odor/Stain
25.0									
30.0									

Notes:
Grab GW sample collected at 1058 using 10' screen.

Project Name Haley PEA
Address 21,000 Paradise, Tracy

Geologist SL
Boring No. B-6
Date/Time Started-Finished 5/12/06 1215-1245
Boring Location Near E. Hangar

Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
▽=Depth to Water

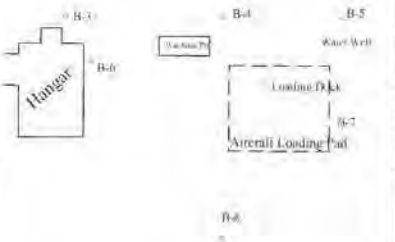
Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
5.0			1222	Direct Push Drilling	Boring Grouted to Surface		ML	Sandy Silt. Friable Yellowish Brown 10YR5/6	No Odor/Stain
			1224				ML	Silt. Semi-Plastic Deformation Yellowish Brown 10YR5/6	No Odor/Stain
10.0			1226				CL	Silty Clay. Plastic Def. Yellowish Brown 10YR5/6	No Odor/Stain
15.0			1230				CL	Silty Clay. Plastic Def. Yellowish Brown 10YR5/6	No Odor/Stain
20.0									
25.0									
30.0									

Notes:
Grab GW sample collected at 1244 using 5' screen.

Project Name Haley PEA
Address 21,000 Paradise, Tracy

Geologist SL
Boring No. B-7
Date/Time Started-Finished 5/12/06 1100-1145
Boring Location E. of Pad

Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
=Depth to Water

Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
5.0			1107	Direct Push Drilling	Boring Grouted to Surface			Fill	No Odor/Stain
			1110				ML	Clayey Silt. Semi-Plastic Deformation Dk Yellowish Brown 10YR4/6	No Odor/Stain
10.0			1117				ML	Clayey Silt. Semi-Plastic Deformation Yellowish Brown 10YR5/6	No Odor/Stain
15.0			1122				CL	Silty Clay. Plastic Def. Yellowish Brown 10YR5/6	No Odor/Stain
20.0									
25.0									
30.0									

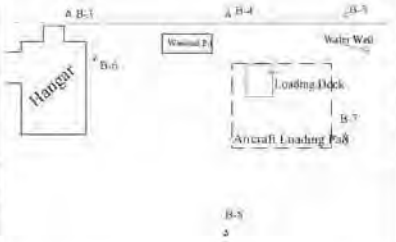
Notes:
Grab GW sample collected at 1135 using 5' screen.

Project Name Haley PEA
Address 21,000 Paradise, Tracy

Geologist SL
Boring No. B-8
Date/Time Started-Finished 5/12/06 1145-1215
Boring Location S. of Pad



Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
▽ =Depth to Water

Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
5.0			1145	Direct Push Drilling	Boring Grouted to Surface		SM	Sity Sand. Very Fine grained. Poor Sorting Yellowish Brown 10YR5/6	No Odor/Stain
10.0			1148			▽	SM	Sity Sand. Very Fine grained. Poor Sorting Yellowish Brown 10YR5/6	No Odor/Stain
15.0			1152				SM	Sity Sand. Very Fine grained. Poor Sorting Yellowish Brown 10YR5/6	No Odor/Stain
20.0			1155				CL	Silty Clay. Plastic Def. Yellowish Brown 10YR5/6	No Odor/Stain
25.0									
30.0									

Notes:
Grab GW sample collected at 1135 using 5' screen.

Appendix C

Site Photos



Photo 1 - 0803

The first boring of the day (B-3) was installed on the south berm of the irrigation ditch (left). Just out of view to the right is the west hangar. The loading dock is partially visible just right of the control panel.



Photo 2 – 0941

A soil sample is being collected from B-4 at a point on the berm near the washout pit.



Photo 3 – 0942

Drilling tools and sampling equipment was steam cleaned using equipment mounted on the support trailer.



Photo 4 – 1041

This view shows the decon equipment mounted on the support trailer. The west hangar is in the background.



Photo 5 – 1041

Boring B-5 was advanced at a point near the east end of the site on the south berm of the irrigation ditch. Paradise Road is partially visible in the view toward the north.



Photo 6 – 1042

This is another view of the rig located on the B-5 location. The dirt road is on top of the south berm.



Photo 7 – 1042

Another view of B-5 show the relationship of the location with the loading dock and west hangar shown in the background.

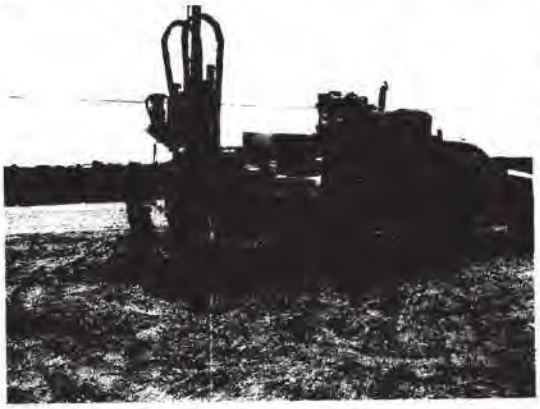


Photo 8 – 1136

In this view, the rig is preparing to move off of B-7. Beyond the rig is Paradise Road and an alfalfa field.



Photo 9 – 1136

Location B-7 looking north along Paradise Road.



Photo 10 – 1213

Preparing to collect a groundwater sample from B-8. This site is south of the major soil contamination. In this view toward the north, the loading dock and washout pit are visible in the background.



Photo 11 – 1218

The last boring of the day was B-6, located near the NW corner of the west hangar. To the right, the berm or the irrigation ditch is also visible.

Appendix D

Field Notes

2937 Veneman Ave., #B240
Modesto, CA 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

Field/Activity Log

Job Name/Number: Haley Flying SVC

Date(s): 5/12/06

Date	Time	Activity
5/12	0645	Arrive location. E. Wallberg, DTSC on site
	0745	Drillers arrive. Safety Mtg
	0755	Set up to drill B-3
	0925	Finished boring, moved to B-4
	1015	Finished B-4 - collect GW spl
	1100	Drilled & sampled B-5 - DTSC left
	1135	Drilled & sampled B-7
	1210	Drilled & sampled B8
	1215	Decon equipment, collect eq. blank
	1245	Drilled & sampled B-6 - Rig down drillers
	1250	collect water well sample from top
	1345	Clean-up. Leave location

Additional Notes:

Wx sunny, cool ± 60°

Took photos - see next page

Mileage:

To	From	Start Mileage	Stop Mileage	Total Miles
			Total Mileage-Job:	

Date	Time	Activity

Additional Notes:

SITE PHOTOS as follows:

Time	Subject
803	B-3
941	B-4
942	Decon
1041	Decon
1041	B-5
1042	B-5
1042	B-5
1136	B-7
1136	B-7
1213	B-8
1218	B-6

GEO-PHASE ENVIRONMENTAL

WORK PLAN ADDENDUM

PRELIMINARY ENDANGERMENT ASSESSMENT
Former Haley Flying Service
21,000 Paradise Road, Tracy, CA
(Cal-Site # 39070037)

April 21, 2006
GPE Project No. 474.2

Submitted to:
Mr. Eric Wallberg
Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826

2937 Veneman Avenue, Suite B240
Modesto, Ca 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

GEO-PHASE ENVIRONMENTAL

April 21, 2006

Mr. Eric Wallberg
California Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826

RE: WORK PLAN ADDENDUM – PRELIMINARY ENDANGERMENT ASSESSMENT
Former Haley Flying Service, 21,000 Paradise Road, Tracy (Cal-Site # 39070037)

Mr. Eric Walberg:

The attached Work Plan addendum is submitted on behalf of Mrs. Dorothy Haley, the owner of the subject site, formerly operated as a crop-dusting service. The site is listed on the DTSC "Cal-Site" database, and was the subject of a recent Preliminary Endangerment Assessment (PEA) completed by Geo-Phase Environmental, Inc. on January 18, 2006. The purpose of this addendum is to describe methods and protocols to be used in the collection and testing of additional groundwater samples in the vicinity of the pesticide release identified in the PEA.

Sincerely,

Geo-Phase Environmental Inc.
Stephen M. Lankford, RG, REA
President

cc: Dorothy Haley
Ryan Voorhees
San Joaquin County EHD

2937 Veneman Avenue, Suite B240
Modesto, Ca 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
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GEO-PHASE ENVIRONMENTAL

WORK PLAN ADDENDUM

PRELIMINARY ENDANGERMENT ASSESSMENT
Former Haley Flying Service
21,000 Paradise Road, Tracy
Cal-Site # 39070037

April 21, 2006
GPE Project No. 474.2

1.0 INTRODUCTION

Reference is made to our original Work Plan dated August 3, 2005, and the subsequent Preliminary Endangerment Assessment (PEA) dated January 18, 2006. The PEA identified the presence of significant pesticide contamination in the shallow soil in an area near the east end of the subject site. Two grab groundwater samples collected during the original assessment contained detectable concentrations of various pesticides. These sample results were, however, not considered definitive due to suspected cross-contamination of the sampling equipment from the high concentrations of pesticides in the shallow soil.

Sub-sections 1.1, 1.2, and 1.3 of the original Work Plan provide a site description, the background, and status of the Haley site. Section 5 of the PEA describes the sample results of soil and groundwater samples collected to date.

1.1 Scope of Additional Work

This Addendum describes a series of 6 Geo-Probe soil borings that will be installed in the vicinity of the former chemical mixing and loading area, and the adjacent washout pit. Groundwater samples will be collected from the borings and from the on-site domestic water well (see Figure 2 for boring locations). The samples will be tested for the possible presence of organo-chlorine pesticides.

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Modesto, Ca 95356

Geo-Phase Environmental Inc.

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2.0 DATA COLLECTION

This section describes the rationale and methods that will be used to obtain the samples and laboratory analytical information to be used in the completion of an addendum to the PEA.

2.1 Field Work

Groundwater samples will be collected at six specific points on the subject site. Three points will be from borings to be installed through the south berm of an irrigation ditch that marks the north line of the site. Other borings will be located south, east and west of the contaminated area. The domestic water well will also be sampled, making a total of seven groundwater samples to be collected.

2.2 Sampling Strategy

The regional direction of groundwater flow in this area is in a northerly direction, although the precise local direction of flow has not been determined. In an attempt to obtain representative groundwater samples in the down-gradient position, three of the borings will be installed on the south berm of the irrigation ditch. These positions will be northwest, north, and northeast of the area of the most intense pesticide contamination. These locations are also unlikely to exhibit high concentrations of pesticides in the soil, thus minimizing the risk of cross-contamination. To assure that a suitable groundwater sample has been obtained regardless of the actual direction of groundwater flow, additional borings will be installed south, east, and west of the area of major contamination, but at points sufficiently distant that shallow soil contamination will be minimal.

The Geo-Probe soil borings (designated B-3 to B-8) will be advanced to a depth sufficient to penetrate the groundwater surface, and a sample of the shallow groundwater will be collected from each of these borings. In addition, a sample will be collected from the onsite domestic water production well.

2.3 Groundwater Sampling and Analysis

Prior to installing the proposed soil borings, the required drilling permit will be obtained from the San Joaquin County Environmental Health Department. The Geo-Probe soil borings will be drilled using 1.5" outside diameter Geo-Probe drilling equipment owned and operated by RSI Drilling of Woodland, CA, a C-57 Licensed drilling contractor. The borings will be advanced to a depth sufficient to penetrate the groundwater surface (est. about 11 feet below grade). The domestic water well and borings B-3 through B-8 are shown on the detailed site sketch map (Figure 2).

See the original Work Plan for information regarding soil boring and sampling procedures. After collecting the final soil sample and a groundwater sample, each boring will be filled to grade with Class G neat cement.

Upon retrieval, each groundwater sample will be transported to Argon Laboratories of Ceres, CA for analytical testing for organo chlorine pesticides by EPA method 8081B. The specific chemicals and their reporting limits are listed in the original Work Plan.

2.4 Waste Disposal

Decon water will be containerized in an appropriate DOT container drum for later recycling by a licensed hazardous waste hauler. No waste soil cuttings will be generated during the Geo-Probe drilling process or shallow soil sampling.

2.5 Documentation

Field documentation procedures are described in the original Work Plan.

2.6 Quality Assurance / Quality Control

See Section 2.2 of the original Work Plan for a general discussion of QA/QC methods and protocols.

For the work described in this addendum, a trip blank prepared by the analytical laboratory will accompany the sample storage containers throughout the sample collection process, and will be returned to the lab for analysis along with the water samples collected in the field. An equipment blank will be collected in the field prior to collecting the final groundwater sample.

2.7 Health and Safety Plan

See Appendix A of the original Work Plan for the Health and Safety Plan.

3.0 SIGNATURE AND CERTIFICATION

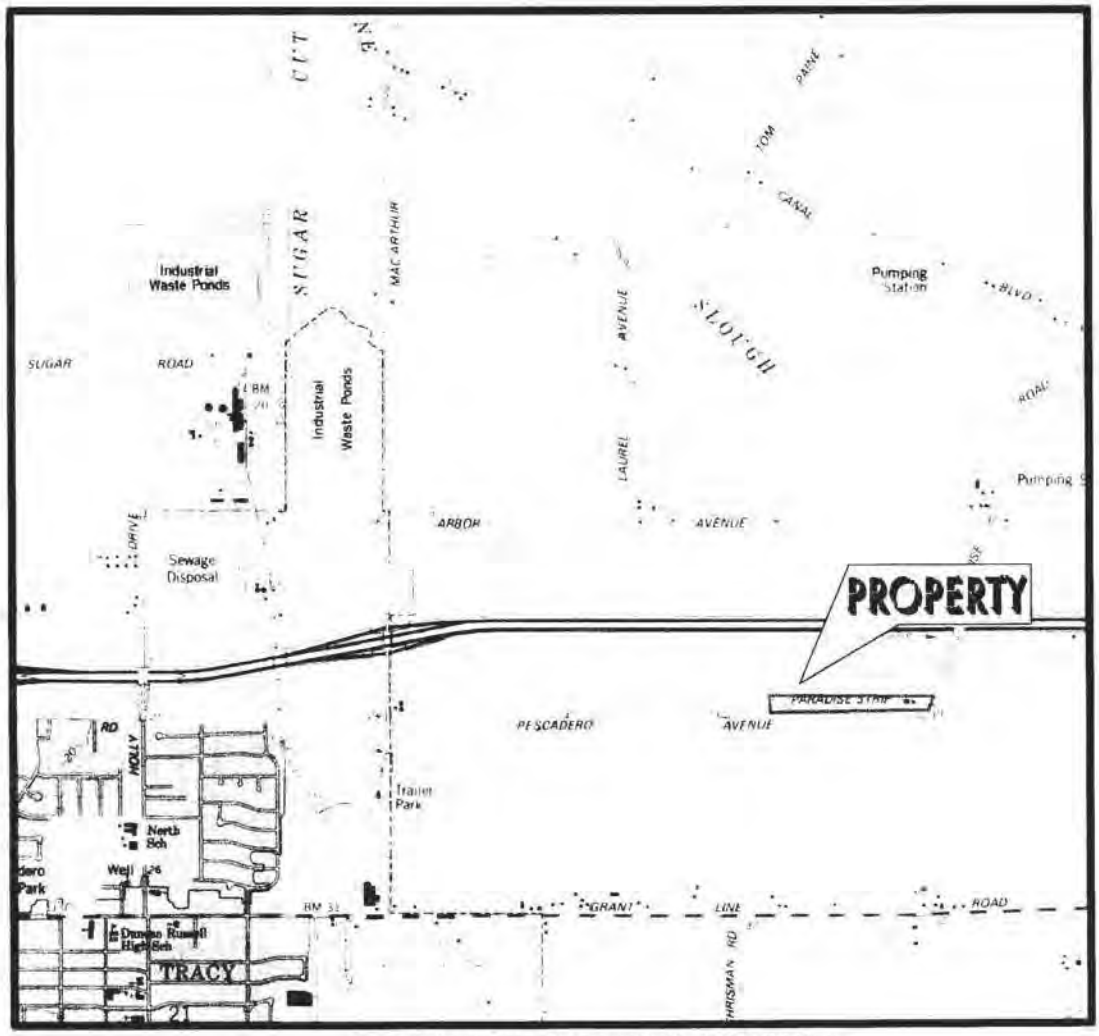
Geo-Phase Environmental Inc. will perform this work in accordance with accepted geologic and hydrologic standards of the State of California including the DTSC document entitled Preliminary Endangerment Assessment, Guidance Manual. Geo-Phase Environmental Inc. is not responsible for undisclosed conditions.

This work plan was prepared by:

Geo-Phase Environmental Inc.

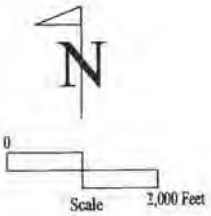


Stephen M Lankford,
CA Professional Geologist #4283
Registered Environmental Assessor # 4459



Modified from the USGS Topographic Map Union Island Quadrangle, 7.5 Minute Series.

USGS Topographic Map
Former Haley's Flying Service
21000 Paradise Road
Tracy, CA



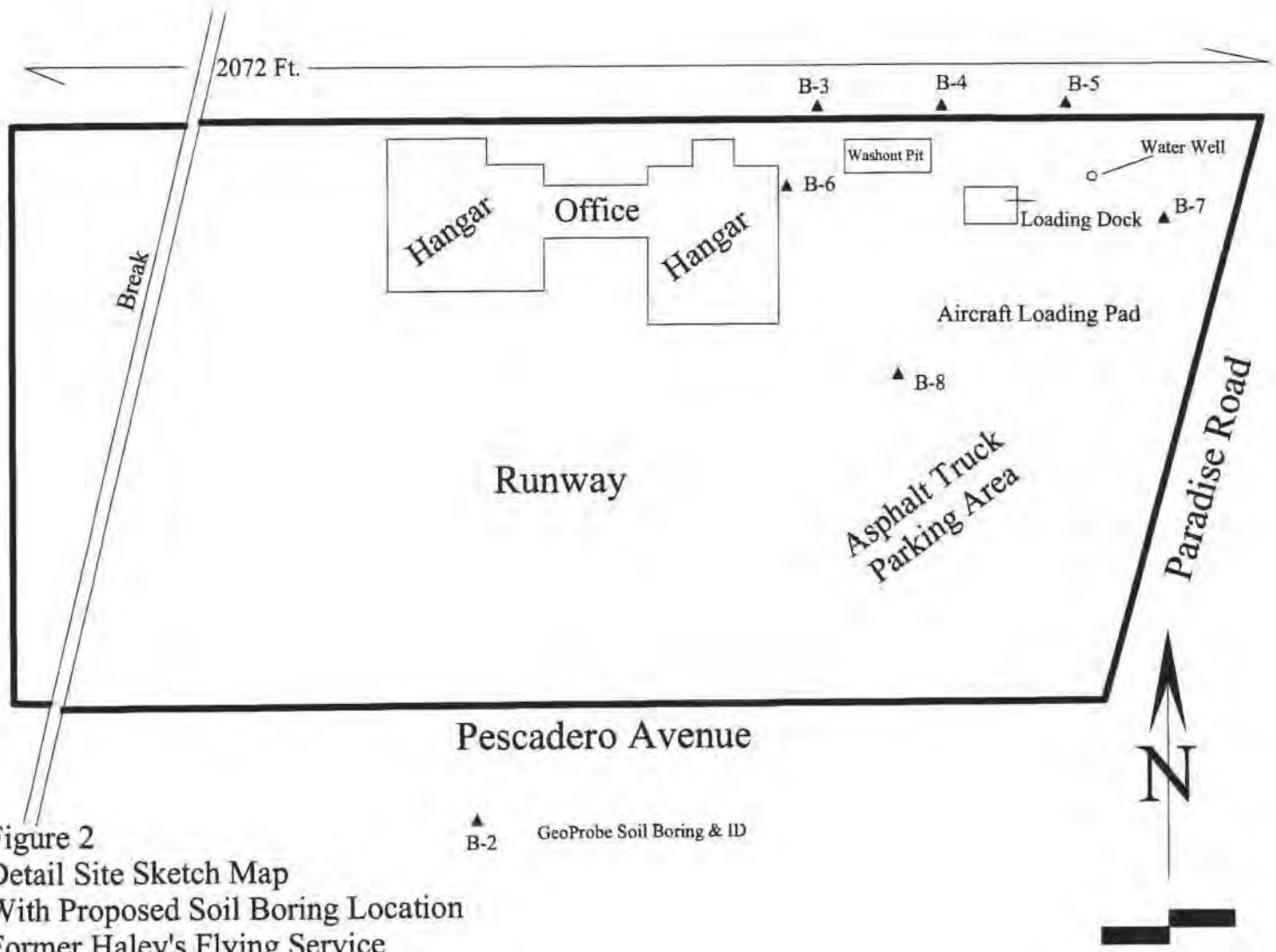


Figure 2
Detail Site Sketch Map
With Proposed Soil Boring Location
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

GEO-PHASE ENVIRONMENTAL

REPORT

PRELIMINARY ENDANGERMENT ASSESSMENT
Former Haley Flying Service
21,000 Paradise Road, Tracy, CA
(Cal-Site # 39070037)

January 18, 2006

GPE Project No. 474.2

Submitted to:

Mr. Eric Wallberg
Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826

2937 Veneman Avenue, Suite B240
Modesto, Ca 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
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GEO-PHASE ENVIRONMENTAL

January 18, 2006

Mr. Eric Wallberg
California Department of Toxic Substance Control
8800 Cal Center Drive
Sacramento, CA 95826

RE: REPORT – PRELIMINARY ENDANGERMENT ASSESSMENT
Former Haley Flying Service, 21,000 Paradise Road, Tracy
(Cal-Site # 39070037)

Mr. Wallberg:

The attached report is submitted on behalf of Mrs. Dorothy Haley, the owner of the subject site, formerly operated as a crop-dusting service. The site is listed on the DTSC "Cal-Site" database. The purpose of this PEA is to assess the risk to human health and ecological receptors, and the potential threat to groundwater from a release of pesticides.

Sincerely,

Geo-Phase Environmental Inc.
Stephen M. Lankford, PG, REA
President

cc: Dorothy Haley
Ryan Voorhees
San Joaquin County EHD

2937 Veneman Avenue, Suite B240
Modesto, Ca 95356

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GEO-PHASE ENVIRONMENTAL

PRELIMINARY ENDANGERMENT ASSESSMENT

Former Haley Flying Service
21,000 Paradise Road, Tracy
Cal-Site # 39070037

January 18, 2006
GPE Project No. 474.2

EXECUTIVE SUMMARY

Purpose

The subject site was formerly used as a crop dusting airstrip from the 1950s to the late 1980's. The operations included storage and handling of agricultural pesticides and herbicides. The primary chemical handling facilities included an aircraft loading dock and pad, as well as a "wash-out pit" where the tanks of returning aircraft were rinsed out and the rinseate was treated by aeration. (See Figures 2 and 3 for a graphical representation of the site.) The facility was placed on the DTSC "Cal-Site" list in 1981, and the listing included a requirement that a Preliminary Endangerment Assessment (PEA) of the site be completed. For 25 years, however, no PEA was completed nor was any or other attempt made to assess the possible impact to the site from agricultural chemicals. This current report is in fulfillment of the DTSC requirement for a PEA.

A secondary objective of this PEA was to assess the possible impact to the soil from a reported spill of an oil / diesel / water mixture as well as an area of oil stained soil near the permanent buildings on the site. The spill was investigated by the San Joaquin County Environmental Health Department in 2001, and the agency required additional investigation to assess the extent of possible soil impact.

Site Use and Setting

The subject site is a 10-acre parcel just inside the Tracy city limit that was formerly used as a crop dusting airstrip. The hangars and immediately adjacent area are currently in use by a small trucking company, and the remainder of the site remains undeveloped. Except for a Yellow Freight truck terminal adjacent to the west, the adjacent parcels are in agricultural use, primarily to raise corn and alfalfa. The Haley site and parcels adjacent to the north, south, and west are zoned industrial, and the area is planed for development as an industrial park. The parcel is bounded on the east by Paradise Road, and the land on the opposite side

continues to be zoned for agricultural use. Paradise Road also marks the Tracy city limit. The nearest residents are farm houses approximately ½ mile away.

Scope of Work

The tasks accomplished during completion of this PEA included collecting a suite of shallow soil samples and two groundwater grab samples. These samples were subjected to laboratory analysis to test for the possible presence of a variety of pesticides and herbicides. Several soil samples were also tested for the presence of extractable petroleum hydrocarbons and one was tested for volatile organic compounds to assess the reported waste oil and diesel spill.

Sample Analytical Results

The analytical testing indicates the soil in the vicinity of the aircraft loading dock, surrounding loading pad, and the washout pit, is severely contaminated by a variety of pesticides, mostly of the organo-chlorine group. The bulk of the contaminant mass consists of the DDT sub-group (DDT, DDD, DDE) and Toxaphene. Dieldrin was detected in much lower concentrations, but this chemical is hazardous at much lower concentrations. Other contaminants include Chlordane, Aldrin, Methoxychlor, and Endosulfans. The sample with the greatest total contaminant mass was collected from a point adjacent to the loading dock. It contained a total pesticide mass load of approximately 50,000 parts per million (ppm).

Groundwater at the site lies about 11 feet below the surface and the two groundwater samples were collected from points near either end of the washout pit. Laboratory analysis detected the presence of pesticides in the groundwater samples. These results are questionable however, because the sample collection required installing the borings through the highly contaminated shallow soil. This means the drilling and sampling tools had to pass through the contaminated soil in order to reach the groundwater. It is considered very possible or likely that cross-contamination from the shallow soil may have affected the groundwater samples and thus resulted in false detections or exaggeration of pesticide concentrations.

No material presence of extractable petroleum hydrocarbons or VOCs was detected in the soil samples that were tested for these substances.

Human Health Hazard Assessment

Upon completion of the field and laboratory work, government-approved software, known as CalTOX, was employed to help evaluate the risk posed to human health by the agricultural chemicals detected. A U.S. EPA computer program known as ProUCL was used to statistically analyze the distribution of laboratory data and derive a mean concentration for each detected chemical to a 95 percent upper confidence limit (UCL). Analytical tests for herbicides and pesticides outside the organo-chlorine group were completed on too few samples to represent a statistically significant population. Mean contaminant concentrations for these chemicals were assumed to be the maximum concentration actually detected. Based, in part, on the ProUCL statistical analysis, the following organo-chlorine pesticides were identified as organo-chlorine pesticide Chemicals of Potential Concern (COPCs) in the soil:

a-Chlordane	Endosulfan I
g-Chlordane	Endosulfan II
DDD	Endosulfan Sulfate
DDE	Endrin
DDT	Toxaphene
Dieldrin	

The organo-phosphorous chemicals, Ethion and Ethyl parathion, were also detected and deemed to represent COPCs, as were the N-methyl Carbamate pesticides, Carbaryl and Methiocarb.

Although the groundwater samples are considered suspect, the following organo-chlorine pesticides were detected and are identified as COPCs in the groundwater:

DDD	Endosulfan I
DDE	Endosulfan II
DDT	Endosulfan Sulfate
Toxaphene	

The organo-phosphorous chemical, Ethyl parathion, was also detected and deemed to represent a groundwater COPCs as was the N-methyl Carbamate pesticide Carbaryl and the chlorinated herbicide DCPA.

The computerized health risk model known as CalTOX was used to assess the human health risk of these COPCs. In the CalTOX model, it was assumed that a hypothetical future resident would live on the site for 70 years and be available for exposure to the COPCs. The CalTOX software contains a library of characteristics and toxicity information on various chemicals, but not all the COPCs were included in the CalTOX library of chemicals. Those chemicals not included, however, represent only about 1.6 percent of the calculated total contaminant mass present at the site, and the assumption was made that excluding these chemicals from the risk assessment would not materially affect the results of the risk assessment. This assumption is based on the fact that even excluding these minor COPCs, the estimated human health risk is much greater than the accepted EPA and Cal-EPA criteria of 1 in one million. The risk management decision, is therefore, not affected by excluding these minor COPCs from the total risk calculation. The following table represents the increased cancer risk and the non-cancer chemical risk estimated by the CalTOX program:

Chemical	Increased Cancer Risk	Hazard Ratio (non-Cancer)
Chlordane	2.2E-3	3.8E+2
DDD	4.9E-5	0.0
DDE	5.9E-4	0.0
DDT	6.8E-5	4E+0
Dieldrin	1.3E-2	3.3E+2
Endosulfan	0.0	4.6E-1
Endrin	0.0	1.8E+1
Toxaphene	1.3E-2	1.9E+2
TOTALS	**2.9E-2 (=0.029)**	**9.2E+2 (=922)**

It should be noted that the estimated risk associated with Dieldrin exposure is almost certainly unreasonably high due to the calculated 41-mg/Kg contaminant point concentration for this chemical compared with the highest actual measured concentration of 3.8-mg/Kg (see Section 7.2).

In general, the exposure pathways most likely to affect humans are through ingestion of shallow (root zone) soil or inhalation of chemically impacted dust. Ingestion and dermal contact are also possible exposure pathways, but are less likely to have an adverse human health impact. Given that the shallow groundwater is not used as a source of municipal drinking water, it is unlikely that ingestion of groundwater would pose a health risk. As a part of this assessment, the CalTOX model took into consideration the plant uptake of the various chemicals.

General Observations

1. The hazard ratio is a measure of the non-carcinogenic health hazard associated with COPCs at the site. Any value over 1 indicates an elevated risk to human health. The potential non-cancer hazard quotient associated with exposure to the COPCs in the shallow soil by a hypothetical future on-site resident is 922. The increased cancer risk factor is 0.028 (i.e. 1 in 35). This compares with the risk factor of 1 in one million, which is generally considered acceptable. Both the increased cancer risk factor and the health hazard factor are very high and clearly indicate that an unacceptable health risk is associated with the Haley site. The figures also suggest that Dieldrin and Toxaphene are the chemicals that pose most of the risk. Although the Dieldrin risk is almost certainly grossly exaggerated for reasons discussed in Section 7.2, even the risk associated with this chemical is discounted; it would not change the risk management decision.

2. The distribution of chemicals in the various soil samples indicates that nearly all the contaminant mass as well as the health risk lies in the shallow soil of a relatively small area very roughly estimated at around 10,000 square feet in the immediate vicinity of where chemicals were stored and handled.

3. Samples collected from areas outside this highly contaminated zone generally appeared to contain trace or non-detectable concentrations of these chemicals. One deviation form this observation was in a sample from near the mid-point of the east-west trending airstrip. This sample point (S-5) had somewhat elevated concentrations of DDT and Endosulfan. Additional work is needed to characterize the risk in the vicinity of sample point S-5.

4. The actual presence of COPCs in the groundwater remains as an open question. Additional work is needed to make this determination.

Recommended Actions

1. Additional groundwater samples should be collected in the assumed down-gradient direction (north) to obtain information on the possible presence of pesticides in the groundwater. The best location would be along the south line of the agricultural parcel that lies on the north side of the irrigation ditch that marks the boundary between these parcels.

2. The concrete loading dock, washout pit, and aircraft loading pad should be removed and the concrete properly disposed of. This would allow access to the underlying soil so that additional samples can be collected to better define the lateral and vertical extent of the intensely contaminated soil.

3. Once this additional soil characterization is complete, the highly contaminated soil should be excavated and either treated on-site, or hauled to a Class I hazardous waste landfill as an interim remedial measure. This work would be expected to remove nearly all of the contaminant mass, thereby removing the source of potential groundwater contamination. New soil samples would then be collected from the freshly exposed surface and new groundwater samples could be collected to determine if additional remedial action is needed.

4. Additional sampling is needed in the vicinity of sample point S-5 to characterize the extent of low levels of organo-chlorine pesticides found there.

5. No evidence was found to suggest the spill of 2 drums of oil, water, and diesel in the area in front of the west hangar has materially impacted the soil. Further characterization and/or remediation does not appear to be warranted.

1.0 INTRODUCTION

As defined by California Health and Safety Code, Division 20, Section 25319.5, a Preliminary Endangerment Assessment (PEA) is "*an activity which is performed to determine whether current or past waste management practices have resulted in the release of hazardous substances which pose a threat to public health or the environment*".

1.1 Purpose and Scope of Work

The Purpose of this PEA was to assess whether the former use of the subject site as a crop dusting airstrip may have resulted in a release of pesticides and/or herbicides that impacted the soil and thereby pose a human health hazard and an ecological hazard. To accomplish this goal, the following tasks were completed:

1 Identified potential exposure pathways,
2 Collected a series of shallow soil samples and tested them for the presence of a variety of herbicides and pesticides,
3 Collected and tested several soil samples for the possible presence of extractable hydrocarbons and volatile organic compounds,
4 Collected two groundwater samples and tested them for the presence of pesticides and herbicides,
5 Conducted a screening-level assessment of soil toxicity and resultant human health risk,
6 Evaluated possible ecological impacts to the flora and fauna, and
7 Provided a series of recommendations based on the findings of this PEA.

1.2 Report Organization

Sections 2 and 3 summarize what is known of the history and past use of the site, as well as the present site status. A general description of the site location and setting is also provided. Section 4 provides general information regarding the geological and hydrologic setting, and the possible pathways in which receptors (people) could be exposed to the contaminants. The actual sampling and laboratory analytical results are documented in Section 5, and Section 6 evaluates the quality of the information so obtained. Section 7 describes the methods used to evaluate the laboratory results and estimate the potential risk to human health resulting from the soil contamination. Section 8 supplements the preceding section with a description of the possible impact to sensitive biota (plants and animals). Section 9 provides information on the nearby community and lists nearby residents and businesses and identifies pertinent elected officials and regulatory agencies. The conclusions and recommendations are detailed in Section 10. Eleven figures with graphical information are also provided, and six appendices containing laboratory data sheets and other basic information support the text.

2.0 SITE DESCRIPTION

The following sub-sections provide a detailed description of the location, setting, and current and past uses of the site and adjacent parcels.

2.1 Site Identification

Physical Address	21,000 Paradise Road, Tracy, California 95376
Assessor Parcel Number	213-060-13
Land Survey Grid Location	37° 45' 48" N; 121° 23' 29" W. NW ¼ S.14, T2S,R5E
On-site Business	Continental Express 2395 E Pescadero Ave Tracy, CA 95376 (209) 836-8888
Current Zoning	Industrial
Cal-Site I.D.	39070037
USEPA I.D.	None Assigned

2.2 Site Location & Setting

San Joaquin County has a Mediterranean climate with arid summers and mild winters. It has average annual rainfall of about 12 to 14 inches, most of which falls between November and March.

The area historically has been in agricultural use, but is in the process of being developed to industrial use. With the exception of a Yellow Freight truck terminal, the adjacent and nearby parcels remain in agricultural use but are zoned for industrial use.

The site is a 10-acre industrial parcel at the intersection of Paradise Road and Pescadero Avenue just inside the northeastern limits of the city of Tracy in San Joaquin County. It consists of a very long, narrow strip of land that is currently mostly unused except for a small complex of buildings near the extreme east end of the parcel. Continental Express, a small trucking firm occupies the buildings. (See Figures 1, 2, and 3 for the site location and graphical details.) The company uses the facility to park heavy trucks and trailers and to perform light servicing of the vehicles.

Hydrogeology

As shown on the USGS topographic map (Figure 1), the area is nearly flat lying, with little topographic variation, and a very gentle northerly slope. The north lot line is bounded by an unlined irrigation ditch, which lies inside a raised levee or berm. The ditch appears to be used only occasionally, and much of the year it is dry. According to a the San Joaquin County Groundwater Report (Hirata, 1999), it appears that first groundwater lies approximately 6 to 10 feet below ground surface and flows in a north to northeasterly direction. Based on soil borings completed for this PEA, the groundwater surface lies about 11 feet below grade.

Soils & Geology

Based on Page (1986), the geologic features of this portion of San Joaquin County are typical of California's Central Valley, a large northwest/southeast trending asymmetric trough bounded by mostly pre-Tertiary metamorphic, sedimentary and granitic rocks. Depth to basement rock in the Valley ranges up to at least 6 vertical miles in the southern portions of the Central Valley (the "San Joaquin" Valley), and to up to 10 miles in sediment thickness in the northern expanse of the valley (the "Sacramento" Valley). In most of San Joaquin County, with the exception of its eastern and western margins which are dominated by the foothills of the Sierra Nevada and Coast Ranges, respectively, recently (Cenozoic) deposited terrestrial, lacustrine, and marine sediments overlie older (pre-Tertiary in age) consolidated marine sediments. These older sedimentary units in turn overlie Mesozoic crystalline basement rocks.

The formation of soils in San Joaquin County is dependent on the sedimentary transport path from the primary sediment sources. These sediment sources are the Coastal Range to the west and the Sierra Nevada to the east of the County. Generally, the longer the transport path the greater the working of the sediments prior to deposition as soils. Along the San Joaquin River and in the delta regions west of Stockton, the low energy river and flood plain environments deposit layers of silt and clays during seasonal floods. These fine-grained sediments flocculate out of slack water as floodwaters recede. The erosion of the Coast Range forms portions of far western San Joaquin County soils and transport of these sediments is facilitated through seasonal run-off of the minor streams of the Coast Range. These soils are formed in environments similar to those of eastern San Joaquin county, i.e., alluvial fans, but tend to be less well worked in comparison to their Sierran derived counterparts due to the shorter transport path.

The USDA Soils Conservation Service *Soil Survey of San Joaquin County, California*, (McElhiney, 1992) classifies soil in San Joaquin County. The *Survey* generally classifies the soils in this area of Tracy as part of the Capay association; moderately well drained, fine-textured soils, very deep and subject to artificial wetness. The on-site soil is specifically classified as Capay clay, 0-2 percent slopes; a very deep, moderately well drained soil on alluvial fans. Based on soil sampling and two soil borings, most of the shallow soil consists of silt and clay.

According to Munger (2002), and Cal-DOGR (1982), the Haley site lies within a natural gas producing field called the Tracy Gas Field. The field is productive from sands of the Tracy Formation at a depth of about 4,000 feet. Based on the available information, it does not appear that any gas wells were ever drilled on, or near, the subject property.

2.3 Site Background

The property was the subject of a Phase I Environmental Site Assessment (ESA) completed in October of 2004 (Geo-Phase Environmental, 2004). The following paragraphs summarize the findings of the ESA.

According to the owner, Mrs. Haley, beginning in 1951 her late husband and a partner operated the site as Haley's Flying Service, a crop dusting operation. The specific agricultural chemicals that were stored and used on the site were not well known, but were assumed to include various pesticides.

Mr. Haley died in 1975, but the partner continued to operate the business until about 1989. Since then, the facility has been leased to several non-aviation related persons or companies. Since the mid- to late-1990's the principal tenant has been Continental Express, a small trucking company. Prior tenants have included a tomato packing company, and a truck repair business as well as an individual who served as an informal caretaker of the property.

The existing buildings on the site date from the time the property was used for crop dusting. According to information in the county Assessor's records, in 1955, an aircraft hangar was constructed and a second hangar was constructed in 1968. An office that connects the two hangars was constructed in 1976. According to Mrs. Haley, the paved area east of the hangars and adjacent to the loading dock was where aircraft were loaded with agricultural chemicals for spraying. The pavement in the area of the loading dock is locally cracked, and it is clear that any spilled liquids could have penetrated to the underlying soil. The loading dock was where bulk chemicals were stored, mixed and then pumped into waiting aircraft.

Upon returning from a flight, the crop dusting aircraft would have their tanks rinsed and the rinse water was pumped into a nearby concrete-lined washout pit. The rinse water in the pit would be aerated in an attempt to breakdown any residual chemicals by oxidation. The pit has 4-inch thick walls and is about 40 feet long, 8 feet wide and four feet deep. Visual inspection of the concrete lining reveals that the concrete was poured in at least two separate events. The seams where the several parts of the concrete meet are zones of weakness where liquid could possibly penetrate. The area immediately adjacent to the washout pit is unpaved and consists of bare ground.

The property was formerly the site of a 1,000-gallon regular unleaded gasoline tank and a 5,000-gallon aviation fuel tank. These tanks were removed in 1990 under County supervision. As a part of the tank closure, one confirmation soil sample was collected from beneath the 1,000-gallon tank and two soil samples were collected from under the 5,000-gallon tank. The sample from beneath the 1,000-gallon tank and one of two samples from beneath the 5,000-gallon did not contain detectable gasoline hydrocarbons or BTEX compounds. The other soil sample from beneath the 5,000-gallon tank contained 610 parts per million (ppm) of total gasoline hydrocarbons. It also included 6.5-ppm of benzene, 62-ppm of toluene, 41-ppm of ethylbenzene and 169-ppm of xylene. Due to the very shallow groundwater, the tank pit contained native groundwater, which was also sampled. The groundwater did not contain detectable gasoline hydrocarbons (<10-ppm), but 3.9 parts per billion (ppb) of benzene were detected, as were 18.4-ppb of toluene, 7.5-ppb of ethylbenzene and 32-ppb of xylene. Based on these sample results, the San Joaquin County Environmental Health Department issued a "notice of unauthorized release" in 1994. Information pertaining to mitigation of the release has been misplaced from the County files, but based on the LUST list maintained by the RWQCB, the site was adequately mitigated and officially closed.

The ESA (Geo-Phase Environmental, 2004) identified several environmental issues that were deemed to represent ongoing "recognized environmental conditions" as follows:

- The soil in the vicinity of a former mobile building is stained with oil in some areas. If the oil has penetrated more than a short distance into the soil, it could represent an adverse environmental condition.

- A surface release in front of the westerly hangar of two drums of water, oil and diesel fuel in 2001 was the subject of an emergency response call by County agencies. The spill was cleaned up, but the San Joaquin County Environmental Health Department indicated that additional work would be needed to investigate the extent of impact to the soil in the area of the spill.

- A surface release of what probably was pesticide impacted the soil in the vicinity of the washout area in 1982. The incident was the subject of a report by the California DTSC. The agency indicated that additional work is needed to investigate the impact to the soil, but at the time of the ESA no such work has been completed.

- The operation of the concrete-lined washout-pit was not in compliance with applicable regulations and there is a possibility that the use of the pit could have impacted the soil in the area around the pit and adjacent concrete pad.

The area believed to be most at risk of having been impacted by a release(s) of agricultural chemicals was the soil around, and under, the washout pit and the area adjacent to, and under, the aircraft-loading pad. The ESA recommended that soil sampling be conducted to assess the distribution of various contaminants and that DTSC and the San Joaquin County Environmental Health Department be contacted to determine what steps would be required to investigate the known and suspected releases.

2.4 Site Status

As a part of the Phase I ESA (Geo-Phase Environmental, 2004), a search of State and Federal environmental databases was completed by EDR. The document identified Haley's Flying Service in several databases. In addition to the Cal-Site listing, the California Regional Water Quality Control Board (RWQCB) determined that the operation of the concrete washout pit was not in compliance with regulations regarding toxic waste pits and as a result, the site is listed in the WMUDS database. The site was also the subject of an investigation of a leaking underground fuel tank, but the release was deemed adequately mitigated and subsequently was officially "closed". Haley's Flying Service is further identified in the AST list as the site of a permitted 10,000-gallon aboveground tank. The address associated with this listing is on Tracy Boulevard suggesting that the tank was actually located at another facility operated by the partner of Mr. Haley. The current owner of the property reports that no such tank was ever present and no evidence was found to indicate that a 10,000-gallon aboveground fuel tank was ever used on the site. Given the large indicated size compared to the relatively small scale of the operation, and the relative costs involved, it would seem

unlikely that such a large tank would have ever been used at the site. Moreover, given that until 1990 (after crop dusting operations ended) underground tanks were present, it would seem to make little sense to operate a large aboveground tank.

Records on file with the San Joaquin County Environmental Health Department (SJC-EHD) include a report of a 2001 site inspection that revealed the presence of drums of hazardous waste, apparently consisting of an oil/diesel/water mixture. A "notice to abate" was issued. In addition to these conditions, records on file with the San Joaquin County Office of Emergency Services and the Environmental Health Department indicate that an emergency response team mobilized to the site on August 8, 2001. A surface release of at least 110 gallons of oil, water, and diesel fuel occurred on the premises occupied by Continental Express. The impacted soil was removed and placed in 55-gallon drums for off-site disposal. The point of release was in front of the westerly hangar. A notation on the incident report indicates additional investigation of the soil will be needed but there is no evidence to suggest this work was ever undertaken.

The site was originally placed on DTSC's Cal-Site list because of a 1981 fire that caused a pesticide spill from ruptured containers stored in a hanger. A recent review of DTSC records indicates, however, that such a fire never occurred on this property. The fire in question was at another airstrip about 5 miles away. Based on this information, the DTSC was asked to reconsider the Cal-Site listing, but agency personnel indicated that the past use of the site for crop dusting operations was sufficient justification to maintain the listing, even though the fire that triggered the listing was acknowledged to have been at another location.

3.0 APPARENT PROBLEM

Prior to this PEA, it does not appear that any soil or groundwater samples have ever been collected to determine whether past operations on the property might have impacted the soil or groundwater with organo-chlorine pesticides or other agricultural chemical contaminants. The only samples ever collected were confirmation soil samples taken in connection with the 1990 removal of a 1,000-gallon regular unleaded gasoline tank and a 5,000-gallon aviation fuel tank (see Section 1.2 for details).

Based on the results of this PEA, a limited area near the east end of the parcel has been severely impacted with several chemicals. The primary contaminants are the DDT group, Dieldrin, and Toxaphene, although other chemicals are present as well. The shallow soil, (above 2 feet) is the site of almost all of the contaminant mass. The deeper soil and groundwater may also have been impacted, but additional work is needed to make this determination. The area of most concern is the exposed soil surrounding and beneath the pesticide loading dock, and pad and the washout pit. The dates of the releases are unknown, but it is likely there were a series of small spills or leaks extending for many years from the 1950's and ending when flight operations ended in the late 1980's.

The Site Conceptual Model Diagram (Figure 5) provides a summary of the potential contaminant pathways and receptors.

A secondary issue was the possibility that the reported spill of two drums of waste water/oil/diesel in the area in front of the westerly hangar may have impacted the soil. Laboratory analytical data obtained for this PEA suggest, however, that the spill did not result in any material degradation to the soil.

4.0 ENVIRONMENTAL SETTING

4.1 Factors Related to Soil Pathways

The site is in a generally undeveloped area. The nearest developed industrial site is a Yellow Freight truck terminal adjacent to the west end of the Haley site. Other adjacent lands are either in agricultural use or are in use as public roadways. The nearest residences are farm houses about ½ mile to the north. Several other residences are about ½ mile to the south. The nearest residential tract is about 0.9 miles to the southeast in the small town of Banta. The only known highly sensitive receptor (such as schools, hospitals, nursing homes) within a mile of the site is Banta Elementary School at 22345 El Rancho Road, about 0.9 miles from the site.

The site is easily accessible to vehicles from either Pescadero Avenue or Paradise Road. There is no fencing or other impediment restricting access to the site. At this time, no steps have been taken to fence the pesticide-impacted area.

The site and surrounding areas are generally flat lying, with little vertical relief. The land surface slopes very gently toward the north. The only remarkable topographic feature is an earthen berm, which runs parallel to the north lot line of the site. The berm is one of the retaining walls of an unlined irrigation ditch immediately adjacent the site. It rises to a maximum of about 6 feet above grade.

The only readily observable evidence of a hazardous release is the general absence of vegetation in the immediate vicinity of the loading dock and washout pit. On occasion, an unusual, septic odor may also be detected in this area. During the course of collecting soil samples, stained soil was also found at several points beneath and near the concrete apron and the graveled area just south of the loading dock.

During the course of the fieldwork, two soil borings were installed to a maximum depth of 17 feet below grade. The vadose zone extends to a depth of about 11 feet where the surface of groundwater was encountered. Boring logs (see Appendix B) indicate the soil consists primarily of silt with varying percentages of clay and sand. This material is representative of recently deposited alluvium in the area. The alluvium extends to a depth of more than 100 feet and it directly overlies sediments of the Plio-Pleistocene age Tulare Formation (Hotchkiss and Balding, 1971).

4.2 Factors Related to Surface Water Pathways

As described above, the only body of surface water on or adjacent to the Property is the irrigation canal adjacent to the north. Water is apparently present in the ditch when crops are being irrigated. During periods of heavy rain, storm water may not immediately percolate into the soil. The natural, gentle north slope of the land would tend to direct storm water runoff toward the base of the south berm of the irrigation ditch, and it therefore appears unlikely that there is any material storm water runoff that can migrate off of the site.

4.3 Factors Related to Groundwater Pathways

As described above, the groundwater surface lies about 11 feet below grade and is believed to flow in a northerly direction.

The two shallow groundwater samples collected as a part of this PEA contained low concentration of pesticides, primarily Toxaphene, but this may be a result of cross-contamination that is suspected to have occurred during drilling. The shallow aquifer is, nevertheless considered as threatened by pesticides and herbicides.

The shallow groundwater contains marginally potable water, and generally the only water production wells completed opposite this zone are domestic wells. The shallow aquifer is composed of shallow sand, and silt alluvium deposited on the valley floor. Hotchkiss & Balding, (1971) described the aquifers and their characteristics for the Tracy-Dos Palos area. In the Tracy area, the recent alluvium is generally less than 100 feet thick and directly overlies the Tulare Formation, a Plio-Pleistocene age, mixed clastic sequence of clay, silt, sand and gravel. There is little to distinguish the contact between the base of the alluvium from the top of the Tulare Formation

A widespread clay deposit, the Corcoran Clay (or E-clay), divides the upper and lower members of the Tulare Formation. The Tulare sediments lying above the Corcoran Clay are entirely Pleistocene in age. The Corcoran Clay is about 100 feet thick in the Tracy area and it serves as an effective aquitard. It lies about 200 feet below the ground surface in the Tracy area.

The principal groundwater aquifer in the Tracy area is the lower Tulare Formation below the Corcoran Clay. According to a Public Health Assessment of the Tracy Defense Depot (ATSDR, 1998), all of the municipal wells in Tracy are completed opposite this zone with well depths generally from 400 to 700 feet. This aquifer is hydraulically isolated from the shallow zone and is not believed to be at risk from the release herein documented.

The only water production wells producing from the aquifer potentially impacted by the Haley site appear to be shallow domestic wells. These wells (including the on-site well) are generally between about 80 and 140 feet deep (Hotchkiss & Balding, 1971). According to the EDR database report contained in the Phase I ESA (Geo-Phase Environmental, 2004), the nearest offsite domestic well is located near the intersection of Grant Line Road and Paradise Road about ½ mile south of the site. This well is reported to be 100 feet deep. In the northerly (down-gradient direction), the nearest wells are also almost ½ mile from the site.

4.4 Factors Related to Air Pathways

The chemicals of potential concern are pesticides, which are primarily soil- and water-borne. Pesticides are not volatile and therefore not subject to direct vapor inhalation. Air exposure is not generally considered to be an issue except in the form of inhalation of pesticide-impacted dust. Except for a very small area of a few hundred square feet, the impacted soil lies under pavement or a graveled surface.

5.0 SAMPLING ACTIVITIES AND RESULTS

The sampling strategy and protocols are described in the Work Plan for this PEA, entitled *Work Plan – Preliminary Endangerment Assessment, Former Haley's Flying Service, 21,000 Paradise Road, Tracy, CA* (Geo-Phase Environmental, 2005). There were few deviations from the Work Plan (see Section 5.8).

5.1 Shallow Soil Sampling and Analysis

Excluding the hangar area, most of the site is undeveloped except for the runway. This undeveloped area encompasses about 8 of the 10 acres that comprise the site. A suite of 8 sample points (1 per acre) were authoritatively selected at grid points in this area to provide a representative cross-section of the site as shown on the overall site sketch map (Figure 2). The shallow soil sample designations were assigned the prefix "S" followed by a sequence number beginning with 1 and increasing from west to east. In most cases, two soil samples were collected from each sample point, and these were represented by letter suffixes increasing with depth. Thus, the designation "S-3B" indicates the second shallowest sample collected from shallow sample point 3. The maps (Figures 2 and 3) show the sample points and their designations.

A suite of targeted shallow samples was collected at specific points around the former flight facilities at the east end of the site to determine if hazardous substances are present. As shown on the detailed site map (Figure 3), a total of 14 authoritatively targeted shallow soil sample points were selected. One of the samples (S-10B) was also tested for the possible presence of VOC's and extractable petroleum hydrocarbons that may have been released from a surface spill from two drums of waste liquid documented by the San Joaquin County Environmental Health Department

The sample points (S-23 & S-24) were located in the vicinity of the west side of the west hanger to test for the possible presence of total extractable petroleum hydrocarbons. These were collected from areas of visible oil staining or where waste oil drums had been observed. Only a single sample was collected from each of these points.

The shallow soil samples were collected from August 24 through August 26, 2005 using hand auger soil boring tools. The first 6-inches of soil were collected as a discreet sample, and a second discreet sample was collected from 6 to 12 inches. These two, stacked samples were collected for the purpose of obtaining information regarding the vertical distribution of any contaminants that may be detected. In general, two samples were collected from each sample point except as otherwise noted.

After labeling, the samples were placed in a cooler chilled with water ice pending transport to the analytical laboratory under chain-of-custody protocol. Chain of custody (CofC) forms are documents used to track the handling of samples. All dates, times, persons and companies handling the samples were listed from the time the sample is collected to its ultimate disposal.

Sampling equipment was double washed using a non-phosphate detergent after every use and rinsed with de-ionized water.

Upon completion of each day's fieldwork, the accumulated samples, accompanied by the Chain-of-Custody were transported to Argon Laboratories of Ceres, CA, a California Environmental Protection Agency (Cal-EPA) certified laboratory (certification # 2359). Argon, in-turn shipped most of the samples to McCampbell Labs for pesticide testing.

All samples except those from sample points S-23 and S-24 were tested for organo-chlorine pesticides by EPA method 8081A. The specific chemicals and their reporting limits are listed in Summary Table 1.

In addition, two shallow soil samples from the vicinity of the washout pit (S-14 A&B) and one from the area of the cracked aircraft-loading pad (S19A) were also tested as follows:

- Organo-phosphorous herbicides and pesticides by EPA method 8141A,
- Chlorinated Herbicides by EPA method 8151A and,
- N-methyl Carbamate pesticides by EPA method 8318.

The specific chemicals and their reporting limits are summarized in Summary Table 1 and the laboratory data sheets are in Appendix A.

As mentioned above, one sample was tested for volatile organic compounds (VOC's) by EPA method 8260B and for Total Extractable Petroleum Hydrocarbons by EPA method 8015m. Samples S-23 and S-24 were also tested for total extractable petroleum hydrocarbons. The laboratory data are summarized in Summary Table 3 and the list of VOC's and their reporting limits are included in Appendix A.

Figures 6 through 11 provide graphical representations of the distribution of the principal contaminants, the DDT sub-group, Endosulfan sub-group, and Toxaphene.

5.2 Groundwater Sampling and Analysis

The single installation originally believed most likely to have impacted the soil was the washout pit. A groundwater sample was collected from points near each end of the washout pit. Geo-Probe soil borings (designated B-1 and B-2) were advanced to a depth sufficient to penetrate the groundwater surface, and a sample of the shallow groundwater was collected from each of the two borings.

On October 6, 2005, two Geo-Probe soil borings were installed using 1.5-inch outside diameter, Geo-Probe drilling equipment owned and operated by V&W Drilling (C-57 License #720904). The borings, (B-1 & B-2) were advanced to a depth sufficient to penetrate the groundwater surface, which was found at approximately 11 feet below grade.

In an attempt to reduce the obvious risk of cross-contamination from the shallow soil, each boring was started by using hand auger soil boring tools to drill the first two feet of each boring. A length of 3-inch diameter PVC pipe was then inserted into the hole, and the Geo-Probe borings were advanced through this pipe. In effect, the PVC pipe served as a form of conductor.

During drilling, a log was be made of each boring. Information noted includes such data as sample depths, horizons of detectable contamination (detected by field methods), soil classification utilizing the Unified Soil Classification System and sediment description (color, texture, composition, hardness, moisture content, and post-depositional changes that have occurred in the sediments). The boring logs are attached as Appendix B.

Upon reaching total depth of the first boring (B-2), a groundwater sample was collecting using the Hydro-Punch sampling too. A 3-foot section of stainless steel is lowered down the hollow drill stem and then driven into the undisturbed soil. The drill stem is then retracted, thus exposing the screen and allowing water to enter. In the second boring (B-1), upon reaching total depth, the hollow drill rods were removed from the boring, and replaced with a length of ¾ inch PCV tubing with the lead 4-foot section being screened, thus creating a temporary well. In both cases, a length of new, dedicated Teflon tubing fitted with a check valve was inserted inside of the sample screen and then rapidly oscillated to produce a stream of groundwater at the surface. The water is transferred directly to laboratory-supplied sample containers. Each sample was stored in 1-liter amber glass bottles provided by the laboratory. Each sample container was then labeled and immediately transferred to a cooler chilled with water ice for transport to the laboratory under chain-of-custody.

After collecting the final sample, each boring was filled to grade with Class G neat cement under the supervision of a San Joaquin County Department of Environmental Health inspector, Mr. Harlin Knoll.

Upon retrieval, each groundwater sample was transported to Argon Laboratories of Ceres, CA for analytical testing. Argon forwarded the samples to McCampbell Labs, and this laboratory performed the following analyses:

- Organo-phosphorous herbicides and pesticides by EPA method 8141A,
- Chlorinated Herbicides by EPA method 8151A and,
- N-methyl Carbamate pesticides by EPA method 8318.
- Organo-chlorine pesticides by EPA method 8081A

The specific chemicals and their reporting limits are listed in the Summary Table 2 and in the laboratory data sheets in Appendix A.

5.3 Waste Disposal

Decon water from washing sample equipment was containerized in an appropriate DOT container for later recycling by a licensed hazardous waste hauler. Unfortunately, the drum

was later stolen, and the contained water was presumably dumped on the ground. No waste soil cuttings were generated during the Geo-Probe drilling process or shallow soil sampling.

5.4 Documentation

A general field log was maintained during the fieldwork. Notes were made of the date and time of the work, the personnel on site, the general weather, and the sequence and time of significant field events. Careful notes were taken of each shallow sample collected for laboratory analysis. A log form describing the sample as well as sample location and time accompanied the shallow soil samples. Photographs supplemented the log information, and general site photos were made to show the overall site and the sampling area. Photocopies of the field notes are attached as Appendix F. Photos are attached as Appendix C, and boring logs are attached as Appendix B.

5.5 Summary of Soil Analytical Results – Pesticides and Herbicides

As shown in Summary Table 1 and Figures 6 to 11, organo-chlorine pesticides were detected in a number of samples. The principal area of contamination is in the vicinity of the loading dock and the washout pit. The sample with the highest contaminant concentration was S-17A, which contained 19,000 ppm of DDT, and 24,000 ppm of Toxaphene. The principal contaminants are DDT and its daughter products (DDD, DDE) as well as Toxaphene. Other contaminants are present as well, especially the Endosulfan sub-group, Endrin, and Dieldrin. In addition to the organo-chlorine pesticides, trace concentrations of Ethion and Ethyl parathion from the organo-phosphorous group were detected at one sample point (S-14) as were traces of the chlorinated herbicide, Dinoseb. Carabyl and Methiocarb, (N-methyl carbamates) were also detected in samples from S-14.

Comparison of contaminant concentrations in the A and B samples from each sample point suggest that for the most part, there is a rather high vertical attenuation rate. This means that the pesticide concentrations fall off rapidly with increasing depth. The vertical attenuation is such that almost all of the contaminant mass is likely to be restricted to the upper 2 feet of the soil.

Outside the area of the washout pit, loading dock, and aircraft loading pad, one sample point (S-5) from about the mid-point of the runway produced greater than trace concentrations of the DDT and the Endosulfan groups of organo-chlorine pesticides.

5.6 Summary of Soil Analytical Results – Petroleum Hydrocarbons and VOC's

As a part of this investigation, six soil samples were collected and tested for the presence of Total Extractable Petroleum Hydrocarbons and one was tested for Volatile Organic Compounds (VOCs) (Summary Table 3). This was to investigate a reported release of two drums of oily waste water from the area in front of the west hangar, and areas of suspected storage of waste oil drums, or visible oil staining. None of the samples contained detectable levels of the contaminants tested for.

5.7 Summary of Groundwater Analytical Results

As shown in Summary Table 2, organo-chlorine pesticides were detected in both groundwater samples, which were collected from points near either end of the washout pit. The principal contaminants are DDT and its daughter products (DDD, DDE) as well as Toxaphene. Other contaminants are present as well, especially the Endosulfan sub-group. In addition to the organo-chlorine pesticides, trace concentrations of Ethyl parathion from the organo-phosphorous group were detected, as were traces of the chlorinated herbicide, DCPA. Carabyl, a N-methyl carbamate was also detected.

Given the very high concentrations of several pesticides in the shallow soil at the point borings B-1 and B-2 were drilled, it is quite possible or likely that the groundwater contaminants are an artifact of cross-contamination, and do no reflect actual groundwater conditions.

5.8 Deviations From the Work Plan

The following points summarize material deviations from the Work Plan.

- Sample S-11 was collected from the area of a small sump in front of the eastern hangar. The sump was filled with course gravel to a depth of at least two feet. The gravel made the use of the hand auger tools impossible. Rather than a set of two stacked samples, a single sample was collected from a depth of about 18 inches.

- Samples S-10A and S-10B were to be collected from the vicinity of a sump in front of the western hangar. The sump was filled with course gravel similar to that described above. The sample point was moved several feet to the south east of the intended sample point in order to avoid the course gravel.

- Samples S-20A and S-20B were collected from a point near the southwest corner of the aircraft-loading pad. The sample was originally collected on September 25. Later that day, after samples collected during the day were delivered to the laboratory, the discovery was made that these two samples were missing. It not known how or where the samples were misplaced. Replacement samples S-20A and S-20B were collected the following day from a point less than one foot from the original sample point.

- Two shallow sample points from near the west side of the west hangar (S-23 & S-24) were added to test for the possible presence of extractable petroleum hydrocarbons. Only a single sample was collected from each of these sample points.

6.0 DATA QUALITY EVALUATION

Data evaluation is the process of analyzing site characteristics and data to identify Chemicals of Potential Concern (COPCs) to be evaluated in the human health risk assessment. This section identifies data of sufficient quality for use in the risk assessment, summarizes the chemical characterizations of soil and groundwater, and provides a summary of COPCs.

6.1 Data Quality

The following criteria were considered to evaluate the quality of the laboratory data points:

- Laboratory QC data sheets are reviewed to verify that the analytical laboratory analytical procedures were within acceptable limits as regards repeatability and contaminant recoverability.

- Blank contamination is evaluated based on the results of field and laboratory blank data. Common laboratory contaminants are eliminated if detected concentrations are within 10 times the associated blank concentrations (Cal-EPA, 1994). All other chemicals are eliminated if detected concentrations are within 5 times blank concentrations.

- Sample Quantitation Limits (SQLs) must be sufficiently low such that chemicals can be selected at levels of potential concern. Data are reviewed to determine if SQLs are sufficiently low.

6.1.1 Soil Samples

The temperature blanks from the ice chests in which the samples were transported to the laboratory were measured upon reaching the lab with an infrared digital thermometer. (See CofC forms for details). All temperature blanks indicated the samples were adequately chilled to less than 4 degree C. Analysis of a duplicate of the extract from sample S-14A (see Summary Table 1) indicates a reasonable degree of repeatability in the laboratory analytical procedures. During soil sampling, an equipment blank (S-14C) was created to verify the reusable sample equipment was being cleaned adequately between uses. Analysis of the resultant sample reported detectable concentrations of several pesticides as follows.

Text Table 1 - Soil Equipment Blank Contaminants

8081 Analytes	Result
p,p-DDD	0.018
p,p-DDE	0.011
p,p-DDT	0.18
Endosulfan I	0.1
Endosulfan II	0.058
Units	**µg/L**

Chemicals not listed were not detected. While detectable in the water sample equipment blank, these analytical results are far below the corresponding detection limits of soil samples, and indicate the soil analytical data is not materially degraded by inadequate

equipment decontamination. The presence of these contaminants in the field equipment blank is probably a result of the extremely high levels of contaminants in the soil that precluded the complete decontamination of the reusable equipment.

Laboratory data sheets describing QC analytical tests indicate that laboratory procedures were of an acceptable quality (see Appendix A). All matrix spike and matrix spike duplicate analytical results were within the acceptable range of recovery for the analytical methods and all laboratory blanks were non-detect for the chemicals of concern.

A number of the laboratory sample extracts were diluted lest the MS-GC equipment be damaged during the analytical process. There were two principal reasons for the dilution. First, some of the samples had quite high contaminant concentrations that required dilution to prevent possible damage to the laboratory equipment. Secondly, many samples contained oils, possibly natural oils from peats or other organic sources, which can interfere with the laboratory equipment (verbal communication, McCampbell Analytical). The degree of dilution ranged from none to as high as 250,000 to 1. An unavoidable result of this dilution is the minimum reporting limit (SQL) for chemicals is increased by an equal factor (see Appendix A). This may have resulted in some chemicals going un-reported, that otherwise would be detectable.

6.1.2 Groundwater Samples

The temperature blanks from the ice chest in which the samples were transported to the laboratory were measured upon reaching the lab with an infrared digital thermometer. (See CofC forms for details). The temperature blanks indicated the temperature in the ice chest was less than 4 degrees C. The travel blank provided by the laboratory did not contain detectable concentrations of any chemical that was tested for. Laboratory data sheets describing QC analytical tests indicate that laboratory procedures were of an acceptable quality (see Appendix A). All matrix spike and matrix spike duplicate analytical results were within the acceptable range of recovery for the analytical methods, and all laboratory banks were non-detect for the chemicals of potential concern.

During soil boring installation, an equipment blank was created to verify the reusable sample equipment was being cleaned adequately between uses. Analysis of the resultant sample reported detectable concentrations of several pesticides as follows:

Text Table 2 - Groundwater Equipment Blank Contaminants

8081 Analytes	Result
p,p-DDD	0.51
p,p-DDT	0.19
Endosulfan I	0.12
Endosulfan II	0.052
Units	**µg/L**

The QC results notwithstanding, it is believed that there is a high probability that some or all of the contamination is an artifact of cross contamination of drilling through highly contaminated shallow soil.

6.2 Chemical Characterization

This sub-section briefly summarizes the nature and extent of chemicals detected in the soil and groundwater for purposes of providing context to the risk assessment. Based on the information from the laboratory analytical results (Summary Table 1), the following table was prepared to summarize the identity of detected chemicals, total number of samples analyzed, total number of detections, range of detection limits, and range of concentrations detected

Text Table 3 - Soil Sample Characterization Table

Chemical	No. of Spls	No. of Detects	Range of SQL (mg/Kg)	Range of Reported Concentrations (mg/Kg)
Method 8081B				
a-Chlordane	43	1	0.001 - 250	<0.001 - 0.069
g-Chlordane	43	5	0.001 - 250	<0.001 - 17
DDD	43	16	0.001 - 250	<0.001 - 3,000
DDE	43	22	0.001 – 250	<0.001 - 530
DDT	43	22	0.001 – 250	<0.001 - 19,000
Dieldrin	43	2	0.001 – 250	<0.001 - 3.8
Endosulfan I	43	19	0.001 – 250	<0.001 - 1,100
Endosulfan II	43	21	0.001 – 250	<0.001 - 750
Endosulfan suphate	43	6	0.001 – 250	<0.001 - 33
Endrin	43	3	0.001 – 250	<0.001 - 40
Methoxychlor	43	4	0.001 – 250	<0.001 - 260
Toxaphene	43	16	0.05 - 12,500	<0.05 - 24,000
Method 8141				
Ethion	3	2	0.1	<0.1 - 7.7
Ethyl parathion	3	2	0.1	<0.1 - 1.8
Method 8151				
Dinoseb (DNBP)	3	2	0.5 - 2.5	<0.5 - 21
Method 8318				
Carbaryl	3	2	0.04	<0.04 - 190
Methiocarb	3	2	0.04	<0.04 - 220

Note: No. of Samples does not include duplicate extract of S-14A or QC Samples

Not all chemicals detected at a site warrant a quantitative evaluation. In many cases, chemicals are detected at so low a concentration as to pose a negligible risk and may be eliminated from further consideration. On the other hand, it can not be assumed that chemicals that were tested for, but not detected, are altogether absent. In this investigation, several soil samples were so severely impacted that the extract dilution factors resulted in very high reporting limits or SQLs. Due to the high reporting limits, low concentrations of several chemicals may, in effect, be masked by high concentrations of others, such as Toxaphene. For the purposes of this PEA, it is assumed that a chemical detected in any

sample is present in all samples at a concentration of ½ the SQL. This is considered an acceptable approach to evaluating chemicals that may be present at less than detectable concentrations (U.S. EPA, 1989).

The list of COPCs was derived by comparing the laboratory analytical data with Health Screening Levels (Cal-EPA, 2005). This document offers two sets of screening levels (CHHSLs) for a list of specific contaminants. One set of values is for residential sites, and the other is for commercial and industrial sites. Chemicals that are present above the residential screening level are considered to be COPCs. The following table lists the pertinent CHHSLs for chemicals identified in the laboratory analyses:

Text Table 4 – Health Screening Levels of Soil Contaminants

Chemical	Screening Level
Chlordane	0.43 mg/Kg
DDD	2.3 mg/Kg
DDE	1.6 mg/Kg
DDT	1.6 mg/Kg
Dieldrin	0.035 mg/Kg
Endrin	21 mg/Kg
Methoxychlor	340 mg/Kg
Toxaphene	0.46 mg/Kg

Except for Methoxychlor, all of these chemicals have been detected in concentrations in excess of the designated screening level or, due to sample extract dilution, have at least one SQL that exceeds the screening level. No screening levels have been identified for other chemicals that were detected in the soil samples but not listed in the above table. These unlisted chemicals must also be considered as COPCs. All pesticides detected in the soil, are therefore considered as COPCs, except for Methoxychlor, which occurs at a mean concentration considerably less than the 340-ppm CHHSL threshold established for this chemical.

Text Table 5 - Groundwater Sample Characterization Table

Chemical	No. of Spls	No. of Detects	Range of SQL (µg/L)	Range of Reported Concentrations (µg/L)
Method 8081B				
a-Chlordane	2	0	2.5 - 5	<2.5 - <5
g-Chlordane	2	0	2.5 - 5	<2.5 - <5
DDD	2	1	0.5 - 1.0	<0.5 – 27
DDE	2	1	0.5 - 1.0	<0.5 - 5.9
DDT	2	2	2.5 - 5	14 – 350
Dieldrin	2	0	0.5 - 1.0	<0.5 - <1.0
Endosulfan I	2	2	1.0 - 2.0	18 – 23
Endosulfan II	2	2	0.5 - 1.0	7.9 - 33
Endosulfan suphate	2	0	2.5 - 5	<2.5 - <5
Endrin	2	0	0.5 - 1.0	<0.5 - <1.0
Methoxychlor	2	0	5 - 10	<5 - <10
Toxaphene	2	2	25 - 50	170 – 560

Method 8141				
Ethion	2	0	10	<10
Ethyl parathion	2	2	10	13 – 40
Method 8151				
Dinoseb (DNBP)	2	0	4 - 20	<4 - <20
DCPA	2	1	0.20 - 1.0	<0.20 - 2.0
Method 8318				
Carbaryl	2	2	2.0	2.4 – 22
Methiocarb	2	0	2.0	<2.0

Note: No. of Samples does not include QA Samples

All pesticides detected in the groundwater samples are considered as COPCs pending further sampling and testing.

7.0 HUMAN HEALTH SCREENING EVALUATION

7.1 Exposure Pathways and Media of Concern

Exposure assessment is the process of describing, measuring or estimating the intensity, frequency, and duration of potential human exposure to chemicals of potential concern (COPCs) in environmental media (e.g., soil, water and air) at a site. This section of the report discusses the mechanisms by which people (receptors) might come in contact with COPCs at the site. The exposure assessment follows the recommendations for conducting an exposure assessment provided in the U.S. EPA's "Risk Assessment Guidance for Superfund" ("RAGS"; U.S. EPA, 1989), and the more recent guidance in U.S. EPA's "Guidelines for Exposure Assessment" (U.S. EPA, 1992), as they are applied in the human risk assessment program known as CalTOX (Cal-EPA, 1993). In accordance with U.S. EPA (1989), an exposure assessment consists of three basic steps:

- Characterization of the exposure setting (physical environment and potential receptors).
- Identification of exposure pathways (potential sources, points of release, and exposure routes).
- Quantification of pathway-specific exposures (exposure point concentrations and intake (dose) assumptions).

The purpose of the first step is to characterize the salient features of the site that might influence current or future human exposure to COPCs and to identify potential receptors. Potential pathways of human exposure are identified in the second step by characterizing the sources of COPCs released to the environment, points of release, and potential exposure routes. In the third step, the qualitative information from the first two steps is integrated with estimates of exposure concentrations and intake assumptions to quantitatively estimate exposure (dose). The CalTOX model is capable of performing all of these functions.

Exposure assessment is conducted within the context of a site conceptual model (SCM). As described in DTSC's PEA Guidance Manual (Cal-EPA, 1994), the purpose of the SCM is to describe what is known about chemical sources, migration pathways, exposure routes, and possible exposure scenarios. Figure 5 presents the SCM developed for the Haley site.

An exposure pathway is a description of the mechanism by which an individual may come into contact with COPCs in the environment. In accordance with U.S. EPA RAGS (U.S. EPA, 1989), all potential exposure pathways applicable to the site have been identified and addressed. An exposure pathway is defined by four elements (U.S. EPA, 1989):

1. A source and mechanism of COPC release to the environment;
2. An environmental receiving or transport medium (e.g., air, soil) for the released COPC;
3. A point of potential contact with the medium of concern; and

4. An exposure route (e.g., inhalation, ingestion) at the contact point.

An exposure pathway is considered "complete" if all elements are present, and only complete exposure pathways need be evaluated. The characterization of the potential exposure pathways at the site based on existing information is presented in the SCM in Figure 5.

Based upon the COPC-affected media and migration pathways (Figure 5), points of potential human contact with site-related COPCs include surface water or groundwater, ambient (outdoor) air with dust-borne contaminants, and direct soil contact

Potential exposure routes associated with the air are through dust inhalation or ingestion. Direct dermal contact or ingestion of impacted soil are routes associated with the soil media. Potential exposure routes associated with affected water consist of dermal contact or ingestion with groundwater or surface water (primarily storm water). The COPCs are not volatile and inhalation of vapors is not considered as likely exposure pathway.

Given the characteristics of the COPCs and release processes discussed above, the potential exposure pathways for future land use of the site are presented below. While it is recognized that the site is proposed for industrial development, the assumption is made that a potential human receptor will be a resident. This resident is assumed to be at the site 16 hours per day, 360 days per year for 70 years. This assumption is made in order to present a "worst case" scenario for the health-risk assessment.

7.2 Exposure Point Concentrations and Chemical Groups

The concentrations of chemicals at specific exposure points will vary over space and time. However, a single estimate of an exposure point concentration is required for risk assessment calculations consistent with PEA Guidelines (Cal-EPA, 1994). This single value must be representative of the average concentration to which a person would be exposed over the duration of the exposure.

Exposure point concentrations are generally estimated from measured concentrations in environmental media, or estimated based on fate and transport models. Depending on a number of factors, including the distribution of the data, the proportion of the samples reported as non-detect, and the total number of samples, there are several statistical algorithms that may be used to estimate exposure point concentrations. U.S. EPA Supplemental RAGS guidance (U.S. EPA, 1992) stipulates that the exposure point concentration estimates should be based on the 95 percent upper confidence limit (95% UCL) of the mean to estimate an exposure scenario. In the event that the calculated 95% UCLs exceeds the maximum detected value, the maximum value may be used as the exposure point concentration (U.S. EPA, 1989).

The presence of a chemical in some, but not all, samples suggests that it may also be present in the non-detect samples at some concentration between zero and the sample quantitation limit (SQL) for each sample. There are several methods for estimating the concentration in these non-detect samples (U.S. EPA, 1992). These include simple substitution methods,

distributional methods, and robust statistical methods. The default position of U.S. EPA (1989) is to substitute ½ the SQL for all non-detects. U.S. EPA (1992) guidance indicates that the substitution of ½ the SQL is adequate when the proportion of non-detect samples is less than 10 to 15 percent. If the fraction of non-detects becomes large, then assuming that the value of each non-detect is equal to ½ SQL will nearly always result in a substantial over-estimation of the mean of such data sets, with the degree of overestimation increasing with increasing proportions of non-detects.

The use of ½ SQL values for non-detect samples was used in this PEA. It must be noted however, that due to the high dilutions used in many of the sample extracts, this convention almost certainly has resulted in a considerable over-estimate of some exposure point concentrations, especially Dieldrin.

Soil

The Soil Sample Characterization Table (Text Table 3) in Section 6.2 summarizes and compares the number of detections with the number of samples. The U.S. EPA has generated an Excel-based program known as Pro-UCL, version 3.0 (US-EPA, 1994) that takes any series of contaminant concentrations, and performs a suite of statistical analyses on them to generate a best-fit 95% UCL exposure point concentration for each chemical. The 95% UCLs are calculated using a variety of methods, and based on the statistical distribution, the program recommends which calculated UCL value is best suited to the available data.

For the purposes of operating the Pro-UCL program, it was assumed that all shallow soil analyses for organo-chlorine pesticides were from the same population, and therefore the results provide 95% UCL contaminant concentrations that are applicable to the entire 10-acre site. For pesticides other than the organo-chlorine group and for herbicides, there are too few sample results to represent a statistically valid distribution. For these chemicals, the default assumption is made that the highest detected concentration is representative of the entire site. The actual concentrations input to Pro-UCL are contained in Summary Table 4.

The table below is a summary of exposure point concentrations based on the Pro-UCL results of the organo-chlorine pesticides as well as the maximum detected concentrations of other chemicals as described above. As discussed above, the minimum value input into the sample distribution is ½ the SQL value. Printouts from the Pro-UCL program are attached in Appendix D.

The Pro-UCL program's statistical analysis indicates that the distribution of all of the organo-chlorine pesticide chemicals do not follow normal distribution curves, and are considered non-parametric. The program recommends the "Hall's Bootstrap" UCL for all chemicals. The following table provides the recommended Hall's Bootstrap UCLs.

Text Table 6 - Imputed Mean Soil Exposure Point Concentrations

Chemical	95% UCL	Source
a Chlordane	48 mg/Kg	Pro-UCL
g Chlordane	30 mg/Kg	Pro-UCL
DDD	2,213 mg/Kg	Pro-UCL
DDE	318 mg/Kg	Pro-UCL
DDT	13,820 mg/Kg	Pro-UCL
Dieldrin	41 mg/Kg	Pro-UCL
Endosulfan I	239 mg/Kg	Pro-UCL
Endosulfan II	149 mg/Kg	Pro-UCL
Endosulfan Sulfate	35 mg/Kg	Pro-UCL
Endrin	15 mg/Kg	Pro-UCL
Toxaphene	9,724 mg/Kg	Pro-UCL
Elthion	7.3 mg/Kg	Max Detect
Ethyl Parathion	1.8 mg/Kg	Max Detect
Dinoseb	5.2 mg/Kg	Max Detect
Carbaryl	190 mg/Kg	Max Detect
Methiocarb	220 mg/Kg	Max Detect

The 41-mg/Kg contaminant point concentration for Dieldrin is far higher than the highest actual measured concentration of 3.8-mg/Kg. The reason for this result is the low concentration required for human risk impact in conjunction with the high SQL of 250 ppm caused by laboratory sample dilution (see discussion above).

Groundwater

Due to the absence of a statistically significant number of groundwater samples, the maximum detected concentrations of the COPCs were used as exposure point concentrations (EPCs).

Text Table 7 - Imputed Mean Groundwater Exposure Point Concentrations

Chemical	EPC	Source
DDD	27 (µg/L)	Max Detect
DDE	5.9 (µg/L)	Max Detect
DDT	350 (µg/L)	Max Detect
Endosulfan I	18 (µg/L)	Max Detect
Endosulfan II	33 (µg/L)	Max Detect
Endosulfan Sulfate	35 (µg/L)	Max Detect
Toxaphene	560 (µg/L)	Max Detect
Ethyl Parathion	40 (µg/L)	Max Detect
DCPA	2.0 (µg/L)	Max Detect
Carbaryl	22 (µg/L)	Max Detect

7.3 Toxicity Values and the CalTOX Model

The "Annual Average Daily Dose" (AADD) or "Lifetime Average Daily Dose" (LADD) are the general parameters used to quantify exposure doses in site risk assessments. The AADD is used as a standard measure for characterizing long-term non-carcinogenic effects. The

LADD addresses exposures that may occur over durations varying from a single event to an average 70-year human lifetime and are used to estimate potential carcinogenic risks.

The equations for calculating AADD and LADD for inhalation exposures are those presented by the U.S. EPA in their 1989 RAGS guidance (U.S. EPA, 1989) and are incorporated in the CalTOX model (Cal-EPA, 1993).

The purpose of the toxicity assessment is twofold (U.S. EPA, 1989):

- Hazard Identification evaluates the potential for a chemical to cause adverse health effects in exposed individuals, based on available information (hazard identification); and
- Dose-Response Assessment estimates the relationship between the extent of exposure and the increased likelihood and/or severity of adverse effects.

Hazard identification entails determining if a chemical can cause an increase in a particular adverse effect (e.g., cancer) and the likelihood that the adverse effect will occur in humans. The result of hazard identification is a profile of the available toxicological information and its relevance to human exposure under conditions present in the environment.

Dose-response assessment entails quantifying the relationship between the dose of a chemical and the incidence of adverse effects in the exposed population. The results of the dose response assessment are toxicity criteria that are used in the risk characterization to estimate the likelihood of adverse effects occurring in humans at different exposure levels. The toxicity criteria used to evaluate non-carcinogenic and carcinogenic health risks are commonly referred to as reference doses (RfDs) and slope factors (SFs), respectively. The bases for these criteria are described briefly in the following sections.

The potential health effects of the COPCs identified in the PEA were evaluated using the CalTOX (v.4.0 Beta) health risk-modeling program, which was produced for the State of California (McKone & Enoch, 2004). The CalTOX software includes toxicity and other information for a number of common contaminants including the majority of chemicals herein identified as COPCs. Several chemicals are, however, not in the database. These chemicals are, however, small contributors to the overall contaminant mass at the Haley site. The assumption was made that their contribution to the total potential heath risk is likely to be very small in comparison to the major COPCs, especially DDT and Toxaphene, and could therefore reasonably be excluded from the risk assessment. In general, the chemicals not found in the CalTOX database are those not included in the organ-chlorine pesticides group. In addition, the organo-chlorine pesticide, Endosulfan, is in the database, but it is non-specific for Endosulfan I, Endosulfan II, and Endosulfan Sulfate. For the purpose of these calculations, simply adding the mean exposure point concentrations for all 3 Endosulfan chemicals generated a single Endosulfan concentration. A similar situation exists with regard to the Chlordane group.

The following table summarizes the various exposure point concentrations used in the CalTOX software.

Text Table 8a – Exposure Point Concentrations Used in CalTOX

Chemical	95% UCL	Comment
Chlordane	78 mg/Kg	Sum of 2 chemicals
DDD	2,213 mg/Kg	Included in CalTox
DDE	318 mg/Kg	Included in CalTox
DDT	13,820 mg/Kg	Included in CalTox
Dieldrin	41 mg/Kg	Included in CalTox
Endosulfan	423 mg/Kg	Sum of 3 chemicals
Endrin	15 mg/Kg	Included in CalTox
Toxaphene	9,724 mg/Kg	Included in CalTox

The following are not in the CalTOX database and were not used in the human health risk assessment:

Text Table 8b – Exposure Point Concentrations Excluded From CalTOX

Chemical	95% UCL
Ethion	7.3 mg/Kg
Ethyl Parathion	1.8 mg/Kg
Dinoseb	5.2 mg/Kg
Carbaryl	190 mg/Kg
Methiocarb	220 mg/Kg

7.4 Risk Characteristics and Summary Table

Risk characterization represents the final step in the risk assessment process. In this step, the results of the exposure and toxicity assessments are integrated into quantitative or qualitative estimates of potential health risks. Potential non-carcinogenic health effects and carcinogenic health risks are characterized separately.

7.4.1 Non-Carcinogenic Health Effects

Potential adverse non-carcinogenic health effects are evaluated using the hazard index (HI) approach as recommended by U.S. EPA (1989). The general approach is to compare the AADD for each chemical to the appropriate RfD. This comparison is expressed in terms of a "hazard quotient," which is calculated as follows:

$$\text{Hazard Quotient}_i = \frac{\text{AADD}_i}{\text{RfD}_i}$$

A hazard quotient less than or equal to 1 indicates that the predicted exposure to that chemical should not result in an adverse non-carcinogenic health effect (U.S. EPA, 1989). In cases where individual chemicals potentially act on the same organs or result in the same health endpoint (e.g., respiratory irritants), potential additive effects may be addressed by summing the several Hazard Quotients to derive a calculated Hazard Index.

A hazard index of less than or equal to 1 indicates acceptable levels of exposure for chemicals having an additive effect. In this HHRA, a screening-level hazard index was calculated by summing the hazard quotients for all chemicals, regardless of toxic endpoint, as recommended by agency guidance (U.S. EPA, 1989). This approach is generally believed to overestimate the potential for non-carcinogenic health effects due to simultaneous exposure to multiple chemicals because it does not account for different toxic endpoints (U.S. EPA, 1989). It can, however, be used as a screening tool to rapidly identify those exposure scenarios for which exposure to multiple chemicals do not pose a non-carcinogenic health risk.

It should be noted that hazard quotients or hazard indices greater than 1 do not necessarily mean that adverse health effects will be observed. As discussed above, a substantial margin of safety has been incorporated into some of the RfDs developed for the COPCs. Therefore, for these chemicals, adverse health effects may not be observed even if the hazard quotient or hazard index is much larger than 1.

The CalTox model uses this general approach to estimate the non-carcinogenic risk for the receptors evaluated, but the estimate is more complex and sophisticated (Cal-EPA, 1993). Full details of the assumptions and toxicity information used in the health assessment are included in the tables in Appendix E. This appendix also includes details regarding soil, chemical, landscape, and exposure criteria used in the CalTOX model.

7.4.2 Carcinogenic Health Effects

Carcinogenic health risks are defined in terms of the increased probability of an individual developing cancer as the result of exposure to a given chemical at a given concentration. As required by Cal-EPA (1992) and U.S. EPA (1989), lifetime excess cancer risks are estimated as follows:

$$\text{Lifetime Excess Cancer Risk} = LADD_i \times SF_i$$

The CalTOX model uses this general approach to estimate the non-carcinogenic risk for the receptors evaluated, but the estimate is more complex and sophisticated (Cal-EPA, 1993). As with hazard indices, the estimated excess cancer risks for each chemical and exposure route are summed regardless of toxic endpoint to estimate the total excess cancer risk for the exposed individual.

Regulatory agencies such as Cal-EPA and U.S. EPA have defined what is considered an acceptable level of risk in generally similar ways. The U.S. EPA considers 1x10E-6 to 1x10E-4 to be the target range for acceptable risks at sites where remediation is considered. Estimates of lifetime excess cancer risk associated with exposure to chemicals of less than one-in-one-million (1x10E-6) are considered to be so low as to not warrant any further investigation or analysis. Within the State of California, Cal-EPA also tends to work within the same target range for acceptable risks. Pursuant to the California Safe Drinking Water & Toxic Enforcement Act of 1986, the Office of Environmental Health Hazard Assessment has

established a no significant risk level at 1x10E-5 (CCR Division 21.5, Title 22, Sec. 12703).

It should be noted that cancer risks in the 1x10E-6 to 1x10E-4 range or higher do not necessarily mean that adverse health effects will be observed. Current methodology for estimating the carcinogenic potential of chemicals is believed to not underestimate the true risk, but could overestimate the true risk by a considerable degree. In fact, the range of possible risks includes zero.

7.4.3 CalTOX Model Results

Individual CalTOX runs were made for each chemical and associated exposure point concentration shown in Table 8a. Except for these variables, all other inputs such as landscape properties, and exposure factors were held constant. In general, all soil contamination was deemed to reside in the root zone, which was set at the upper 1.4 meters of soil, while the vadose zone was set at 2-meter thickness. (See printouts in Appendix E for details.) The following table summarizes the results of the risk analysis for each chemical:

Text Table 9 – Summary of CalTOX Model Results

Chemical	Increased Cancer Risk	Hazard Ratio (non-Cancer)
Chlordane	2.2E-3	3.8E+2
DDD	4.9E-5	0.0
DDE	5.9E-4	0.0
DDT	6.8E-5	4E+0
Dieldrin	1.3E-2	3.3E+2
Endosulfan	0.0	4.6E-1
Endrin	0.0	1.8E+1
Toxaphene	1.3E-2	1.9E+2
TOTALS	**2.9E-2**	**9.2E+2**

The potential non-cancer hazard quotients and hazard indexes associated with exposure to the COPCs in the shallow soil by a hypothetical future on-site resident are 922, and the increased cancer risk is 0.028 (i.e. 1 in 35). The figures are both very high and clearly indicate that an unacceptable health risk is associated with the Haley site. The figures also suggest that Dieldrin and Toxaphene are the chemicals that pose most of the risk.

As discussed above, however, the risk associated with Dieldrin exposure is almost certainly unreasonably high due to the calculated 41-mg/Kg contaminant point concentration for this chemical compared with the highest actual measured concentration of 3.8-mg/Kg. Dieldrin was actually detected in only two samples, but even the elimination of this chemical would not change the risk management decision.

8.0 ECOLOGICAL SCREENING EVALUATION

In addition to obvious human receptors, potential receptors include plant and animal life. The undeveloped part of the site is periodically disked, and provides limited habitat to such species as lizards and small mammals including ground squirrels, field mice and jackrabbits. Other small animals such as lizards, snakes, and a variety of insects will also be present. Avian fauna will include a variety of birds that typically inhabit the area. No aquatic animals or plants are likely to be present except for microorganisms that may inhabit the irrigation ditch during those times when it is in use. No domestic animals such as cattle and sheep are present on the site or on adjacent lands. Several dairies are present in the area, but these are more than ¼ mile from the site.

According to information in the EDR database report contained in the Phase I ESA (Geo-Phase Environmental, 2004), there are no areas in the Federal Wetlands Inventory on, or within 1 mile of the Haley site. The nearest wetland area is about 1.25 miles northwest from the site.

The California Natural Diversity Database, operated by the Department of Fish and Game, provides information on sensitive flora and fauna habitats. No rare, threatened, or endangered species were identified in the immediate vicinity of the Property. The nearest habitat for such species is along Tom Paine Slough, about ¾ mile north of the site. Two species are identified between ¾ sand 1 mile of the Haley site as follows:

Agelaius Tricolor
Tricolored Blackbird. This was a colony of about 1,125 birds along Tom Paine Slough. This species has not been sighted since 1936 and is presumed extinct. It is not listed as a threatened or endangered species.

Buteo Swansoni
Swanson's Hawk. A single nest of this species was observed near Tom Paine Slough in 1984 in an oak tree just under 1 mile from the Haley site. A second nest was observed in 2000 in a cottonwood slightly closer to the Haley site. This bird is listed as "threatened".

Another species was identified near Banta at a location slightly over one mile from the Haley site.

Aster Lentus
Suisun Marsh Aster. This bird is most often seen along sloughs. An individual of this species was observed in 1920 near Banta, in a non-specific area centered slightly over 1 mile southeast of the Haley site. There has been no sighting of this animal since 1920, but it is "presumed extant". The species is not listed as threatened or endangered.

9.0 COMMUNITY PROFILE

Description of Surrounding Land Uses and Environmental Resources
The site is in a developing area at the extreme northeast limit of Tracy, and to date, there is very limited developed use of adjacent and nearby sites. The Haley site is in a mostly undeveloped area. The nearest developed industrial site is adjacent to the west end of the property, but other adjacent lands are either in agricultural use or serve as public roadways. The nearest residences are several farm houses about ½ mile to the north. Several other residences are about ½ mile to the south. The nearest residential tract is about 0.9 miles to the southeast in the small town of Banta. The only known highly sensitive receptor (such as schools, hospitals, nursing homes) within a mile of the site is Banta Elementary School at 22345 El Rancho Road, about 0.9 miles from the site.

North
The site adjacent north of the subject property is in agricultural use, most recently as a corn field. There are no residences or other structures on the adjacent site, which also abuts the south side of the I-205 freeway right of way.

South
Pescadero Avenue bounds the subject property on the south. South of the road is open land that has been used for agricultural purposes.

East
Paradise Road bounds the subject property on the East. Land east of the road is open land that has been used for agricultural purposes.

West
A large Yellow Freight truck terminal abuts the west line of the site. Beyond the yellow Freight facility is more undeveloped land.

Visibility of the Site to Neighbors
The site is open and clearly visible to persons passing by on Paradise or Pescadero Avenue, however there are no residents within approximately ½ mile of the site.

Community Demographics
The following information is from websites operated by the City of Tracy and San Joaquin County. The respective URLs are http://www.ci.tracy.ca. and http://www.sjpnet.org/.

	Tracy	S. J. County
Total Population	75,000	564,000
White	59%	47%
Hispanic	26%	32%
Asian	8%	11%
African-American	5%	6%
Native American	1%	1%
Other	1%	3%

Housing in the City of Tracy is 72 percent owner-occupied and 28 percent rented. The median age is 30.9 years and median annual household income is $62,800.

Community Contacts
No inquiries have been received from community members or groups.

Community Interactions
No meetings, events, or presentations have been conducted with, or for, the community or local government.

Media Coverage
There has been no news media coverage.

Government Contacts
With the exception of DTSC and the San Joaquin Environmental Health Department, no inquiries have been received from any governmental agency or elected officials.

Key Contact List
Below is a list of elected State and local government officials, regulatory agencies, and residents / businesses within a ½ mile radius of the site.

Federal Elected Officials	
US Senator Barbara Boxer 112 Hart Senate Office Building Washington DC 20510 (202) 224-2552	US Senator Diane Feinstein 331 Hart Senate Office Building Washington DC 20510 (202) 224-3841
US Representative Richard Pombo 2411 Rayburn House Office Bldg Washington DC 20510 (202) 225-1947	
State Elected Officials	
State Assemblywoman Barbara Mathews 17th District 31 E. Channel, Rm 306 Stockton 95202 (209) 948-7479	State Senator Michael Machado 5th District 31 E. Channel, Rm 440 Stockton 95202 (209) 948-7930
San Joaquin County	
Leroy Ornellas, Supervisor, District 5 222 E. Weber, Room 701 Stockton, CA 95202 (209) 468-3113	

Tracy Officials / Agencies	
Mayor, Dan Bilbrey Tracy City Hall 325 E. 10th Street Tracy 95376 (209) 831-4103	City Manager, Daniel Hobbs Tracy City Hall 325 E. 10th Street Tracy 95376 (209) 831-4103
Tracy Development & Engineering Services Planning Division 520 N. Tracy Blvd. Tracy, CA 95376 (209)831-4600	
State Regulatory Agencies	
Eric Wallberg Hazardous Substance Scientist Dept. of Toxic Substance Control 8800 Cal Center Drive Sacramento 95826 (916) 255-3749	Ms. Cori Condon Regional Water Quality Control Board 11020 Sun Center Drive #200 Rancho Cordova, CA 95670 464-4619
County Regulatory Agencies	
Harlin Knoll Sr. Registered Env. Health Specialist Environmental Health Department 304 E. Weber Ave., - 3rd Floor Stockton 95202 (209) 468-3442	

Residents and Businesses within ½ mile of the Site

Yellow Freight (adjacent to site)	1535 E. Pescadero Ave.
Travlin Toys	21200 Paradise Road
Moreda Dairy	20967 Paradise Road
Guido Bettinzoli	7350 Arbor Road
A.F. Ender	2119 E. Grant Line Road
Manuel Silva / Silva Bros. Dairy	2091 E. Grant Line Road

Sensitive Receptors

The only known highly sensitive receptor (such as schools, hospitals, nursing homes) within a mile of the site is Banta Elementary School at 22345 El Rancho Road, about 0.9 miles from the Haley site.

Past Public Involvement

Insofar as the public is unaware of environmental conditions pertaining to the site, there has been no public involvement.

Key Issues and Concerns

There is no public awareness or interest in the site. Given the relatively remote nature of the site, no concerns or issues regarding the facility or the proposed environmental activities are expected to be raised by the community or the local governmental agencies.

Recommended Public Participation Activities

For detailed information on the public participation policies, please refer to DTSC's Public Participation Manuel, which may be found on DTSC's website (http://www.dtsc.ca.gov) under the section pertaining laws, regulations, and policies.

As a part of the public participation process, repositories will be established where the public may go to view documents pertaining to remedial investigation / mitigation activities. We suggest the following venues be considered as possible data repositories:

Tracy Library 20 E Eaton Ave. Tracy, CA (209) 831-4222	City Manager's Office Tracy City Hall 325 E. 10th Street Tracy 95376 (209) 831-4103
San Joaquin County Environmental Health Dept. 304 E. Weber Ave., - 3rd Floor Stockton 95202 (209) 468-3442	

10.0 CONCLUSIONS AND RECOMMENDATIONS

10.1 Conclusions

Based on the information developed for this PEA, the following conclusions are drawn:

1. The extremely high hazard index and cancer risk indicate that further risk characterization and remedial measures are necessary at the Haley site.

2. The distribution of chemicals in the various soil samples indicates that nearly all the contaminant mass as well as the health risk lies in a relatively small area very roughly estimated at 10,000 square feet in the immediate vicinity of where chemicals were stored and handled.

3. Samples collected from areas outside this highly contaminated zone generally appeared to contain trace or non-detectable concentrations of these chemicals. One deviation form this observation was in a sample from near the mid-point of the east-west trending airstrip. This sample point (S-5) had somewhat elevated concentrations of DDT and Endosulfan. Additional work is needed to characterize the risk in the vicinity of sample point S-5.

4. The actual presence of COPCs in the groundwater remains as an open question. Additional work is needed to make this determination.

10.2 Recommendations

Based on the above conclusions, the following recommendations are made to further investigate/mitigate the health risk associated with this site:

1. Additional groundwater samples should be collected in the assumed down-gradient direction (north) to obtain information on the possible presence of pesticides in the groundwater. The best location would be along the south line of the agricultural parcel that lies on the north side of the irrigation ditch that marks the boundary between these parcels.

2. The concrete loading dock, washout pit, and aircraft loading pad should be removed and the concrete properly disposed of. This would allow access to the underlying soil so that additional samples can be collected to better define the lateral and vertical extent of the intensely contaminated soil.

3. Once this additional soil characterization is complete, the highly contaminated soil should be excavated and either treated on-site, or hauled to a Class I hazardous waste landfill as an interim remedial measure. This work would be expected to remove nearly all of the contaminant mass. New soil samples would then be collected from the freshly exposed surface and new groundwater samples could be collected to determine if additional remedial action is needed.

4. Additional sampling is needed in the vicinity of sample point S-5 to characterize the extent of organ-chlorine pesticides found there.

5. No evidence was found to suggest the spill of 2 drums of oil, water, and diesel in the area in front of the west hangar has materially impacted the soil. The investigation of this incident should be officially closed, and an NFA letter issued with regard to this small release.

10.3 Preliminary Scoping Recommendation

Normally, contaminated sites enter the Remedial Investigation / Feasibility Study (RI/FS) process as the next step after the PEA is completed. In this case, the localized, but intense pesticide contamination is such that interim remediation along the lines suggested in the above recommendation would be appropriate. Upon completion of the interim remedial measures, addition samples should be collected and revised risk assessment should be completed before proceeding to the RI/FS process.

11.0 REFERENCES

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3. Cal-EPA, 1993, CalTOX. A Multimedia Total Exposure Model for Hazardous Waste Sites, (DTSC), Sacramento, CA

4. Cal-EPA, 1994, Preliminary Endangerment Assessment Guidance Manual, Dept. of Toxic Substances Control (DTSC), Sacramento, CA

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6. Cal-EPA, 2005, Use of California Human Health Levels (CHHSLs) in Evaluation of Contaminated Properties, DTSC, Sacramento, CA

7. Geo-Phase Environmental, Inc., 2004, Report – Phase I Environmental Site Assessment, Former Haley's Flying Service, 21,000 Paradise Road, Tracy, CA

8. Geo-Phase Environmental, Inc., 2005, Work Plan – Preliminary Endangerment Assessment, Former Haley's Flying Service, 21,000 Paradise Road, Tracy, CA

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14. R.W. Page, U.S. Geological Survey Professional Paper 1401-C, Geology of the Fresh Ground-Water Basin of the Central Valley, California, 1986).

15. U.S. EPA, 1989, Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual, Part A, Interim Final, Office of Emergency and Remedial Response, Washington, D.C.

16. U.S. EPA, 1992, Guidelines for Exposure Assessment, Washington, D.C.

17. U.S. EPA, 1994, ProUCL Version 3.0 User Guide, Washington, D.C.

12.0 SIGNATURE AND CERTIFICATION

Geo-Phase Environmental Inc. was performed in accordance with accepted geologic and hydrologic standards of the State of California including the DTSC document entitled Preliminary Endangerment Assessment, Guidance Manual. Geo-Phase Environmental Inc. is not responsible for undisclosed conditions.

This report was prepared by:

Geo-Phase Environmental Inc.

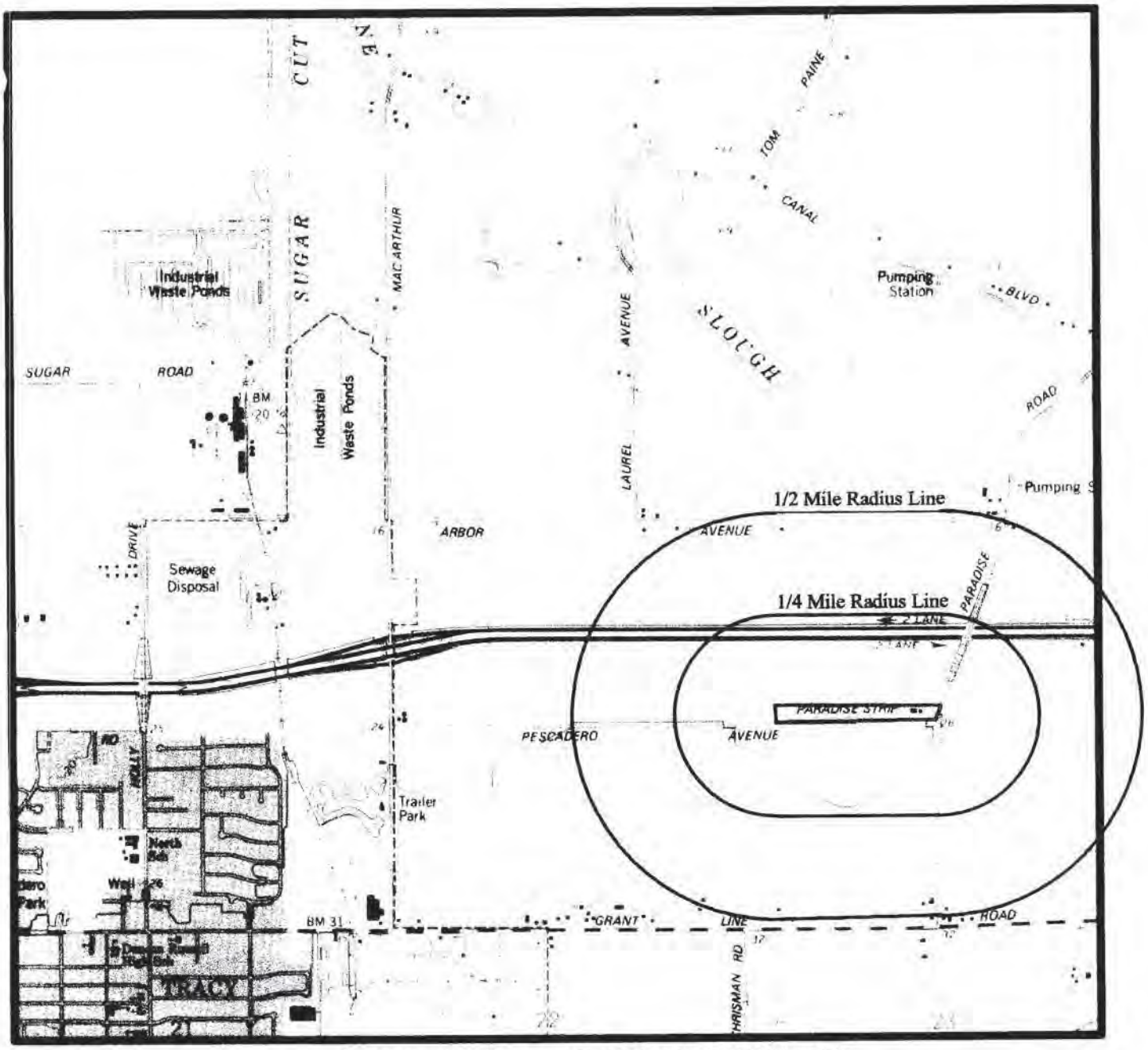




Stephen M Lankford,
California Professional Geologist #4283
Registered Environmental Assessor #05549

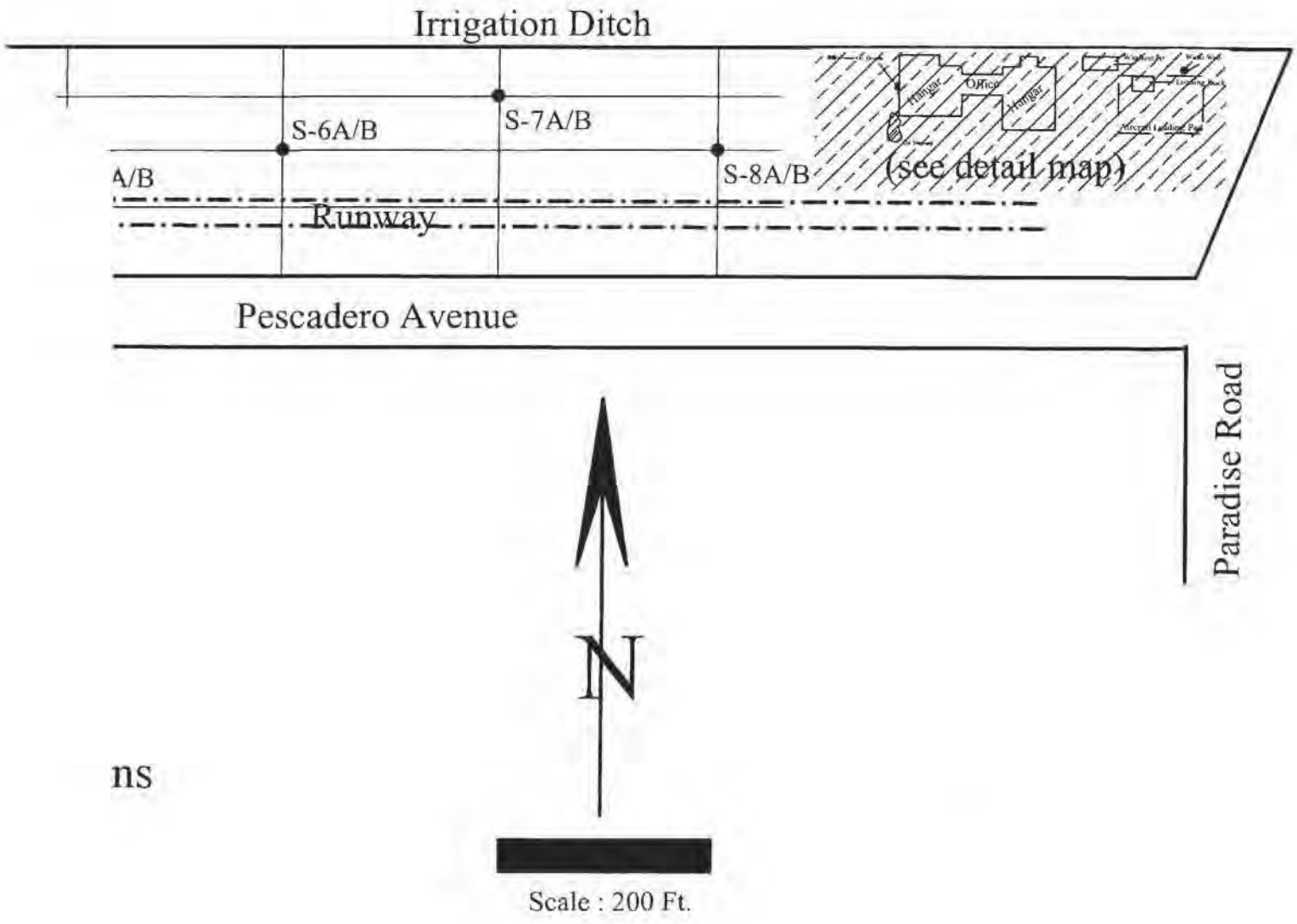
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Detailed Site Sketch with Maximum Soil Toxaphene Concentrations	**11**



Modified from the USGS Topographic Map Union Island Quadrangle, 7.5 Minute Series.

Figure 1
USGS Topographic Map
Former Haley's Flying Service
21000 Paradise Road
Tracy, CA


Irrigation Ditch
S-6A/B
S-7A/B
S-8A/B
A/B
Runway
(see detail map)
Pescadero Avenue
Paradise Road
N
ns
Scale : 200 Ft.

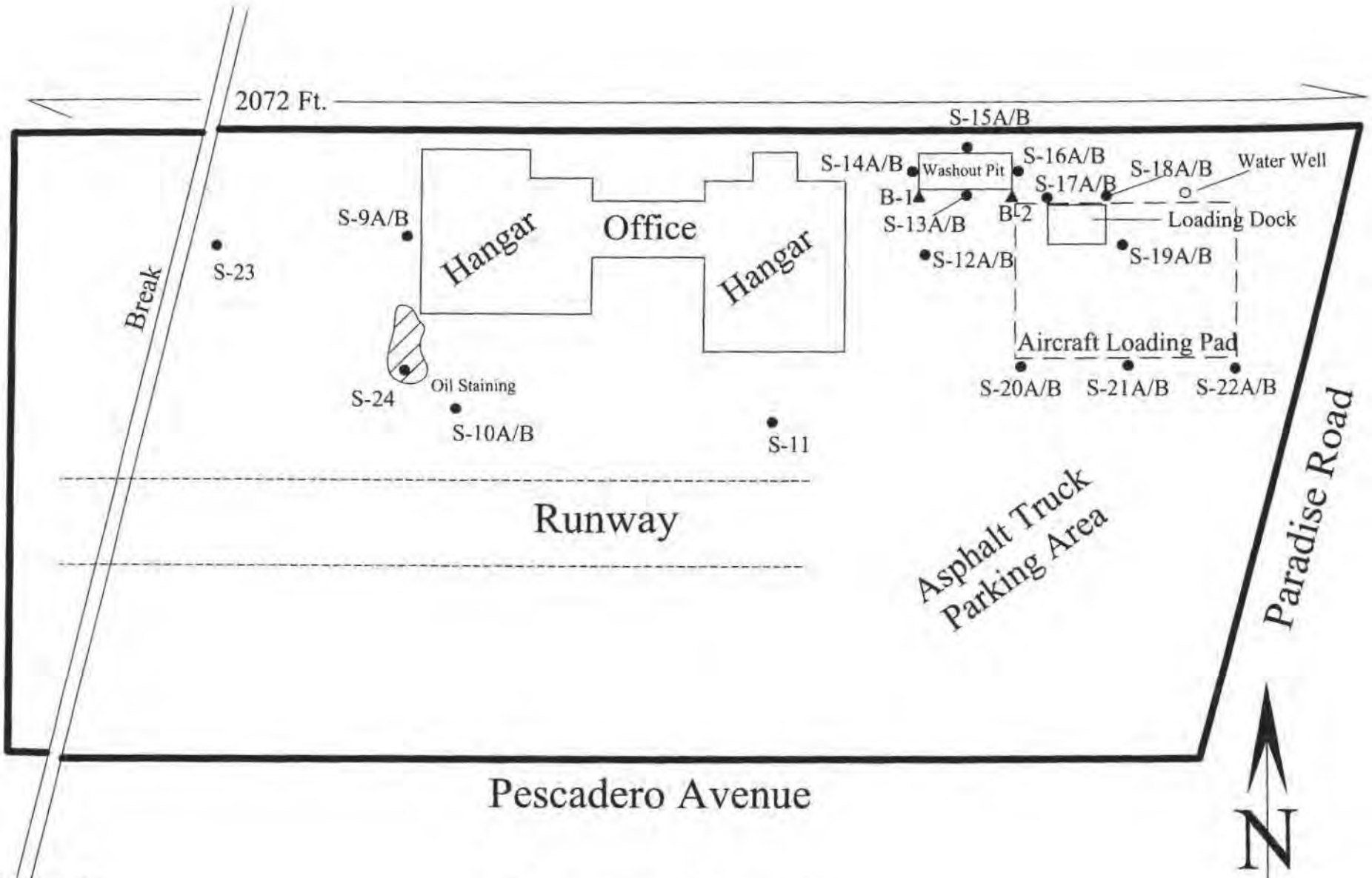


Figure 3
Detail Site Sketch Map
With Targeted Sample Locations
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

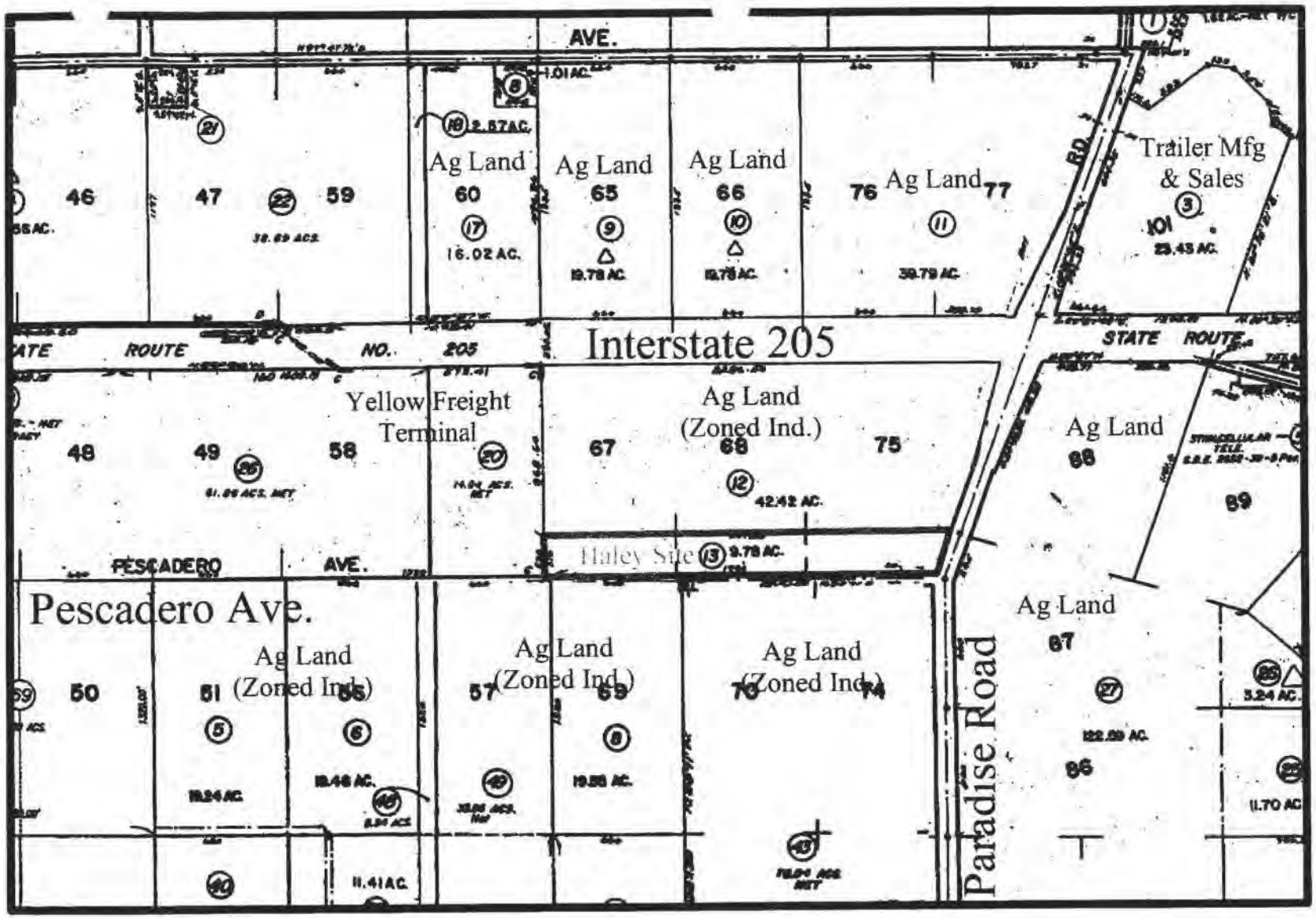


Figure 4
Assessor's Parcel Maps
With Adject Site Identification
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

Scale 1 In. = 800 F

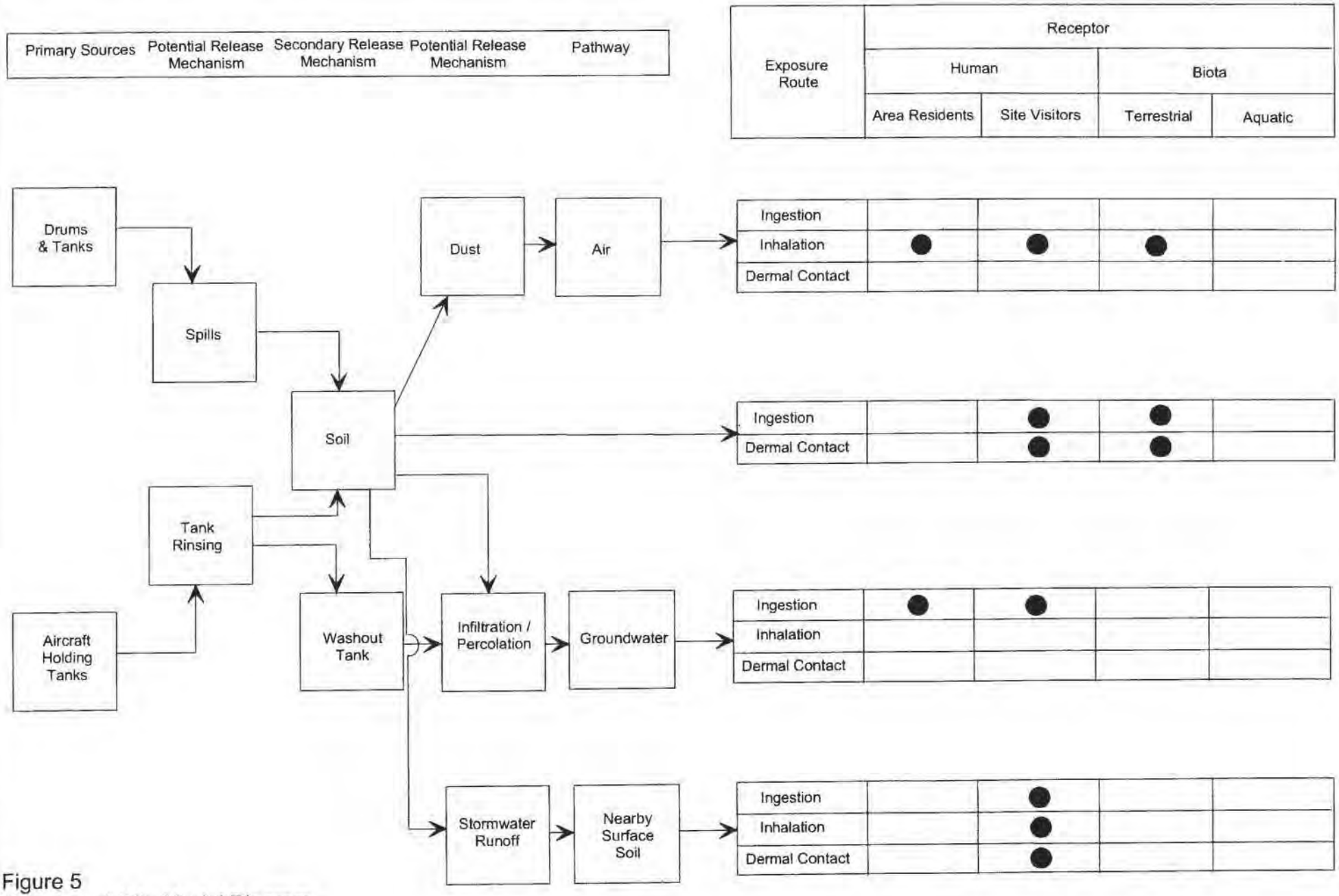
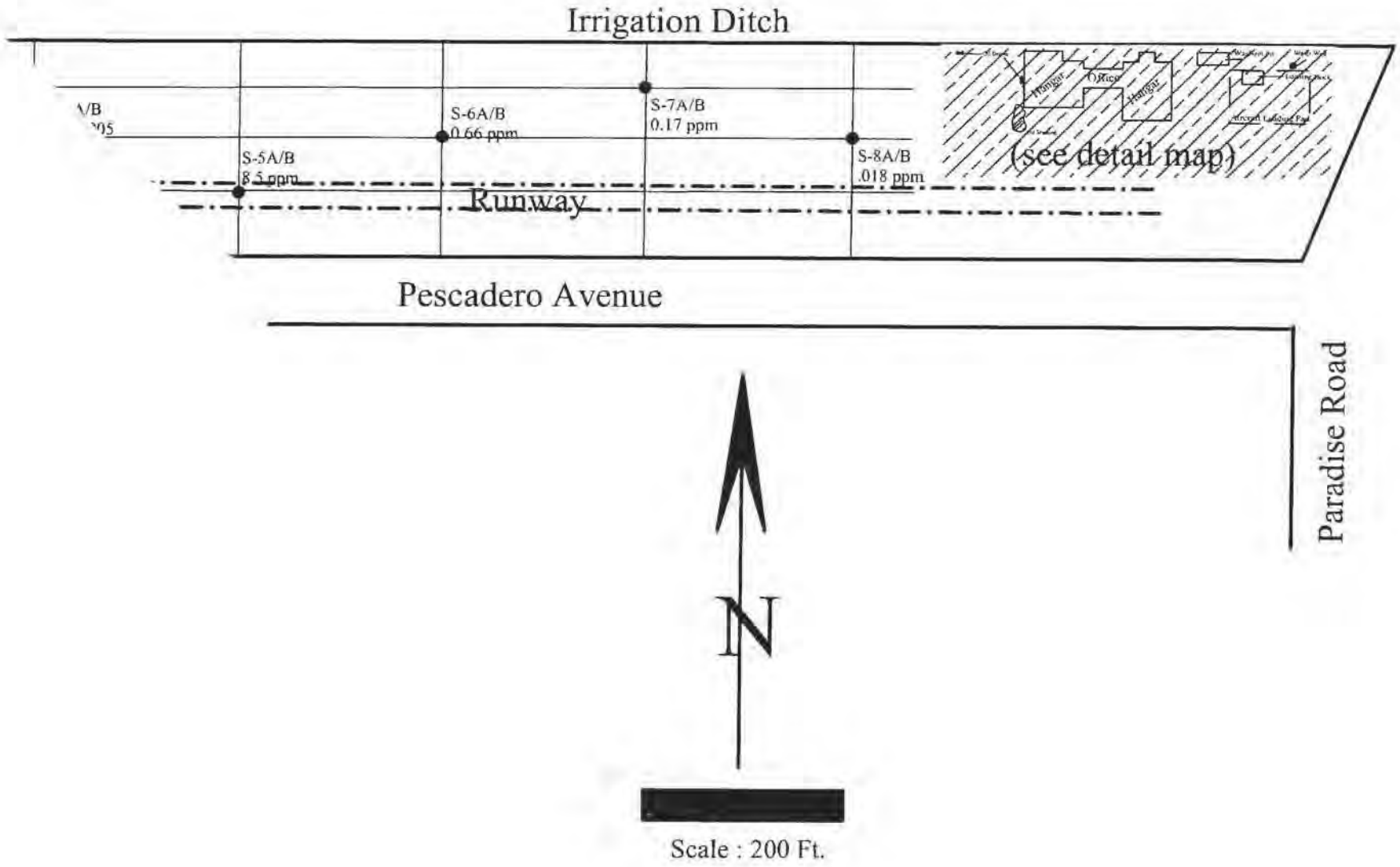
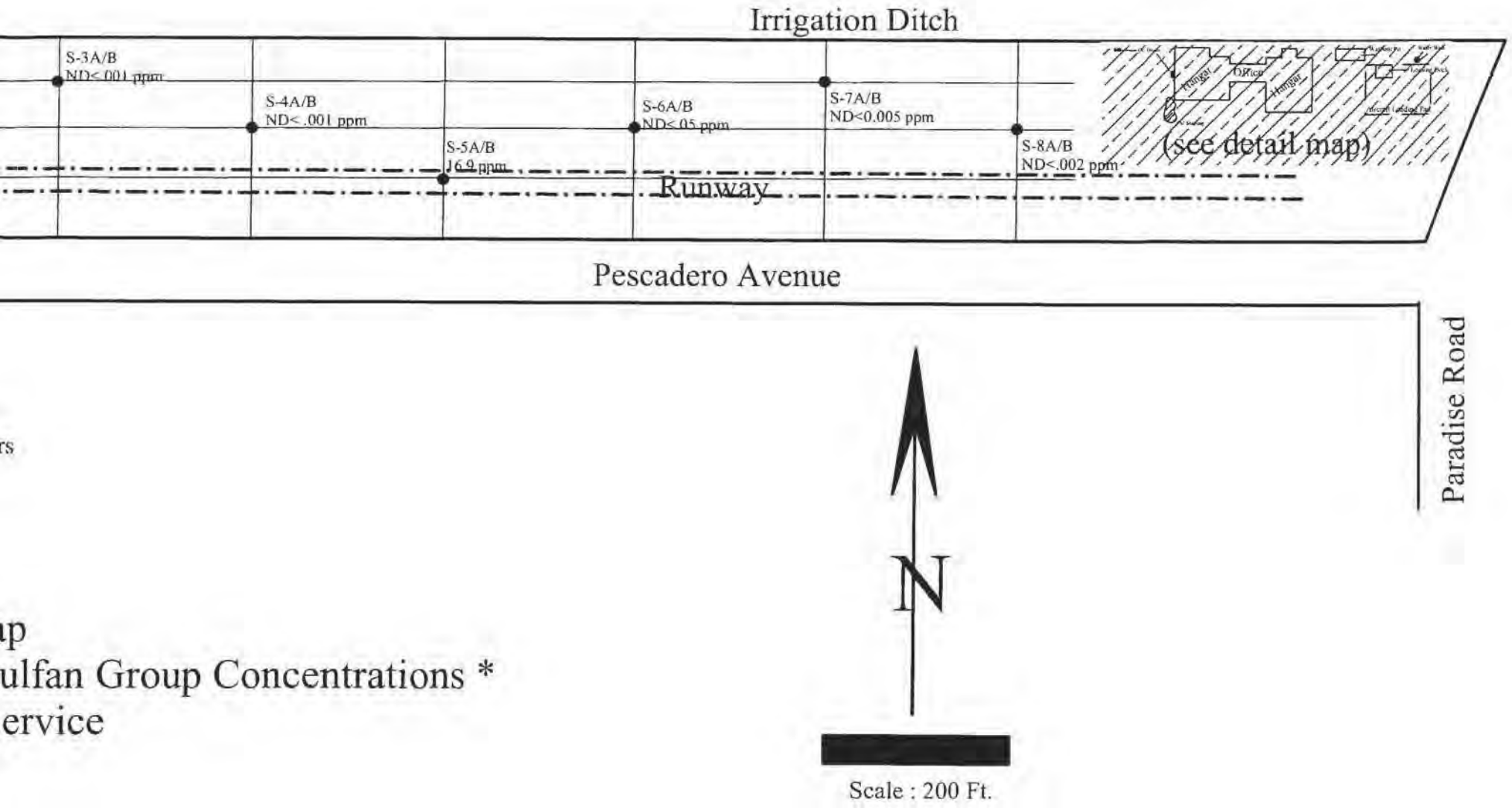


Figure 5
Conceptual Site Model Diagram


Irrigation Ditch
S-5A/B
8.5 ppm
S-6A/B
0.66 ppm
S-7A/B
0.17 ppm
S-8A/B
.018 ppm
(see detail map)
Runway
Pescadero Avenue
Paradise Road
N
Scale : 200 Ft.



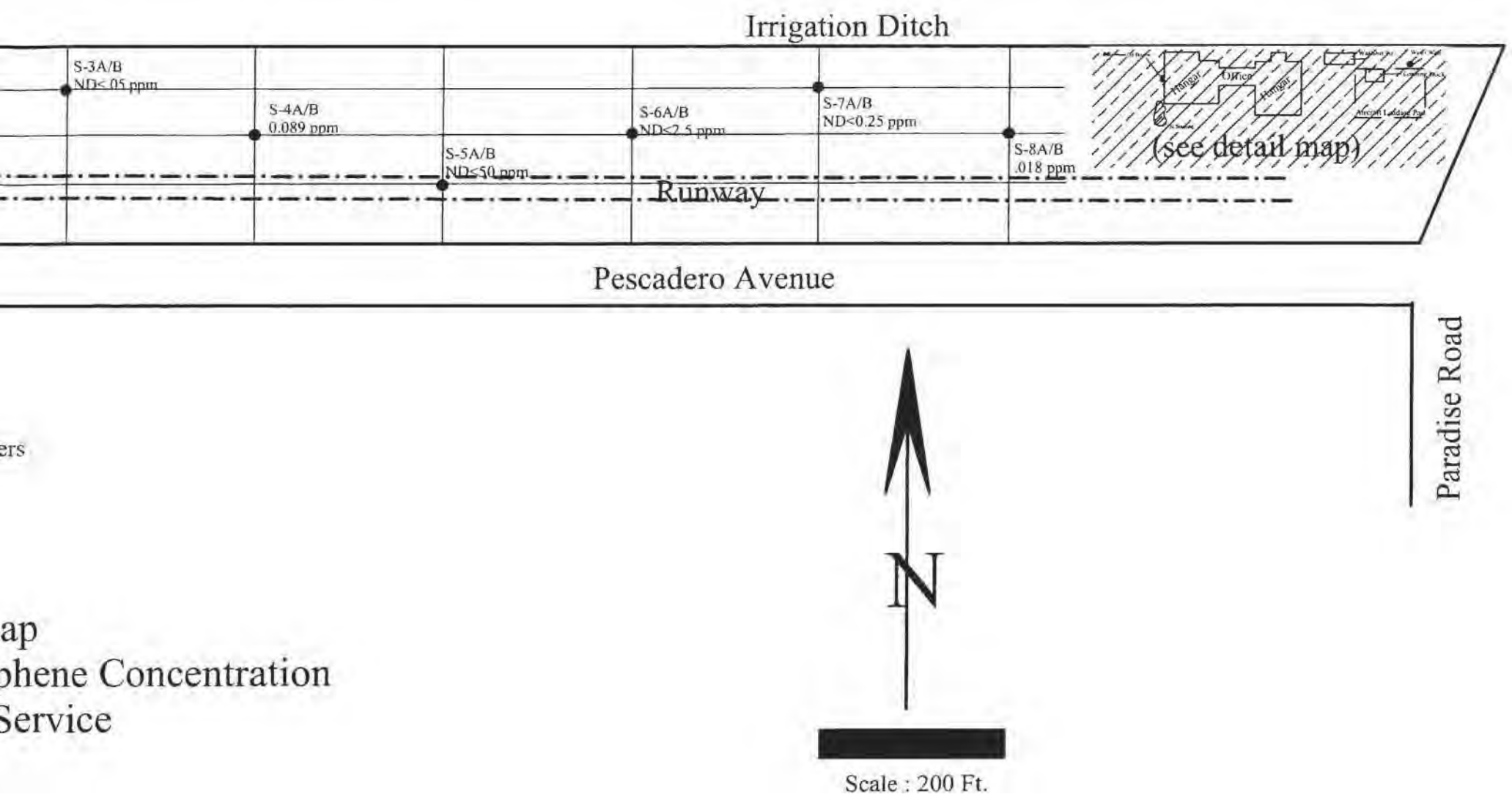
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dosulfan II, Endosulfan Sulfate



ers

ap
phene Concentration
Service

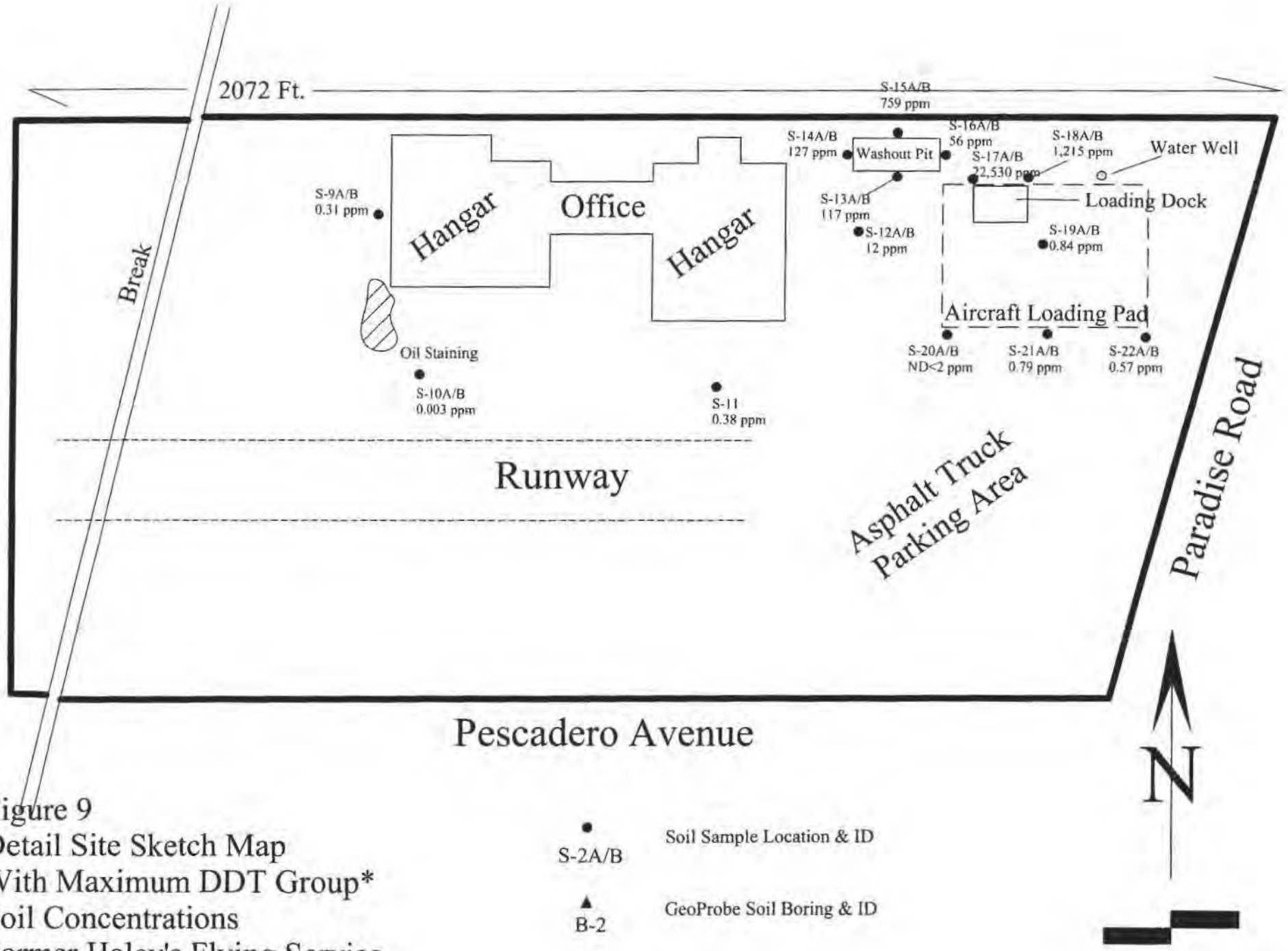


Figure 9
Detail Site Sketch Map
With Maximum DDT Group*
Soil Concentrations
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

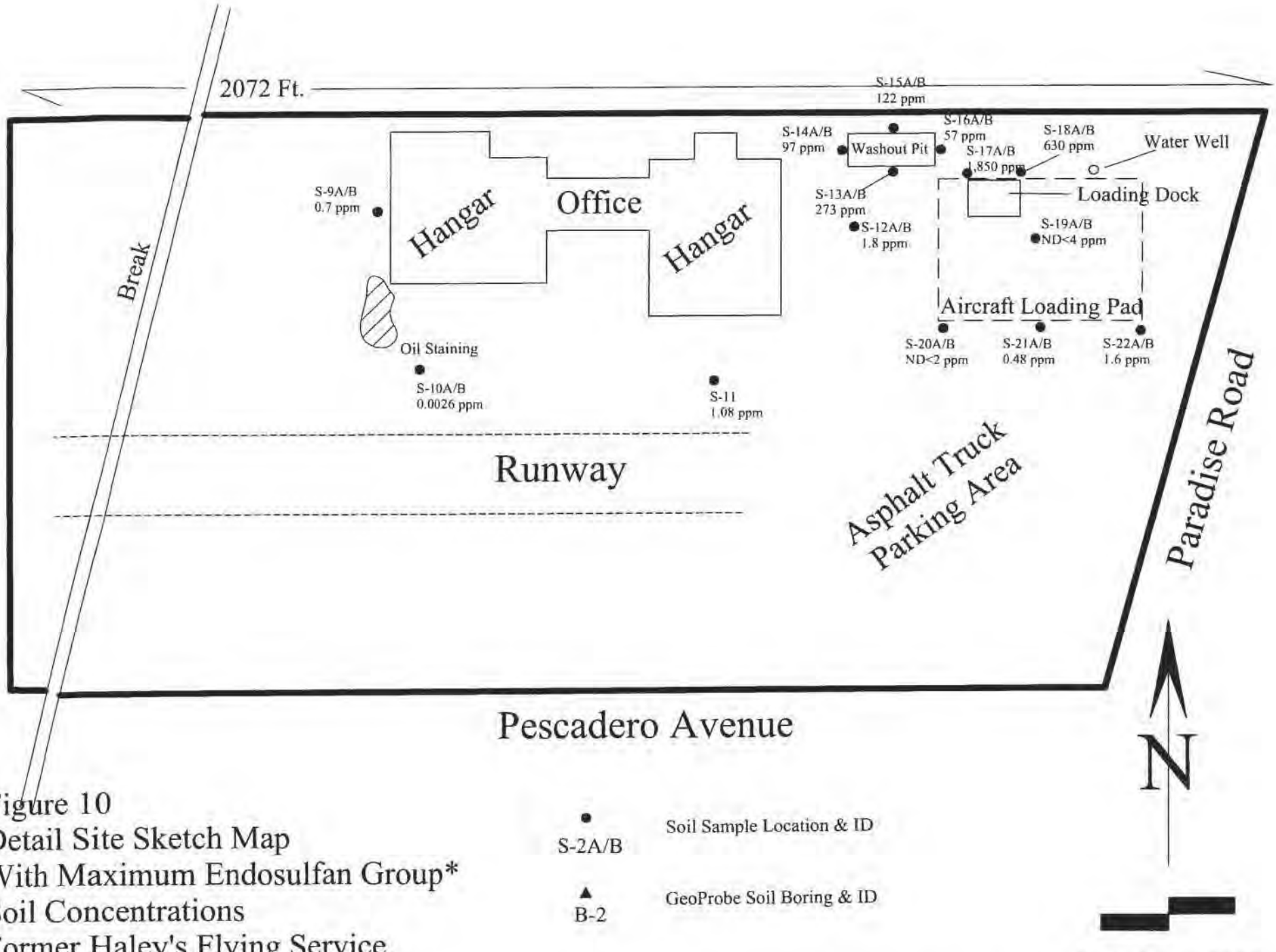


Figure 10
Detail Site Sketch Map
With Maximum Endosulfan Group*
Soil Concentrations
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

* Includes Endosulfan I, Endosulfan II, Endosulfan Sulfate

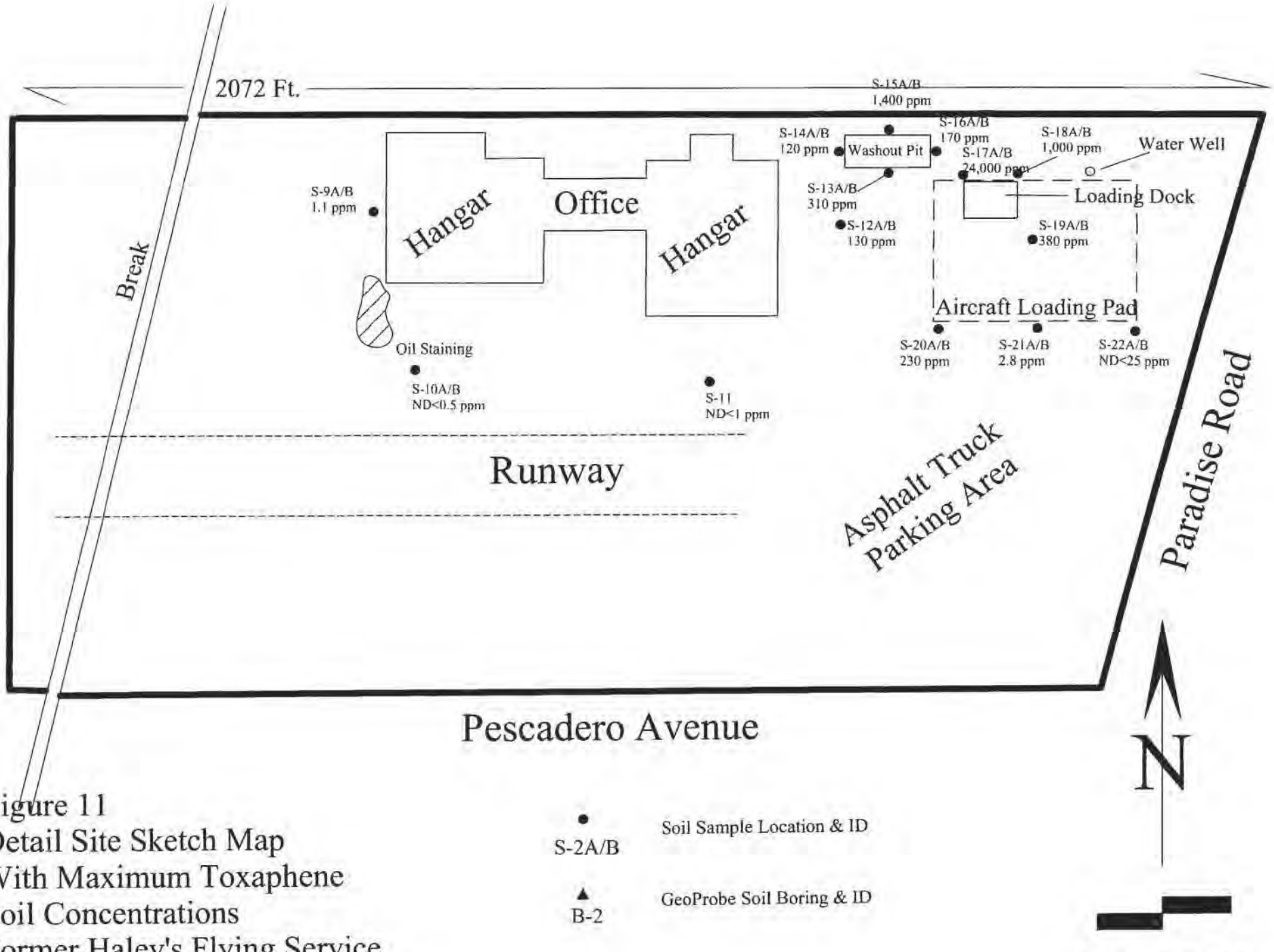


Figure 11
Detail Site Sketch Map
With Maximum Toxaphene
Soil Concentrations
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

Summary Tables

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Summary of Hydrocarbon Laboratory Data – Soil	**3**
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Summary Table 1

Laboratory Data - Soil

Sample I.D.	S-1A	S-1B	S-2A	S-2B	S-3A	S3-B	S-4A	S-4B	S-5A	S5-B	S-6A	S-6B
Dilution (8081)	1	1	1	1	1	1	1	5	500	1000	50	1
8081 Analytes												
a-Chlordane	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	ND<1.0	**0.69**	ND<.001
g-Chlordane	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	ND<1.0	**0.06**	ND<.001
p,p-DDD	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	**1.5**	ND<.05	ND<.001
p,p-DDE	**0.0022**	**0.0020**	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	**2.2**	**0.42**	**0.0016**
p,p-DDT	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	**4.8**	**0.24**	ND<.001
Dieldrin	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	ND<1.0	ND<.05	ND<.001
Endosulfan I	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	**6.9**	**12.0**	ND<.05	ND<.001
Endosulfan II	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	**3.0**	**3.0**	ND<.05	ND<.001
Endosulfan sulfate	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	ND<1.0	ND<.05	ND<.001
Endrin	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	ND<1.0	ND<.05	ND<.001
Methoxychlor	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.001	ND<.005	ND<0.50	ND<1.0	ND<.05	ND<.001
Toxaphene	ND<.05	ND<.05	ND<.05	ND<.05	ND<.05	ND<.05	**0.89**	ND<0.25	ND<25	ND<50	ND<2.5	ND<.05
8141 Analytes												
Ethion	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8151 Analytes												
Dinoseb (DNBP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8318 Analytes												
Carbaryl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methiocarb	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

Summary Table 1 - Continued

Laboratory Data - Soil

Sample I.D.	S-7A	S-7B	S-8A	S-8B	S-9A	S-9B	S-10A	S-10B	S-11	S-12A	S-12B
Dilution (8081)	5	1	2	2	10	5	1	1	20	1000	1
8081 Analytes											
a-Chlordane	ND<.005	ND<.001	ND<.0020	ND<.0020	ND<.010	ND<.005	ND<.001	ND<.001	ND<0.02	ND<1.0	ND<.001
g-Chlordane	ND<.005	ND<.001	ND<.0020	ND<.0020	ND<.010	ND<.005	ND<.001	ND<.001	ND<0.02	ND<1.0	ND<.001
p,p-DDD	ND<.005	ND<.001	ND<.0020	ND<.0020	ND<.010	ND<.005	ND<.001	ND<.001	**0.15**	**12**	**0.006**
p,p-DDE	**0.12**	**0.0028**	**0.0037**	**0.013**	**0.031**	ND<.005	ND<.001	**0.0012**	**0.15**	ND<1.0	**0.0055**
p,p-DDT	**0.045**	ND<.001	**0.014**	**0.0063**	ND<.010	ND<.005	ND<.001	**0.0017**	**0.085**	ND<1.0	**0.022**
Dieldrin	ND<.005	ND<.001	ND<.0020	ND<.0020	ND<.010	ND<.005	ND<.001	ND<.001	ND<0.02	ND<1.0	**0.0039**
Endosulfan I	ND<.005	ND<.001	ND<.0020	ND<.0020	**0.35**	**0.13**	ND<.001	**0.0015**	**0.022**	ND<1.0	ND<.001
Endosulfan II	ND<.005	ND<.001	ND<.0020	ND<.0020	**0.37**	**0.12**	ND<.001	**0.0011**	**0.086**	**1.8**	ND<.001
Endosulfan sulfate	ND<.005	ND<.001	ND<.0020	ND<.0020	**0.05**	**0.016**	ND<.001	ND<.001	ND<0.02	ND<1.0	ND<.001
Endrin	ND<.005	ND<.001	ND<.0020	ND<.0020	ND<.010	ND<.005	ND<.001	ND<.001	ND<0.02	ND<1.0	ND<.001
Methoxychlor	ND<.005	ND<.001	ND<.0020	ND<.0020	**0.2**	ND<.005	ND<.001	ND<.001	ND<0.02	ND<1.0	ND<.001
Toxaphene	ND<0.25	ND<.05	**0.18**	ND<0.10	**1.1**	**0.3**	ND<.05	ND<.05	ND<1.0	**130**	ND<.05
8141 Analytes											
Ethion	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8151 Analytes											
Dinoseb (DNBP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8318 Analytes											
Carbaryl	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methiocarb	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

Summary Table 1 - Continued

Laboratory Data - Soil

Sample I.D.	S-13A	S-13B	S-14A	S-14A-X2	S-14B	S-15A	S-15B	S-16A	S-16B	S-17A	S-17B
Dilution (8081)	500	2500	2000	2000	2000	5000	10000	2000	1000	250000	1000
8081 Analytes											
a-Chlordane	ND<0.50	ND<2.5	ND<2.0	ND<2.0	ND<2.0	ND<5.0	ND<10	ND<2.0	ND<1.0	ND<250	ND<1.0
g-Chlordane	**0.82**	**8.5**	ND<2.0	ND<2.0	ND<2.0	ND<5.0	**17**	ND<2.0	**1.1**	ND<250	ND<1.0
p,p-DDD	ND<0.50	**14**	**9.1**	**7.3**	**14**	**14**	**84**	**8**	ND<1.0	**3000**	**31**
p,p-DDE	**1.5**	**10**	ND<2.0	ND<2.0	**3.6**	ND<5.0	**65**	**2.3**	**2.2**	**530**	ND<1.0
p,p-DDT	**0.95**	**93**	**100**	**120**	**97**	**100**	**610**	**81**	**54**	**19000**	ND<1.0
Dieldrin	ND<0.50	**3.8**	ND<2.0	ND<2.0	ND<2.0	ND<5.0	ND<10	ND<2.0	ND<1.0	ND<250	ND<1.0
Endosulfan I	**22**	**180**	**31**	**25**	**64**	**76**	**590**	**35**	**32**	**1100**	ND<1.0
Endosulfan II	**9.5**	**78**	**20**	**16**	**33**	**46**	**290**	**22**	**15**	**750**	ND<1.0
Endosulfan sulfate	**1.1**	**15**	ND<2.0	**16**	ND<2.0	ND<5.0	ND<10	ND<2.0	ND<1.0	ND<250	ND<1.0
Endrin	ND<0.50	**10**	ND<2.0	ND<2.0	ND<2.0	ND<5.0	**40**	ND<2.0	ND<1.0	ND<250	ND<1.0
Methoxychlor	ND<0.50	ND<2.5	ND<2.0	ND<2.0	**24**	ND<5.0	**260**	ND<2.0	ND<1.0	ND<250	ND<1.0
Toxaphene	ND<2.5	**310**	**120**	**110**	**270**	ND<250	**1400**	ND<100	**170**	**24000**	**79**
8141 Analytes											
Ethion	NA	NA	**6.8**	**7.3**	**7.7**	NA	NA	NA	NA	NA	NA
Ethyl parathion	NA	NA	**1.8**	**2**	**1.3**	NA	NA	NA	NA	NA	NA
8151 Analytes											
Dinoseb (DNBP)	NA	NA	**5.2**	**4.3**	**21**	NA	NA	NA	NA	NA	NA
8318 Analytes											
Carbaryl	NA	NA	**150**	**170**	**190**	NA	NA	NA	NA	NA	NA
Methiocarb	NA	NA	**160**	ND<0.04	**220**	NA	NA	NA	NA	NA	NA
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

Summary Table 1 Continued

Laboratory Data - Soil

Sample I.D.	S-18A	S-18B	S-19A	S-19B	S-20A	S-20B	S-21A	S-21B	S-22A	S-22B
Dilution	20000	100	4000	200	2000	50	10	20	50	500
8081 Analytes										
a-Chlordane	ND<20	ND<0.10	ND<4.0	ND<0.20	ND<2.0	ND<0.050	ND<.010	ND<0.02	ND<.050	ND<0.50
g-Chlordane	ND<20	ND<0.10	ND<4.0	ND<0.20	ND<2.0	ND<0.050	ND<.010	ND<0.02	ND<.050	ND<0.50
p,p-DDD	**180**	ND<0.10	ND<4.0	**0.84**	ND<2.0	ND<0.050	**0.13**	**0.77**	ND<.050	ND<0.50
p,p-DDE	**35**	ND<0.10	ND<4.0	ND<0.20	ND<2.0	ND<0.050	**0.041**	ND<0.02	ND<.050	ND<0.50
p,p-DDT	**1000**	**1.3**	ND<4.0	ND<0.20	ND<2.0	ND<0.050	**0.025**	ND<0.02	**0.054**	**0.57**
Dieldrin	ND<20	ND<0.10	ND<4.0	ND<0.20	ND<2.0	ND<0.050	ND<.010	ND<0.02	ND<.050	ND<0.50
Endosulfan I	**400**	**0.52**	ND<4.0	ND<0.20	ND<2.0	ND<0.050	**0.026**	**0.10**	**0.054**	**1.6**
Endosulfan II	**230**	**0.38**	ND<4.0	ND<0.20	ND<2.0	ND<0.050	**0.022**	**0.13**	ND<.050	**0.93**
Endosulfan sulfate	ND<20	ND<0.10	ND<4.0	ND<0.20	ND<2.0	ND<0.050	ND<.010	ND<0.02	ND<.050	ND<0.50
Endrin	**31**	ND<0.10	ND<4.0	ND<0.20	ND<2.0	ND<0.050	ND<.010	ND<0.02	ND<.050	ND<0.50
Methoxychlor	ND<20	ND<0.10	ND<4.0	ND<0.20	ND<2.0	ND<0.050	**0.015**	ND<0.02	ND<.050	ND<0.50
Toxaphene	**1000**	ND<5.0	**380**	ND<10	**230**	**3.9**	ND<0.50	**2.8**	ND<2.5	ND<25
8141 Analyte List										
Ethion	NA	NA	ND<0.1	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	NA	NA	ND<0.1	NA	NA	NA	NA	NA	NA	NA
8151 Analytes										
Dinoseb (DNBP)	NA	NA	ND<0.50	NA	NA	NA	NA	NA	NA	NA
8318 Analytes										
Carbaryl	NA	NA	ND<0.04	NA	NA	NA	NA	NA	NA	NA
Methiocarb	NA	NA	ND<0.4	NA	NA	NA	NA	NA	NA	NA
Units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

Summary Table 2

Laboratory Data - Groundwater

Sample I.D.	B-1	B-2
Dilution	100	50
8081 Analytes		
a-Chlordane	ND<5	ND<2.5
g-Chlordane	ND<5	ND<2.5
p,p-DDD	27	ND<0.50
p,p-DDE	5.9	ND<0.50
p,p-DDT	350	14
Dieldrin	ND<1.0	ND<1.0
Endosulfan I	23	18
Endosulfan II	33	7.9
Endosulfan sulfate	ND<5	ND<2.5
Endrin	ND<1.0	ND<0.50
Methoxychlor	ND<10	ND<5
Toxaphene	560	170
8141 Analytes		
Ethyl Parathion	40	13
8151 Analytes		
DCPA	ND<0.2	2
8318 Analytes		
Carbyl	2.4	22
Units	µg/L	µg/L

Summary Table 3

Petroleum Hydrocarbons and VOCs in Soil

Sample I.D.	**S-9A**	**S-9B**	**S-10A**	**S-10B**	**S-10C***	**S-23**	**S-24**
8260 Analytes							
all analytes	NA	NA	NA	ND<0.005	ND<0.005	NA	NA
8015m Analytes							
TEPH Diesel	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5
TEPH Oil	ND<20	ND<20	ND<20	ND<20	ND<20	ND<20	ND<20
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L

* S10C is Duplicate of S-10B

Summary Table 4

Soil Data Inputs to Pro-UCL

Sample #	a Chlordane	g Chlordane	DDD	DDE	DDT	Dieldrin	Endolsulf I	Endosulf II	Endosulf Sulf	Endrin	Methocychlor	Toxaphene
1a	0.0005	0.0005	0.0005	0.0022	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
1b	0.0005	0.0005	0.0005	0.0020	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
2a	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
2b	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
3a	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
3b	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
4a	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.8900
4b	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.1250
5a	0.2500	0.2500	0.2500	0.2500	0.2500	0.2500	6.9000	3.0000	0.2500	0.2500	0.2500	12.5000
5b	0.5000	0.5000	1.5000	2.2000	4.8000	0.5000	12.0000	4.9000	0.5000	0.5000	0.5000	25.0000
6a	0.0350	0.0300	0.0250	0.4200	0.2400	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	1.2500
6b	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
7a	0.0005	0.0005	0.0005	0.1200	0.0450	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.1250
7b	0.0005	0.0005	0.0005	0.0028	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
8a	0.0010	0.0010	0.0010	0.0037	0.0014	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.1800
8b	0.0010	0.0010	0.0010	0.0130	0.0063	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0500
9a	0.0050	0.0050	0.0050	0.0310	0.0050	0.0050	0.3500	0.3700	0.0500	0.0050	0.2000	1.1000
9b	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.1300	0.1200	0.0160	0.0025	0.0025	0.0250
10a	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
10b	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0250
11	0.0100	0.0100	0.1500	0.1500	0.0850	0.0100	0.0220	0.0860	0.0100	0.0100	0.0100	0.5000
12a	0.5000	0.5000	12.0000	0.5000	0.5000	0.5000	0.5000	1.8000	0.5000	0.5000	0.5000	130.0000
12b	0.0005	0.0005	0.0005	0.0060	0.0055	0.0220	0.0039	0.0005	0.0005	0.0005	0.0005	0.0250
13a	0.2500	0.8200	0.2500	1.5000	0.9500	0.2500	22.0000	9.5000	1.1000	0.2500	0.2500	1.2500
13b	1.2500	8.5000	14.0000	10.0000	93.0000	3.8000	180.0000	78.0000	15.0000	10.0000	1.2500	310.0000
14a	1.0000	1.0000	9.1000	1.0000	100.0000	1.0000	31.0000	20.0000	1.0000	1.0000	1.0000	120.0000
14b	1.0000	1.0000	14.0000	3.6000	97.0000	1.0000	64.0000	33.0000	1.0000	1.0000	24.0000	270.0000
15a	2.5000	2.5000	14.0000	2.5000	100.0000	2.5000	76.0000	46.0000	2.5000	2.5000	2.5000	125.0000
15b	5.0000	17.0000	84.0000	65.0000	610.0000	5.0000	590.0000	290.0000	5.0000	40.0000	260.0000	1,400.0000
16a	1.0000	1.0000	8.0000	2.3000	81.0000	1.0000	35.0000	22.0000	1.0000	1.0000	1.0000	50.0000
16b	0.5000	1.1000	0.5000	2.2000	54.0000	0.5000	32.0000	15.0000	0.5000	0.5000	0.5000	170.0000
17a	125.0000	125.0000	3,000.0000	530.0000	19,000.0000	125.0000	1,100.0000	750.0000	125.0000	125.0000	125.0000	24,000.0000
17b	0.5000	0.5000	31.0000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	0.5000	79.0000
18a	10.0000	10.0000	180.0000	35.0000	1,000.0000	10.0000	400.0000	230.0000	10.0000	31.0000	10.0000	1,000.0000
18b	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	0.0500	2.5000
19a	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	2.0000	380.0000
19b	0.1000	0.1000	0.8400	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	0.1000	5.0000
20a	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	230.0000
20b	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	0.0250	3.9000
21a	0.0050	0.0050	0.1300	0.0410	0.0250	0.0050	0.0260	0.0220	0.0050	0.0050	0.0150	0.2500
21b	0.0100	0.0100	0.7700	0.0100	0.0100	0.0100	0.1000	0.1300	0.0100	0.0100	0.0100	2.8000
22a	0.0250	0.0250	0.0250	0.0250	0.0540	0.0250	0.0540	0.0250	0.0250	0.0250	0.0250	1.2500
22b	0.2500	0.2500	0.2500	0.2500	0.0570	0.2500	1.6000	0.9300	0.2500	0.2500	0.2500	12.5000

Appendix A

Laboratory Data Sheets

2937 Veneman Ave., #B240
Modesto, CA 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

argon laboratories

GEOPHASE ENVIRONMENTAL
2937 VENEMAN AVE. #B240
MODESTO, CA 95356

REPORT DATE: 09/22/05
SAMPLE DATE: 08/24/05

ATTN: STEVE LANKFORD
CLIENT PROJ. ID: 474.2
HALEY FLYING SVC

AL JOB #: F08591

Project Summary:

On August 24, 2005, this laboratory received 1 water and 17 soil samples.

Samples were analyzed according to instructions in accompanying chain-of-custody. Results of the analysis are summarized on the following pages. Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (209) 581-9280.

Hiram Cueto
Lab Director

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argonlabs.com

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:	Report To:	Samples Submitted To:
Project No: 474.2 Project Title: Haley Flying S/C Location:	Consultant: Geo Phase Env. Address: Contact: S Lankford Phone: 569 0293 Fax:	Laboratory: Argon Laboratories Address: 3037 5th Street, Ceres, CA 95307 Contact: Hiram Cueto Phone: 209-581-9280 Fax: 209-581-9282
Sampler's Name (print): S. Lankford Sampler's Signature:	Bill To: Client: Address:	Date Results Required: Date Report Required:

TURN AROUND TIME: RUSH ☐ 24 Hour ☐ 48 Hour ☐ Standard (5 Day) ☒ ☐

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318	8260B	TEPH							COMMENTS
																	Preservative
S14A	8/24	758	2	S	X	X	X	X									blend containers & run dup
S14B		805	1	S	X	X	X	X			delete						
S14C		810	3	W	X	X	X	X	(X)	X							eq blank
S10A		940	1	S	X				X	X							
S10B		945	4	S	X				X	X							
S10C		~~850~~	3	S					X								
S15A		941	1	S	X												
S15B		941	1	S	X												
S16A		1135	1	S	X												
S16B		1135	1	S	X												
~~S~~14A		1156	1	S	X												
S14B		1156	1	S	X												

S13

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	SPECIAL INSTRUCTIONS:
[signature]	8/24/05	1533	[signature]	8/24/05	15:33	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:	Report To:	Samples Submitted To:
Project No: 474.2 Project Title: Haley Flying Svc Location:	Consultant: Geo Phase Env. Address: Contact: S Lankford Phone: 569 0293 Fax:	Laboratory: Argon Laboratories Address: 3037 5th Street Ceres, CA 95307 Contact: Hiram Cueto Phone: 209-581-9280 Fax: 209-581-9282
Sampler's Name: (print) S. Lankford Sampler's Signature: S M Sampl	Bill To: Client: Address:	Date Results Required: Date Report Required:

TURN AROUND TIME: RUSH ☐ 24 Hour ☐ 48 Hour ☐ Standard (5 Day) ☒ ☐

Sample ID.	Date	Time	# Containers	Matrix	8015A	8141A	8151A	8315	8260B	TEPH	Temp 1 & 2						COMMENTS
					ANALYSIS												Preservative
S18A	8/24	1240	1	S	X												
S18B	↓	1240	1	S	X												
S17A		1255	1	S	X												
S17B		1255	1	S	X												
S19A		1340	1	S	X	X	X	X									
S19B		1340	1	S	X												
Temp 1											X						3.6°C on receipt
Temp 2											X						2-4°C " "

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	SPECIAL INSTRUCTIONS:
S M Sampl	8/24/05	1523	U. Lut	8/24/05	1533	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

argon laboratories

GeoPhase Environmental
2937 Veneman Ave., #B240
Modesto, CA 95356

Proj. ID: 474.2
Site: Haley Flying Svc
Matrix: Soil

Total Extractable Petroleum Hydrocarbons

Method: 8015M

Date Sampled: 08/24/05
Date Received: 08/24/05
Date Extracted: 08/26/05
Date Analyzed: 08/30/05

Lab ID	Sample ID	Kerosene mg/Kg	Diesel mg/Kg	Motor Oil mg/Kg	Surrogate % Recovery
F08594	S10A	ND	ND	ND	110
F08595	S10B	ND	ND	ND	123
Method Reporting Limit:		5.0 mg/Kg	5.0 mg/Kg	20 mg/Kg	

Note(s):
Water samples are reported in ug/L; soil/sludge samples in mg/Kg; product/oil/non-aqueous liquid samples in mg/L.
ND means not detected at or above the stated reporting limit; N/A means analyte not applicable to this analysis.

Hiram Cueto
Lab Director
DHS Certification No. 2359

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email: info@argonlabs.com

argon laboratories

GeoPhase Environmental
2937 Veneman Ave., #B240
Modesto, CA 95356

Blank / QC Data

Method: 8015M

Date Extracted: 08/26/05
ate Analyzed: 08/30/05

Proj. ID: 474.2
Site: Haley Flying Svc
Matrix: Water

Lab ID	Sample ID	Kerosene ug/L	Diesel ug/L	Motor Oil ug/L	Surrogate % Recovery
BLKF0830	Blank	<50	<50	<250	124

Method Reporting Limit:	Water	50 ug/L	50 ug/L	250 ug/L	
	Soil	5.0 mg/Kg	5.0 mg/Kg	20 mg/Kg	

MS / MSD Recovery Summary

Lab ID	Client ID	Analyte	Percent Recovery MS / MSD	%RPD
F08581	WCW MW-1	Diesel	104 / 114	9

LCS Recovery Summary

Lab ID	Analyte	Percent Recovery
LCS0830F	Diesel	106

Note(s):
Water samples are reported in ug/L; soil/sludge samples in mg/Kg; product/oil/non-aqueous liquid samples in mg/L.
ND means not detected at or above the stated reporting limit; N/A means analyte not applicable to this analysis.

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GeoPhase Environmental
2937 Veneman Ave., #B240
Modesto, CA 95356

Proj. ID: 474.2
Site: Haley Flying Svc
Matrix: Soil

Volatile Organics - GC/MS

Method: EPA 8260B

Date Sampled: 08/24/05
Date Received: 08/24/05
Date Analyzed: 08/30/05

Sample ID: S10B
Lab ID: F08595
DF: 1

Compound	Result, mg/Kg	Rep. Limit	Compound	Result, mg/Kg	Rep. Limit
Benzene	ND	0.005	1,3-Dichloropropane	ND	0.005
Bromobenzene	ND	0.005	2,2-Dichloropropane	ND	0.005
Bromochloromethane	ND	0.005	1,1-Dichloropropene	ND	0.005
Bromodichloromethane	ND	0.005	c-1,3-Dichloropropene	ND	0.005
Bromoform	ND	0.005	t-1,3-Dichloropropene	ND	0.005
Bromomethane	ND	0.005	Ethylene Dibromide	ND	0.005
n-Butyl benzene	ND	0.005	Ethylbenzene	ND	0.005
sec-Butyl benzene	ND	0.005	Hexachlorobutadiene	ND	0.005
tert-Butyl benzene	ND	0.005	Isopropylbenzene	ND	0.005
Carbon Tetrachloride	ND	0.005	p-Isopropyl toluene	ND	0.005
Chlorobenzene	ND	0.005	Methylene Chloride	ND	0.005
Chloroethane	ND	0.005	Naphthalene	ND	0.005
Chloroform	ND	0.005	n-Propyl benzene	ND	0.005
Chloromethane	ND	0.005	Styrene	ND	0.005
2-Chlorotoluene	ND	0.005	1,1,1,2-Tetrachloroethane	ND	0.005
4-Chlorotoluene	ND	0.005	1,1,2,2-Tetrachloroethane	ND	0.005
Dibromochloromethane	ND	0.005	Tetrachloroethene	ND	0.005
1,2-Dibromo-3-chloropropane	ND	0.005	Toluene	ND	0.005
Dibromomethane	ND	0.005	1,2,3-Trichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005	1,2,4-Trichlorobenzene	ND	0.005
1,3-Dichlorobenzene	ND	0.005	1,1,1-Trichloroethane	ND	0.005
1,4-Dichlorobenzene	ND	0.005	1,1,2-Trichloroethane	ND	0.005
Dichlorodifluoromethane	ND	0.005	Trichloroethene	ND	0.005
1,1-Dichloroethane	ND	0.005	Trichlorofluoromethane	ND	0.005
1,2-Dichloroethane	ND	0.005	1,2,3-Trichloropropane	ND	0.005
1,1-Dichloroethene	ND	0.005	1,2,4-Trimethylbenzene	ND	0.005
cis-1,2-Dichloroethene	ND	0.005	1,3,5-Trimethylbenzene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005	Vinyl Chloride	ND	0.005
1,2-Dichloropropane	ND	0.005	Xylenes, total	ND	0.005
Methyl t-Butyl Ether	ND	0.005			

Note(s):

Water samples are reported in ug/L; soil/sludge samples in mg/Kg; product/oil/non-aqueous liquid samples in mg/L.

ND means not detected at or above the stated reporting limit; N/A means analyte not applicable to this analysis.

Hiram Cueto
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argon laboratories

GeoPhase Environmental
2937 Veneman Ave., #B240
Modesto, CA 95356

Proj. ID: 474.2
Site: Haley Flying Svc
Matrix: Soil

Volatile Organics - GC/MS

Method: EPA 8260B

Date Sampled: 08/24/05
Date Received: 08/24/05
Date Analyzed: 08/30/05

Sample ID: S10C
Lab ID: F08596
DF: 1

Compound	Result, mg/Kg	Rep. Limit	Compound	Result, mg/Kg	Rep. Limit
Benzene	ND	0.005	1,3-Dichloropropane	ND	0.005
Bromobenzene	ND	0.005	2,2-Dichloropropane	ND	0.005
Bromochloromethane	ND	0.005	1,1-Dichloropropene	ND	0.005
Bromodichloromethane	ND	0.005	c-1,3-Dichloropropene	ND	0.005
Bromoform	ND	0.005	t-1,3-Dichloropropene	ND	0.005
Bromomethane	ND	0.005	Ethylene Dibromide	ND	0.005
n-Butyl benzene	ND	0.005	Ethylbenzene	ND	0.005
sec-Butyl benzene	ND	0.005	Hexachlorobutadiene	ND	0.005
tert-Butyl benzene	ND	0.005	Isopropylbenzene	ND	0.005
Carbon Tetrachloride	ND	0.005	p-Isopropyl toluene	ND	0.005
Chlorobenzene	ND	0.005	Methylene Chloride	ND	0.005
Chloroethane	ND	0.005	Naphthalene	ND	0.005
Chloroform	ND	0.005	n-Propyl benzene	ND	0.005
Chloromethane	ND	0.005	Styrene	ND	0.005
2-Chlorotoluene	ND	0.005	1,1,1,2-Tetrachloroethane	ND	0.005
4-Chlorotoluene	ND	0.005	1,1,2,2-Tetrachloroethane	ND	0.005
Dibromochloromethane	ND	0.005	Tetrachloroethene	ND	0.005
1,2-Dibromo-3-chloropropane	ND	0.005	Toluene	ND	0.005
Dibromomethane	ND	0.005	1,2,3-Trichlorobenzene	ND	0.005
1,2-Dichlorobenzene	ND	0.005	1,2,4-Trichlorobenzene	ND	0.005
1,3-Dichlorobenzene	ND	0.005	1,1,1-Trichloroethane	ND	0.005
1,4-Dichlorobenzene	ND	0.005	1,1,2-Trichloroethane	ND	0.005
Dichlorodifluoromethane	ND	0.005	Trichloroethene	ND	0.005
1,1-Dichloroethane	ND	0.005	Trichlorofluoromethane	ND	0.005
1,2-Dichloroethane	ND	0.005	1,2,3-Trichloropropane	ND	0.005
1,1-Dichloroethene	ND	0.005	1,2,4-Trimethylbenzene	ND	0.005
cis-1,2-Dichloroethene	ND	0.005	1,3,5-Trimethylbenzene	ND	0.005
trans-1,2-Dichloroethene	ND	0.005	Vinyl Chloride	ND	0.005
1,2-Dichloropropane	ND	0.005	Xylenes, total	ND	0.005
Methyl t-Butyl Ether	ND	0.005			

Note(s):

Water samples are reported in ug/L; soil/sludge samples in mg/Kg; product/oil/non-aqueous liquid samples in mg/L.

ND means not detected at or above the stated reporting limit; N/A means analyte not applicable to this analysis.

Hiram Cueto
Lab Director
DHS Certification No. 2359

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argonlabs.com

argon laboratories

QUALITY CONTROL DATA
METHOD: EPA 8260B

AL Job No: F08595
Instrument: HP GC/MS
Matrix: Soil

Surrogate Standard Recovery Summary

Date Analyzed	Client ID	Lab ID	% Recovery Dibromofluoromethane	% Recovery Toluene-d8	% Recovery 4-Bromofluorobenzene
08/30/05	Blank	BLKC0418	98	99	96
08/30/05	S10B	F08595	104	99	90
08/30/05	S10C	F08596	108	98	80

Matrix Spike Recovery Summary

Lab ID	Client ID	Analyte	Percent Recovery MS / MSD	% RPD	%LCS
F08322	UST-B1-6*	1,1-Dichloroethene	126 / 127	1	126
		Benzene	118 / 111	6	111
		Trichloroethene	103 / 100	3	102
		Toluene	101 / 96	5	99
		Chlorobenzene	98 / 95	3	99

Note: Daily method blank showed no contamination at or above the reporting limits.
All laboratory quality control parameters were found to be within established limits.

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argonlabs.com

argon laboratories

GEOPHASE ENVIRONMENTAL
2937 VENEMAN AVE. #B240
MODESTO, CA 95356

REPORT DATE: 09/22/05
SAMPLE DATE: 08/25/05

ATTN: STEVE LANKFORD
CLIENT PROJ. ID: 474.2
HALEY FLYING SVC

AL JOB #: F08651

Project Summary:

On August 25, 2005, this laboratory received 17 soil samples.

Samples were analyzed according to instructions in accompanying chain-of-custody. Results of the analysis are summarized on the following pages. Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (209) 581-9280.

Hiram Cueto
Lab Director

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argonlabs.com

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:	Report To:	Samples Submitted To:
Project No: 474.2 Project Title: Haley Flying Svc Location:	Consultant: Geo Phase Env. Address: Contact: S Lankford Phone: 569 0293 Fax:	Laboratory: Argon Laboratories Address: 3037 5th Street Ceres, CA 95307 Contact: Hiram Cueto Phone: 209-581-9280 Fax: 209-581-9282
Sampler's Name: (print) S. Lankford Sampler's Signature:	Bill To: Client: Address:	Date Results Required: Date Report Required:

TURN AROUND TIME: RUSH ☐ 24 Hour ☐ 48 Hour ☐ Standard (5 Day) ☒ ☐

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318	8260B	TEPH							COMMENTS: Preservative
S22A	8/25	805	1	S	X												
S22B		805	1	S	X												
S21A		822	1	S	X												
S21B		822	1	S	X												
S20A		835	1	S	X												
S20B		835	1	S	X												
S12A		844	1	S	X												
S12B		844	1	S	X												
S11A		925	1	S	X												
S11B		925	1	S	X												
S1A		1009	1	S	X												
S1B		1009	1	S	X												

lost

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	SPECIAL INSTRUCTIONS:
	8/25	1455		8/25/05	14:55	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:	Report To:	Samples Submitted To:
Project No: 474.2 Project Title: Haley Flying Svc Location:	Consultant: Geo Phase Env. Address: Contact: S Lankford Phone: 569 0293 Fax:	Laboratory: Argon Laboratories Address: 3037 5th Street, Ceres, CA 95307 Contact: Hiram Cueto Phone: 209-581-9280 Fax: 209-581-9282
Sampler's Name: (print) S. Lankford Sampler's Signature:	Bill To: Client: Address:	Date Results Required: Date Report Required:

TURN AROUND TIME: RUSH ☐ 24 Hour ☐ 48 Hour ☐ Standard (5 Day) ☒ ☐

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8315	8260B	TEPH		Temp					COMMENTS: Preservative
S2A	8/25	1045	1	S	X												
S2B		1045	1	S	X												
S3A		1122	1	S	X												
S3B		1122	1	S	X												
S4A		1143	1	S	X												
S4B		1143	1	S	X												
S6A		1220	1	S	X												
S5B		1220	1	S	X												
Temp												X					3.2° when delivered

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	SPECIAL INSTRUCTIONS:
[signature]	8/25	1455	[signature]	8/25/05	14:55	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

0508443

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

PO No.: F1137

Project Information:	Report To:	Samples Submitted To:
Project No: 474.2	**Consultant:** GeoPhase Environmental	**Laboratory:** McCampbell Analytical
Project Title: Haley Flying Svc	**Address:** 2937 Veneman Ave., #B240 Modesto, CA 95356	**Address:** 110 2nd Avenue South, #D7 Pacheco, CA 94553
Location:	**Contact:** Steve Lankford	**Contact:**
Sampler's Name: (print)	**Phone:** (209)569-0293	**Phone:** 925-798-1620
Sampler's Signature:	**Fax:** (209)569-0295	**Fax:** 925-798-1622
	Bill To:	**Date Results Required:**
	Client: Argon Labs **Address:** 2905 Railroad Ave. Ceres, CA 95307	**Date Report Required:**

TURN AROUND TIME

RUSH	24 Hour	48 Hour	5 Day	
☐	☐	☐	☒	☐

ANALYSIS

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318	5035/8260B				Read Special instructions		Comments
S14A	08/24/05	12:40	2	Soil	X	X	X	X					X		Blend containers 1 and 2 and then run in dup. all (4) tests.
S14B	08/24/05	12:55	1	Soil	X	X	X	X							
S14C	08/24/05	12:55	3	Water	X	X	X	X							
S10A	08/24/05	9:40	1	Soil	X										
S10B	08/24/05	9:45	4	Soil	X				X						
S10C	08/24/05		3	Soil					X						
S15A	08/24/05	9:41	1	Soil	X										
S15B	08/24/05	9:41	1	Soil	X										
S16A	08/24/05	11:35	1	Soil	X										
S16B	08/24/05	11:35	1	Soil	X										
S13A	08/24/05	11:56	1	Soil	X										
S13B	08/24/05	11:56	1	Soil	X										

ICE/C ✓
GOOD CONDITION ✓ APPROPRIATE
HEAD SPACE ABSENT ___ CONTAINERS ✓
DECHLORINATED IN LAB ___ PRESERVED IN LAB ___

PRESERVATION	VOAS	O&G	METALS	OTHER

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8/25/05	15:40	[signature]	8/25/05	1840
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Special Instructions:

* Report to GeoPhase Environmental as indicated above.
* Email results to: data@argonlabs.com
* Mail reports to Argon
* Invoice to Argon

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:

Project No: 474.2
Project Title: Haley Flying Svc
Location:

Sampler's Name:
(print)
Sampler's Signature:

Report To:

Consultant: GeoPhase Environmental
Address: 2937 Veneman Ave., #B240
Modesto, CA 95356
Contact: Steve Lankford
Phone: (209)569-0293
Fax: (209)569-0295

Bill To:

Client: Argon Labs
Address: 2905 Railroad Ave.
Ceres, CA 95307

Samples Submitted To:

Laboratory: McCampbell Analytical
Address: 110 2nd Avenue South, #D7
Pacheco, CA 94553
Contact:
Phone: 925-798-1620
Fax: 925-798-1622

Date Results Required:

Date Report Required:

TURN AROUND TIME

RUSH	24 Hour	48 Hour	5 Day	
☐	☐	☐	☒	☐

ANALYSIS

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318							Comments
S18A	08/24/05	12:40	1	Soil	X										
S18B	08/24/05	12:40	1	Soil	X										
S17A	08/24/05	12:55	1	Soil	X										
S17B	08/24/05	12:55	1	Soil	X										
S19A	08/24/05	13:40	1	Soil	X	X	X	X							
S19B	08/24/05	13:40	1	Soil	X										

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8/25/05	18:40	[signature]	8/25/05	1840
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Special Instructions:
* Report to GeoPhase Environmental as indicated above.
* Email results to: data@argonlabs.com
* Mail reports to Argon
* Invoice to Argon

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:

Project No: 474.2
Project Title: Haley Flying Svc
Location:

Sampler's Name:
(print)
Sampler's Signature:

Report To:

Consultant: GeoPhase Environmental
Address: 2937 Veneman Ave., #B240
Modesto, CA 95356
Contact: Steve Lankford
Phone: (209)569-0293
Fax: (209)569-0295

Bill To:

Client: Argon Labs
Address: 2905 Railroad Ave.
Ceres, CA 95307

Samples Submitted To:

Laboratory: McCampbell Analytical
Address: 110 2nd Avenue South, #D7
Pacheco, CA 94553
Contact:
Phone: 925-798-1620
Fax: 925-798-1622

Date Results Required:

Date Report Required:

TURN AROUND TIME

RUSH	24 Hour	48 Hour	5 Day	
☐	☐	☐	☒	☐

ANALYSIS

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318					Read Special Instructions		Comments
S22A	08/25/05	8:05	1	Soil	X										
S22B	08/25/05	8:05	1	Soil	X										
S21A	08/25/05	8:22	1	Soil	X										
S21B	08/25/05	8:22	1	Soil	X										
S12A	08/25/05	8:44	1	Soil	X										
S12B	08/25/05	8:44	1	Soil	X										
S11	08/25/05	9:28	1	Soil	X										
S1A	08/25/05	10:09	1	Soil	X										
S1B	08/25/05	10:09	1	Soil	X										
S2A	08/25/05	10:45	1	Soil	X										
S2B	08/25/05	10:45	1	Soil	X										

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8/25/05	~~16:40~~ 1840	[signature]	8/25/05	1840
Relinquished By:	Date:	Time: 18:40	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Special Instructions:

* Report to GeoPhase Environmental as indicated above.
* Email results to: data@argonlabs.com
* Mail reports to Argon
* Invoice to Argon

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:		Report To:		Samples Submitted To:	
Project No:	474.2	**Consultant:**	GeoPhase Environmental	**Laboratory:**	McCampbell Analytical
Project Title:	Haley Flying Svc	**Address:**	2937 Veneman Ave., #B240	**Address:**	110 2nd Avenue South, #D7
Location:			Modesto, CA 95356		Pacheco, CA 94553
		Contact:	Steve Lankford	**Contact:**	
Sampler's Name:		**Phone:**	(209)569-0293	**Phone:**	925-798-1620
(print)		**Fax:**	(209)569-0295	**Fax:**	925-798-1622
Sampler's Signature:		**Bill To:**		**Date Results Required:**	
		Client:	Argon Labs	**Date Report Required:**	
		Address:	2905 Railroad Ave.		
			Ceres, CA 95307		

TURN AROUND TIME

RUSH	24 Hour	48 Hour	5 Day	
☐	☐	☐	X	☐

ANALYSIS

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318					Read Special Instructions		Comments
S3A	08/25/05	11:22	1	Soil	X										
S3B	08/25/05	11:22	1	Soil	X										
S4A	08/25/05	11:43	1	Soil	X										
S4B	08/25/05	11:43	1	Soil	X										
S5A	08/25/05	12:20	1	Soil	X										
S5B	08/25/05	12:20	1	Soil	X										

Relinquished By:	**Date:** 8/25/05 **Time:** 18:40	**Received By:**	**Date:** 8/25/05 **Time:** 1840	**Special Instructions:**	
Relinquished By:	**Date:** **Time:**	**Received By:**	**Date:** **Time:**	* Report to GeoPhase Environmental as indicated above.	
Relinquished By:	**Date:** **Time:**	**Received By:**	**Date:** **Time:**	* Email results to: data@argonlabs.com	
				* Mail reports to Argon	
				* Invoice to Argon	

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0508443 **ClientID: GPEM** **EDF: NO**

Report to:
Steve Lankford
Geophase Environmental
2937 Veneman Ave., Suite B240
Modesto, CA 95356
TEL: (209) 581-9280
FAX: (209) 581-9282
ProjectNo: #474.2; Haley Flying Svc
PO: #F1137

Bill to:
Accounts Payable
Argon Analytical Services, Inc.
2905 Railroad Avenue
Ceres, CA 95307

Requested TAT: 5 days
Date Received: 08/25/2005
Date Printed: 09/21/2005

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0508443-001	S14A Ext 1	Soil	8/24/05 12:40:00	☐	A		A		A			A							
0508443-001	S14A Ext 2	Soil	8/24/05 12:40:00	☐	B		B		B			B							
0508443-002	S14B	Soil	8/24/05 12:55:00	☐	A		A		A			A							
0508443-003	S14C	Water	8/24/05 12:55:00	☐		A		B		C			A						
0508443-004	S10A	Soil	8/24/05 9:40:00 AM	☐	A														
0508443-005	S10B	Soil	8/24/05 9:45:00 AM	☐	A						B								
0508443-006	S10C	Soil	8/24/05	☐							A								
0508443-007	S15A	Soil	8/24/05 9:41:00 AM	☐	A														
0508443-008	S15B	Soil	8/24/05 9:41:00 AM	☐	A														
0508443-009	S16A	Soil	8/24/05 11:35:00	☐	A														
0508443-010	S16B	Soil	8/24/05 11:35:00	☐	A														
0508443-011	S13A	Soil	8/24/05 11:56:00	☐	A														
0508443-012	S13B	Soil	8/24/05 11:56:00	☐	A														
0508443-013	S18A	Soil	8/24/05 12:40:00	☐	A														
0508443-014	S18B	Soil	8/24/05 12:40:00	☐	A														

Test Legend:

1	8081_S	2	8081_W	3	8141B_S	4	8141B_W	5	8151A_S
6	8151A_W	7	8260B_ENCORE	8	8318A_S	9	8318A_W	10	
11		12		13		14		15	

Prepared by: Maria Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0508443 **ClientID: GPEM** **EDF: NO**

Report to:
Steve Lankford
Geophase Environmental
2937 Veneman Ave., Suite B240
Modesto, CA 95356
TEL: (209) 581-9280
FAX: (209) 581-9282
ProjectNo: #474.2; Haley Flying Svc
PO: #F1137

Bill to:
Accounts Payable
Argon Analytical Services, Inc.
2905 Railroad Avenue
Ceres, CA 95307

Requested TAT: 5 days
Date Received: 08/25/2005
Date Printed: 09/21/2005

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0508443-015	S17A	Soil	8/24/05 12:55:00	☐	A														
0508443-016	S17B	Soil	8/24/05 12:55:00	☐	A														
0508443-017	S19A	Soil	8/24/05 1:40:00 PM	☐	A		A		A			A							
0508443-018	S19B	Soil	8/24/05 1:40:00 PM	☐	A														
0508443-019	S22A	Soil	8/25/05 8:05:00 AM	☐	A														
0508443-020	S22B	Soil	8/25/05 8:05:00 AM	☐	A														
0508443-021	S21A	Soil	8/25/05 8:22:00 AM	☐	A														
0508443-022	S21B	Soil	8/25/05 8:22:00 AM	☐	A														
0508443-023	S12A	Soil	8/25/05 8:44:00 AM	☐	A														
0508443-024	S12B	Soil	8/25/05 8:44:00 AM	☐	A														
0508443-025	S11	Soil	8/25/05 9:28:00 AM	☐	A														
0508443-026	S1A	Soil	8/25/05 10:09:00	☐	A														
0508443-027	S1B	Soil	8/25/05 10:09:00	☐	A														
0508443-028	S2A	Soil	8/25/05 10:45:00	☐	A														
0508443-029	S2B	Soil	8/25/05 10:45:00	☐	A														

Test Legend:

1	8081_S	2	8081_W	3	8141B_S	4	8141B_W	5	8151A_S
6	8151A_W	7	8260B_ENCORE	8	8318A_S	9	8318A_W	10	
11		12		13		14		15	

Prepared by: Maria Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0508443 **ClientID: GPEM** **EDF: NO**

Report to:
Steve Lankford
Geophase Environmental
2937 Veneman Ave., Suite B240
Modesto, CA 95356
TEL: (209) 581-9280
FAX: (209) 581-9282
ProjectNo: #474.2; Haley Flying Svc
PO: #F1137

Bill to:
Accounts Payable
Argon Analytical Services, Inc.
2905 Railroad Avenue
Ceres, CA 95307

Requested TAT: 5 days
Date Received: 08/25/2005
Date Printed: 09/21/2005

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0508443-030	S3A	Soil	8/25/05 11:22:00	☐	A														
0508443-031	S3B	Soil	8/25/05 11:22:00	☐	A														
0508443-032	S4A	Soil	8/25/05 11:43:00	☐	A														
0508443-033	S4B	Soil	8/25/05 11:43:00	☐	A														
0508443-034	S5A	Soil	8/25/05 12:20:00	☐	A														
0508443-035	S5B	Soil	8/25/05 12:20:00	☐	A														

Test Legend:

1	8081_S	2	8081_W	3	8141B_S	4	8141B_W	5	8151A_S
6	8151A_W	7	8260B_ENCORE	8	8318A_S	9	8318A_W	10	
11		12		13		14		15	

Prepared by: Maria Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental 2937 Veneman Ave., Suite B240 Modesto, CA 95356	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
		Date Received: 08/25/05
	Client Contact: Steve Lankford	Date Reported: 09/08/05
	Client P.O.: #F1137	Date Completed: 09/21/05

WorkOrder: 0508443

September 21, 2005

Dear Steve:

Enclosed are:

1). the results of **35** analyzed samples from your **#474.2; Haley Flying Svc project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

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Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
		Date Received: 08/25/05
2937 Veneman Ave., Suite B240	Client Contact Steve Lankford	Date Extracted: 08/26/05
Modesto, CA 95356	Client P.O. #F1137	Date Analyzed: 08/26/05

Volatile Organics by P&T and GC/MS (Basic Target List) [Encore Sampling]*

Extraction Method: SW5035 Analytical Method: SW8260B Work Order: 0508443

Lab ID	0508443-005B
Client ID	S10B
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.042	1.0	0.05	Acrolein (Propenal)	ND<0.042	1.0	0.05
Acrylonitrile	ND<0.017	1.0	0.02	tert-Amyl methyl ether (TAME)	ND<0.0042	1.0	0.005
Benzene	ND<0.0042	1.0	0.005	Bromobenzene	ND<0.0042	1.0	0.005
Bromochloromethane	ND<0.0042	1.0	0.005	Bromodichloromethane	ND<0.0042	1.0	0.005
Bromomethane	ND<0.0042	1.0	0.005	2-Butanone (MEK)	ND<0.017	1.0	0.02
Bromoform	ND<0.0042	1.0	0.005	t-Butyl alcohol (TBA)	ND<0.042	1.0	0.05
n-Butyl benzene	ND<0.0042	1.0	0.005	sec-Butyl benzene	ND<0.0042	1.0	0.005
tert-Butyl benzene	ND<0.0042	1.0	0.005	Carbon Disulfide	ND<0.0042	1.0	0.005
Carbon Tetrachloride	ND<0.0042	1.0	0.005	Chlorobenzene	ND<0.0042	1.0	0.005
Chloroethane	ND<0.0042	1.0	0.005	2-Chloroethyl Vinyl Ether	ND<0.0083	1.0	0.01
Chloroform	ND<0.0042	1.0	0.005	Chloromethane	ND<0.0042	1.0	0.005
2-Chlorotoluene	ND<0.0042	1.0	0.005	4-Chlorotoluene	ND<0.0042	1.0	0.005
Dibromochloromethane	ND<0.0042	1.0	0.005	1,2-Dibromo-3-chloropropane	ND<0.0042	1.0	0.005
1,2-Dibromoethane (EDB)	ND<0.0042	1.0	0.005	Dibromomethane	ND<0.0042	1.0	0.005
1,2-Dichlorobenzene	ND<0.0042	1.0	0.005	1,3-Dichlorobenzene	ND<0.0042	1.0	0.005
1,4-Dichlorobenzene	ND<0.0042	1.0	0.005	Dichlorodifluoromethane	ND<0.0042	1.0	0.005
1,1-Dichloroethane	ND<0.0042	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.0042	1.0	0.005
1,1-Dichloroethene	ND<0.0042	1.0	0.005	cis-1,2-Dichloroethene	ND<0.0042	1.0	0.005
trans-1,2-Dichloroethene	ND<0.0042	1.0	0.005	1,2-Dichloropropane	ND<0.0042	1.0	0.005
1,3-Dichloropropane	ND<0.0042	1.0	0.005	2,2-Dichloropropane	ND<0.0042	1.0	0.005
1,1-Dichloropropene	ND<0.0042	1.0	0.005	cis-1,3-Dichloropropene	ND<0.0042	1.0	0.005
trans-1,3-Dichloropropene	ND<0.0042	1.0	0.005	Diisopropyl ether (DIPE)	ND<0.0042	1.0	0.005
Ethylbenzene	ND<0.0042	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.0042	1.0	0.005
Freon 113	ND<0.083	1.0	0.1	Hexachlorobutadiene	ND<0.0042	1.0	0.005
Hexachloroethane	ND<0.0042	1.0	0.005	2-Hexanone	ND<0.0042	1.0	0.005
Isopropylbenzene	ND<0.0042	1.0	0.005	4-Isopropyl toluene	ND<0.0042	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND<0.0042	1.0	0.005	Methylene chloride	ND<0.0042	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.0042	1.0	0.005	Naphthalene	ND<0.0042	1.0	0.005
Nitrobenzene	ND<0.083	1.0	0.1	n-Propyl benzene	ND<0.0042	1.0	0.005
Styrene	ND<0.0042	1.0	0.005	1,1,1,2-Tetrachloroethane	ND<0.0042	1.0	0.005
1,1,2,2-Tetrachloroethane	ND<0.0042	1.0	0.005	Tetrachloroethene	ND<0.0042	1.0	0.005
Toluene	ND<0.0042	1.0	0.005	1,2,3-Trichlorobenzene	ND<0.0042	1.0	0.005
1,2,4-Trichlorobenzene	ND<0.0042	1.0	0.005	1,1,1-Trichloroethane	ND<0.0042	1.0	0.005
1,1,2-Trichloroethane	ND<0.0042	1.0	0.005	Trichloroethene	ND<0.0042	1.0	0.005
Trichlorofluoromethane	ND<0.0042	1.0	0.005	1,2,3-Trichloropropane	ND<0.0042	1.0	0.005
1,2,4-Trimethylbenzene	ND<0.0042	1.0	0.005	1,3,5-Trimethylbenzene	ND<0.0042	1.0	0.005
Vinyl Chloride	ND<0.0042	1.0	0.005	Xylenes	ND<0.0042	1.0	0.005

Surrogate Recoveries (%)			
%SS1:	98	%SS2:	100
%SS3:	105		

Comments: k

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
		Date Received: 08/25/05
2937 Veneman Ave., Suite B240	Client Contact Steve Lankford	Date Extracted: 08/26/05
Modesto, CA 95356	Client P.O. #F1137	Date Analyzed: 08/26/05

Volatile Organics by P&T and GC/MS (Basic Target List) [Encore Sampling]*

Extraction Method: SW5035 Analytical Method: SW8260B Work Order: 0508443

Lab ID	0508443-006A
Client ID	S10C
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Acetone	ND<0.042	1.0	0.05	Acrolein (Propenal)	ND<0.042	1.0	0.05
Acrylonitrile	ND<0.017	1.0	0.02	tert-Amyl methyl ether (TAME)	ND<0.0042	1.0	0.005
Benzene	ND<0.0042	1.0	0.005	Bromobenzene	ND<0.0042	1.0	0.005
Bromochloromethane	ND<0.0042	1.0	0.005	Bromodichloromethane	ND<0.0042	1.0	0.005
Bromomethane	ND<0.0042	1.0	0.005	2-Butanone (MEK)	ND<0.017	1.0	0.02
Bromoform	ND<0.0042	1.0	0.005	t-Butyl alcohol (TBA)	ND<0.042	1.0	0.05
n-Butyl benzene	ND<0.0042	1.0	0.005	sec-Butyl benzene	ND<0.0042	1.0	0.005
tert-Butyl benzene	ND<0.0042	1.0	0.005	Carbon Disulfide	ND<0.0042	1.0	0.005
Carbon Tetrachloride	ND<0.0042	1.0	0.005	Chlorobenzene	ND<0.0042	1.0	0.005
Chloroethane	ND<0.0042	1.0	0.005	2-Chloroethyl Vinyl Ether	ND<0.0083	1.0	0.01
Chloroform	ND<0.0042	1.0	0.005	Chloromethane	ND<0.0042	1.0	0.005
2-Chlorotoluene	ND<0.0042	1.0	0.005	4-Chlorotoluene	ND<0.0042	1.0	0.005
Dibromochloromethane	ND<0.0042	1.0	0.005	1,2-Dibromo-3-chloropropane	ND<0.0042	1.0	0.005
1,2-Dibromoethane (EDB)	ND<0.0042	1.0	0.005	Dibromomethane	ND<0.0042	1.0	0.005
1,2-Dichlorobenzene	ND<0.0042	1.0	0.005	1,3-Dichlorobenzene	ND<0.0042	1.0	0.005
1,4-Dichlorobenzene	ND<0.0042	1.0	0.005	Dichlorodifluoromethane	ND<0.0042	1.0	0.005
1,1-Dichloroethane	ND<0.0042	1.0	0.005	1,2-Dichloroethane (1,2-DCA)	ND<0.0042	1.0	0.005
1,1-Dichloroethene	ND<0.0042	1.0	0.005	cis-1,2-Dichloroethene	ND<0.0042	1.0	0.005
trans-1,2-Dichloroethene	ND<0.0042	1.0	0.005	1,2-Dichloropropane	ND<0.0042	1.0	0.005
1,3-Dichloropropane	ND<0.0042	1.0	0.005	2,2-Dichloropropane	ND<0.0042	1.0	0.005
1,1-Dichloropropene	ND<0.0042	1.0	0.005	cis-1,3-Dichloropropene	ND<0.0042	1.0	0.005
trans-1,3-Dichloropropene	ND<0.0042	1.0	0.005	Diisopropyl ether (DIPE)	ND<0.0042	1.0	0.005
Ethylbenzene	ND<0.0042	1.0	0.005	Ethyl tert-butyl ether (ETBE)	ND<0.0042	1.0	0.005
Freon 113	ND<0.083	1.0	0.1	Hexachlorobutadiene	ND<0.0042	1.0	0.005
Hexachloroethane	ND<0.0042	1.0	0.005	2-Hexanone	ND<0.0042	1.0	0.005
Isopropylbenzene	ND<0.0042	1.0	0.005	4-Isopropyl toluene	ND<0.0042	1.0	0.005
Methyl-t-butyl ether (MTBE)	ND<0.0042	1.0	0.005	Methylene chloride	ND<0.0042	1.0	0.005
4-Methyl-2-pentanone (MIBK)	ND<0.0042	1.0	0.005	Naphthalene	ND<0.0042	1.0	0.005
Nitrobenzene	ND<0.083	1.0	0.1	n-Propyl benzene	ND<0.0042	1.0	0.005
Styrene	ND<0.0042	1.0	0.005	1,1,1,2-Tetrachloroethane	ND<0.0042	1.0	0.005
1,1,2,2-Tetrachloroethane	ND<0.0042	1.0	0.005	Tetrachloroethene	ND<0.0042	1.0	0.005
Toluene	ND<0.0042	1.0	0.005	1,2,3-Trichlorobenzene	ND<0.0042	1.0	0.005
1,2,4-Trichlorobenzene	ND<0.0042	1.0	0.005	1,1,1-Trichloroethane	ND<0.0042	1.0	0.005
1,1,2-Trichloroethane	ND<0.0042	1.0	0.005	Trichloroethene	ND<0.0042	1.0	0.005
Trichlorofluoromethane	ND<0.0042	1.0	0.005	1,2,3-Trichloropropane	ND<0.0042	1.0	0.005
1,2,4-Trimethylbenzene	ND<0.0042	1.0	0.005	1,3,5-Trimethylbenzene	ND<0.0042	1.0	0.005
Vinyl Chloride	ND<0.0042	1.0	0.005	Xylenes	ND<0.0042	1.0	0.005

Surrogate Recoveries (%)

%SS1:	100	%SS2:	100
%SS3:	105		

Comments: k

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L, wipe samples in µg/wipe.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or coelutes with another peak; &) low surrogate due to matrix interference.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference; k) reporting limit near, but not identical to our standard reporting limit due to variable Encore sample weight; m) reporting limit raised due to insufficient sample amount; n) results are reported on a dry weight basis; p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
		Date Received: 08/25/05
2937 Veneman Ave., Suite B240	Client Contact: Steve Lankford	Date Extracted 08/26/05
Modesto, CA 95356	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-001A	0508443-001B	0508443-002A	0508443-003A	Reporting Limit for DF =1	
Client ID	S14A Ext 1	S14A Ext 2	S14B	S14C		
Matrix	S	S	S	W		
DF	2000	2000	2000	1	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.005
a-BHC	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.01
b-BHC	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.005
d-BHC	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.005
g-BHC	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.02
Chlordane (Technical)	ND<50	ND<50	ND<50	ND	0.025	0.1
a-Chlordane	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.05
g-Chlordane	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.05
p,p-DDD	9.1	7.3	14	0.018	0.001	0.01
p,p-DDE	ND<2.0	ND<2.0	3.6	0.011	0.001	0.01
p,p-DDT	100	120	97	0.18	0.001	0.05
Dieldrin	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.01
Endosulfan I	31	25	64	0.10	0.001	0.02
Endosulfan II	20	16	33	0.058	0.001	0.01
Endosulfan sulfate	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.05
Endrin	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.01
Endrin aldehyde	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.05
Heptachlor	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.01
Heptachlor epoxide	ND<2.0	ND<2.0	ND<2.0	ND	0.001	0.01
Methoxychlor	ND<2.0	ND<2.0	24	ND	0.001	0.1
Toxaphene	120	110	270	ND	0.05	1.0
Surrogate Recoveries (%)						
%SS:	---#	---#	---#	112		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
		Date Received: 08/25/05
2937 Veneman Ave., Suite B240	Client Contact: Steve Lankford	Date Extracted 08/26/05
Modesto, CA 95356	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-004A	0508443-005A	0508443-007A	0508443-008A	Reporting Limit for DF =1	
Client ID	S10A	S10B	S15A	S15B		
Matrix	S	S	S	S		
DF	1	1	5000	10000	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND	ND	ND<5.0	ND<10	0.001	0.005
a-BHC	ND	ND	ND<5.0	ND<10	0.001	0.01
b-BHC	ND	ND	ND<5.0	ND<10	0.001	0.005
d-BHC	ND	ND	ND<5.0	ND<10	0.001	0.005
g-BHC	ND	ND	ND<5.0	ND<10	0.001	0.02
Chlordane (Technical)	ND	ND	ND<120	ND<250	0.025	0.1
a-Chlordane	ND	ND	ND<5.0	ND<10	0.001	0.05
g-Chlordane	ND	ND	ND<5.0	17	0.001	0.05
p,p-DDD	ND	ND	14	84	0.001	0.01
p,p-DDE	ND	0.0012	ND<5.0	65	0.001	0.01
p,p-DDT	ND	0.0017	100	610	0.001	0.05
Dieldrin	ND	ND	ND<5.0	ND<10	0.001	0.01
Endosulfan I	ND	0.0015	76	590	0.001	0.02
Endosulfan II	ND	0.0011	46	290	0.001	0.01
Endosulfan sulfate	ND	ND	ND<5.0	ND<10	0.001	0.05
Endrin	ND	ND	ND<5.0	40	0.001	0.01
Endrin aldehyde	ND	ND	ND<5.0	ND<10	0.001	0.05
Heptachlor	ND	ND	ND<5.0	ND<10	0.001	0.01
Heptachlor epoxide	ND	ND	ND<5.0	ND<10	0.001	0.01
Methoxychlor	ND	ND	ND<5.0	260	0.001	0.1
Toxaphene	ND	ND	ND<250	1400	0.05	1.0
Surrogate Recoveries (%)						
%SS:	112	115	---#	---#		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
		Date Received: 08/25/05
2937 Veneman Ave., Suite B240	Client Contact: Steve Lankford	Date Extracted 08/26/05
Modesto, CA 95356	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-009A	0508443-010A	0508443-011A	0508443-012A	Reporting Limit for DF =1	
Client ID	S16A	S16B	S13A	S13B		
Matrix	S	S	S	S		
DF	2000	1000	500	2500	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.005
a-BHC	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.01
b-BHC	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.005
d-BHC	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.005
g-BHC	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.02
Chlordane (Technical)	ND<50	ND<25	ND<12	ND<62	0.025	0.1
a-Chlordane	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.05
g-Chlordane	ND<2.0	1.1	0.82	8.5	0.001	0.05
p,p-DDD	8.0	ND<1.0	ND<0.50	14	0.001	0.01
p,p-DDE	2.3	2.2	1.5	10	0.001	0.01
p,p-DDT	81	54	0.95	93	0.001	0.05
Dieldrin	ND<2.0	ND<1.0	ND<0.50	3.8	0.001	0.01
Endosulfan I	35	32	22	180	0.001	0.02
Endosulfan II	22	15	9.5	78	0.001	0.01
Endosulfan sulfate	ND<2.0	ND<1.0	1.1	15	0.001	0.05
Endrin	ND<2.0	ND<1.0	ND<0.50	10	0.001	0.01
Endrin aldehyde	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.05
Heptachlor	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.01
Heptachlor epoxide	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.01
Methoxychlor	ND<2.0	ND<1.0	ND<0.50	ND<2.5	0.001	0.1
Toxaphene	ND<100	170	ND<25	310	0.05	1.0
Surrogate Recoveries (%)						
%SS:	---#	89	85	---#		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted 08/26/05
	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-013A	0508443-014A	0508443-015A	0508443-016A	Reporting Limit for DF =1	
Client ID	S18A	S18B	S17A	S17B		
Matrix	S	S	S	S		
DF	20000	100	250000	1000	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.005
a-BHC	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.01
b-BHC	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.005
d-BHC	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.005
g-BHC	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.02
Chlordane (Technical)	ND<500	ND<2.5	ND<6200	ND<25	0.025	0.1
a-Chlordane	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.05
g-Chlordane	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.05
p,p-DDD	180	ND<0.10	3000	31	0.001	0.01
p,p-DDE	35	ND<0.10	530	ND<1.0	0.001	0.01
p,p-DDT	1000	1.3	19,000	ND<1.0	0.001	0.05
Dieldrin	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.01
Endosulfan I	400	0.52	1100	ND<1.0	0.001	0.02
Endosulfan II	230	0.38	750	ND<1.0	0.001	0.01
Endosulfan sulfate	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.05
Endrin	31	ND<0.10	ND<250	ND<1.0	0.001	0.01
Endrin aldehyde	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.05
Heptachlor	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.01
Heptachlor epoxide	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.01
Methoxychlor	ND<20	ND<0.10	ND<250	ND<1.0	0.001	0.1
Toxaphene	1000	ND<5.0	24,000	79	0.05	1.0
Surrogate Recoveries (%)						
%SS:	---#	111	---#	112		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted 08/26/05
	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-017A	0508443-018A	0508443-019A	0508443-020A	Reporting Limit for DF =1	
Client ID	S19A	S19B	S22A	S22B		
Matrix	S	S	S	S		
DF	4000	200	50	500	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.005
a-BHC	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.01
b-BHC	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.005
d-BHC	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.005
g-BHC	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.02
Chlordane (Technical)	ND<100	ND<5.0	ND<1.2	ND<12	0.025	0.1
a-Chlordane	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.05
g-Chlordane	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.05
p,p-DDD	ND<4.0	0.84	ND<0.050	ND<0.50	0.001	0.01
p,p-DDE	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.01
p,p-DDT	ND<4.0	ND<0.20	0.054	0.57	0.001	0.05
Dieldrin	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.01
Endosulfan I	ND<4.0	ND<0.20	0.054	1.6	0.001	0.02
Endosulfan II	ND<4.0	ND<0.20	ND<0.050	0.93	0.001	0.01
Endosulfan sulfate	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.05
Endrin	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.01
Endrin aldehyde	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.05
Heptachlor	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.01
Heptachlor epoxide	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.01
Methoxychlor	ND<4.0	ND<0.20	ND<0.050	ND<0.50	0.001	0.1
Toxaphene	380	ND<10	ND<2.5	ND<25	0.05	1.0
Surrogate Recoveries (%)						
%SS:	---#	109	102	---#		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted 08/26/05
	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-021A	0508443-022A	0508443-023A	0508443-024A	Reporting Limit for DF =1	
Client ID	S21A	S21B	S12A	S12B		
Matrix	S	S	S	S		
DF	10	20	1000	1	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.005
a-BHC	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.01
b-BHC	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.005
d-BHC	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.005
g-BHC	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.02
Chlordane (Technical)	ND<0.25	ND<0.50	ND<25	ND	0.025	0.1
a-Chlordane	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.05
g-Chlordane	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.05
p,p-DDD	0.13	0.77	12	0.0060	0.001	0.01
p,p-DDE	0.041	ND<0.020	ND<1.0	0.0055	0.001	0.01
p,p-DDT	0.025	ND<0.020	ND<1.0	0.022	0.001	0.05
Dieldrin	ND<0.010	ND<0.020	ND<1.0	0.0039	0.001	0.01
Endosulfan I	0.026	0.10	ND<1.0	ND	0.001	0.02
Endosulfan II	0.022	0.13	1.8	ND	0.001	0.01
Endosulfan sulfate	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.05
Endrin	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.01
Endrin aldehyde	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.05
Heptachlor	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.01
Heptachlor epoxide	ND<0.010	ND<0.020	ND<1.0	ND	0.001	0.01
Methoxychlor	0.015	ND<0.020	ND<1.0	ND	0.001	0.1
Toxaphene	ND<0.50	2.8	130	ND	0.05	1.0
Surrogate Recoveries (%)						
%SS:	96	102	---#	109		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted 08/26/05
	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-025A	0508443-026A	0508443-027A	0508443-028A	Reporting Limit for DF =1	
Client ID	S11	S1A	S1B	S2A		
Matrix	S	S	S	S		
DF	20	1	1	1	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.020	ND	ND	ND	0.001	0.005
a-BHC	ND<0.020	ND	ND	ND	0.001	0.01
b-BHC	ND<0.020	ND	ND	ND	0.001	0.005
d-BHC	ND<0.020	ND	ND	ND	0.001	0.005
g-BHC	ND<0.020	ND	ND	ND	0.001	0.02
Chlordane (Technical)	ND<0.50	ND	ND	ND	0.025	0.1
a-Chlordane	ND<0.020	ND	ND	ND	0.001	0.05
g-Chlordane	ND<0.020	ND	ND	ND	0.001	0.05
p,p-DDD	0.15	ND	ND	ND	0.001	0.01
p,p-DDE	0.15	0.0022	0.0020	ND	0.001	0.01
p,p-DDT	0.085	ND	ND	ND	0.001	0.05
Dieldrin	ND<0.020	ND	ND	ND	0.001	0.01
Endosulfan I	0.022	ND	ND	ND	0.001	0.02
Endosulfan II	0.086	ND	ND	ND	0.001	0.01
Endosulfan sulfate	ND<0.020	ND	ND	ND	0.001	0.05
Endrin	ND<0.020	ND	ND	ND	0.001	0.01
Endrin aldehyde	ND<0.020	ND	ND	ND	0.001	0.05
Heptachlor	ND<0.020	ND	ND	ND	0.001	0.01
Heptachlor epoxide	ND<0.020	ND	ND	ND	0.001	0.01
Methoxychlor	ND<0.020	ND	ND	ND	0.001	0.1
Toxaphene	ND<1.0	ND	ND	ND	0.05	1.0
Surrogate Recoveries (%)						
%SS:	110	113	112	109		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted 08/26/05
	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C | Analytical Method: SW8081B | Work Order: 0508443

Lab ID	0508443-029A	0508443-030A	0508443-031A	0508443-032A	Reporting Limit for DF =1	
Client ID	S2B	S3A	S3B	S4A		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND	ND	ND	ND	0.001	0.005
a-BHC	ND	ND	ND	ND	0.001	0.01
b-BHC	ND	ND	ND	ND	0.001	0.005
d-BHC	ND	ND	ND	ND	0.001	0.005
g-BHC	ND	ND	ND	ND	0.001	0.02
Chlordane (Technical)	ND	ND	ND	ND	0.025	0.1
a-Chlordane	ND	ND	ND	ND	0.001	0.05
g-Chlordane	ND	ND	ND	ND	0.001	0.05
p,p-DDD	ND	ND	ND	ND	0.001	0.01
p,p-DDE	ND	ND	ND	ND	0.001	0.01
p,p-DDT	ND	ND	ND	ND	0.001	0.05
Dieldrin	ND	ND	ND	ND	0.001	0.01
Endosulfan I	ND	ND	ND	ND	0.001	0.02
Endosulfan II	ND	ND	ND	ND	0.001	0.01
Endosulfan sulfate	ND	ND	ND	ND	0.001	0.05
Endrin	ND	ND	ND	ND	0.001	0.01
Endrin aldehyde	ND	ND	ND	ND	0.001	0.05
Heptachlor	ND	ND	ND	ND	0.001	0.01
Heptachlor epoxide	ND	ND	ND	ND	0.001	0.01
Methoxychlor	ND	ND	ND	ND	0.001	0.1
Toxaphene	ND	ND	ND	0.089	0.05	1.0
Surrogate Recoveries (%)						
%SS:	107	111	117	102		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

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(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05-08/25/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted 08/26/05
	Client P.O. #F1137	Date Analyzed 08/30/05-09/08/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C/SW3550C Analytical Method: SW8081B Work Order: 0508443

Lab ID	0508443-033A	0508443-034A	0508443-035A		Reporting Limit for DF =1	
Client ID	S4B	S5A	S5B			
Matrix	S	S	S			
DF	5	500	1000		S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.0050	ND<0.50	ND<1.0		0.001	0.005
a-BHC	ND<0.0050	ND<0.50	ND<1.0		0.001	0.01
b-BHC	ND<0.0050	ND<0.50	ND<1.0		0.001	0.005
d-BHC	ND<0.0050	ND<0.50	ND<1.0		0.001	0.005
g-BHC	ND<0.0050	ND<0.50	ND<1.0		0.001	0.02
Chlordane (Technical)	ND<0.12	ND<12	ND<25		0.025	0.1
a-Chlordane	ND<0.0050	ND<0.50	ND<1.0		0.001	0.05
g-Chlordane	ND<0.0050	ND<0.50	ND<1.0		0.001	0.05
p,p-DDD	ND<0.0050	ND<0.50	1.5		0.001	0.01
p,p-DDE	ND<0.0050	ND<0.50	2.2		0.001	0.01
p,p-DDT	ND<0.0050	ND<0.50	4.8		0.001	0.05
Dieldrin	ND<0.0050	ND<0.50	ND<1.0		0.001	0.01
Endosulfan I	ND<0.0050	6.9	12		0.001	0.02
Endosulfan II	ND<0.0050	3.0	4.9		0.001	0.01
Endosulfan sulfate	ND<0.0050	ND<0.50	ND<1.0		0.001	0.05
Endrin	ND<0.0050	ND<0.50	ND<1.0		0.001	0.01
Endrin aldehyde	ND<0.0050	ND<0.50	ND<1.0		0.001	0.05
Heptachlor	ND<0.0050	ND<0.50	ND<1.0		0.001	0.01
Heptachlor epoxide	ND<0.0050	ND<0.50	ND<1.0		0.001	0.01
Methoxychlor	ND<0.0050	ND<0.50	ND<1.0		0.001	0.1
Toxaphene	ND<0.25	ND<25	ND<50		0.05	1.0
Surrogate Recoveries (%)						
%SS:	101	---#	88			
Comments	j					

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact Steve Lankford	Date Extracted: 08/26/05
	Client P.O.: #F1137	Date Analyzed: 09/01/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8141B Work Order: 0508443

Lab ID	0508443-001A
Client ID	S14A Ext 1
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND<1.0	10	0.1	Atrazine	ND<1.0	10	0.1
Azinphos methyl (Guthion)	ND<1.0	10	0.1	Bolstar (Sulprofos)	ND<1.0	10	0.1
Chloropyrifos	ND<1.0	10	0.1	Coumaphos	ND<1.0	10	0.1
Demeton-O	ND<1.0	10	0.1	Diazinon	ND<1.0	10	0.1
Dichlorvos (DDVP)	ND<1.0	10	0.1	Dimethoate	ND<4.0	10	0.4
Disulfoton (Di-Syston)	ND<1.0	10	0.1	EPN	ND<1.0	10	0.1
EPTC	ND<1.0	10	0.1	Ethion	6.8	10	0.1
Ethoprop	ND<1.0	10	0.1	Fensulfothion	ND<1.0	10	0.1
Fenthion	ND<1.0	10	0.1	Fonofos	ND<1.0	10	0.1
Malathion	ND<1.0	10	0.1	Merphos	ND<4.0	10	0.4
Mevinphos (Phosdrin)	ND<1.0	10	0.1	Molinate	ND<1.0	10	0.1
Ethyl parathion	1.8	10	0.1	Methyl parathion	ND<1.0	10	0.1
Phorate (Thimet)	ND<1.0	10	0.1	Prometon	ND<1.0	10	0.1
Ronnel	ND<1.0	10	0.1	Simazine	ND<1.0	10	0.1
Stirofos (Tetrachlorvinphos)	ND<1.0	10	0.1	Terbacil	ND<1.0	10	0.1
Terbufos (Terbuphos)	ND<1.0	10	0.1	Thiobencarb	ND<1.0	10	0.1
Tokuthion (Prothiofos)	ND<1.0	10	0.1	Trichloronate (Agritox)	ND<4.0	10	0.4

Surrogate Recoveries (%)		
%SS:	96	

Comments:

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact Steve Lankford	Date Extracted: 08/26/05
	Client P.O.: #F1137	Date Analyzed: 09/01/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8141B Work Order: 0508443

Lab ID	0508443-001B
Client ID	S14A Ext 2
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND<1.0	10	0.1	Atrazine	ND<1.0	10	0.1
Azinphos methyl (Guthion)	ND<1.0	10	0.1	Bolstar (Sulprofos)	ND<1.0	10	0.1
Chloropyrifos	ND<1.0	10	0.1	Coumaphos	ND<1.0	10	0.1
Demeton-O	ND<1.0	10	0.1	Diazinon	ND<1.0	10	0.1
Dichlorvos (DDVP)	ND<1.0	10	0.1	Dimethoate	ND<4.0	10	0.4
Disulfoton (Di-Syston)	ND<1.0	10	0.1	EPN	ND<1.0	10	0.1
EPTC	ND<1.0	10	0.1	Ethion	7.3	10	0.1
Ethoprop	ND<1.0	10	0.1	Fensulfothion	ND<1.0	10	0.1
Fenthion	ND<1.0	10	0.1	Fonofos	ND<1.0	10	0.1
Malathion	ND<1.0	10	0.1	Merphos	ND<4.0	10	0.4
Mevinphos (Phosdrin)	ND<1.0	10	0.1	Molinate	ND<1.0	10	0.1
Ethyl parathion	2.0	10	0.1	Methyl parathion	ND<1.0	10	0.1
Phorate (Thimet)	ND<1.0	10	0.1	Prometon	ND<1.0	10	0.1
Ronnel	ND<1.0	10	0.1	Simazine	ND<1.0	10	0.1
Stirofos (Tetrachlorvinphos)	ND<1.0	10	0.1	Terbacil	ND<1.0	10	0.1
Terbufos (Terbuphos)	ND<1.0	10	0.1	Thiobencarb	ND<1.0	10	0.1
Tokuthion (Prothiofos)	ND<1.0	10	0.1	Trichloronate (Agritox)	ND<4.0	10	0.4

Surrogate Recoveries (%)		
%SS:	103	

Comments:

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact Steve Lankford	Date Extracted: 08/26/05
	Client P.O.: #F1137	Date Analyzed: 09/01/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8141B Work Order: 0508443

Lab ID	0508443-002A
Client ID	S14B
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND<1.0	10	0.1	Atrazine	ND<1.0	10	0.1
Azinphos methyl (Guthion)	ND<1.0	10	0.1	Bolstar (Sulprofos)	ND<1.0	10	0.1
Chloropyrifos	ND<1.0	10	0.1	Coumaphos	ND<1.0	10	0.1
Demeton-O	ND<1.0	10	0.1	Diazinon	ND<1.0	10	0.1
Dichlorvos (DDVP)	ND<1.0	10	0.1	Dimethoate	ND<4.0	10	0.4
Disulfoton (Di-Syston)	ND<1.0	10	0.1	EPN	ND<1.0	10	0.1
EPTC	ND<1.0	10	0.1	Ethion	7.7	10	0.1
Ethoprop	ND<1.0	10	0.1	Fensulfothion	ND<1.0	10	0.1
Fenthion	ND<1.0	10	0.1	Fonofos	ND<1.0	10	0.1
Malathion	ND<1.0	10	0.1	Merphos	ND<4.0	10	0.4
Mevinphos (Phosdrin)	ND<1.0	10	0.1	Molinate	ND<1.0	10	0.1
Ethyl parathion	1.3	10	0.1	Methyl parathion	ND<1.0	10	0.1
Phorate (Thimet)	ND<1.0	10	0.1	Prometon	ND<1.0	10	0.1
Ronnel	ND<1.0	10	0.1	Simazine	ND<1.0	10	0.1
Stirofos (Tetrachlorvinphos)	ND<1.0	10	0.1	Terbacil	ND<1.0	10	0.1
Terbufos (Terbuphos)	ND<1.0	10	0.1	Thiobencarb	ND<1.0	10	0.1
Tokuthion (Prothiofos)	ND<1.0	10	0.1	Trichloronate (Agritox)	ND<4.0	10	0.4

Surrogate Recoveries (%)

%SS:	88	

Comments:

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact Steve Lankford	Date Extracted: 09/01/05
	Client P.O.: #F1137	Date Analyzed: 09/01/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3535A | Analytical Method: SW8141B | Work Order: 0508443

Lab ID	0508443-003B
Client ID	S14C
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND	1.0	1.0	Atrazine	ND	1.0	0.5
Azinphos methyl (Guthion)	ND	1.0	1.0	Bolstar (Sulprofos)	ND	1.0	1.0
Chloropyrifos	ND	1.0	1.0	Coumaphos	ND	1.0	1.0
Demeton-O	ND	1.0	1.0	Diazinon	ND	1.0	0.25
Dichlorvos (DDVP)	ND	1.0	1.0	Dimethoate	ND	1.0	2.5
Disulfoton (Di-Syston)	ND	1.0	0.5	EPN	ND	1.0	1.0
EPTC	ND	1.0	1.0	Ethion	ND	1.0	1.0
Ethoprop	ND	1.0	1.0	Fensulfothion	ND	1.0	1.0
Fenthion	ND	1.0	2.5	Fonofos	ND	1.0	0.5
Malathion	ND	1.0	1.0	Merphos	ND	1.0	1.0
Mevinphos (Phosdrin)	ND	1.0	1.0	Molinate	ND	1.0	0.9
Ethyl parathion	ND	1.0	1.0	Methyl parathion	ND	1.0	1.0
Phorate (Thimet)	ND	1.0	1.0	Prometon	ND	1.0	0.5
Ronnel	ND	1.0	1.0	Simazine	ND	1.0	1.0
Stirofos (Tetrachlorvinphos)	ND	1.0	1.0	Terbacil	ND	1.0	2.0
Terbufos (Terbuphos)	ND	1.0	0.5	Thiobencarb	ND	1.0	1.0
Tokuthion (Prothiofos)	ND	1.0	2.5	Trichloronate (Agritox)	ND	1.0	1.0

Surrogate Recoveries (%)

%SS:	91

Comments:

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact Steve Lankford	Date Extracted: 08/26/05
	Client P.O.: #F1137	Date Analyzed: 09/01/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8141B Work Order: 0508443

Lab ID	0508443-017A
Client ID	S19A
Matrix	Soil

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND<1.0	10	0.1	Atrazine	ND<1.0	10	0.1
Azinphos methyl (Guthion)	ND<1.0	10	0.1	Bolstar (Sulprofos)	ND<1.0	10	0.1
Chloropyrifos	ND<1.0	10	0.1	Coumaphos	ND<1.0	10	0.1
Demeton-O	ND<1.0	10	0.1	Diazinon	ND<1.0	10	0.1
Dichlorvos (DDVP)	ND<1.0	10	0.1	Dimethoate	ND<4.0	10	0.4
Disulfoton (Di-Syston)	ND<1.0	10	0.1	EPN	ND<1.0	10	0.1
EPTC	ND<1.0	10	0.1	Ethion	ND<1.0	10	0.1
Ethoprop	ND<1.0	10	0.1	Fensulfothion	ND<1.0	10	0.1
Fenthion	ND<1.0	10	0.1	Fonofos	ND<1.0	10	0.1
Malathion	ND<1.0	10	0.1	Merphos	ND<4.0	10	0.4
Mevinphos (Phosdrin)	ND<1.0	10	0.1	Molinate	ND<1.0	10	0.1
Ethyl parathion	ND<1.0	10	0.1	Methyl parathion	ND<1.0	10	0.1
Phorate (Thimet)	ND<1.0	10	0.1	Prometon	ND<1.0	10	0.1
Ronnel	ND<1.0	10	0.1	Simazine	ND<1.0	10	0.1
Stirofos (Tetrachlorvinphos)	ND<1.0	10	0.1	Terbacil	ND<1.0	10	0.1
Terbufos (Terbuphos)	ND<1.0	10	0.1	Thiobencarb	ND<1.0	10	0.1
Tokuthion (Prothiofos)	ND<1.0	10	0.1	Trichloronate (Agritox)	ND<4.0	10	0.4

Surrogate Recoveries (%)		
%SS:	90	

Comments: j

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

DHS Certification No. 1644

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact Steve Lankford	Date Extracted: 08/26/05
	Client P.O. #F1137	Date Analyzed: 09/07/05

Chlorinated Herbicides by GC-ECD (Basic Target List)*

Extraction Method: SW3535A/SW3550C Analytical Method: SW8151A Work Order: 0508443

Lab ID	0508443-001A	0508443-001B	0508443-002A	0508443-003C	Reporting Limit for DF =1	
Client ID	S14A Ext 1	S14A Ext 2	S14B	S14C		
Matrix	S	S	S	W		
DF	50	50	100	1	S	W
Compound	**Concentration**				**mg/kg**	**µg/L**
Acifluorfen	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
Bentazon	ND<2.5	ND<2.5	ND<5.0	ND	0.05	2.0
Chloramben	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
2,4-D (Dichlorophenoxyacetic acid)	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
2,4-DB	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
Dalapon	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
DCPA (mono & diacid)	ND<2.5	ND<2.5	ND<5.0	ND	0.05	0.1
Dicamba	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
3,5-Dichlorobenzoic Acid	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
Dichloroprop	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
Dinoseb (DNBP)	5.2	4.3	21	ND	0.05	2.0
MCPA	ND<250	ND<250	ND<500	ND	5.0	20
MCPP	ND<250	ND<250	ND<500	ND	5.0	20
4-Nitrophenol	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
Pentachlorophenol (PCP)	ND<2.5	ND<2.5	ND<5.0	ND	0.05	0.2
Picloram	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
2,4,5-T (Trichlorophenoxy acetic acid)	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
2,4,5-TP (Silvex)	ND<2.5	ND<2.5	ND<5.0	ND	0.05	1.0
Surrogate Recoveries (%)						
%SS:	113	99	123	83		
Comments						

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

DHS Certification No. 1644

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
2937 Veneman Ave., Suite B240		Date Received: 08/25/05
Modesto, CA 95356	Client Contact Steve Lankford	Date Extracted: 08/26/05
	Client P.O. #F1137	Date Analyzed: 09/07/05

Chlorinated Herbicides by GC-ECD (Basic Target List)*

Extraction Method: SW3535A/SW3550C | Analytical Method: SW8151A | Work Order: 0508443

					Reporting Limit for DF =1	
Lab ID	0508443-017A					
Client ID	S19A					
Matrix	S					
DF	10				S	W
Compound	**Concentration**				mg/kg	µg/L
Acifluorfen	ND<0.50				0.05	1.0
Bentazon	ND<0.50				0.05	2.0
Chloramben	ND<0.50				0.05	1.0
2,4-D (Dichlorophenoxyacetic acid)	ND<0.50				0.05	1.0
2,4-DB	ND<0.50				0.05	1.0
Dalapon	ND<0.50				0.05	1.0
DCPA (mono & diacid)	ND<0.50				0.05	0.1
Dicamba	ND<0.50				0.05	1.0
3,5-Dichlorobenzoic Acid	ND<0.50				0.05	1.0
Dichloroprop	ND<0.50				0.05	1.0
Dinoseb (DNBP)	ND<0.50				0.05	2.0
MCPA	ND<50				5.0	20
MCPP	ND<50				5.0	20
4-Nitrophenol	ND<0.50				0.05	1.0
Pentachlorophenol (PCP)	ND<0.50				0.05	0.2
Picloram	ND<0.50				0.05	1.0
2,4,5-T (Trichlorophenoxy acetic acid)	ND<0.50				0.05	1.0
2,4,5-TP (Silvex)	ND<0.50				0.05	1.0
Surrogate Recoveries (%)						
%SS:	77					
Comments	j					

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

DHS Certification No. 1644

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Geophase Environmental 2937 Veneman Ave., Suite B240 Modesto, CA 95356	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
		Date Received: 08/25/05
	Client Contact: Steve Lankford	Date Extracted: 08/26/05
	Client P.O.: #F1137	Date Analyzed: 09/02/05

Carbamates by HPLC*

Extraction Method: SW8318A | Analytical Method: SW8318A | Work Order: 0508443

Lab ID	0508443-001A	0508443-001B	0508443-002A	0508443-017A	Reporting Limit for DF =1	
Client ID	S14A Ext 1	S14A Ext 2	S14B	S19A		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				mg/Kg	ug/L
Aldicarb	ND	ND	ND	ND	0.04	NA
Aldoxycarb	ND	ND	ND	ND	0.04	NA
Aldicarb Sulfoxide	ND	ND	ND	ND	0.04	NA
Carbaryl	0.15	0.17	0.19	ND	0.04	NA
Carbofuran	ND	ND	ND	ND	0.04	NA
3-OH-carbofuran	ND	ND	ND	ND	0.04	NA
Methiocarb	0.16	0.17	0.20	ND	0.04	NA
Methomyl	ND	ND	ND	ND	0.04	NA
Oxamyl	ND	ND	ND	ND	0.04	NA
Propoxur	ND	ND	ND	ND	0.04	NA
Surrogate Recoveries (%)						
%SS:	107	116	117	118		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.

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QC SUMMARY REPORT FOR SW8260B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508443

EPA Method: SW8260B **Extraction: SW5035** **BatchID: 17682** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
tert-Amyl methyl ether (TAME)	N/A	0.050	N/A	N/A	N/A	114	113	0.867	N/A	70 - 130
Benzene	N/A	0.050	N/A	N/A	N/A	114	109	3.95	N/A	70 - 130
t-Butyl alcohol (TBA)	N/A	0.25	N/A	N/A	N/A	97.2	103	5.73	N/A	70 - 130
Chlorobenzene	N/A	0.050	N/A	N/A	N/A	109	115	5.88	N/A	70 - 130
1,2-Dibromoethane (EDB)	N/A	0.050	N/A	N/A	N/A	99.3	106	6.25	N/A	70 - 130
1,2-Dichloroethane (1,2-DCA)	N/A	0.050	N/A	N/A	N/A	112	118	4.87	N/A	70 - 130
1,1-Dichloroethene	N/A	0.050	N/A	N/A	N/A	112	110	1.63	N/A	70 - 130
Diisopropyl ether (DIPE)	N/A	0.050	N/A	N/A	N/A	115	113	1.41	N/A	70 - 130
Ethyl tert-butyl ether (ETBE)	N/A	0.050	N/A	N/A	N/A	112	109	3.02	N/A	70 - 130
Methyl-t-butyl ether (MTBE)	N/A	0.050	N/A	N/A	N/A	112	111	0.560	N/A	70 - 130
Toluene	N/A	0.050	N/A	N/A	N/A	109	111	1.70	N/A	70 - 130
Trichloroethene	N/A	0.050	N/A	N/A	N/A	91.1	86.7	4.95	N/A	70 - 130
%SS1:	N/A	0.050	N/A	N/A	N/A	104	98	6.28	N/A	70 - 130
%SS2:	N/A	0.050	N/A	N/A	N/A	98	98	0	N/A	70 - 130
%SS3:	N/A	0.050	N/A	N/A	N/A	113	110	3.05	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17682 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-005B	8/24/05 9:45 AM	8/26/05	8/26/05 9:11 PM	0508443-006A	8/24/05	8/26/05	8/26/05 8:28 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

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Geophase Environmental 2937 Veneman Ave., Suite B240 Modesto, CA 95356	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/24/05
		Date Received: 08/25/05
	Client Contact: Steve Lankford	Date Extracted: 08/26/05
	Client P.O.: #F1137	Date Analyzed: 09/01/05

Carbamates by HPLC*

Extraction Method: SW8318A | Analytical Method: SW8318A | Work Order: 0508443

					Reporting Limit for DF =1	
Lab ID	0508443-003A					
Client ID	S14C					
Matrix	W					
DF	1				S	W
Compound	**Concentration**				ug/kg	µg/L
3-Hydroxycarbofuran	ND				NA	2.0
Aldicarb	ND				NA	2.0
Aldicarb Sulfone	ND				NA	2.0
Aldicarb Sulfoxide	ND				NA	2.0
Carbaryl	ND				NA	2.0
Carbofuran	ND				NA	2.0
Methiocarb	ND				NA	2.0
Methomyl	ND				NA	2.0
Oxamyl	ND				NA	2.0
Propoxur	ND				NA	2.0
Surrogate Recoveries (%)						
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.

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QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508443

EPA Method: SW8081B	Extraction: SW3550C	BatchID: 17721	Spiked Sample ID: 0508443-004A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldrin	ND	0.010	114	114	0	106	107	0.145	70 - 130	70 - 130
g-BHC	ND	0.010	90.9	92.3	1.55	93.6	93.8	0.251	70 - 130	70 - 130
p,p-DDT	ND	0.025	104	105	1.31	111	112	0.199	70 - 130	70 - 130
Dieldrin	ND	0.025	116	119	2.35	119	118	0.313	70 - 130	70 - 130
Endrin	ND	0.025	110	112	1.67	116	116	0	70 - 130	70 - 130
Heptachlor	ND	0.010	98.9	109	9.66	102	102	0	70 - 130	70 - 130
%SS:	111	0.050	113	115	2.06	116	115	0.511	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17721 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-001A	8/24/05 12:40 PM	8/26/05	9/06/05 5:34 PM	0508443-001B	8/24/05 12:40 PM	8/26/05	9/06/05 6:31 PM
0508443-002A	8/24/05 12:55 PM	8/26/05	9/08/05 12:54 PM	0508443-004A	8/24/05 9:40 AM	8/26/05	8/30/05 11:36 AM
0508443-005A	8/24/05 9:45 AM	8/26/05	8/30/05 12:32 PM	0508443-007A	8/24/05 9:41 AM	8/26/05	9/06/05 7:27 PM
0508443-008A	8/24/05 9:41 AM	8/26/05	9/06/05 8:23 PM	0508443-009A	8/24/05 11:35 AM	8/26/05	9/07/05 5:03 PM
0508443-010A	8/24/05 11:35 AM	8/26/05	9/03/05 9:13 AM	0508443-011A	8/24/05 11:56 AM	8/26/05	9/03/05 10:08 AM
0508443-012A	8/24/05 11:56 AM	8/26/05	9/06/05 10:15 PM	0508443-013A	8/24/05 12:40 PM	8/26/05	9/07/05 12:20 PM
0508443-014A	8/24/05 12:40 PM	8/26/05	9/03/05 11:03 AM	0508443-015A	8/24/05 12:55 PM	8/26/05	9/03/05 8:01 AM
0508443-016A	8/24/05 12:55 PM	8/26/05	9/03/05 5:15 AM	0508443-017A	8/24/05 1:40 PM	8/26/05	9/07/05 12:06 AM
0508443-018A	8/24/05 1:40 PM	8/26/05	9/02/05 1:56 PM	0508443-019A	8/25/05 8:05 AM	8/26/05	9/03/05 6:10 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508443

EPA Method: SW8081B	Extraction: SW3550C			BatchID: 17738			Spiked Sample ID: 0508443-030A		
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldrin	ND	0.010	101	101	0	112	111	0.375	70 - 130	70 - 130
g-BHC	ND	0.010	90.3	90.7	0.397	92.4	92.6	0.287	70 - 130	70 - 130
p,p-DDT	ND	0.025	92.5	92.9	0.478	91.7	91.5	0.207	70 - 130	70 - 130
Dieldrin	ND	0.025	109	108	0.736	120	119	0.820	70 - 130	70 - 130
Endrin	ND	0.025	101	101	0	111	111	0	70 - 130	70 - 130
Heptachlor	ND	0.010	100	100	0	105	107	2.23	70 - 130	70 - 130
%SS:	111	0.050	107	106	0.459	113	115	2.20	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17738 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-020A	8/25/05 8:05 AM	8/26/05	9/07/05 1:57 AM	0508443-021A	8/25/05 8:22 AM	8/26/05	9/07/05 6:56 PM
0508443-022A	8/25/05 8:22 AM	8/26/05	9/07/05 5:38 AM	0508443-023A	8/25/05 8:44 AM	8/26/05	9/07/05 6:33 AM
0508443-024A	8/25/05 8:44 AM	8/26/05	9/07/05 7:28 AM	0508443-025A	8/25/05 9:28 AM	8/26/05	9/07/05 8:23 AM
0508443-026A	8/25/05 10:09 AM	8/26/05	9/07/05 9:32 AM	0508443-027A	8/25/05 10:09 AM	8/26/05	9/07/05 10:27 AM
0508443-028A	8/25/05 10:45 AM	8/26/05	9/08/05 10:30 AM	0508443-029A	8/25/05 10:45 AM	8/26/05	9/03/05 7:18 PM
0508443-030A	8/25/05 11:22 AM	8/26/05	9/02/05 11:11 PM	0508443-031A	8/25/05 11:22 AM	8/26/05	9/08/05 11:25 AM
0508443-032A	8/25/05 11:43 AM	8/26/05	9/08/05 11:01 AM	0508443-033A	8/25/05 11:43 AM	8/26/05	9/03/05 12:41 PM
0508443-034A	8/25/05 12:20 PM	8/26/05	9/08/05 11:57 AM	0508443-035A	8/25/05 12:20 PM	8/26/05	9/03/05 2:34 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

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QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0508443

EPA Method: SW8081B	Extraction: SW3510C	BatchID: 17740	Spiked Sample ID: N/A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldrin	N/A	0.50	N/A	N/A	N/A	115	115	0	N/A	70 - 130
g-BHC	N/A	0.50	N/A	N/A	N/A	88.8	83.6	6.03	N/A	70 - 130
p,p-DDT	N/A	1.25	N/A	N/A	N/A	101	94.7	6.80	N/A	70 - 130
Dieldrin	N/A	1.25	N/A	N/A	N/A	115	113	1.13	N/A	70 - 130
Endrin	N/A	1.25	N/A	N/A	N/A	114	107	6.40	N/A	70 - 130
Heptachlor	N/A	0.50	N/A	N/A	N/A	102	95.8	6.53	N/A	70 - 130
%SS:	N/A	2.5	N/A	N/A	N/A	110	111	0.726	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17740 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-003A	8/24/05 12:55 PM	8/26/05	9/03/05 11:44 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8141B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508443

EPA Method: SW8141B **Extraction: SW3550C** **BatchID: 17668** **Spiked Sample ID: 0508362-001A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Diazinon	ND	1	61.2	62.9	2.62	65.3	64	2.01	60 - 140	60 - 140
Disulfoton (Di-Syston)	ND	1	61.2	70.2	13.6	69.3	64.8	6.76	60 - 140	60 - 140
Fenthion	ND	1	62.5	70	11.4	66.4	63.8	4.01	60 - 140	60 - 140
Methyl parathion	ND	1	73.7	69.7	5.52	75.1	69.9	7.28	60 - 140	60 - 140
%SS:	88	0.20	90	88	1.71	92	91	1.24	60 - 140	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17668 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-001A	8/24/05 12:40 PM	8/26/05	9/01/05 7:26 PM	0508443-001B	8/24/05 12:40 PM	8/26/05	9/01/05 8:37 PM
0508443-002A	8/24/05 12:55 PM	8/26/05	9/01/05 6:14 PM	0508443-017A	8/24/05 1:40 PM	8/26/05	9/01/05 5:02 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8141B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0508443

EPA Method: SW8141B	Extraction: SW3535A			BatchID: 17742		Spiked Sample ID: N/A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Diazinon	N/A	2.5	N/A	N/A	N/A	77.9	73.7	5.62	N/A	60 - 140
Disulfoton (Di-Syston)	N/A	2.5	N/A	N/A	N/A	95.6	78.5	19.7	N/A	60 - 140
Fenthion	N/A	2.5	N/A	N/A	N/A	82.1	73.6	10.9	N/A	60 - 140
Methyl parathion	N/A	2.5	N/A	N/A	N/A	86.9	74.8	15.0	N/A	60 - 140
%SS:	N/A	0.50	N/A	N/A	N/A	72	84	14.6	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17742 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-003B	8/24/05 12:55 PM	8/26/05	9/01/05 2:38 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8151A

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508443

EPA Method: SW8151A	Extraction: SW3550C	BatchID: 17669	Spiked Sample ID: 0508363-001A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
2,4-D (Dichlorophenoxyacetic acid	ND<0.10	0.10	85.2	71.2	17.9	92.7	90.4	2.57	60 - 140	60 - 140
2,4-DB	ND<0.10	0.10	83.9	89.6	6.60	87.9	103	16.0	60 - 140	60 - 140
Dalapon	ND<0.10	0.10	103	99.3	3.42	106	103	2.17	60 - 140	60 - 140
Dicamba	ND<0.10	0.10	71.2	72	1.03	67	64.2	4.22	60 - 140	60 - 140
2,4,5-TP (Silvex)	ND<0.10	0.10	73	70.6	3.38	83.5	79.2	5.38	60 - 140	60 - 140
%SS:	67	0.10	77	74	4.01	69	65	5.58	60 - 140	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17669 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-001A	8/24/05 12:40 PM	8/26/05	9/07/05 7:49 AM	0508443-001B	8/24/05 12:40 PM	8/26/05	9/07/05 8:44 AM
0508443-002A	8/24/05 12:55 PM	8/26/05	9/07/05 4:19 PM	0508443-017A	8/24/05 1:40 PM	8/26/05	9/07/05 10:35 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8151A

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0508443

EPA Method: SW8151A	Extraction: SW3535A	BatchID: 17743	Spiked Sample ID: N/A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
2,4-D (Dichlorophenoxyacetic acid	N/A	0.50	N/A	N/A	N/A	84.7	84.5	0.224	N/A	60 - 140
2,4-DB	N/A	0.50	N/A	N/A	N/A	92.6	94.6	2.14	N/A	60 - 140
Dalapon	N/A	0.50	N/A	N/A	N/A	87.5	82.8	5.51	N/A	60 - 140
Dicamba	N/A	0.50	N/A	N/A	N/A	73.4	74.3	1.13	N/A	60 - 140
2,4,5-TP (Silvex)	N/A	0.50	N/A	N/A	N/A	82.4	83.8	1.66	N/A	60 - 140
%SS:	N/A	0.50	N/A	N/A	N/A	85	84	1.80	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17743 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-003C	8/24/05 12:55 PM	8/26/05	9/07/05 6:54 AM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8318A

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508443

EPA Method: SW8318A **Extraction: SW8318A** **BatchID: 17739** **Spiked Sample ID: 0508443-017a**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldicarb	ND	0.050	113	111	2.02	110	111	0.201	80 - 120	80 - 120
Aldoxycarb	ND	0.050	98	89.3	9.29	105	104	1.49	80 - 120	80 - 120
Aldicarb Sulfoxide	ND	0.050	112	111	1.32	97.9	97.8	0.0552	80 - 120	80 - 120
Carbaryl	ND	0.050	112	113	0.734	90.3	87.4	3.26	80 - 120	80 - 120
Carbofuran	ND	0.050	112	112	0	107	104	3.20	80 - 120	80 - 120
3-OH-carbofuran	ND	0.050	114	102	12.0	99.9	91.2	9.16	80 - 120	80 - 120
Methiocarb	ND	0.050	108	106	1.46	93.5	88.1	6.04	80 - 120	80 - 120
Methomyl	ND	0.050	82.5	87.7	6.15	110	111	0.387	80 - 120	80 - 120
Oxamyl	ND	0.050	104	93.4	10.6	96.6	86.7	10.7	80 - 120	80 - 120
Propoxur	ND	0.050	106	107	0.882	102	100	1.46	80 - 120	80 - 120
%SS:	118	0.10	107	104	2.22	113	107	5.58	80 - 120	80 - 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17739 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-001a	8/24/05 12:40 PM	8/26/05	9/02/05 6:31 PM	0508443-001b	8/24/05 12:40 PM	8/26/05	9/02/05 7:28 PM
0508443-002a	8/24/05 12:55 PM	8/26/05	9/02/05 5:33 PM	0508443-017a	8/24/05 1:40 PM	8/26/05	9/02/05 4:35 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
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Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8318A

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0508443

EPA Method: SW8318A	Extraction: SW8318A	BatchID: 17741	Spiked Sample ID: 0508443-003a

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
3-OH-carbofuran	ND	50	104	94	10.2	97.2	92.8	4.65	80 - 120	80 - 120
Aldicarb	ND	50	110	111	0.833	111	110	0.865	80 - 120	80 - 120
Aldicarb Sulfone	ND	50	110	110	0	110	110	0	80 - 120	80 - 120
Aldicarb Sulfoxide	ND	50	98	98.6	0.566	97.7	97.9	0.151	80 - 120	80 - 120
Carbaryl	ND	50	89.6	89.5	0.0719	90.7	87.5	3.56	80 - 120	80 - 120
Carbofuran	ND	50	109	109	0	103	111	7.41	80 - 120	80 - 120
Methiocarb	ND	50	88.6	91.1	2.85	92.3	90.7	1.74	80 - 120	80 - 120
Methomyl	ND	50	112	113	1.30	111	115	3.90	80 - 120	80 - 120
Oxamyl	ND	50	98.7	101	1.92	99.8	92	8.10	80 - 120	80 - 120
Propoxur	ND	50	102	103	0.686	101	101	0	80 - 120	80 - 120
%SS:	115	100	112	113	0.587	111	106	4.69	80 - 120	80 - 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17741 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508443-003a	8/24/05 12:55 PM	8/26/05	9/01/05 8:57 PM				

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

aboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

argon laboratories

GEOPHASE ENVIRONMENTAL
2937 VENEMAN AVE. #B240
MODESTO, CA 95356

REPORT DATE: 09/22/05
SAMPLE DATE: 08/26/05

ATTN: STEVE LANKFORD
CLIENT PROJ. ID: 474.2
HALEY FLYING SVC

AL JOB #: F08691

Project Summary:

On August 26, 2005, this laboratory received 12 soil samples.

Samples were analyzed according to instructions in accompanying chain-of-custody. Results of the analysis are summarized on the following pages. Please see quality control report for a summary of QC data pertaining to this project.

Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (209) 581-9280.

Hiram Cueto
Lab Director

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argonlabs.com

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:	Report To:	Samples Submitted To:
Project No: 474.2 Project Title: Haley Flying Svc Location:	Consultant: Geo Phase Env. Address: Contact: S Lankford Phone: 569 0293 Fax:	Laboratory: Argon Laboratories Address: 3037 5th Street Ceres, CA 95307 Contact: Hiram Cueto Phone: 209-581-9280 Fax: 209-581-9282
Sampler's Name: (print) S. Lankford Sampler's Signature:	Bill To: Client: Address:	Date Results Required: Date Report Required:

TURN AROUND TIME

RUSH	24 Hour	48 Hour	Standard (5 Day)	
☐	☐	☐	☒	☐

Sample ID.	Date	Time	# Containers	Matrix	ANALYSIS: 8081A	8141A	8151A	8318	8260B	TEPH						COMMENTS: Preservative
S20A	8/26	654	1	S	X											
S20B		654	1	S	X											
S6A		728	1	S	X											
S6B		728	1	S	X											
S7A		753	1	S	X											
S7B		753	1	S	X											
S8A		811	1	S	X											
S8B		811	1	S	X											
S9A		835	1	S	X					X						
S9A		835	1	S	X					X						
S23	↓	844	1	S						X						
S24		905	1	S						X						

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	SPECIAL INSTRUCTIONS:
[signature]	8/26/05	1454	[signature]	8/26/05	14:54	3.2° on delivery TO lab
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

argon laboratories

GeoPhase Env.
2937 Veneman Ave., #B240
Modesto, CA 95356

Proj. ID: 474.2
Site: Haley Flying Svc
Matrix: Soil

Total Extractable Petroleum Hydrocarbons

Method: 8015M

Date Sampled: 08/26/05
Date Received: 08/26/05
Date Extracted: 08/29/05
Date Analyzed: 08/30/05

Lab ID	Sample ID	Kerosene mg/Kg	Diesel mg/Kg	Motor Oil mg/Kg	Surrogate % Recovery
F08699	S9A	ND	ND	ND	103
F08700	S9B	ND	ND	ND	107
F08701	S23	ND	ND	ND	122
F08702	S24	ND	ND	ND	117

Method Reporting Limit:	5.0 mg/Kg	5.0 mg/Kg	20 mg/Kg	

Note(s):
Water samples are reported in ug/L; soil/sludge samples in mg/Kg; product/oil/non-aqueous liquid samples in mg/L.
ND means not detected at or above the stated reporting limit; N/A means analyte not applicable to this analysis.

Hiram Cueto
Lab Director
DHS Certification No. 2359

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argonlabs.com

argon laboratories

GeoPhase Env.
2937 Veneman Ave., #B240
Modesto, CA 95356

Proj. ID: 474.2
Site: Haley Flying Svc
Matrix: Water

Blank / QC Data

Method: 8015M

Date Extracted: 08/29/05
ate Analyzed: 08/30/05

Lab ID	Sample ID	Kerosene ug/L	Diesel ug/L	Motor Oil ug/L	Surrogate % Recovery
BLKF0830	Blank	<50	<50	<250	124

Method Reporting Limit:	Water	50 ug/L	50 ug/L	250 ug/L	
	Soil	5.0 mg/Kg	5.0 mg/Kg	20 mg/Kg	

MS / MSD Recovery Summary

Lab ID	Client ID	Analyte	Percent Recovery MS / MSD	%RPD
F08701	S 23	Kerosene	101 / 89	13

LCS Recovery Summary

Lab ID	Analyte	Percent Recovery
LCS0830F	Diesel	106

Note(s):
Water samples are reported in ug/L; soil/sludge samples in mg/Kg; product/oil/non-aqueous liquid samples in mg/L.
ND means not detected at or above the stated reporting limit; N/A means analyte not applicable to this analysis.

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

PO No.: F1137

Project Information:		Report To:		Samples Submitted To:	
Project No:	474.2	Consultant:	GeoPhase Environmental	Laboratory:	McCampbell Analytical
Project Title:	Haley Flying Site	Address:	2337 Veneman Ave., #B2H	Address:	110 2nd Avenue South, #D7
Location:			Modesto, CA 95356		Pacheco, CA 94553
		Contact:	Steve Lankford	Contact:	
Sampler's Name:	KEW	Phone:	(209)569-0293	Phone:	925-798-1620
(print)		Fax:	(209)569-0295	Fax:	925-798-1622
Sampler's Signature:		Bill To:		Date Results Required:	
	GOOD CONDITION ___ APPROPRIATE ___	Client:	Argon Labs		
	HEAD SPACE ABSENT ___ CONTAINERS ___	Address:	2905 Railroad Ave.	Date Report Required:	
	DECHLORINATED IN LAB ___ PRESERVED IN LAB ___		Ceres, CA 95307		

PRESERVATION: VOAS | O&G | METALS | OTHER

TURN AROUND TIME: RUSH [ ] 24 Hour [ ] 48 Hour [ ] 5 Day [X] [ ]

ANALYSIS: 8081A | 8141A | 8151A | 8318 | 5035/8260B | Comments

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318	5035/8260B	Comments
S20A	08/26/05	6:54	1	Soil	X					
S20B	08/26/05	6:54	1	Soil	X					
S6A	08/26/05	7:28	1	Soil	X					
S6B	08/26/05	7:28	1	Soil	X					
S7A	08/26/05	7:53	1	Soil	X					
S7B	08/26/05	7:53	1	Soil	X					
S8A	08/26/05	8:11	1	Soil	X					
S8B	08/26/05	8:11	1	Soil	X					
S9A	08/26/05	8:35	1	Soil	X					
S9B	08/26/05	8:35	1	Soil	X					

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8/26/05	15:00	[signature]	8/26	1800
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Special Instructions:
* Report to GeoPhase Environmental as indicated above
* Email results to: data@argonlabs.com
* Mail reports to Argon
* Invoice to Argon

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental 2937 Veneman Ave., Suite B240 Modesto, CA 95356	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/26/05
		Date Received: 08/26/05
	Client Contact: Paul Huckaba	Date Reported: 09/06/05
	Client P.O.:	Date Completed: 09/21/05

WorkOrder: 0508483

September 21, 2005

Dear Paul:

Enclosed are:

1). the results of **10** analyzed samples from your **#474.2; Haley Flying Svc project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/26/05
2937 Veneman Ave., Suite B240		Date Received: 08/26/05
Modesto, CA 95356	Client Contact: Paul Huckaba	Date Extracted 08/26/05
	Client P.O.	Date Analyzed 08/30/05-09/02/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550C | Analytical Method: SW8081B | Work Order: 0508483

Lab ID	0508483-001A	0508483-002A	0508483-003A	0508483-004A	Reporting Limit for DF =1	
Client ID	S20A	S20B	S6A	S6B		
Matrix	S	S	S	S		
DF	2000	50	50	1	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
a-BHC	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
b-BHC	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
d-BHC	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
g-BHC	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Chlordane (Technical)	ND<50	ND<1.2	ND<1.2	ND	0.025	NA
a-Chlordane	ND<2.0	ND<0.050	0.069	ND	0.001	NA
g-Chlordane	ND<2.0	ND<0.050	0.060	ND	0.001	NA
p,p-DDD	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
p,p-DDE	ND<2.0	ND<0.050	0.42	0.0016	0.001	NA
p,p-DDT	ND<2.0	ND<0.050	0.24	ND	0.001	NA
Dieldrin	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Endosulfan I	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Endosulfan II	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Endosulfan sulfate	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Endrin	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Endrin aldehyde	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Heptachlor	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Heptachlor epoxide	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Methoxychlor	ND<2.0	ND<0.050	ND<0.050	ND	0.001	NA
Toxaphene	230	3.9	ND<2.5	ND	0.05	NA
Surrogate Recoveries (%)						
%SS:	---#	---#	---#	106		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/26/05
2937 Veneman Ave., Suite B240		Date Received: 08/26/05
Modesto, CA 95356	Client Contact: Paul Huckaba	Date Extracted 08/26/05
	Client P.O.	Date Analyzed 08/30/05-09/02/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550C Analytical Method: SW8081B Work Order: 0508483

Lab ID	0508483-005A	0508483-006A	0508483-007A	0508483-008A	Reporting Limit for DF =1	
Client ID	S7A	S7B	S8A	S8B		
Matrix	S	S	S	S		
DF	5	1	2	2	S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
a-BHC	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
b-BHC	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
d-BHC	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
g-BHC	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Chlordane (Technical)	ND<0.12	ND	ND<0.050	ND<0.050	0.025	NA
a-Chlordane	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
g-Chlordane	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
p,p-DDD	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
p,p-DDE	0.12	0.0028	0.037	0.013	0.001	NA
p,p-DDT	0.045	ND	0.014	0.0063	0.001	NA
Dieldrin	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Endosulfan I	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Endosulfan II	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Endosulfan sulfate	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Endrin	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Endrin aldehyde	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Heptachlor	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Heptachlor epoxide	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Methoxychlor	ND<0.0050	ND	ND<0.0020	ND<0.0020	0.001	NA
Toxaphene	ND<0.25	ND	0.18	ND<0.10	0.05	NA
Surrogate Recoveries (%)						
%SS:	93	107	114	115		
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc	Date Sampled: 08/26/05
2937 Veneman Ave., Suite B240		Date Received: 08/26/05
Modesto, CA 95356	Client Contact: Paul Huckaba	Date Extracted 08/26/05
	Client P.O.	Date Analyzed 08/30/05-09/02/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3550C | Analytical Method: SW8081B | Work Order: 0508483

Lab ID	0508483-009A	0508483-010A			Reporting Limit for DF =1	
Client ID	S9A	S9B				
Matrix	S	S				
DF	10	5			S	W
Compound	**Concentration**				mg/kg	µg/L
Aldrin	ND<0.010	ND<0.0050			0.001	NA
a-BHC	ND<0.010	ND<0.0050			0.001	NA
b-BHC	ND<0.010	ND<0.0050			0.001	NA
d-BHC	ND<0.010	ND<0.0050			0.001	NA
g-BHC	ND<0.010	ND<0.0050			0.001	NA
Chlordane (Technical)	ND<0.25	ND<0.12			0.025	NA
a-Chlordane	ND<0.010	ND<0.0050			0.001	NA
g-Chlordane	ND<0.010	ND<0.0050			0.001	NA
p,p-DDD	ND<0.010	ND<0.0050			0.001	NA
p,p-DDE	0.031	ND<0.0050			0.001	NA
p,p-DDT	ND<0.010	ND<0.0050			0.001	NA
Dieldrin	ND<0.010	ND<0.0050			0.001	NA
Endosulfan I	0.35	0.13			0.001	NA
Endosulfan II	0.37	0.12			0.001	NA
Endosulfan sulfate	0.050	0.016			0.001	NA
Endrin	ND<0.010	ND<0.0050			0.001	NA
Endrin aldehyde	ND<0.010	ND<0.0050			0.001	NA
Heptachlor	ND<0.010	ND<0.0050			0.001	NA
Heptachlor epoxide	ND<0.010	ND<0.0050			0.001	NA
Methoxychlor	0.20	ND<0.0050			0.001	NA
Toxaphene	1.1	0.30			0.05	NA
Surrogate Recoveries (%)						
%SS:	116	107				
Comments						

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508483

EPA Method: SW8081B	Extraction: SW3550C	BatchID: 17738	Spiked Sample ID: 0508443-030A

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldrin	ND	0.010	101	101	0	112	111	0.375	70 - 130	70 - 130
g-BHC	ND	0.010	90.3	90.7	0.397	92.4	92.6	0.287	70 - 130	70 - 130
p,p-DDT	ND	0.025	92.5	92.9	0.478	91.7	91.5	0.207	70 - 130	70 - 130
Dieldrin	ND	0.025	109	108	0.736	120	119	0.820	70 - 130	70 - 130
Endrin	ND	0.025	101	101	0	111	111	0	70 - 130	70 - 130
Heptachlor	ND	0.010	100	100	0	105	107	2.23	70 - 130	70 - 130
%SS:	111	0.050	107	106	0.459	113	115	2.20	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17738 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508483-001A	8/26/05 6:54 AM	8/26/05	9/02/05 11:09 AM	0508483-002A	8/26/05 6:54 AM	8/26/05	9/02/05 7:31 PM
0508483-003A	8/26/05 7:28 AM	8/26/05	9/02/05 10:13 AM	0508483-004A	8/26/05 7:28 AM	8/26/05	8/30/05 3:45 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.

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Website: www.mccampbell.com E-mail: main@mccampbell.com

QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Soil QC Matrix: Soil WorkOrder: 0508483

EPA Method: SW8081B	Extraction: SW3550C			BatchID: 17755			Spiked Sample ID: 0508483-010A			
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/kg	mg/kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldrin	ND<0.0050	0.010	89.6	89.2	0.386	109	109	0	70 - 130	70 - 130
g-BHC	ND<0.0050	0.010	82	83.6	1.95	93.4	94.1	0.749	70 - 130	70 - 130
p,p-DDT	ND<0.0050	0.025	105	106	0.882	99.3	99.2	0.109	70 - 130	70 - 130
Dieldrin	ND<0.0050	0.025	119	104	13.5	119	119	0	70 - 130	70 - 130
Endrin	ND<0.0050	0.025	101	105	4.08	113	113	0	70 - 130	70 - 130
Heptachlor	ND<0.0050	0.010	91.2	92.7	1.63	110	110	0	70 - 130	70 - 130
%SS:	107	0.050	117	119	2.04	113	114	0.426	70 - 130	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 17755 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0508483-005A	8/26/05 7:53 AM	8/26/05	8/30/05 4:40 AM	0508483-006A	8/26/05 7:53 AM	8/26/05	8/30/05 5:34 AM
0508483-007A	8/26/05 8:11 AM	8/26/05	8/30/05 8:18 AM	0508483-008A	8/26/05 8:11 AM	8/26/05	8/30/05 9:13 AM
0508483-009A	8/26/05 8:35 PM	8/26/05	8/30/05 10:09 AM	0508483-010A	8/26/05 8:35 PM	8/26/05	8/30/05 11:04 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0508483 **ClientID: GPEM** **EDF: NO**

Report to:
Paul Huckaba
Geophase Environmental
2937 Veneman Ave., Suite B240
Modesto, CA 95356
TEL: (209) 581-9280
FAX: (209) 581-9282
ProjectNo: #474.2; Haley Flying Svc
PO:

Bill to:
Accounts Payable
Argon Analytical Services, Inc.
2905 Railroad Avenue
Ceres, CA 95307

Requested TAT: 5 days
Date Received: 08/26/2005
Date Printed: 08/26/2005

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0508483-001	S20A	Soil	8/26/05 6:54:00 AM	☐	A														
0508483-002	S20B	Soil	8/26/05 6:54:00 AM	☐	A														
0508483-003	S6A	Soil	8/26/05 7:28:00 AM	☐	A														
0508483-004	S6B	Soil	8/26/05 7:28:00 AM	☐	A														
0508483-005	S7A	Soil	8/26/05 7:53:00 AM	☐	A														
0508483-006	S7B	Soil	8/26/05 7:53:00 AM	☐	A														
0508483-007	S8A	Soil	8/26/05 8:11:00 AM	☐	A														
0508483-008	S8B	Soil	8/26/05 8:11:00 AM	☐	A														
0508483-009	S9A	Soil	8/26/05 8:35:00 PM	☐	A														
0508483-010	S9B	Soil	8/26/05 8:35:00 PM	☐	A														

Test Legend:

1	8081_S	2		3		4		5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Rosa Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

argon laboratories

GEOPHASE ENVIRONMENTAL
2937 VENEMAN AVE. #B240
MODESTO, CA 95356

REPORT DATE: 10/19/05
SAMPLE DATE: 10/06/05

ATTN: STEVE LANKFORD
CLIENT PROJ. ID: 474.2
HALEY FLYING SVC

AL JOB #: F10151

Project Summary:

On October 6, 2005, this laboratory received 4 water samples.

Samples were analyzed according to instructions in accompanying chain-of-custody.

Samples were subcontracted to: McCampbell Analytical

Results of the analysis are summarized on the following pages. Please see quality control report for a summary of QC data pertaining to this project.
Samples will be stored for 30 days after completion of analysis, then disposed of in accordance with State and Federal regulations. Samples may be archived by prior arrangement.

If you have any questions, please contact Sample Control at (209) 581-9280.

Hiram Cueto
Lab Director

2905 Railroad Avenue, Ceres, CA 95307 • Phone (209) 581-9280 • Fax (209) 581-9282
email: info@argonlabs.com

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

Project Information:	Report To:	Samples Submitted To:
Project No: 474.2 Project Title: Haley Flying Svc Location:	Consultant: Geo Phase Env. Address: Contact: S Lankford Phone: 569 0293 Fax:	Laboratory: Argon Laboratories Address: 3037 5th Street Ceres, CA 95307 Contact: Hiram Cueto Phone: 209-581-9280 Fax: 209-581-9282
Sampler's Name: S. Lankford (print) Sampler's Signature:	Bill To: Client: Address:	Date Results Required: Date Report Required:

TURN AROUND TIME: RUSH ☐ 24 Hour ☐ 48 Hour ☐ Standard (5 Day) ☒ ☐

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318	8260B	TEPH							COMMENTS / Preservative
B-1	10/6	1125	4	W	X	X	X	X									
B-2	10/6	1015	4	W	X	X	X	X									
Trip BK	10/6	—	4	W	X	X	X	X									
Eq BK	10/6	—	4	W	X	X	X	X									#1 Temp Blank 2.3°C @ lab #2 Trip Blank 1.4° @ lab

Relinquished By:	Date:	Time:	Received By:	Date:	Time:	SPECIAL INSTRUCTIONS:
[signature]	10/6/05	1326	[signature]	10/6/05	13:28	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	
Relinquished By:	Date:	Time:	Received By:	Date:	Time:	

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental 2937 Veneman Ave., Suite B240 Modesto, CA 95356	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
		Date Received: 10/07/05
	Client Contact: Steve Lankford	Date Reported: 10/14/05
	Client P.O.: #F1168	Date Completed: 10/14/05

WorkOrder: 0510129

October 14, 2005

Dear Steve:

Enclosed are:

1). the results of **4** analyzed samples from your **#474.2; Haley Flying Svc. project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.

110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
Website: www.mccampbell.com E-mail: main@mccampbell.com

Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
2937 Veneman Ave., Suite B240		Date Received: 10/07/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted 10/07/05
	Client P.O.: #F1168	Date Analyzed 10/08/05-10/10/05

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: SW3510C | Analytical Method: SW8081B | Work Order: 0510129

Lab ID	0510129-001A	0510129-002A	0510129-003A	0510129-004A	Reporting Limit for DF =1	
Client ID	B-1	B-2	TRIP BK	EQ		
Matrix	W	W	W	W		
DF	100	50	1	1	S	W
Compound	**Concentration**				µg/kg	µg/L
Aldrin	ND<0.50	ND<0.25	ND	ND	NA	0.005
a-BHC	ND<1.0	ND<0.50	ND	ND	NA	0.01
b-BHC	ND<0.50	ND<0.25	ND	ND	NA	0.005
d-BHC	ND<0.50	ND<0.25	ND	ND	NA	0.005
g-BHC	ND<2.0	ND<1.0	ND	ND	NA	0.02
Chlordane (Technical)	ND<10	ND<5.0	ND	ND	NA	0.1
a-Chlordane	ND<5.0	ND<2.5	ND	ND	NA	0.05
g-Chlordane	ND<5.0	ND<2.5	ND	ND	NA	0.05
p,p-DDD	27	ND<0.50	ND	0.051	NA	0.01
p,p-DDE	5.9	ND<0.50	ND	ND	NA	0.01
p,p-DDT	350	14	ND	0.19	NA	0.05
Dieldrin	ND<1.0	ND<0.50	ND	ND	NA	0.01
Endosulfan I	23	18	ND	0.12	NA	0.02
Endosulfan II	33	7.9	ND	0.052	NA	0.01
Endosulfan sulfate	ND<5.0	ND<2.5	ND	ND	NA	0.05
Endrin	ND<1.0	ND<0.50	ND	ND	NA	0.01
Endrin aldehyde	ND<5.0	ND<2.5	ND	ND	NA	0.05
Heptachlor	ND<1.0	ND<0.50	ND	ND	NA	0.01
Heptachlor epoxide	ND<1.0	ND<0.50	ND	ND	NA	0.01
Methoxychlor	ND<10	ND<5.0	ND	ND	NA	0.1
Toxaphene	560	170	ND	ND	NA	0.5
Surrogate Recoveries (%)						
%SS:	120	91	108	109		
Comments	i	i				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, filter samples in µg/filter, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~1 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup; (r) results are reported on a dry weight basis; (p) see attached narrative.

DHS Certification No. 1644

Angela Rydelius, Lab Manager

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Telephone : 925-798-1620 Fax : 925-798-1622
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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
2937 Veneman Ave., Suite B240		Date Received: 10/07/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted: 10/13/05
	Client P.O.: #F1168	Date Analyzed: 10/13/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3535A Analytical Method: SW8141B Work Order: 0510129

Lab ID	0510129-001B
Client ID	B-1
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND<10	10	1.0	Atrazine	ND<5.0	10	0.5
Azinphos methyl (Guthion)	ND<10	10	1.0	Bolstar (Sulprofos)	ND<10	10	1.0
Chloropyrifos	ND<10	10	1.0	Coumaphos	ND<10	10	1.0
Demeton-O	ND<10	10	1.0	Diazinon	ND<2.5	10	0.25
Dichlorvos (DDVP)	ND<10	10	1.0	Dimethoate	ND<25	10	2.5
Disulfoton (Di-Syston)	ND<5.0	10	0.5	EPN	ND<10	10	1.0
EPTC	ND<10	10	1.0	Ethion	ND<10	10	1.0
Ethoprop	ND<10	10	1.0	Fensulfothion	ND<10	10	1.0
Fenthion	ND<25	10	2.5	Fonofos	ND<5.0	10	0.5
Malathion	ND<10	10	1.0	Merphos	ND<10	10	1.0
Mevinphos (Phosdrin)	ND<10	10	1.0	Molinate	ND<9.0	10	0.9
Ethyl parathion	40	10	1.0	Methyl parathion	ND<10	10	1.0
Phorate (Thimet)	ND<10	10	1.0	Prometon	ND<5.0	10	0.5
Ronnel	ND<10	10	1.0	Simazine	ND<10	10	1.0
Stirofos (Tetrachlorvinphos)	ND<10	10	1.0	Terbacil	ND<20	10	2.0
Terbufos (Terbuphos)	ND<5.0	10	0.5	Thiobencarb	ND<10	10	1.0
Tokuthion (Prothiofos)	ND<25	10	2.5	Trichloronate (Agritox)	ND<10	10	1.0

Surrogate Recoveries (%)		
%SS:	67	

Comments: i

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

DHS Certification No. 1644

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
2937 Veneman Ave., Suite B240		Date Received: 10/07/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted: 10/12/05
	Client P.O.: #F1168	Date Analyzed: 10/12/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3535A Analytical Method: SW8141B Work Order: 0510129

Lab ID	0510129-002B
Client ID	B-2
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND<10	10	1.0	Atrazine	ND<5.0	10	0.5
Azinphos methyl (Guthion)	ND<10	10	1.0	Bolstar (Sulprofos)	ND<10	10	1.0
Chloropyrifos	ND<10	10	1.0	Coumaphos	ND<10	10	1.0
Demeton-O	ND<10	10	1.0	Diazinon	ND<2.5	10	0.25
Dichlorvos (DDVP)	ND<10	10	1.0	Dimethoate	ND<25	10	2.5
Disulfoton (Di-Syston)	ND<5.0	10	0.5	EPN	ND<10	10	1.0
EPTC	ND<10	10	1.0	Ethion	ND<10	10	1.0
Ethoprop	ND<10	10	1.0	Fensulfothion	ND<10	10	1.0
Fenthion	ND<25	10	2.5	Fonofos	ND<5.0	10	0.5
Malathion	ND<10	10	1.0	Merphos	ND<10	10	1.0
Mevinphos (Phosdrin)	ND<10	10	1.0	Molinate	ND<9.0	10	0.9
Ethyl parathion	13	10	1.0	Methyl parathion	ND<10	10	1.0
Phorate (Thimet)	ND<10	10	1.0	Prometon	ND<5.0	10	0.5
Ronnel	ND<10	10	1.0	Simazine	ND<10	10	1.0
Stirofos (Tetrachlorvinphos)	ND<10	10	1.0	Terbacil	ND<20	10	2.0
Terbufos (Terbuphos)	ND<5.0	10	0.5	Thiobencarb	ND<10	10	1.0
Tokuthion (Prothiofos)	ND<25	10	2.5	Trichloronate (Agritox)	ND<10	10	1.0

Surrogate Recoveries (%)		
%SS:	68	

Comments: i

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
2937 Veneman Ave., Suite B240		Date Received: 10/07/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted: 10/12/05
	Client P.O.: #F1168	Date Analyzed: 10/12/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3535A | Analytical Method: SW8141B | Work Order: 0510129

Lab ID	0510129-003B
Client ID	TRIP BK
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND	1.0	1.0	Atrazine	ND	1.0	0.5
Azinphos methyl (Guthion)	ND	1.0	1.0	Bolstar (Sulprofos)	ND	1.0	1.0
Chloropyrifos	ND	1.0	1.0	Coumaphos	ND	1.0	1.0
Demeton-O	ND	1.0	1.0	Diazinon	ND	1.0	0.25
Dichlorvos (DDVP)	ND	1.0	1.0	Dimethoate	ND	1.0	2.5
Disulfoton (Di-Syston)	ND	1.0	0.5	EPN	ND	1.0	1.0
EPTC	ND	1.0	1.0	Ethion	ND	1.0	1.0
Ethoprop	ND	1.0	1.0	Fensulfothion	ND	1.0	1.0
Fenthion	ND	1.0	2.5	Fonofos	ND	1.0	0.5
Malathion	ND	1.0	1.0	Merphos	ND	1.0	1.0
Mevinphos (Phosdrin)	ND	1.0	1.0	Molinate	ND	1.0	0.9
Ethyl parathion	ND	1.0	1.0	Methyl parathion	ND	1.0	1.0
Phorate (Thimet)	ND	1.0	1.0	Prometon	ND	1.0	0.5
Ronnel	ND	1.0	1.0	Simazine	ND	1.0	1.0
Stirofos (Tetrachlorvinphos)	ND	1.0	1.0	Terbacil	ND	1.0	2.0
Terbufos (Terbuphos)	ND	1.0	0.5	Thiobencarb	ND	1.0	1.0
Tokuthion (Prothiofos)	ND	1.0	2.5	Trichloronate (Agritox)	ND	1.0	1.0

Surrogate Recoveries (%)

%SS:	63	

Comments:

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
2937 Veneman Ave., Suite B240		Date Received: 10/07/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted: 10/12/05
	Client P.O.: #F1168	Date Analyzed: 10/12/05

Organophosphorous Pesticides by GC-NPD (Basic Target List)*

Extraction Method: SW3535A Analytical Method: SW8141B Work Order: 0510129

Lab ID	0510129-004B
Client ID	EQ
Matrix	Water

Compound	Concentration *	DF	Reporting Limit	Compound	Concentration *	DF	Reporting Limit
Alachlor	ND	1.0	1.0	Atrazine	ND	1.0	0.5
Azinphos methyl (Guthion)	ND	1.0	1.0	Bolstar (Sulprofos)	ND	1.0	1.0
Chloropyrifos	ND	1.0	1.0	Coumaphos	ND	1.0	1.0
Demeton-O	ND	1.0	1.0	Diazinon	ND	1.0	0.25
Dichlorvos (DDVP)	ND	1.0	1.0	Dimethoate	ND	1.0	2.5
Disulfoton (Di-Syston)	ND	1.0	0.5	EPN	ND	1.0	1.0
EPTC	ND	1.0	1.0	Ethion	ND	1.0	1.0
Ethoprop	ND	1.0	1.0	Fensulfothion	ND	1.0	1.0
Fenthion	ND	1.0	2.5	Fonofos	ND	1.0	0.5
Malathion	ND	1.0	1.0	Merphos	ND	1.0	1.0
Mevinphos (Phosdrin)	ND	1.0	1.0	Molinate	ND	1.0	0.9
Ethyl parathion	ND	1.0	1.0	Methyl parathion	ND	1.0	1.0
Phorate (Thimet)	ND	1.0	1.0	Prometon	ND	1.0	0.5
Ronnel	ND	1.0	1.0	Simazine	ND	1.0	1.0
Stirofos (Tetrachlorvinphos)	ND	1.0	1.0	Terbacil	ND	1.0	2.0
Terbufos (Terbuphos)	ND	1.0	0.5	Thiobencarb	ND	1.0	1.0
Tokuthion (Prothiofos)	ND	1.0	2.5	Trichloronate (Agritox)	ND	1.0	1.0

Surrogate Recoveries (%)

%SS:	104	

Comments:

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
2937 Veneman Ave., Suite B240		Date Received: 10/07/05
Modesto, CA 95356	Client Contact: Steve Lankford	Date Extracted: 10/07/05
	Client P.O.: #F1168	Date Analyzed: 10/12/05

Chlorinated Herbicides by GC-ECD (Basic Target List)*

Extraction Method: SW3535A | Analytical Method: SW8151A | Work Order: 0510129

Lab ID	0510129-001C	0510129-002C	0510129-003C	0510129-004C	Reporting Limit for DF =1	
Client ID	B-1	B-2	TRIP BK	EQ		
Matrix	W	W	W	W		
DF	2	10	1	1	S	W
Compound	**Concentration**				µg/Kg	µg/L
Triclopyr	ND<0.40	ND<2.0	ND	ND	NA	0.2
Acifluorfen	ND<2.0	ND<10	ND	ND	NA	1.0
Bentazon	ND<4.0	ND<20	ND	ND	NA	2.0
Chloramben	ND<2.0	ND<10	ND	ND	NA	1.0
2,4-D (Dichlorophenoxyacetic acid)	ND<2.0	ND<10	ND	ND	NA	1.0
2,4-DB	ND<2.0	ND<10	ND	ND	NA	1.0
Dalapon	ND<2.0	ND<10	ND	ND	NA	1.0
DCPA (mono & diacid)	ND<0.20	2.0	ND	ND	NA	0.1
Dicamba	ND<2.0	ND<10	ND	ND	NA	1.0
3,5-Dichlorobenzoic Acid	ND<2.0	ND<10	ND	ND	NA	1.0
Dichloroprop	ND<2.0	ND<10	ND	ND	NA	1.0
Dinoseb (DNBP)	ND<4.0	ND<20	ND	ND	NA	2.0
MCPA	ND<40	ND<200	ND	ND	NA	20
MCPP	ND<40	ND<200	ND	ND	NA	20
4-Nitrophenol	ND<2.0	ND<10	ND	ND	NA	1.0
Pentachlorophenol (PCP)	ND<0.40	ND<2.0	ND	ND	NA	0.2
Picloram	ND<2.0	ND<10	ND	ND	NA	1.0
2,4,5-T (Trichlorophenoxy acetic acid)	ND<2.0	ND<10	ND	ND	NA	1.0
2,4,5-TP (Silvex)	ND<2.0	ND<10	ND	ND	NA	1.0
Surrogate Recoveries (%)						
%SS:	118	107	95	109		
Comments	j,i	i				

* water samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

h) a lighter than water immiscible sheen/product is present; i) liquid sample that contains >~1 vol. % sediment; j) sample diluted due to high organic content/matrix interference/cluttered chromatogram; k) results reported on a dry weight basis.

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Geophase Environmental 2937 Veneman Ave., Suite B240 Modesto, CA 95356	Client Project ID: #474.2; Haley Flying Svc.	Date Sampled: 10/06/05
		Date Received: 10/07/05
	Client Contact: Steve Lankford	Date Extracted: 10/12/05-10/13/05
	Client P.O.: #F1168	Date Analyzed: 10/12/05-10/13/05

Carbamates by HPLC*

Extraction Method: SW8318A | Analytical Method: SW8318A | Work Order: 0510129

Lab ID	0510129-001D	0510129-002D	0510129-003D	0510129-004D	Reporting Limit for DF =1	
Client ID	B-1	B-2	TRIP BK	EQ		
Matrix	W	W	W	W		
DF	1	1	1	1	S	W
Compound	**Concentration**				ug/kg	µg/L
3-OH-carbofuran	ND	ND	ND	ND	NA	2.0
Aldicarb	ND	ND	ND	ND	NA	2.0
Aldicarb Sulfone	ND	ND	ND	ND	NA	2.0
Aldicarb Sulfoxide	ND	ND	ND	ND	NA	2.0
Carbaryl	2.4	22	ND	ND	NA	2.0
Carbofuran	ND	ND	ND	ND	NA	2.0
Methiocarb	ND	ND	ND	ND	NA	2.0
Methomyl	ND	ND	ND	ND	NA	2.0
Oxamyl	ND	ND	ND	ND	NA	2.0
Propoxur	ND	ND	ND	ND	NA	2.0
Surrogate Recoveries (%)						
%SS:	119	116	112	88		
Comments	i	i				

* water samples in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples and all TCLP & SPLP extracts are reported in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis.

surrogate diluted out of range or surrogate coelutes with another peak.

h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) sample diluted due to high organic content.

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QC SUMMARY REPORT FOR SW8081B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0510129

EPA Method: SW8081B	Extraction: SW3510C			BatchID: 18412		Spiked Sample ID: 0510135-002A				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldrin	N/A	0.50	N/A	N/A	N/A	111	111	0	N/A	70 - 130
g-BHC	N/A	0.50	N/A	N/A	N/A	97.7	97.7	0	N/A	70 - 130
p,p-DDT	N/A	1.25	N/A	N/A	N/A	113	113	0	N/A	70 - 130
Dieldrin	N/A	1.25	N/A	N/A	N/A	113	113	0	N/A	70 - 130
Endrin	N/A	1.25	N/A	N/A	N/A	110	110	0	N/A	70 - 130
Heptachlor	N/A	0.50	N/A	N/A	N/A	107	107	0	N/A	70 - 130
%SS:	N/A	2.5	N/A	N/A	N/A	109	110	1.26	N/A	70 - 130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 18412 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0510129-001A	0/06/05 11:25 AM	10/07/05	10/10/05 4:05 PM	0510129-002A	0/06/05 10:15 AM	10/07/05	10/10/05 5:02 PM
0510129-003A	10/06/05	10/07/05	10/08/05 1:03 AM	0510129-004A	10/06/05	10/07/05	10/08/05 1:58 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

QA/QC Officer

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QC SUMMARY REPORT FOR SW8141B

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0510129

EPA Method: SW8141B **Extraction: SW3535A** **BatchID: 18450** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Diazinon	N/A	2.5	N/A	N/A	N/A	80.3	86.6	7.53	N/A	60 - 140
Disulfoton (Di-Syston)	N/A	2.5	N/A	N/A	N/A	70.4	67.1	4.77	N/A	60 - 140
Fenthion	N/A	2.5	N/A	N/A	N/A	79.6	77.3	2.84	N/A	60 - 140
Methyl parathion	N/A	2.5	N/A	N/A	N/A	104	102	2.12	N/A	60 - 140
%SS:	N/A	0.50	N/A	N/A	N/A	84	94	12.0	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 18450 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0510129-001B	0/06/05 11:25 AM	10/07/05	0/13/05 11:08 AM	0510129-002B	0/06/05 10:15 AM	10/07/05	10/12/05 4:54 PM
0510129-003B	10/06/05	10/07/05	10/12/05 6:07 PM	0510129-004B	10/06/05	10/07/05	10/12/05 7:18 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8151A

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0510129

EPA Method: SW8151A **Extraction: SW3535A** **BatchID: 18446** **Spiked Sample ID: N/A**

Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
2,4-D (Dichlorophenoxyacetic acid	N/A	0.50	N/A	N/A	N/A	87.2	91	4.32	N/A	60 - 140
2,4-DB	N/A	0.50	N/A	N/A	N/A	97.3	95.7	1.66	N/A	60 - 140
Dalapon	N/A	0.50	N/A	N/A	N/A	75.9	71.3	6.31	N/A	60 - 140
Dicamba	N/A	0.50	N/A	N/A	N/A	90.3	79.5	12.7	N/A	60 - 140
2,4,5-TP (Silvex)	N/A	0.50	N/A	N/A	N/A	102	86	16.7	N/A	60 - 140
%SS:	N/A	0.50	N/A	N/A	N/A	108	97	10.0	N/A	60 - 140

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 18446 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0510129-001C	0/06/05 11:25 AM	10/07/05	10/12/05 8:31 PM	0510129-002C	0/06/05 10:15 AM	10/07/05	10/12/05 7:34 PM
0510129-003C	10/06/05	10/07/05	10/12/05 6:37 PM	0510129-004C	10/06/05	10/07/05	10/12/05 5:38 PM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

DHS Certification No. 1644

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QC SUMMARY REPORT FOR SW8318A

W.O. Sample Matrix: Water QC Matrix: Water WorkOrder: 0510129

EPA Method: SW8318A	Extraction: SW8318A			BatchID: 18455		Spiked Sample ID: 0510129-004d				
Analyte	Sample	Spiked	MS	MSD	MS-MSD	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/L	µg/L	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	MS / MSD	LCS / LCSD
Aldicarb	ND	50	115	118	2.32	116	116	0	80 - 120	80 - 120
Aldicarb Sulfoxide	ND	50	104	105	0.337	105	103	1.74	80 - 120	80 - 120
Carbaryl	ND	50	92.2	95	3.03	94.1	87.3	7.51	80 - 120	80 - 120
Carbofuran	ND	50	110	115	4.98	116	110	5.17	80 - 120	80 - 120
Methiocarb	ND	50	90.1	94.9	5.18	100	101	0.848	80 - 120	80 - 120
Methomyl	ND	50	119	116	2.18	117	115	1.16	80 - 120	80 - 120
Oxamyl	ND	50	103	104	1.08	104	105	1.35	80 - 120	80 - 120
Propoxur	ND	50	111	111	0	111	110	0.264	80 - 120	80 - 120
%SS:	88	100	111	114	2.28	117	119	1.50	80 - 120	80 - 120

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 18455 SUMMARY

Sample ID	Date Sampled	Date Extracted	Date Analyzed	Sample ID	Date Sampled	Date Extracted	Date Analyzed
0510129-001d	0/06/05 11:25 AM	10/07/05	0/12/05 10:27 PM	0510129-002d	0/06/05 10:15 AM	10/07/05	0/12/05 11:21 PM
0510129-003d	10/06/05	10/07/05	0/13/05 12:16 AM	0510129-004d	10/06/05	10/07/05	10/13/05 1:11 AM

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.

NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content

Laboratory extraction solvents such as methylene chloride and acetone may occasionally appear in the method blank at low levels.

DHS Certification No. 1644

QA/QC Officer

0510129 6Pgm

ARGON ANALYTICAL SERVICES, INC.

CHAIN OF CUSTODY

PO No.: F1168

Project Information:		Report To:		Samples Submitted To:	
Project No:	474.2	**Consultant:**	GeoPhase Environmental	**Laboratory:**	McCampbell Analytical
Project Title:	Haley Flying Svc	**Address:**	2937 Veneman Ave., #B240 Modesto, CA 95356	**Address:**	110 2nd Avenue South, #D7 Pacheco, CA 94553
Location:		**Contact:**	Steve Lankford	**Contact:**	
Sampler's Name: (print)		**Phone:**	(209)569-0293	**Phone:**	925-798-1620
Sampler's Signature:		**Fax:**	(209)569-0295	**Fax:**	925-798-1622
		Bill To:		**Date Results Required:**	
		Client:	Argon Labs	**Date Report Required:**	
		Address:	2905 Railroad Ave. Ceres, CA 95307		

TURN AROUND TIME

RUSH	24 Hour	48 Hour	5 Day	
☐	☐	☐	☒	☐

ANALYSIS

Sample ID.	Date	Time	# Containers	Matrix	8081A	8141A	8151A	8318						Comments
B-1	10/06/05	11:25	4	Water	X	X	X	X						
B-2	10/06/05	10:15	4	Water	X	X	X	X						
Trip Bk	10/06/05	-	4	Water	X	X	X	X						
Eq Bk	10/06/05	-	4	Water	X	X	X	X						

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
DECHLORINATED IN LAB ✓
APPROPRIATE CONTAINERS ✓
PRESERVED IN LAB ✓

PRESERVATION	VOAS	O&G	METALS	OTHER

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Paul Zacharia	10/7/05	09:00	Christie Reed	10/7/05	12:10
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
				10/7/05	1210pm
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Special Instructions:
* Report to GeoPhase Environmental as indicated above.
* Email results to: data@argonlabs.com
* Mail reports to Argon
* Invoice to Argon

McCampbell Analytical, Inc.
110 Second Avenue South, #D7
Pacheco, CA 94553-5560
(925) 798-1620

CHAIN-OF-CUSTODY RECORD

WorkOrder: 0510129 **ClientID: GPEM** **EDF: NO**

Report to:
Steve Lankford
Geophase Environmental
2937 Veneman Ave., Suite B240
Modesto, CA 95356
TEL: (209) 581-9280
FAX: (209) 581-9282
ProjectNo: #474.2; Haley Flying Svc.
PO: #F1168

Bill to:
Accounts Payable
Argon Analytical Services, Inc.
2905 Railroad Avenue
Ceres, CA 95307

Requested TAT: 5 days
Date Received: 10/07/2005
Date Printed: 10/07/2005

Sample ID	ClientSampID	Matrix	Collection Date	Hold	Requested Tests (See legend below)														
					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0510129-001	B-1	Water	10/6/05 11:25:00	☐	A	B	C	D											
0510129-002	B-2	Water	10/6/05 10:15:00	☐	A	B	C	D											
0510129-003	TRIP BK	Water	10/6/05	☐	A	B	C	D											
0510129-004	EQ	Water	10/6/05	☐	A	B	C	D											

Test Legend:

1	8081_W	2	8141B_W	3	8151A_W	4	8318A_W	5	
6		7		8		9		10	
11		12		13		14		15	

Prepared by: Juanita Venegas

Comments:

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense.

Appendix B

Soil Boring Logs

Project Name Haley PEA
Address 21,000 Paradise, Tracy

Geologist SL
Boring No. B-1
Date/Time Started-Finished 9/6/05 11:00 - 11:30
Boring Location Near SW Corner of Washout Pit

Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
=Depth to Water

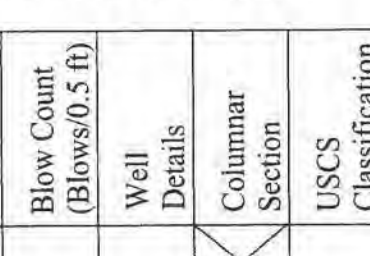
Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
								3" PVC Pipe 0 - 2'	
5.0			11:09	Direct Push Drilling	Boring Grouted to Surface		ML	Silt. friable. Yellowish Brown 10YR5/4	Faint Pesticide Odor
10.0			11:14				CL	Silty Clay. Plastic Deformation Yellowish Brown 10YR5/4	No Odor
			11:23				CL	Silty Clay. Plastic Deformation Yellowish Brown 10YR5/4	No Odor
15.0									
20.0									
25.0									
30.0									

Notes:
GW at approx 11'. Grab GW sample collected at 11:25 using 4' screen.

Project Name Haley PEA
Address 21,000 Paradise, Tracy

Geologist SL
Boring No. B-2
Date/Time Started-Finished 9/6/05 09:40 - 10:15
Boring Location Near SE Corner of Washout Pit

Location Map:



Key
TD=Total Depth
CSD=Casing Depth
AS=Annular Seal
FP=Filter Pack
Gr=Grout
AnDi=Annular Diam.
CSDi=Casing Diam.
SS=Slot Size
▽=Depth to Water

Depth-Below Grade (Ft)	Sampling Interval	Sample Identification	Time	Blow Count (Blows/0.5 ft)	Well Details	Columnar Section	USCS Classification	Description	Remarks
								3" PVC Pipe 0 - 2'	
5.0			9:43	Direct Push Drilling	Boring Grouted to Surface		ML	Clayey Silt. Slightly Plastic. Yellowish Brown 10YR5/6	No Odor
10.0			9:48				CL	Silty Clay. Plastic Deformation Yellowish Brown 10YR5/6	No Odor
			9:58				ML	Sandy Silt/ Friable Yellowish Brown 10YR5/6	No Odor
15.0									
20.0									
25.0									
30.0									

Notes:
GW at approx 11'. Grab GW sample collected at 10:15 using Hydropunch

Appendix C

Site Photos



Photo 1 7:10 AM, 8/24/05

Upon arrival at the site, the Geo-Phase Environmental truck was unloaded in the work area.



Photo 2 7:40 AM, 8/24/05

The decon station was initially setup next to the truck. It consisted of a three-bucket wash as described in the Work Plan. The blue bins contain other sampling equipment. The hand auger is lying across the nearest blue bin. In the bed of the truck is the generator that was used to power a roto-hammer. This tool was needed at several points to break through pavement and packed road base.



Photo 3 9:30 AM, 8/24/05

The intended sample point for S10 was directly beneath the semi-trailer. Due to large cobbles filling the sump, the sample point was moved about 5 feet. The hand auger bucket is the actual sample location

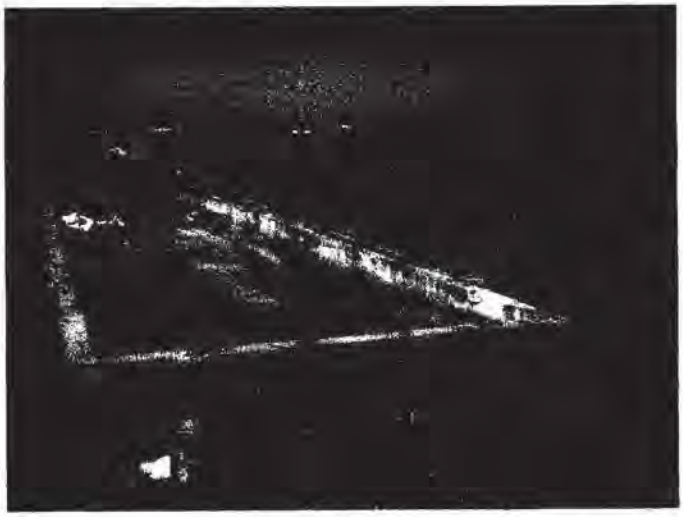


Photo 4 11:35 AM, 8/24/05

This is the concrete washout pit where rinse water from returning aircraft would be pumped and continuously sprayed until it evaporated. To the right is a berm that marks the north line of the parcel and the south bank of an irrigation ditch. The shovel in the foreground marks sample point S16.



Photo 5 12:55 PM, 8/24/05

This view shows the rear of the aircraft loading dock. The slide hammer shows the location of sample point S17. This is the site of the single most contaminated sample collected during this PEA. The hand auger at the opposite end of the dock is the location of sample point S18.



Photo 6 1:40 PM 8/24/05

The roto-hammer was used to cut a hole through the concrete loading pad where aircraft would park during loading and rinse-out operations. The slide hammer is the site of sample point S19. In the rear is the front side of the loading dock. The blue drum was used to store decon water.

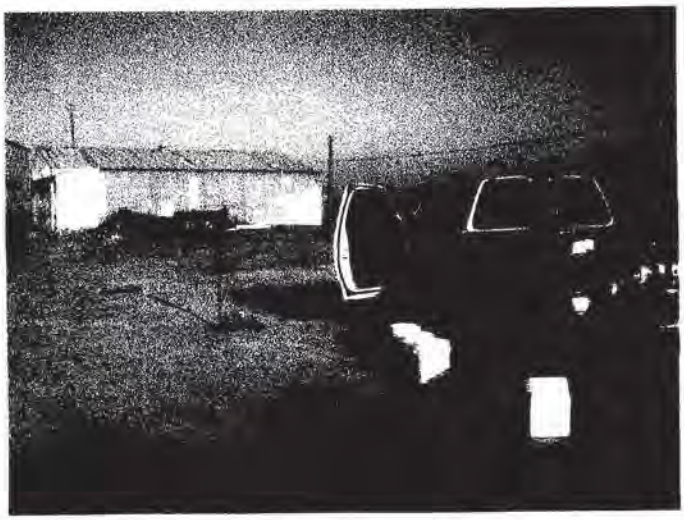


Photo 7 8:05 AM 8/25/05

The slide hammer near the open truck door is at sample point S22, just off the south side of the concrete loading apron. The metal building on the background is the east hanger.



Photo 8 10:09 AM, 8/25/05

Sample point S1 is at the west end of the runway. In the distance, the Yellow Freight truck terminal is partially visible to the west of the Haley property.



Photo 9 11:22 AM, 8/25/05

The slide hammer is ample point S3. The surface in this area is disked soil. The rise in the background is the south berm of the irrigation ditch.

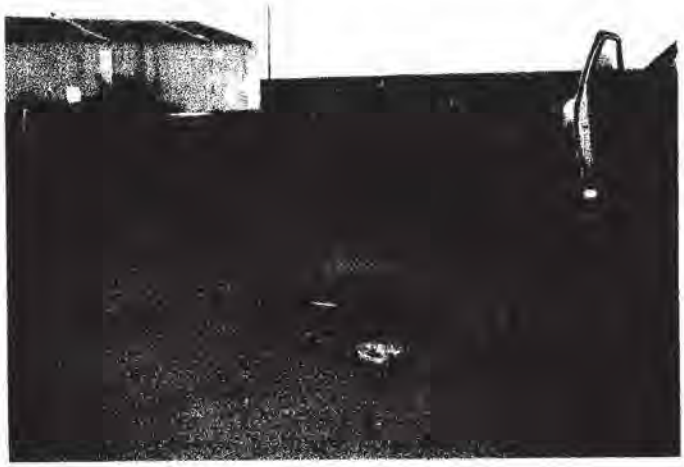


Photo 10 6:54 AM, 8/26/05

The original samples from sample point S20 were lost. The next day, a replacement sample S20 was collected from a point 8 inches west of the original sample point. The roto-hammer was used to break through about 8 inches of packed road base.



Photo 11 7:28 AM, 8/26/05

The slide hammer is at sample point S6, near the east end of the former runway. The view is toward the WNW.

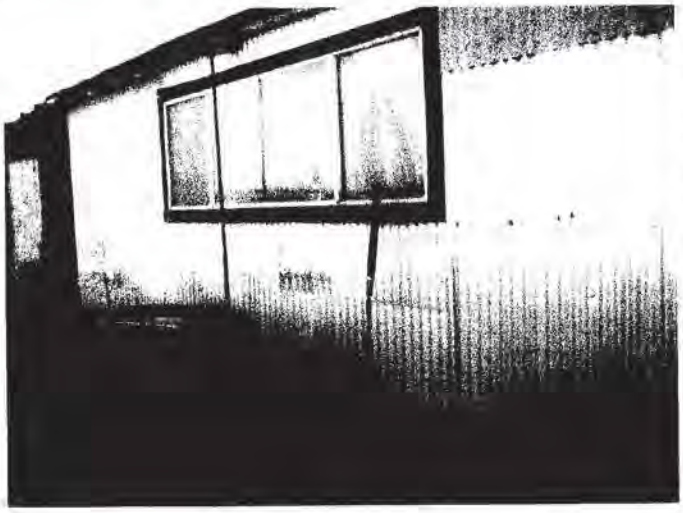


Photo 12 8:35 AM, 8/26/05

The slide hammer is at sample point S-23, at the west side of the west hangar. This sample was taken to test for waste oil. Two drums of waste oil are partially visible behind the weeds. This sample point was not mentioned in the Work Plan.



Photo 13 9:05 AM, 8/26/05

The hand auger is at sample point S24. The sample was collected to test for waste oil in an area of heavy oil staining at the surface. The roto-hammer on the ground was used to penetrate hard-packed road base. The structure in the background is a mobile building that was used as equipment storage space. It is no longer present on the property.



Photo 14 7:10 AM, 9/6/05

Geo-Probe soil borings were installed at either end of the washout pit in order to collect groundwater samples. The borings were designated as B-1 and B-2

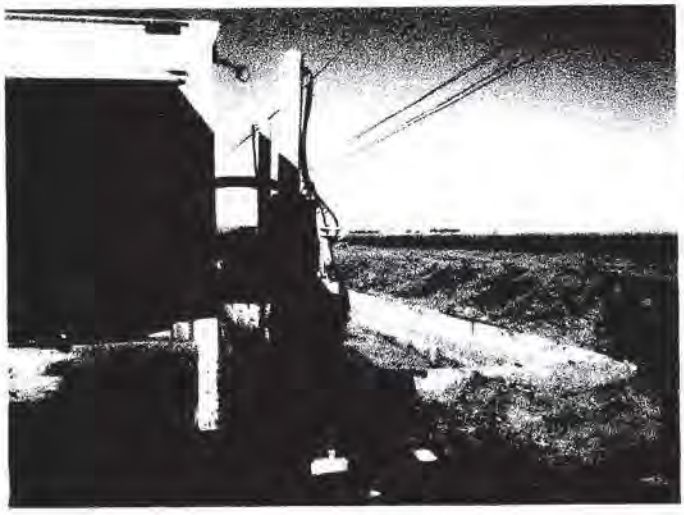


Photo 15 9/6/05

Soil boring B2 was drilled using Geo-Probe drilling equipment operated by V&W Drilling. The boring is located near the east end of the washout pit.



Photo 16 9/6/05

Another view of the drilling of B2.



Photo 17 10:30 AM, 9/6/05

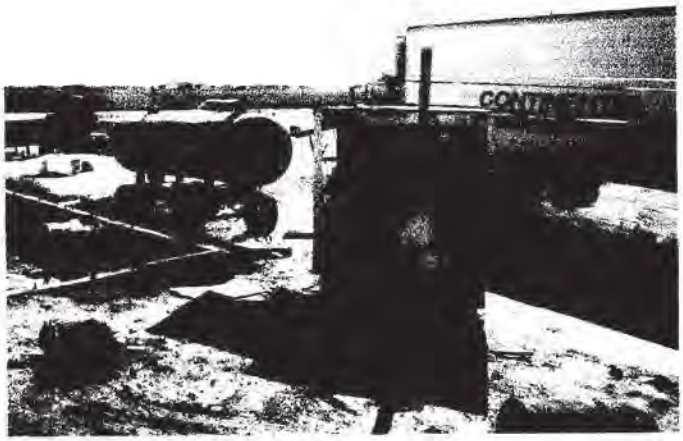
The equipment decon station was setup near the Geo-Probe rig. Reusable sample equipment consisted of a temporary well screen and the soil sample core barrel.



Photo 18 11:48 AM, 9/6/05

Boring B-1 was installed near the west end of the washout pit, which is partially visible at the lower left. The semi trailer behind the driller is owned by a tenant on the Haley site who operates a small trucking company.

Photo 19 11:03 AM, 9/6/05



Another view of boring B-1. This view is toward the southeast. The washout pit is visible in the left center of the frame.



Photo 20 11:04 AM, 9/6/05

The first two feet of borings B-1 and B-2 were drilled using a hand auger. A length of 3-inch diameter PVC pipe was then inserted in the hole. This was an attempt to reduce cross contamination of the drilling tools by what was known to be highly contaminated shallow soil. The Geo-Probe tools were then advanced through the PVC pipe. In this photo, the top of the PVC pipe is visible in B-1.

Appendix D

Exposure Point Estimates using ProUCL

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	a Chlordane	
Raw Statistics		Normal Distribution Test		
Number of Valid Samples	43	Shapiro-Wilk Test Statisitic		0.194304
Number of Unique Samples	18	Shapiro-Wilk 5% Critical Value		0.943
Minimum	0.0005	Data not normal at 5% significance level		
Maximum	125			
Mean	3.552942	95% UCL (Assuming Normal Distribution)		
Median	0.025	Student's-t UCL		8.43634
Standard Deviation	19.03894			
Variance	362.4812	Gamma Distribution Test		
Coefficient of Variation	5.358641	A-D Test Statistic		3.928653
Skewness	6.477082	A-D 5% Critical Value		0.932571
		K-S Test Statistic		0.204288
Gamma Statistics		K-S 5% Critical Value		0.151054
k hat	0.154538	Data do not follow gamma distribution		
k star (bias corrected)	0.15926	at 5% significance level		
Theta hat	22.9907			
Theta star	22.30901	95% UCLs (Assuming Gamma Distribution)		
nu hat	13.29029	Approximate Gamma UCL		7.647841
nu star	13.69639	Adjusted Gamma UCL		7.862831
Approx.Chi Square Value (.05)	6.362905			
Adjusted Level of Significance	0.044419	Lognormal Distribution Test		
Adjusted Chi Square Value	6.188927	Shapiro-Wilk Test Statisitic		0.872035
		Shapiro-Wilk 5% Critical Value		0.943
Log-transformed Statistics		Data not lognormal at 5% significance level		
Minimum of log data	-7.600902			
Maximum of log data	4.828314	95% UCLs (Assuming Lognormal Distribution)		
Mean of log data	-3.684038	95% H-UCL		502.9898
Standard Deviation of log data	3.612525	95% Chebyshev (MVUE) UCL		33.61078
Variance of log data	13.05034	97.5% Chebyshev (MVUE) UCL		44.9645
		99% Chebyshev (MVUE) UCL		67.26667
		95% Non-parametric UCLs		
		CLT UCL		8.328628
		Adj-CLT UCL (Adjusted for skewness)		11.39295
		Mod-t UCL (Adjusted for skewness)		8.914312
		Jackknife UCL		8.43634
		Standard Bootstrap UCL		8.276223
		Bootstrap-t UCL		76.09007
RECOMMENDATION		Hall's Bootstrap UCL		48.5491 ←
Data are Non-parametric (0.05)		Percentile Bootstrap UCL		9.254128
		BCA Bootstrap UCL		12.61367
Use Hall's Bootstrap UCL		95% Chebyshev (Mean, Sd) UCL		16.20862
		97.5% Chebyshev (Mean, Sd) UCL		21.68474
In case Hall's Bootstrap method yields		99% Chebyshev (Mean, Sd) UCL		32.44152
an erratic, unreasonably large UCL value,				
use 99% Chebyshev (Mean, Sd) UCL				

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	g Chlordane	
Raw Statistics		Normal Distribution Test		
Number of Valid Samples	43	Shapiro-Wilk Test Statisitic		0.226076
Number of Unique Samples	20	Shapiro-Wilk 5% Critical Value		0.943
Minimum	0.0005	Data not normal at 5% significance level		
Maximum	125			
Mean	4.027709	95% UCL (Assuming Normal Distribution)		
Median	0.025	Student's-t UCL		8.94013
Standard Deviation	19.15209			
Variance	366.8026	Gamma Distribution Test		
Coefficient of Variation	4.755083	A-D Test Statistic		3.571641
Skewness	6.294156	A-D 5% Critical Value		0.93274
		K-S Test Statistic		0.205605
Gamma Statistics		K-S 5% Critical Value		0.151064
k hat	0.154266	Data do not follow gamma distribution		
k star (bias corrected)	0.159007	at 5% significance level		
Theta hat	26.1088			
Theta star	25.33031	95% UCLs (Assuming Gamma Distribution)		
nu hat	13.26691	Approximate Gamma UCL		8.676221
nu star	13.67464	Adjusted Gamma UCL		8.920371
Approx.Chi Square Value (.05)	6.348096			
Adjusted Level of Significance	0.044419	Lognormal Distribution Test		
Adjusted Chi Square Value	6.17435	Shapiro-Wilk Test Statisitic		0.870648
		Shapiro-Wilk 5% Critical Value		0.943
Log-transformed Statistics		Data not lognormal at 5% significance level		
Minimum of log data	-7.600902			
Maximum of log data	4.828314	95% UCLs (Assuming Lognormal Distribution)		
Mean of log data	-3.568623	95% H-UCL		1251.568
Standard Deviation of log data	3.75683	95% Chebyshev (MVUE) UCL		58.492
Variance of log data	14.11377	97.5% Chebyshev (MVUE) UCL		78.36967
		99% Chebyshev (MVUE) UCL		117.4155
		95% Non-parametric UCLs		
		CLT UCL		8.831778
		Adj-CLT UCL (Adjusted for skewness)		11.82725
		Mod-t UCL (Adjusted for skewness)		9.407364
		Jackknife UCL		8.94013
		Standard Bootstrap UCL		8.78336
		Bootstrap-t UCL		43.89518
RECOMMENDATION		Hall's Bootstrap UCL		29.8798 ←
Data are Non-parametric (0.05)		Percentile Bootstrap UCL		9.614221
		BCA Bootstrap UCL		12.90887
Use Hall's Bootstrap UCL		95% Chebyshev (Mean, Sd) UCL		16.7586
		97.5% Chebyshev (Mean, Sd) UCL		22.26726
In case Hall's Bootstrap method yields		99% Chebyshev (Mean, Sd) UCL		33.08797
an erratic, unreasonably large UCL value,				
use 99% Chebyshev (Mean, Sd) UCL				

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	DDD		
Raw Statistics		Normal Distribution Test			
Number of Valid Samples	43	Shapiro-Wilk Test Statisitic			0.179188
Number of Unique Samples	23	Shapiro-Wilk 5% Critical Value			0.943
Minimum	0.0005	Data not normal at 5% significance level			
Maximum	3000				
Mean	78.46236	95% UCL (Assuming Normal Distribution)			
Median	0.05	Student's-t UCL			195.7136
Standard Deviation	457.1283				
Variance	208966.2	Gamma Distribution Test			
Coefficient of Variation	5.826083	A-D Test Statistic			4.635023
Skewness	6.514269	A-D 5% Critical Value			0.958609
		K-S Test Statistic			0.227756
Gamma Statistics		K-S 5% Critical Value			0.152567
k hat	0.112561	Data do not follow gamma distribution			
k star (bias corrected)	0.120212	at 5% significance level			
Theta hat	697.0653				
Theta star	652.7011	95% UCLs (Assuming Gamma Distribution)			
nu hat	9.680246	Approximate Gamma UCL			195.3016
nu star	10.33821	Adjusted Gamma UCL			201.9124
Approx.Chi Square Value (.05)	4.153373				
Adjusted Level of Significance	0.044419	Lognormal Distribution Test			
Adjusted Chi Square Value	4.017388	Shapiro-Wilk Test Statisitic			0.877902
		Shapiro-Wilk 5% Critical Value			0.943
Log-transformed Statistics		Data not lognormal at 5% significance level			
Minimum of log data	-7.600902				
Maximum of log data	8.006368	95% UCLs (Assuming Lognormal Distribution)			
Mean of log data	-2.74309	95% H-UCL			386142.1
Standard Deviation of log data	4.54604	95% Chebyshev (MVUE) UCL			1695.802
Variance of log data	20.66648	97.5% Chebyshev (MVUE) UCL			2284.362
		99% Chebyshev (MVUE) UCL			3440.473
		95% Non-parametric UCLs			
		CLT UCL			193.1274
		Adj-CLT UCL (Adjusted for skewness)			267.1247
		Mod-t UCL (Adjusted for skewness)			207.2557
		Jackknife UCL			195.7136
		Standard Bootstrap UCL			191.4325
		Bootstrap-t UCL			3860.47
RECOMMENDATION		Hall's Bootstrap UCL			2213.469 ←
Data are Non-parametric (0.05)		Percentile Bootstrap UCL			216.4285
		BCA Bootstrap UCL			290.816
Use Hall's Bootstrap UCL		95% Chebyshev (Mean, Sd) UCL			382.3273
		97.5% Chebyshev (Mean, Sd) UCL			513.8099
In case Hall's Bootstrap method yields		99% Chebyshev (Mean, Sd) UCL			772.0821
an erratic, unreasonably large UCL value,					
use 99% Chebyshev (Mean, Sd) UCL					

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	DDE

Raw Statistics	
Number of Valid Samples	43
Number of Unique Samples	30
Minimum	0.0005
Maximum	530
Mean	15.36764
Median	0.05
Standard Deviation	81.114
Variance	6579.481
Coefficient of Variation	5.278233
Skewness	6.377379

Gamma Statistics	
k hat	0.141182
k star (bias corrected)	0.146836
Theta hat	108.85
Theta star	104.6587
nu hat	12.14164
nu star	12.62788
Approx.Chi Square Value (.05)	5.642349
Adjusted Level of Significance	0.044419
Adjusted Chi Square Value	5.479936

Log-transformed Statistics	
Minimum of log data	-7.600902
Maximum of log data	6.272877
Mean of log data	-2.759348
Standard Deviation of log data	3.760275
Variance of log data	14.13966

RECOMMENDATION
Data are Non-parametric (0.05)
Use Hall's Bootstrap UCL
In case Hall's Bootstrap method yields an erratic, unreasonably large UCL value, use 99% Chebyshev (Mean, Sd) UCL

Normal Distribution Test	
Shapiro-Wilk Test Statisitic	0.202899
Shapiro-Wilk 5% Critical Value	0.943
Data not normal at 5% significance level	

95% UCL (Assuming Normal Distribution)	
Student's-t UCL	36.173

Gamma Distribution Test	
A-D Test Statistic	4.128594
A-D 5% Critical Value	0.940856
K-S Test Statistic	0.25839
K-S 5% Critical Value	0.151536
Data do not follow gamma distribution at 5% significance level	

95% UCLs (Assuming Gamma Distribution)	
Approximate Gamma UCL	34.39362
Adjusted Gamma UCL	35.41297

Lognormal Distribution Test	
Shapiro-Wilk Test Statisitic	0.931841
Shapiro-Wilk 5% Critical Value	0.943
Data not lognormal at 5% significance level	

95% UCLs (Assuming Lognormal Distribution)	
95% H-UCL	2866.405
95% Chebyshev (MVUE) UCL	132.7858
97.5% Chebyshev (MVUE) UCL	177.9172
99% Chebyshev (MVUE) UCL	266.5691

95% Non-parametric UCLs	
CLT UCL	35.7141
Adj-CLT UCL (Adjusted for skewness)	48.56845
Mod-t UCL (Adjusted for skewness)	38.17802
Jackknife UCL	36.173
Standard Bootstrap UCL	34.97248
Bootstrap-t UCL	230.234
Hall's Bootstrap UCL	317.5997 ←
Percentile Bootstrap UCL	39.37087
BCA Bootstrap UCL	55.31931
95% Chebyshev (Mean, Sd) UCL	69.28622
97.5% Chebyshev (Mean, Sd) UCL	92.61683
99% Chebyshev (Mean, Sd) UCL	138.4453

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	DDT		
Raw Statistics			Normal Distribution Test		
Number of Valid Samples	43		Shapiro-Wilk Test Statisitic		0.177238
Number of Unique Samples	29		Shapiro-Wilk 5% Critical Value		0.943
Minimum	0.0005		Data not normal at 5% significance level		
Maximum	19000				
Mean	491.7609		95% UCL (Assuming Normal Distribution)		
Median	0.05		Student's-t UCL		1234.334
Standard Deviation	2895.074				
Variance	8381453		Gamma Distribution Test		
Coefficient of Variation	5.887158		A-D Test Statistic		5.433448
Skewness	6.52014		A-D 5% Critical Value		1.010159
			K-S Test Statistic		0.281264
Gamma Statistics			K-S 5% Critical Value		0.155209
k hat	0.095771		Data do not follow gamma distribution		
k star (bias corrected)	0.104593		at 5% significance level		
Theta hat	5134.759				
Theta star	4701.655		95% UCLs (Assuming Gamma Distribution)		
nu hat	8.236303		Approximate Gamma UCL		1331.074
nu star	8.995011		Adjusted Gamma UCL		1380.607
Approx.Chi Square Value (.05)	3.323177				
Adjusted Level of Significance	0.044419		Lognormal Distribution Test		
Adjusted Chi Square Value	3.20395		Shapiro-Wilk Test Statisitic		0.887893
			Shapiro-Wilk 5% Critical Value		0.943
Log-transformed Statistics			Data not lognormal at 5% significance level		
Minimum of log data	-7.600902				
Maximum of log data	9.852194		95% UCLs (Assuming Lognormal Distribution)		
Mean of log data	-2.327623		95% H-UCL		10178430
Standard Deviation of log data	4.947884		95% Chebyshev (MVUE) UCL		10221.77
Variance of log data	24.48156		97.5% Chebyshev (MVUE) UCL		13789.26
			99% Chebyshev (MVUE) UCL		20796.91
			95% Non-parametric UCLs		
			CLT UCL		1217.955
			Adj-CLT UCL (Adjusted for skewness)		1687.015
			Mod-t UCL (Adjusted for skewness)		1307.498
			Jackknife UCL		1234.334
			Standard Bootstrap UCL		1222.327
			Bootstrap-t UCL		14917.55
RECOMMENDATION			Hall's Bootstrap UCL		13820.18 ←
Data are Non-parametric (0.05)			Percentile Bootstrap UCL		1371.974
			BCA Bootstrap UCL		2226.262
Use Hall's Bootstrap UCL			95% Chebyshev (Mean, Sd) UCL		2416.191
			97.5% Chebyshev (Mean, Sd) UCL		3248.894
In case Hall's Bootstrap method yields			99% Chebyshev (Mean, Sd) UCL		4884.577
an erratic, unreasonably large UCL value,					
use 99% Chebyshev (Mean, Sd) UCL					

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	Dieldrin		
Raw Statistics		Normal Distribution Test			
Number of Valid Samples	43	Shapiro-Wilk Test Statisitic			0.197893
Number of Unique Samples	18	Shapiro-Wilk 5% Critical Value			0.943
Minimum	0.0005	Data not normal at 5% significance level			
Maximum	125				
Mean	3.612512	95% UCL (Assuming Normal Distribution)			
Median	0.025	Student's-t UCL			8.495031
Standard Deviation	19.03551				
Variance	362.3508	Gamma Distribution Test			
Coefficient of Variation	5.269329	A-D Test Statistic			3.708796
Skewness	6.470779	A-D 5% Critical Value			0.931036
		K-S Test Statistic			0.207646
Gamma Statistics		K-S 5% Critical Value			0.150965
k hat	0.157013	Data do not follow gamma distribution			
k star (bias corrected)	0.161562	at 5% significance level			
Theta hat	23.00773				
Theta star	22.35985	95% UCLs (Assuming Gamma Distribution)			
nu hat	13.50312	Approximate Gamma UCL			7.724511
nu star	13.89437	Adjusted Gamma UCL			7.939649
Approx.Chi Square Value (.05)	6.497962				
Adjusted Level of Significance	0.044419	Lognormal Distribution Test			
Adjusted Chi Square Value	6.321889	Shapiro-Wilk Test Statisitic			0.885526
		Shapiro-Wilk 5% Critical Value			0.943
Log-transformed Statistics		Data not lognormal at 5% significance level			
Minimum of log data	-7.600902				
Maximum of log data	4.828314	95% UCLs (Assuming Lognormal Distribution)			
Mean of log data	-3.578001	95% H-UCL			502.5926
Standard Deviation of log data	3.592721	95% Chebyshev (MVUE) UCL			35.21069
Variance of log data	12.90765	97.5% Chebyshev (MVUE) UCL			47.09423
		99% Chebyshev (MVUE) UCL			70.43715
		95% Non-parametric UCLs			
		CLT UCL			8.387338
		Adj-CLT UCL (Adjusted for skewness)			11.44813
		Mod-t UCL (Adjusted for skewness)			8.972452
		Jackknife UCL			8.495031
		Standard Bootstrap UCL			8.396063
		Bootstrap-t UCL			63.76208
RECOMMENDATION		Hall's Bootstrap UCL			40.83458 ←
Data are Non-parametric (0.05)		Percentile Bootstrap UCL			9.32943
		BCA Bootstrap UCL			12.59484
Use Hall's Bootstrap UCL		95% Chebyshev (Mean, Sd) UCL			16.26591
		97.5% Chebyshev (Mean, Sd) UCL			21.74104
In case Hall's Bootstrap method yields		99% Chebyshev (Mean, Sd) UCL			32.49589
an erratic, unreasonably large UCL value,					
use 99% Chebyshev (Mean, Sd) UCL					

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	Endolsulfan I	
Raw Statistics		Normal Distribution Test		
Number of Valid Samples	43	Shapiro-Wilk Test Statisitic		0.359325
Number of Unique Samples	27	Shapiro-Wilk 5% Critical Value		0.943
Minimum	0.0005	Data not normal at 5% significance level		
Maximum	1100			
Mean	59.42778	95% UCL (Assuming Normal Distribution)		
Median	0.054	Student's-t UCL		109.6842
Standard Deviation	195.9351			
Variance	38390.58	Gamma Distribution Test		
Coefficient of Variation	3.29703	A-D Test Statistic		3.028019
Skewness	4.350596	A-D 5% Critical Value		0.95094
		K-S Test Statistic		0.200429
Gamma Statistics		K-S 5% Critical Value		0.152122
k hat	0.124924	Data do not follow gamma distribution		
k star (bias corrected)	0.131713	at 5% significance level		
Theta hat	475.7101			
Theta star	451.1929	95% UCLs (Assuming Gamma Distribution)		
nu hat	10.74349	Approximate Gamma UCL		140.6394
nu star	11.32728	Adjusted Gamma UCL		145.1176
Approx.Chi Square Value (.05)	4.786389			
Adjusted Level of Significance	0.044419	Lognormal Distribution Test		
Adjusted Chi Square Value	4.638688	Shapiro-Wilk Test Statisitic		0.876028
		Shapiro-Wilk 5% Critical Value		0.943
Log-transformed Statistics		Data not lognormal at 5% significance level		
Minimum of log data	-7.600902			
Maximum of log data	7.003065	95% UCLs (Assuming Lognormal Distribution)		
Mean of log data	-2.228634	95% H-UCL		6601240
Standard Deviation of log data	4.875553	95% Chebyshev (MVUE) UCL		8765.725
Variance of log data	23.77102	97.5% Chebyshev (MVUE) UCL		11822.52
		99% Chebyshev (MVUE) UCL		17826.99
		95% Non-parametric UCLs		
		CLT UCL		108.5757
		Adj-CLT UCL (Adjusted for skewness)		129.758
		Mod-t UCL (Adjusted for skewness)		112.9882
		Jackknife UCL		109.6842
		Standard Bootstrap UCL		107.7265
		Bootstrap-t UCL		205.8773
RECOMMENDATION		Hall's Bootstrap UCL		239.1955 ←
Data are Non-parametric (0.05)		Percentile Bootstrap UCL		115.5447
		BCA Bootstrap UCL		139.2223
Use Hall's Bootstrap UCL		95% Chebyshev (Mean, Sd) UCL		189.6709
		97.5% Chebyshev (Mean, Sd) UCL		246.0273
In case Hall's Bootstrap method yields		99% Chebyshev (Mean, Sd) UCL		356.7283
an erratic, unreasonably large UCL value,				
use 99% Chebyshev (Mean, Sd) UCL				

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	Endosulfan II	
Raw Statistics		Normal Distribution Test		
Number of Valid Samples	43	Shapiro-Wilk Test Statisitic		0.328204
Number of Unique Samples	27	Shapiro-Wilk 5% Critical Value		0.943
Minimum	0.0005	Data not normal at 5% significance level		
Maximum	750			
Mean	35.08353	95% UCL (Assuming Normal Distribution)		
Median	0.086	Student's-t UCL		67.1663
Standard Deviation	125.0813			
Variance	15645.33	Gamma Distribution Test		
Coefficient of Variation	3.565243	A-D Test Statistic		2.922047
Skewness	4.95153	A-D 5% Critical Value		0.947213
		K-S Test Statistic		0.189558
Gamma Statistics		K-S 5% Critical Value		0.151905
k hat	0.130934	Data do not follow gamma distribution		
k star (bias corrected)	0.137303	at 5% significance level		
Theta hat	267.9491			
Theta star	255.5199	95% UCLs (Assuming Gamma Distribution)		
nu hat	11.26029	Approximate Gamma UCL		81.23109
nu star	11.80802	Adjusted Gamma UCL		83.74729
Approx.Chi Square Value (.05)	5.099858			
Adjusted Level of Significance	0.044419	Lognormal Distribution Test		
Adjusted Chi Square Value	4.946632	Shapiro-Wilk Test Statisitic		0.872918
		Shapiro-Wilk 5% Critical Value		0.943
Log-transformed Statistics		Data not lognormal at 5% significance level		
Minimum of log data	-7.600902			
Maximum of log data	6.620073	95% UCLs (Assuming Lognormal Distribution)		
Mean of log data	-2.426951	95% H-UCL		1430206
Standard Deviation of log data	4.689682	95% Chebyshev (MVUE) UCL		3786.597
Variance of log data	21.99312	97.5% Chebyshev (MVUE) UCL		5103.811
		99% Chebyshev (MVUE) UCL		7691.224
		95% Non-parametric UCLs		
		CLT UCL		66.45866
		Adj-CLT UCL (Adjusted for skewness)		81.84884
		Mod-t UCL (Adjusted for skewness)		69.56686
		Jackknife UCL		67.1663
		Standard Bootstrap UCL		65.38184
		Bootstrap-t UCL		124.863
RECOMMENDATION		Hall's Bootstrap UCL		148.8618 ←
Data are Non-parametric (0.05)		Percentile Bootstrap UCL		69.76009
		BCA Bootstrap UCL		91.76779
Use Hall's Bootstrap UCL		95% Chebyshev (Mean, Sd) UCL		118.2283
		97.5% Chebyshev (Mean, Sd) UCL		154.2051
In case Hall's Bootstrap method yields		99% Chebyshev (Mean, Sd) UCL		224.8746
an erratic, unreasonably large UCL value,				
use 99% Chebyshev (Mean, Sd) UCL				

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	Endosulfan Sulfate	
Raw Statistics			Normal Distribution Test	
Number of Valid Samples	43		Shapiro-Wilk Test Statisitic	0.21719
Number of Unique Samples	18		Shapiro-Wilk 5% Critical Value	0.943
Minimum	0.0005		Data not normal at 5% significance level	
Maximum	125			
Mean	3.893605		95% UCL (Assuming Normal Distribution)	
Median	0.025		Student's-t UCL	8.795493
Standard Deviation	19.11103			
Variance	365.2313		Gamma Distribution Test	
Coefficient of Variation	4.908312		A-D Test Statistic	3.495827
Skewness	6.353464		A-D 5% Critical Value	0.931033
			K-S Test Statistic	0.205638
Gamma Statistics			K-S 5% Critical Value	0.150965
k hat	0.157018		Data do not follow gamma distribution	
k star (bias corrected)	0.161567		at 5% significance level	
Theta hat	24.79723			
Theta star	24.09903		95% UCLs (Assuming Gamma Distribution)	
nu hat	13.50352		Approximate Gamma UCL	8.325457
nu star	13.89475		Adjusted Gamma UCL	8.557329
Approx.Chi Square Value (.05)	6.498222			
Adjusted Level of Significance	0.044419		Lognormal Distribution Test	
Adjusted Chi Square Value	6.322145		Shapiro-Wilk Test Statisitic	0.87779
			Shapiro-Wilk 5% Critical Value	0.943
Log-transformed Statistics			Data not lognormal at 5% significance level	
Minimum of log data	-7.600902			
Maximum of log data	4.828314		95% UCLs (Assuming Lognormal Distribution)	
Mean of log data	-3.5029		95% H-UCL	955.2875
Standard Deviation of log data	3.696643		95% Chebyshev (MVUE) UCL	51.96885
Variance of log data	13.66517		97.5% Chebyshev (MVUE) UCL	69.58734
			99% Chebyshev (MVUE) UCL	104.1954
			95% Non-parametric UCLs	
			CLT UCL	8.687373
			Adj-CLT UCL (Adjusted for skewness)	11.70459
			Mod-t UCL (Adjusted for skewness)	9.266118
			Jackknife UCL	8.795493
			Standard Bootstrap UCL	8.537317
			Bootstrap-t UCL	44.2772
RECOMMENDATION			Hall's Bootstrap UCL	34.71534 ←
Data are Non-parametric (0.05)			Percentile Bootstrap UCL	9.566023
			BCA Bootstrap UCL	15.43138
Use Hall's Bootstrap UCL			95% Chebyshev (Mean, Sd) UCL	16.5972
			97.5% Chebyshev (Mean, Sd) UCL	22.09405
In case Hall's Bootstrap method yields			99% Chebyshev (Mean, Sd) UCL	32.89156
an erratic, unreasonably large UCL value,				
use 99% Chebyshev (Mean, Sd) UCL				

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	Endrin

Raw Statistics	
Number of Valid Samples	43
Number of Unique Samples	17
Minimum	0.0005
Maximum	125
Mean	5.058523
Median	0.025
Standard Deviation	20.23737
Variance	409.5509
Coefficient of Variation	4.000647
Skewness	5.366863

Gamma Statistics	
k hat	0.148332
k star (bias corrected)	0.153487
Theta hat	34.10273
Theta star	32.95732
nu hat	12.75655
nu star	13.19989
Approx.Chi Square Value (.05)	6.026282
Adjusted Level of Significance	0.044419
Adjusted Chi Square Value	5.857623

Log-transformed Statistics	
Minimum of log data	-7.600902
Maximum of log data	4.828314
Mean of log data	-3.568833
Standard Deviation of log data	3.808426
Variance of log data	14.50411

RECOMMENDATION
Data are Non-parametric (0.05)
Use Hall's Bootstrap UCL
In case Hall's Bootstrap method yields an erratic, unreasonably large UCL value, use 99% Chebyshev (Mean, Sd) UCL

Normal Distribution Test	
Shapiro-Wilk Test Statisitic	0.287214
Shapiro-Wilk 5% Critical Value	0.943
Data not normal at 5% significance level	
95% UCL (Assuming Normal Distribution)	
Student's-t UCL	10.24931

Gamma Distribution Test	
A-D Test Statistic	3.920552
A-D 5% Critical Value	0.936421
K-S Test Statistic	0.228279
K-S 5% Critical Value	0.151278
Data do not follow gamma distribution at 5% significance level	
95% UCLs (Assuming Gamma Distribution)	
Approximate Gamma UCL	11.08012
Adjusted Gamma UCL	11.39915

Lognormal Distribution Test	
Shapiro-Wilk Test Statisitic	0.873242
Shapiro-Wilk 5% Critical Value	0.943
Data not lognormal at 5% significance level	
95% UCLs (Assuming Lognormal Distribution)	
95% H-UCL	1676.046
95% Chebyshev (MVUE) UCL	68.54863
97.5% Chebyshev (MVUE) UCL	91.88936
99% Chebyshev (MVUE) UCL	137.7377

95% Non-parametric UCLs	
CLT UCL	10.13482
Adj-CLT UCL (Adjusted for skewness)	12.83372
Mod-t UCL (Adjusted for skewness)	10.67029
Jackknife UCL	10.24931
Standard Bootstrap UCL	10.00981
Bootstrap-t UCL	22.48427
Hall's Bootstrap UCL	27.69176
Percentile Bootstrap UCL	10.70813
BCA Bootstrap UCL	15.05333 ←
95% Chebyshev (Mean, Sd) UCL	18.51082
97.5% Chebyshev (Mean, Sd) UCL	24.33164
99% Chebyshev (Mean, Sd) UCL	35.76552

General Statistics

Data File	C:\ProUCL\Haley UCL Data\Haley - run.xls	Variable:	Toxaphene	
Raw Statistics		Normal Distribution Test		
Number of Valid Samples	43	Shapiro-Wilk Test Statisitic		0.187558
Number of Unique Samples	28	Shapiro-Wilk 5% Critical Value		0.943
Minimum	0.025	Data not normal at 5% significance level		
Maximum	24000			
Mean	658.9644	95% UCL (Assuming Normal Distribution)		
Median	1.25	Student's-t UCL		1596.171
Standard Deviation	3653.895			
Variance	13350948	Gamma Distribution Test		
Coefficient of Variation	5.544905	A-D Test Statistic		4.055807
Skewness	6.504467	A-D 5% Critical Value		0.943825
		K-S Test Statistic		0.21032
Gamma Statistics		K-S 5% Critical Value		0.151708
k hat	0.136394	Data do not follow gamma distribution		
k star (bias corrected)	0.142382	at 5% significance level		
Theta hat	4831.322			
Theta star	4628.137	95% UCLs (Assuming Gamma Distribution)		
nu hat	11.7299	Approximate Gamma UCL		1497.651
nu star	12.24487	Adjusted Gamma UCL		1542.944
Approx.Chi Square Value (.05)	5.387726			
Adjusted Level of Significance	0.044419	Lognormal Distribution Test		
Adjusted Chi Square Value	5.229569	Shapiro-Wilk Test Statisitic		0.898165
		Shapiro-Wilk 5% Critical Value		0.943
Log-transformed Statistics		Data not lognormal at 5% significance level		
Minimum of log data	-3.688879			
Maximum of log data	10.08581	95% UCLs (Assuming Lognormal Distribution)		
Mean of log data	0.778398	95% H-UCL		275733.1
Standard Deviation of log data	3.938715	95% Chebyshev (MVUE) UCL		7947.456
Variance of log data	15.51348	97.5% Chebyshev (MVUE) UCL		10665.76
		99% Chebyshev (MVUE) UCL		16005.33
		95% Non-parametric UCLs		
		CLT UCL		1575.499
		Adj-CLT UCL (Adjusted for skewness)		2166.081
		Mod-t UCL (Adjusted for skewness)		1688.29
		Jackknife UCL		1596.171
		Standard Bootstrap UCL		1563.167
		Bootstrap-t UCL		14835.94
RECOMMENDATION		Hall's Bootstrap UCL		9724.42 ←
Data are Non-parametric (0.05)		Percentile Bootstrap UCL		1762.646
		BCA Bootstrap UCL		2850.738
Use Hall's Bootstrap UCL		95% Chebyshev (Mean, Sd) UCL		3087.803
		97.5% Chebyshev (Mean, Sd) UCL		4138.763
In case Hall's Bootstrap method yields		99% Chebyshev (Mean, Sd) UCL		6203.171
an erratic, unreasonably large UCL value,				
use 99% Chebyshev (Mean, Sd) UCL				

Appendix E

CalTOX Exposure Modeling

2937 Veneman Ave., #B240
Modesto, CA 95356

Geo-Phase Environmental Inc.

Phone: (209) 569-0293
Fax: (209) 569-0295

CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==>	Chlordane		
Landscape ==>	Calif. Residential Site (CA Res.)		
Exposure Factors Set=>	(Residential) Exposure Factors		
		potencies	ADIs
Toxicity Data ==>		1/(mg/kg-d)	(mg/kg-d)
	Inhalation	1.2 E+00	5.7143E-06
	Ingestion	1.2 E+00	0.00006
	Dermal	1.2 E+00	0.00006
	Total dose		0
		Risk	Hazard quotie
Target Risk/Hazard =		1.0 E-06	1.00
		current value	**should be >**
Root-soil thickness ===>		**1.4**	**OK**
Alter root soil thickness to?		n/a	
Distance off-site for air exposure=		0.0 E+00	meters
Time after initial concentrations when exposure begins =		3.7 E+02	days
Measured Concentrations	**(at time = 0)**		
	Root-zone soil	78	ppm (mg/kg)
	Vadose-zone soil	0	ppm (mg/kg)
	Ground water	0	ppm (mg/L)
Continuous inputs	Methane flux m/d		0
	Source term to air (mol/d)	0.0 E+00	Sa
	Source term to ground-surface soil (mol/d)	0.0 E+00	Sg
	Source term to root-zone soil (mol/d)	0.0 E+00	Ss
	Source term to surface water(mol/d)	0.0 E+00	Sw
Aquifer characteristics			
	Distance to first well (m)	0.0 E+00	d_well
0.001341446	Darcy veleocity (m/d)	1.0 E-01	v_darc
	Water dispersion coeff. (m2/d)	5.0 E-02	D_T

Summary of Results:

See Warnings Please

Un-mitigated risk and/or hazard ratio

Risk	2.2 E-3		
Hazard ratio	3.8 E+2		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	**3.5 E-2**		
Vadose soil	**0.0 E+0**	**not avlbl.**	
		Root Soil	**3.5 E-2**
		Vadose soil	**n/a**

Based on hazard:

Root soil	**2.1 E-1**	
Vadose soil	**0.0 E+0**	**not avlbl.**

Concentration limits without NAPL

Root soil	3.1 E+02	mg/kg solid
Vadose soil	7.7 E+01	mg/kg solid
Ground water	5.5 E-01	mg/L water

Time avrg. Conc. in on-site environmental media

Air	1.1 E-03	mg/m3
Total Leaf	3.3 E-01	mg/kg(total)
Grnd-surface soil	3.0 E+01	mg/kg(total)
Root-zone soil	4.9 E+01	mg/kg(total)
Vadose-zone soil	2.3 E-03	mg/kg(total)
Ground water	5.5 E-05	mg/L(water)
Surface water	7.3 E-02	mg/L
Sediment	3.2 E+01	mg/kg

Chemical Properties

0.00297 0.003 ... 1 -2.2 E+05

Compound	Chlordane		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Molecular weight (g/mol)	MW	4.10 E+02	4.10E+02	0.01	1	
	Octanol-water partition coefficient	Kow	1.21 E+06	1.21E+06	0.73	1	
	Melting point (K)	Tm	2.98 E+02	2.98E+02	0.03	1	
	Vapor Pressure in (Pa)	VP	1.64 E-02	1.64E-02	1.58	1	
	Solubility in mol/m3	S	1.34 E-03	1.34E-03	1.36	1	Kaw
	Henry's law constant (Pa-m^3/mol)	H -	1.22 E+01	-9.90E+01	0.46	1	0.0050824
	Diffusion coefficient in pure air (m2/d)	Dair	1.02 E-01	1.02E-01	0.08	1	1.18 E-06
	Diffusion coefficient; pure water (m2/d)	Dwater	4.55 E-05	4.55E-05	0.25	1	5.27 E-10
	Organic carbon partition coefficient Koc	**Koc -**	5.18 E+04	5.18E+04	0.14	1	m^2/s
	Ocatanol/air partition coefficient	**Koa -**	2.38 E+08	-9.90E+01	0.10	1	
	Partition coefficient in ground/root soil layer	**Kd_s -**	6.45 E+02	-9.90E+01	0.10	1	
	Partition coefficient in vadose-zone soil layer	**Kd_v -**	1.58 E+02	-9.90E+01	0.10	1	
	Partition coefficient in aquifer layer	**Kd_q -**	1.58 E+02	-9.90E+01	0.10	1	
	Partition coeffic. in surface wtr sediments	**Kd_d -**	1.04 E+03	-9.90E+01	0.10	1	
	NOT USED	Kps -	2.35 E-03	-9.90E+01	4.00	1	
	Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)	**Kl_phl -**	2.45 E+02	-9.90E+01	0.10	1	
	Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])	**Ks_x -**	4.44 E+03	-9.90E+01	0.10	1	
	Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])	**TSCF -**	2.67 E-02	-9.90E+01	0.10	1	
	Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])	**Kpa -**	5.95 E+02	-9.90E+01	14.00	1	
	Biotransfer factor; cattle-diet/milk (d/kg[milk])	**Bk -**	9.62 E-03	-9.90E+01	11.00	1	
	Biotransfer factor; cattle-diet/meat (d/L)	**Bt -**	3.04 E-02	-9.90E+01	13.00	1	
	Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])	**Be -**	1.92 E-01	-9.90E+01	14.00	1	
	Biotrnsfr fctr; brst mlk/mthr intake (d/kg)	**Bbmk -**	2.42 E-01	-9.90E+01	10.00	1	
	Bioconcentration factor; fish/water	**BCF -**	5.81 E+04	-9.90E+01	0.60	1	
	Particle scavenging ratio of rain drops	**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
	Skin permeability coefficient; cm/h	**Kp_w -**	1.25 E-01	-9.90E+01	2.40	1	
	Skin-water/soil partition coefficient (L/kg)	**Km -**	1.00 E+00	-9.90E+01	1.30	1	
	Fraction dermal uptake from soil	**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0**. Otherwise the liste value is used.

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	1.19 E+00	1.19E+00	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	5.70 E+03	5.70E+03	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	5.70 E+03	5.70E+03	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	1.39 E+03	1.39E+03	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	1.67 E+03	1.67E+03	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	8.35 E+02	8.35E+02	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	6.94 E+02	6.94E+02	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	5.70 E+03	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

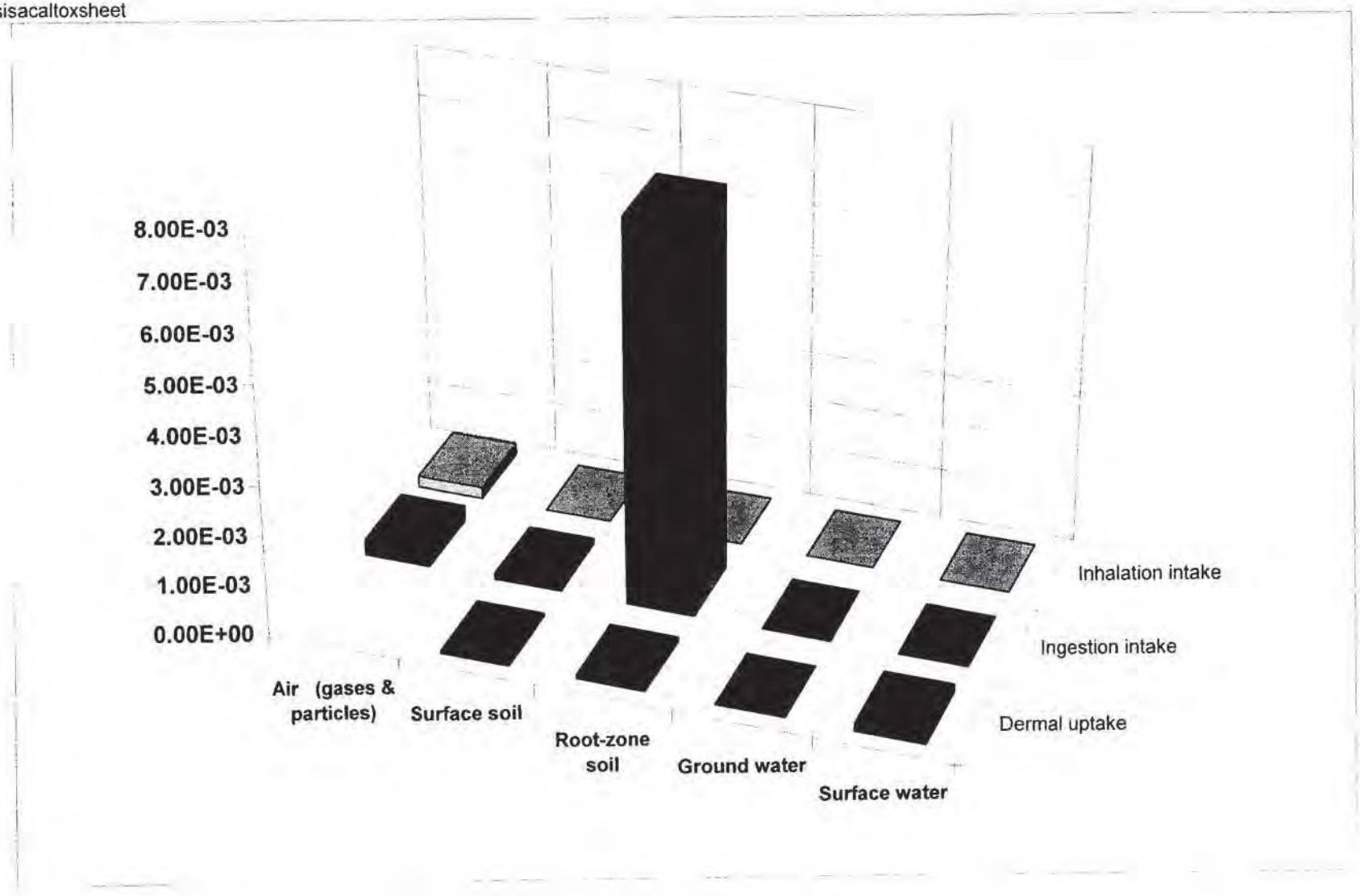
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prttn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	2.32E-04	2.08E-07	8.98E-06	0.00E+00	0.00E+00	**2.41E-04**	2.76
INGESTION:							
Water				0.00E+00	1.05E-06	1.05E-06	0.01
Exposed produce	3.24E-04	1.15E-04	6.21E-06	0.00E+00	0.00E+00	4.46E-04	5.11
Unexposed produce			7.75E-03	0.00E+00	0.00E+00	7.75E-03	88.75
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		9.62E-08	1.58E-07			2.54E-07	0.00
Total ingestion	3.24 E-04	1.16 E-04	7.76 E-03	0.00 E+00	1.05 E-06	**8.20 E-03**	93.88
DERMAL UPTAKE		5.02E-05	8.27E-05	0.00E+00	1.61E-04	**2.94E-04**	3.36
Dose SUM	**5.56E-04**	**1.66E-04**	**7.85E-03**	**0.00E+00**	**1.62E-04**	**8.73E-03**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	8.81 E-03	2.63 E-03	1.24 E-01	0.00 E+00	2.56 E-03	1.38 E-01
						dose_bm
Infant dose	9.69 E-04	2.89 E-04	1.37 E-02	0.00 E+00	2.82 E-04	**1.52 E-02**

Ingestion dose used =>	8.70 E-03
Total dose used =>	9.23 E-03

ENVIRONMENTAL Media	Air (gases) mg/m^3 (air)	Air (dust) mg/m^3 (air)	Ground soil mg/kg(soil solids)	Root soil mg/kg(soil solids)	Ground water mg/L (pure)	Surface water mg/L (pure)
CONCENTRATIONS	1.11 E-03	3.98 E-06	3.41E+01	5.61 E+01	5.52 E-05	4.00 E-02

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	1.11 E-03	3.98 E-06	1.02 E-06	4.42 E-05	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	1.11 E-03	3.98 E-06				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	3.24 E-01	1.17 E-03	1.16 E-01	6.23 E-03	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				1.24 E+01	0.00 E+00	0.00 E+00
Meat (mg/kg)	5.96 E-01	2.15 E-03	2.11 E-01	1.14 E-02	0.00 E+00	0.00 E+00
Milk (mg/kg)	2.66 E-01	9.60 E-04	9.47 E-02	5.09 E-03	0.00 E+00	0.00 E+00
Eggs (mg/kg)	7.93 E-03	2.86 E-05	2.67 E-03	1.43 E-04	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						2.33 E+03
Household soil (mg/kg)			1.70 E+01	2.80 E+01		
Swimming water (mg/L)						7.32 E-02

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE Media	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	1.06 E-02
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	4.02 E-03

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	1.9 E-08	6.5 E-07	2.3 E-08	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	3.6 E-04	1.2 E-02	4.4 E-04	1.3 E-02	1.3 E-02	0.0 E+00
2.4	3.3 E-04	1.1 E-02	4.0 E-04	1.2 E-02	1.2 E-02	0.0 E+00
3.8	3.0 E-04	1.0 E-02	3.7 E-04	1.1 E-02	1.1 E-02	0.0 E+00
5.2	2.8 E-04	9.5 E-03	3.4 E-04	1.0 E-02	1.0 E-02	0.0 E+00
6.6	2.5 E-04	8.7 E-03	3.1 E-04	9.2 E-03	9.2 E-03	0.0 E+00
8	2.3 E-04	7.9 E-03	2.8 E-04	8.5 E-03	8.5 E-03	0.0 E+00
9.4	2.1 E-04	7.3 E-03	2.6 E-04	7.7 E-03	7.7 E-03	0.0 E+00
10.8	2.0 E-04	6.7 E-03	2.4 E-04	7.1 E-03	7.1 E-03	0.0 E+00
12.2	1.8 E-04	6.1 E-03	2.2 E-04	6.5 E-03	6.5 E-03	0.0 E+00
13.6	1.6 E-04	5.6 E-03	2.0 E-04	6.0 E-03	6.0 E-03	0.0 E+00
15	1.5 E-04	5.1 E-03	1.8 E-04	5.5 E-03	5.5 E-03	0.0 E+00
Cumulative doses				44.61795448		
over ED by route, mg/kg	1.2 E+00	4.2 E+01	1.5 E+00	4.5 E+01	4.5 E+01	0.0 E+00
fraction	0.0276	0.9388	0.0336	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	2.4 E-04	8.2 E-03	2.9 E-04	8.7 E-03	8.7 E-03	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	3.6 E-04	1.2 E-02	4.4 E-04	2.4 E-02	1.3 E-02	0.0 E+00
fraction	0.0153	0.5205	0.0187	0.5544	1.000	0.000

Max breast-milk dose	2.3 E-02	mg/kg-d	Max_ing	2.3 E-02

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 6.2 E-01 mol/day

bbb2 = 2.1 E-03 bbb4 = 1.6 E+01

bbb3 = 7.7 E-02 bbb5 = 1.4 E-03

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	1.1 E-03	**mg/m3**	6.5 E-06	6.5 E-06	air
Off-site concentration (particles)	4.0 E-06	**mg/m3**			
Off-site surface-water concentrtn.	1.7 E-04	**mg/L**	5.0 E-06	1.2 E-03	water
Off-site surface soil concentration	1.4 E-01	**mg/kg**	6.4 E-06	1.6 E-03	ground soil
Off-site root-soil concentration	7.1 E-02	**mg/kg**	3.3 E-06	2.6 E-03	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	3.5 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01	m/d
Contaminant velocity	Vc	3.5 E-04	m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02	m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	1.7 E-04	m2/d
Dispersion depth	dzz	10.4	m
Thickness of aquifer	d_q	30	m
Transverse dispersivity (chem)	alpha_t	5.0 E-01	m
Width of the contaminated area	Y	216	m
Distrance to off-site location	X	0	m
Mass tranfer rate, aquifer - out	T_qo	1.6 E-06	1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	8.19E-02	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	5.50E-04	del_aw		
bndry lyr thickness in wtr below air (m)	1.90E-04	del_wa		
diffusion length in surface soil (m)	1.37E-02	del_g		
diffusion length in upper soil (m)	6.69E-01	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	4.21E-04	del_dw		
Initial concentration in soil (mol/m3)	3.07E-01	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	6.11E+01	tlag		
Skin/water partition coefficient	1.84E+04	Km		
Reaction rate constant in air (1/d)	5.85E-01	Ra		
Reaction rate constant, ground soil (1/d)	1.22E-04	Rg		
Reaction rate constant, root-zone soil (1/d)	1.22E-04	Rs		
Reaction rate constant, vadose-zone soil (1/d)	4.99E-04	Rv		
Reaction rate constant, ground water (1/d)	4.15E-04	Rq		
Reaction rate constant, surface water (1/d)	8.30E-04	Rw		
Reaction rate constant, sediment (1/d)	9.27E-08	Rd		
Reaction rate constant in leaf surface (1/d)	1.22E-04	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.43E+01	mtc_s		
cuticular conductance (m/d)	2.06E+00	mtc_c		
air side conductance over leaf (m/d)	5.10E+01	mtc_a		
cuticle water permeance (m/d)	1.04E-02	mtc_l		
conductance air/cuticle (m/d)	1.98E+00	mtc_ct		
conductance air/stomata (m/d)	1.12E+01	mtc_st		
root-soil / stem transfer factor	1.08E-08	x_rs		
stem / leaf transfer factor	3.57E-06	x_sl		
leaf / stem transfer factor	7.60E-05	p_ls		
stem / root-soil transfer factor	1.78E-07	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
0 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
1 Risk from breast milk exposure is large compared to other ingestion pathways
1 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
2 total

Fugacity (Pa)

Air	fa	6.48E-06
Cuticle	fc	3.00E-06
Leaf	fl	5.60E-06
Ground	fg	1.57E-03
Root	fs	2.59E-03
Vadose	fv	4.91E-07
Water	fw	1.19E-03
Sediment	fd	1.02E-03
Groundwater	fq	1.64E-06

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

phi 3.59E-03

Fugacity Capacities (mol/m^3 per Pa)

Zap	6.34E+04	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	1.37E+02	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	1.37E+02	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	3.37E+01	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	2.21E+02	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	2.21E+02	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	3.37E+01	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	2.04E+02	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.18E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	1.76E+04	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	2.01E+01	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	7.44E+01	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	7.42E+01	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	1.90E+01	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	1.50E-01	fugacity capacity of water compartment in mol/m3-Pa
Zd	1.77E+02	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	2.36E+01	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d				Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y		Overall intercompartment mass transfer rate constants (1/day) T			
Compartment	Phase	Compartment			one-sided	both-sides	Diffusion	Advection	Total	Compartment Interface
Dair	1.02E-01	Da	1.02E-01	5.50E-04	7.69E-02	1.57E-02	2.31E-04	1.36E-05	2.44E-04	air-water, T_aw
Dwater	4.55E-05	Dw	2.49E-05	1.90E-04	1.97E-02		2.09 E-02		2.09E-02	water-air, T_wa
Dair_g	5.88E-03	Dg	1.20E-04	5.00E-03	8.49E-03	8.38E-03	1.23E+00	5.32E-02	1.29E+00	air-ground, T_ag
Dwater_g	8.88E-07			1.37E-02	6.54E-01		2.25E-02	4.36E-06	2.25E-02	ground-air, T_ga
Dair_s	4.96E-03	Ds	1.20E-04	1.37E-02	6.54E-01	1.31E-02	3.51E-02	1.23E-05	3.51E-02	ground-soil, T_gs
Dwater_s	1.12E-06			6.69E-01	1.33E-02		1.26E-04	0.00E+00	1.26E-04	soil-ground, T_sg
Dair_v	4.30E-03	Dv	1.20E-04	6.69E-01	1.33E-02	2.71E-03		4.40E-08	4.40E-08	soil-vadose, T_sv
Dwater_v	1.15E-06			6.69E-01	3.41E-03					vadose-soil, T_vs
Dwater_d	5.32E-06	Dd	2.47E-09	2.00E-02	3.41E-04	2.56E-04	3.43E-04	1.19E+00	1.19E+00	water-sediment, T_wd
				4.21E-04	1.04E-03		2.91E-05	1.18E-01	1.18E-01	sediment-water, T_dw
							8.80E-01	8.32E-02	9.63E-01	air-cuticle, T_ac
							2.31E-02	2.48E-03	2.55E-02	cuticle-air, T_ca
							2.48E+00		2.48E+00	air - leaf T_al
							6.09E-01		6.09E-01	leaf-air, T_la
							2.40E-02		2.40E-02	cuticle-leaf, T_cl
							2.22E-01		2.22E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
							aaa6 2.01E+04	2.74E-03	2.74E-03	leaf-ground T_lg
							aaa7 -2.69E+00	1.78E-07	1.78E-07	leaf-soil, T_ls
							aaa8 2.69E+00	1.08E-08	1.08E-08	soil-leaf, T_sl
							bbb4 0.00E+00		0.00E+00	ground-cuticle, T_gc
							bbb5 0	1.20E-07	1.20E-07	vadose-aquifer, T_vq
							Lam1 0.000171	2.50E-05	2.50E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								1.49E-04	1.49E-04	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	2.50E-04	C0_1	2.01E+04
aaa2	1.52E-04	C0_2	0.00E+00
aaa3	7.50E-05	S_1	0.00E+00
aaa4	3.06E-11	S_2	0.00E+00
aaa5	2.18E-03	AA	3.24E-04
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	4.40E-08
bbb3	0.00E+00	DDD	5.00E-04
ccc1	7.80E-01	Gam1	-3.24E-04
ccc2	2.71E+00	Gam2	-5.00E-04
ccc3	3.03E+02	Gm1mGm2	1.76E-04
ccc4	6.66E-01	Gam1p	5.00E-04
ccc5	1.77E+00	Gam2p	3.24E-04
ccc6	1.14E-01	Gm1mGm2p	1.76E-04

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.03E+02	2.06E-03	2.71E-09	0.00%	2.56E+02	2.56E+02	3.30E-03
leaf	l	8.34E-01	7.34E-03	1.13E-04	0.00%	2.51E+00	2.51E+00	1.20E+00
cuticle	c	9.94E-02	3.63E-02	5.29E-02	0.00%	1.48E+00	1.48 E+00	1.01E+01
ground-soil	g	5.79E-02	2.74E+01	1.17E-01	0.22%	6.51E+02	6.51E+02	1.73E+01
root-soil	s	2.47E-04	1.26E+04	1.92E-01	99.35%	3.95E+02	1.28E+03	4.04E+03
vadose-zone	v	5.00E-04	8.73E-01	9.32E-06	0.01%	2.27E-01	1.79E-01	2.00E+03
surface water	w	2.17E+00	4.18E-03	1.79E-04	0.00%	3.72E+00	3.72E+00	4.61E-01
sediment	d	1.18E-01	4.21E-02	1.80E-01	0.00%	2.04E+00	2.04E+00	8.46E+00
aquifer	q	4.17E-04	5.46E+01	3.89E-05	0.43%	4.31E-05	9.32E+00	2.40E+03

Mass Flows (g/d)

air-ground	1.09E+00	Tag*Na*MW
air-water	2.06E-04	Taw*Na*MW
air-out	2.51E+02	Tao*Na*MW
air-leaves	2.09E+00	Tal*Na*MW
air-leaf surfaces	8.13E-01	Tac*Na*MW
air-transform	4.93E-01	Ra*Na*MW
leaves-air	1.83E+00	Tla*Nl*MW
leaves-leaf surfaces	6.68E-01	Tlc*Nl*MW
leaves-ground	8.24E-03	Tlg*Nl*MW
leaves-soil	5.35E-07	Tls*Nl*MW
leaf-surface - air	3.80E-01	Tca*Nc*MW
leaf-surfaces - leaves	3.57E-01	Tcl*Nc*MW
leaf-surfaces - ground	7.41E-01	Tcg*Nc*MW
leaf surfaces-trnsfrm	1.81E-03	Rls*Nc*MW
ground-air	2.53E+02	Tga*Ng*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW
ground-soil	3.95E+02	Tgs*Ng*MW

ground-water	1.68E+00	Tgw*Ng*MW
ground-trnsfrm	1.37E+00	Rg*Ng*MW
soil-ground	6.50E+02	Tsg*Ns*MW
soil-leaves	5.57E-02	Tsl*Ns*MW
soil-vadose	2.27E-01	Tsv*Ns*MW
soil-trnsfrm	6.28E+02	Rs*Ns*MW
vadose-aquifer	4.31E-05	Tvq*Nv*MW
vadose-trnsfrm	1.79E-01	Rv*Nv*MW
aquifer-removal	9.32E+00	Lq*Nq*MW
water-air	3.59E-02	Twa*Nw*MW
water-sediment	2.04E+00	Twd*Nw*MW
water-out	1.64E+00	Two*Nw*MW
water-trnsfrm	1.42E-03	Rw*Nw*MW
sediment-water	2.04E+00	Tdw*Nd*MW
sedmnt-trnsfrm	1.60E-06	Rd*Nd*MW
sediment-out	4.31E-04	Tdo*Nd*MW

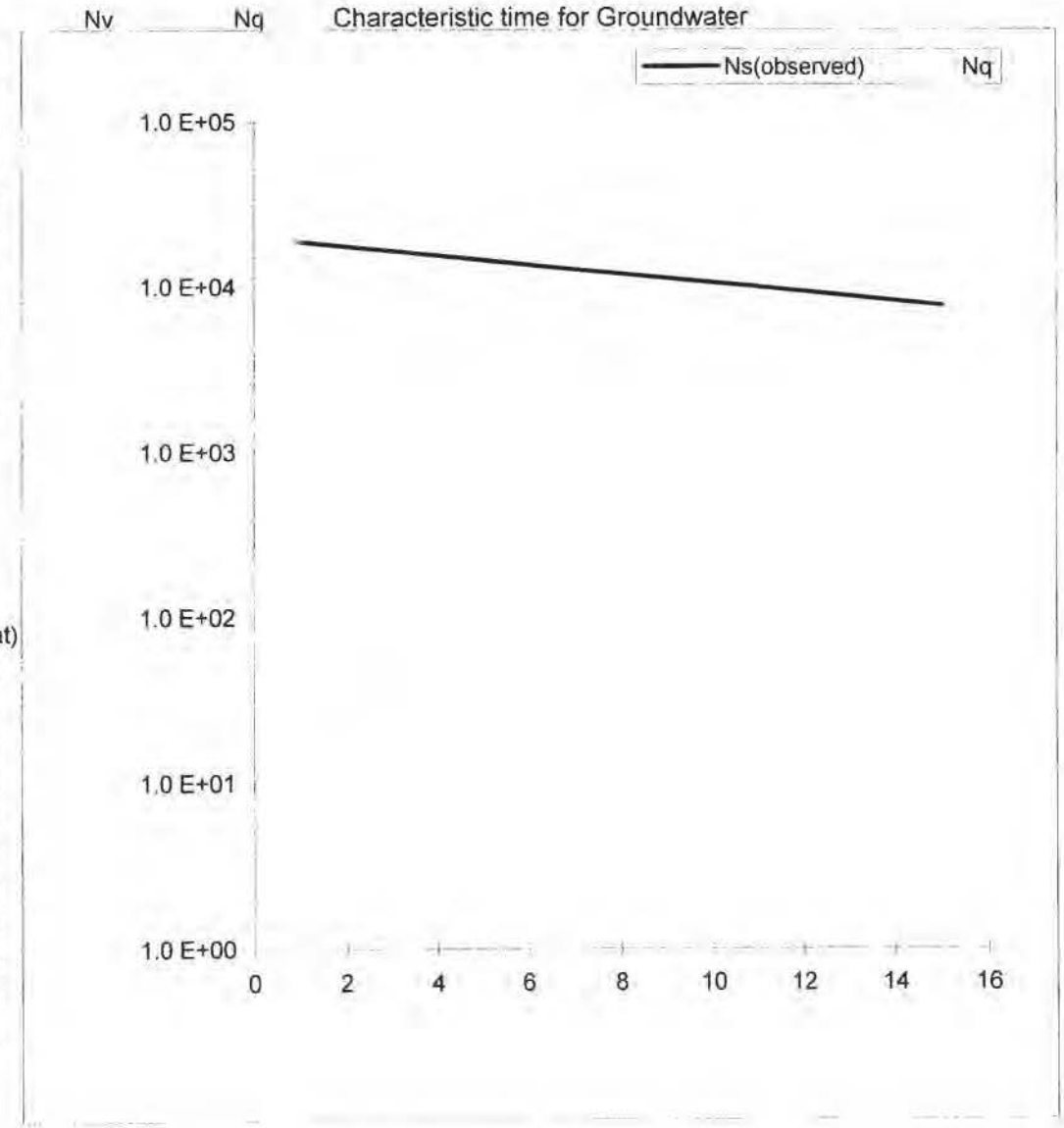
Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	1.9 E+04	1.8 E+01
2.4	876	1.7 E+04	3.6 E+01
3.8	1387	1.6 E+04	4.9 E+01
5.2	1898	1.5 E+04	5.7 E+01
6.6	2409	1.3 E+04	6.1 E+01
8	2920	1.2 E+04	6.3 E+01
9.4	3431	1.1 E+04	6.3 E+01
10.8	3942	1.0 E+04	6.2 E+01
12.2	4453	9.4 E+03	6.0 E+01
13.6	4964	8.6 E+03	5.8 E+01
15	5475	7.9 E+03	5.5 E+01

		Ns(0)[total]	
		2.0 E+04	
	const_sat	Ns(sat)	
	-13.65446717	8.0E+04	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
0	1.51 E+04	1.9E+04	1.2E+00
0	1.19 E+04	1.7E+04	1.8E+00
0	1.03 E+04	1.6E+04	2.0E+00
0	8.89 E+03	1.5E+04	2.2E+00
0	7.56 E+03	1.3E+04	2.3E+00
0	6.35 E+03	1.2E+04	2.3E+00
0	5.23 E+03	1.1E+04	2.4E+00
0	4.21 E+03	1.0E+04	2.4E+00
0	3.28 E+03	9.4E+03	2.4E+00
0	2.42 E+03	8.6E+03	2.3E+00
0	1.63 E+03	7.9E+03	2.3E+00

Plot

Nv Nq



CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==> DDD

Landscape ==> Calif. Residential Site (CA Res.)

Exposure Factors Set=> (Residential) Exposure Factors

Toxicity Data ==>

	potencies 1/(mg/kg-d)	ADIs (mg/kg-d)
Inhalation	2.4 E-01	0
Ingestion	2.4 E-01	0
Dermal	2.4 E-01	0
Total dose		0

	Risk	Hazard quotie
Target Risk/Hazard =	1.0 E-06	1.00

	current value	should be >
Root-soil thickness ===>	2213	OK
Alter root soil thickness to?	n/a	
Distance off-site for air exposure=	0.0 E+00	meters
Time after initial concentrations when exposure begins =	3.7 E+02	days

Measured Concentrations (at time = 0)

Root-zone soil	78	ppm (mg/kg)
Vadose-zone soil	0	ppm (mg/kg)
Ground water	0	ppm (mg/L)

Continuous inputs

Methane flux m/d	0	
Source term to air (mol/d)	0.0 E+00	Sa
Source term to ground-surface soil (mol/d)	0.0 E+00	Sg
Source term to root-zone soil (mol/d)	0.0 E+00	Ss
Source term to surface water(mol/d)	0.0 E+00	Sw

Aquifer characteristics

	Distance to first well (m)	0.0 E+00	d_well
0.001341446	Darcy veleocity (m/d)	1.0 E-01	v_darc
	Water dispersion coeff. (m2/d)	5.0 E-02	D_T

Summary of Results:

See Warnings Please

Un-mitigated risk and/or hazard ratio

Risk	4.9 E-5		
Hazard ratio	0.0 E+0		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	1.6 E+0		
Vadose soil	0.0 E+0	not avlbl.	
		Root Soil	1.6 E+0
		Vadose soil	n/a

Based on hazard:

Root soil	0.0 E+0	not avlbl.
Vadose soil	0.0 E+0	not avlbl.

Concentration limits without NAPL

Root soil	6.5 E+02	mg/kg solid
Vadose soil	1.6 E+02	mg/kg solid
Ground water	9.3 E-02	mg/L water

Time avrg. Conc. in on-site environmental media

Air	6.4 E-06	mg/m3
Total Leaf	2.8 E-02	mg/kg(total)
Grnd-surface soil	4.4 E+01	mg/kg(total)
Root-zone soil	4.4 E+01	mg/kg(total)
Vadose-zone soil	3.0 E-04	mg/kg(total)
Ground water	3.8 E-06	mg/L(water)
Surface water	2.8 E-02	mg/L
Sediment	2.5 E+01	mg/kg

Chemical Properties

0.00297 0.003 ... 1 -4.8 E+03

Compound DDD		Value used	Mean value	Coeff. Var.	Adjustment	Notes
Molecular weight (g/mol)	MW	3.20 E+02	3.20E+02	0.01	1	
Octanol-water partition coefficient	Kow	1.35 E+06	1.35E+06	0.21	1	
Melting point (K)	Tm	3.82 E+02	3.82E+02	0.03	1	
Vapor Pressure in (Pa)	VP	1.30 E-04	1.30E-04	0.52	1	
Solubility in mol/m3	S	2.89 E-04	2.89E-04	0.54	1	Kaw
Henry's law constant (Pa-m^3/mol)	H -	4.49 E-01	-9.90E+01	0.46	1	0.0001868
Diffusion coefficient in pure air (m2/d)	Dair	1.35 E-01	1.35E-01	0.08	1	1.56 E-06
Diffusion coefficient; pure water (m2/d)	Dwater	5.79 E-05	5.79E-05	0.25	1	6.71 E-10
Organic carbon partition coefficient Koc	**Koc -**	6.48 E+05	-9.90E+01	1.00	1	m^2/s
Ocatanol/air partition coefficient	**Koa -**	7.22 E+09	-9.90E+01	0.10	1	
Partition coefficient in ground/root soil layer	**Kd_s -**	8.06 E+03	-9.90E+01	0.10	1	
Partition coefficient in vadose-zone soil layer	**Kd_v -**	1.98 E+03	-9.90E+01	0.10	1	
Partition coefficient in aquifer layer	**Kd_q -**	1.98 E+03	-9.90E+01	0.10	1	A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0**. Otherwise the liste value is used.
Partition coeffic. in surface wtr sediments	**Kd_d -**	1.30 E+04	-9.90E+01	0.10	1	
NOT USED	Kps -	2.20 E-03	-9.90E+01	4.00	1	
Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)	**Kl_phl -**	2.73 E+02	-9.90E+01	0.10	1	
Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])	**Ks_x -**	4.92 E+03	-9.90E+01	0.10	1	
Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])	**TSCF -**	2.41 E-02	-9.90E+01	0.10	1	
Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])	**Kpa -**	1.63 E+04	-9.90E+01	14.00	1	
Biotransfer factor; cattle-diet/milk (d/kg[milk])	**Bk -**	1.07 E-02	-9.90E+01	11.00	1	
Biotransfer factor; cattle-diet/meat (d/L)	**Bt -**	3.39 E-02	-9.90E+01	13.00	1	
Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])	**Be -**	2.14 E-01	-9.90E+01	14.00	1	
Biotrnsfr fctr; brst mlk/mthr intake (d/kg)	**Bbmk -**	2.70 E-01	-9.90E+01	10.00	1	
Bioconcentration factor; fish/water	**BCF -**	6.48 E+04	-9.90E+01	0.60	1	
Particle scavenging ratio of rain drops	**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
Skin permeability coefficient; cm/h	**Kp_w -**	4.77 E-01	-9.90E+01	2.40	1	
Skin-water/soil partition coefficient (L/kg)	**Km -**	1.00 E+00	-9.90E+01	1.30	1	
Fraction dermal uptake from soil	**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	4.06 E+00	4.06E+00	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	3.21 E+03	3.21E+03	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	3.21 E+03	3.21E+03	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	5.73 E+03	5.73E+03	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	5.73 E+03	5.73E+03	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	3.21 E+03	3.21E+03	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	2.88 E+03	2.88E+03	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	3.21 E+03	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

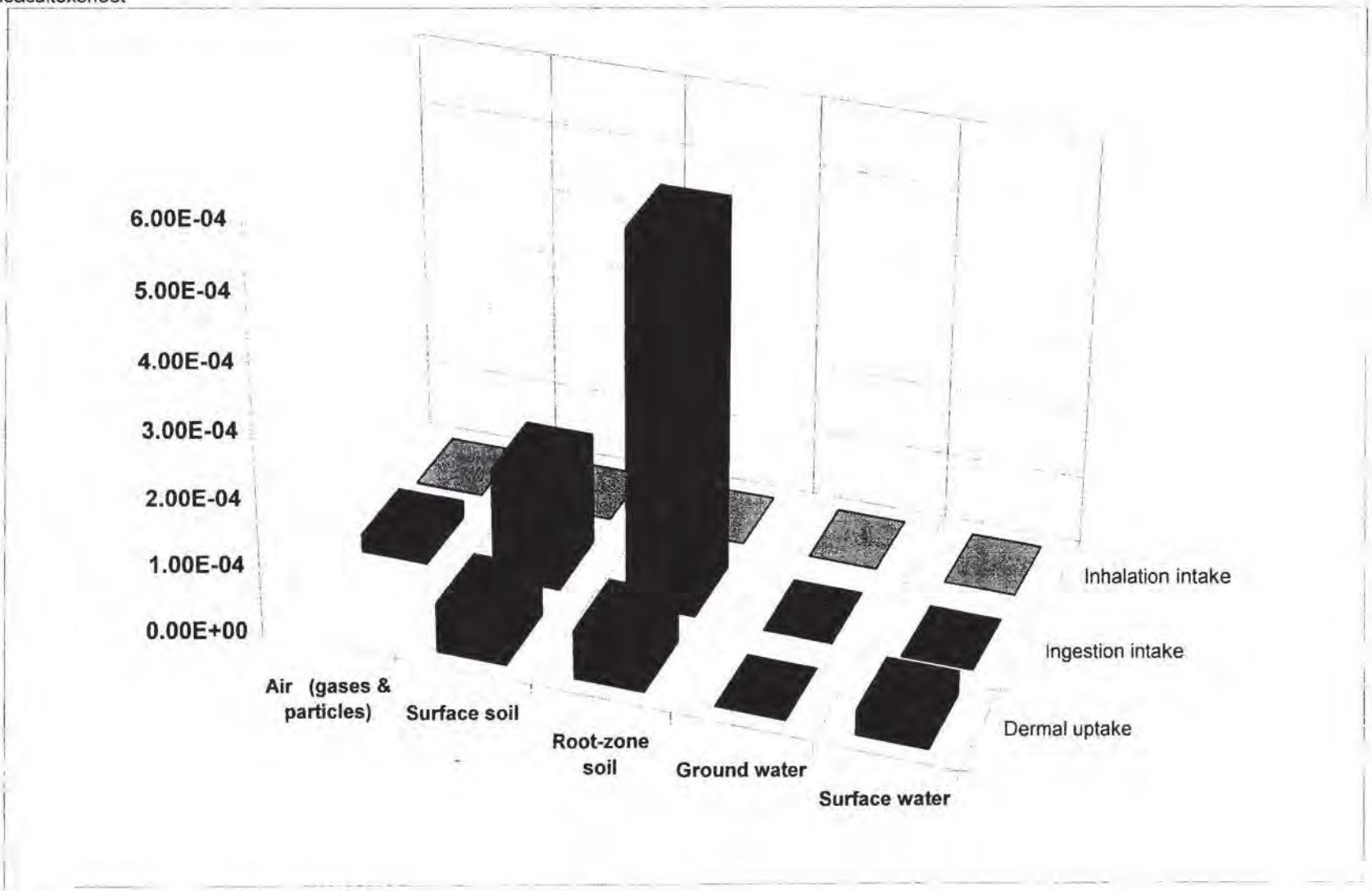
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prttn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	1.33E-06	3.02E-07	2.35E-08	0.00E+00	0.00E+00	**1.66E-06**	0.18
INGESTION:							
Water				0.00E+00	4.03E-07	4.03E-07	0.04
Exposed produce	2.69E-05	1.68E-04	1.10E-06	0.00E+00	0.00E+00	1.96E-04	20.93
Unexposed produce			5.53E-04	0.00E+00	0.00E+00	5.53E-04	59.09
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		1.40E-07	1.41E-07			2.81E-07	0.03
Total ingestion	2.69 E-05	1.68 E-04	5.54 E-04	0.00 E+00	4.03 E-07	**7.49 E-04**	80.10
DERMAL UPTAKE		7.30E-05	7.37E-05	0.00E+00	3.77E-05	**1.84E-04**	19.72
Dose SUM	**2.82E-05**	**2.41E-04**	**6.28E-04**	**0.00E+00**	**3.81E-05**	**9.35E-04**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	4.98 E-04	4.26 E-03	1.11 E-02	0.00 E+00	6.73 E-04	1.65 E-02
						dose_bm
Infant dose	5.48 E-05	4.68 E-04	1.22 E-03	0.00 E+00	7.41 E-05	**1.82 E-03**

Ingestion dose used =>	8.25 E-04
Total dose used =>	1.01 E-03

ENVIRONMENTAL Media	Air (gases) mg/m^3 (air)	Air (dust) mg/m^3 (air)	Ground soil mg/kg(soil solids)	Root soil mg/kg(soil solids)	Ground water mg/L (pure)	Surface water mg/L (pure)
CONCENTRATIONS	5.74 E-06	6.28 E-07	4.95E+01	5.00 E+01	3.80 E-06	2.47 E-03

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	5.74 E-06	6.28 E-07	1.49 E-06	1.16 E-07	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	5.74 E-06	6.28 E-07				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	2.43 E-02	2.66 E-03	1.68 E-01	1.11 E-03	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				8.87 E-01	0.00 E+00	0.00 E+00
Meat (mg/kg)	4.95 E-02	5.41 E-03	3.42 E-01	2.25 E-03	0.00 E+00	0.00 E+00
Milk (mg/kg)	2.22 E-02	2.42 E-03	1.53 E-01	1.01 E-03	0.00 E+00	0.00 E+00
Eggs (mg/kg)	6.27 E-04	6.85 E-05	4.32 E-03	2.84 E-05	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						1.60 E+02
Household soil (mg/kg)			2.48 E+01	2.50 E+01		
Swimming water (mg/L)						2.80 E-02

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE Media	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	4.02 E-02
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	1.53 E-02

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	1.2 E-10	5.2 E-08	1.3 E-08	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	2.7 E-06	1.2 E-03	3.0 E-04	1.5 E-03	1.5 E-03	0.0 E+00
2.4	2.5 E-06	1.1 E-03	2.7 E-04	1.4 E-03	1.4 E-03	0.0 E+00
3.8	2.2 E-06	9.9 E-04	2.4 E-04	1.2 E-03	1.2 E-03	0.0 E+00
5.2	2.0 E-06	8.9 E-04	2.2 E-04	1.1 E-03	1.1 E-03	0.0 E+00
6.6	1.8 E-06	7.9 E-04	2.0 E-04	9.9 E-04	9.9 E-04	0.0 E+00
8	1.6 E-06	7.1 E-04	1.8 E-04	8.9 E-04	8.9 E-04	0.0 E+00
9.4	1.4 E-06	6.4 E-04	1.6 E-04	7.9 E-04	7.9 E-04	0.0 E+00
10.8	1.3 E-06	5.7 E-04	1.4 E-04	7.1 E-04	7.1 E-04	0.0 E+00
12.2	1.1 E-06	5.1 E-04	1.3 E-04	6.4 E-04	6.4 E-04	0.0 E+00
13.6	1.0 E-06	4.6 E-04	1.1 E-04	5.7 E-04	5.7 E-04	0.0 E+00
15	9.0 E-07	4.1 E-04	1.0 E-04	5.1 E-04	5.1 E-04	0.0 E+00
Cumulative doses				4.778406983		
over ED by route, mg/kg	8.5 E-03	3.8 E+00	9.4 E-01	4.8 E+00	4.8 E+00	0.0 E+00
fraction	0.0018	0.8010	0.1972	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	1.7 E-06	7.5 E-04	1.8 E-04	9.4 E-04	9.4 E-04	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	2.7 E-06	1.2 E-03	3.0 E-04	3.3 E-03	1.5 E-03	0.0 E+00
fraction	0.0008	0.3742	0.0921	0.4672	1.000	0.000

Max breast-milk dose	3.0 E-03	mg/kg-d	Max_ing	3.0 E-03

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 4.8 E-03 mol/day

bbb2 = 1.5 E-05 bbb4 = 1.1 E+00

bbb3 = 6.9 E-03 bbb5 = 3.2 E-05

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	5.7 E-06	**mg/m3**	4.3 E-08	4.3 E-08	air
Off-site concentration (particles)	6.3 E-07	**mg/m3**			
Off-site surface-water concentrtn.	5.5 E-07	**mg/L**	7.7 E-10	3.5 E-06	water
Off-site surface soil concentration	1.0 E-02	**mg/kg**	1.8 E-09	8.6 E-06	ground soil
Off-site root-soil concentration	3.9 E-03	**mg/kg**	6.7 E-10	8.7 E-06	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	1.8 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01	m/d
Contaminant velocity	Vc	1.0 E-04	m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02	m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	1.4 E-05	m2/d
Dispersion depth	dzz	5.5	m
Thickness of aquifer	d_q	30	m
Transverse dispersivity (chem)	alpha_t	1.4 E-01	m
Width of the contaminated area	Y	216	m
Distrance to off-site location	X	0	m
Mass tranfer rate, aquifer - out	T_qo	4.6 E-07	1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	2.23E+00	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	6.42E-04	del_aw		
bndry lyr thickness in wtr below air (m)	2.41E-04	del_wa		
diffusion length in surface soil (m)	1.37E-02	del_g		
diffusion length in upper soil (m)	6.68E-01	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	8.84E-05	del_dw		
Initial concentration in soil (mol/m3)	3.93E-01	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	1.75E+01	tlag		
Skin/water partition coefficient	2.00E+04	Km		
Reaction rate constant in air (1/d)	1.71E-01	Ra		
Reaction rate constant, ground soil (1/d)	2.16E-04	Rg		
Reaction rate constant, root-zone soil (1/d)	2.16E-04	Rs		
Reaction rate constant, vadose-zone soil (1/d)	1.21E-04	Rv		
Reaction rate constant, ground water (1/d)	1.21E-04	Rq		
Reaction rate constant, surface water (1/d)	2.16E-04	Rw		
Reaction rate constant, sediment (1/d)	1.78E-09	Rd		
Reaction rate constant in leaf surface (1/d)	2.16E-04	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.89E+01	mtc_s		
cuticular conductance (m/d)	6.04E+01	mtc_c		
air side conductance over leaf (m/d)	6.74E+01	mtc_a		
cuticle water permeance (m/d)	1.13E-02	mtc_l		
conductance air/cuticle (m/d)	3.18E+01	mtc_ct		
conductance air/stomata (m/d)	1.47E+01	mtc_st		
root-soil / stem transfer factor	7.80E-10	x_rs		
stem / leaf transfer factor	3.22E-06	x_sl		
leaf / stem transfer factor	6.82E-05	p_ls		
stem / root-soil transfer factor	1.61E-07	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
0 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
1 Risk from breast milk exposure is large compared to other ingestion pathways
1 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
2 total

Fugacity (Pa)

Air	fa	4.31E-08
Cuticle	fc	1.12E-08
Leaf	fl	1.57E-08
Ground	fg	8.61E-06
Root	fs	8.69E-06
Vadose	fv	2.42E-10
Water	fw	3.46E-06
Sediment	fd	2.95E-06
Groundwater	fq	5.33E-09

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

phi 9.85E-02

Fugacity Capacities (mol/m^3 per Pa)

Zap	1.92E+06	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	4.67E+04	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	4.67E+04	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	1.15E+04	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	7.51E+04	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	7.51E+04	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	1.15E+04	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	6.18E+03	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.62E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	5.34E+05	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	6.09E+02	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	2.53E+04	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	2.52E+04	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	6.45E+03	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	2.53E+01	fugacity capacity of water compartment in mol/m3-Pa
Zd	6.00E+04	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	8.03E+03	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d				Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y		Overall intercompartment mass transfer rate constants (1/day) T			
Compartment Phase		Compartment			one-sided	both-sides	Diffusion	Advection	Total	Compartment Interface
Dair	1.35E-01	Da	1.22E-01	6.42E-04	7.87E-02	6.86E-02	9.15E-04	3.70E-04	1.29E-03	air-water, T_aw
Dwater	5.79E-05	Dw	5.10E-06	2.41E-04	5.35E-01		5.42 E-04		5.42E-04	water-air, T_wa
Dair_g	7.77E-03	Dg	1.20E-04	5.00E-03	1.12E-02	1.12E-02	1.50E+00	1.43E+00	2.92E+00	air-ground, T_ag
Dwater_g	1.13E-06			1.37E-02	2.22E+02		8.87E-05	4.36E-06	9.30E-05	ground-air, T_ga
Dair_s	6.56E-03	Ds	1.20E-04	1.37E-02	2.22E+02	4.44E+00	3.51E-02	9.82E-07	3.51E-02	ground-soil, T_gs
Dwater_s	1.42E-06			6.68E-01	4.53E+00		1.26E-04	0.00E+00	1.26E-04	soil-ground, T_sg
Dair_v	5.68E-03	Dv	1.20E-04	6.68E-01	4.53E+00	9.22E-01		3.52E-09	3.52E-09	soil-vadose, T_sv
Dwater_v	1.47E-06			6.68E-01	1.16E+00					vadose-soil, T_vs
Dwater_d	6.78E-06	Dd	2.51E-10	2.00E-02	7.34E-02	5.13E-02	4.05E-04	2.39E+00	2.39E+00	water-sediment, T_wd
				8.84E-05	1.71E-01		1.71E-05	1.18E-01	1.18E-01	sediment-water, T_dw
							1.28E+01	2.28E+00	1.51E+01	air-cuticle, T_ac
							1.23E-02	2.48E-03	1.47E-02	cuticle-air, T_ca
							2.97E+00		2.97E+00	air - leaf T_al
							2.66E-02		2.66E-02	leaf-air, T_la
							2.32E-02		2.32E-02	cuticle-leaf, T_cl
							2.15E-01		2.15E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
							aaa6 2.58E+04	2.74E-03	2.74E-03	leaf-ground T_lg
							aaa7 9.43E-01	1.61E-07	1.61E-07	leaf-soil, T_ls
							aaa8 -9.43E-01	7.80E-10	7.80E-10	soil-leaf, T_sl
							bbb4 0.00E+00		0.00E+00	ground-cuticle, T_gc
							bbb5 0	9.64E-09	9.64E-09	vadose-aquifer, T_vq
							Lam1 0.000217	2.50E-05	2.50E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								3.85E-05	3.85E-05	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	1.34E-03	C0_1	2.58E+04
aaa2	4.02E-05	C0_2	0.00E+00
aaa3	2.97E-07	S_1	0.00E+00
aaa4	8.29E-13	S_2	0.00E+00
aaa5	3.55E-03	AA	4.66E-04
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	3.52E-09
bbb3	0.00E+00	DDD	1.21E-04
ccc1	1.88E-01	Gam1	-1.21E-04
ccc2	6.96E+00	Gam2	-4.66E-04
ccc3	3.16E+02	Gm1mGm2	3.45E-04
ccc4	6.26E-02	Gam1p	4.66E-04
ccc5	1.15E+01	Gam2p	1.21E-04
ccc6	1.25E-01	Gm1mGm2p	3.45E-04

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.19E+02	1.51E-05	1.99E-11	0.00%	1.54E+00	1.54E+00	3.14E-03
leaf	l	2.45E-01	6.21E-04	9.53E-06	0.00%	4.86E-02	4.86E-02	4.09E+00
cuticle	c	8.80E-02	4.12E-03	5.99E-03	0.00%	1.16E-01	1.16 E-01	1.14E+01
ground-soil	g	3.55E-02	5.10E+01	2.18E-01	0.35%	5.79E+02	5.79E+02	2.82E+01
root-soil	s	3.41E-04	1.44E+04	2.20E-01	99.23%	5.73E+02	1.57E+03	2.93E+03
vadose-zone	v	1.21E-04	1.46E-01	1.56E-06	0.00%	1.62E-02	5.66E-03	8.27E+03
surface water	w	3.35E+00	2.05E-03	8.76E-05	0.00%	2.20E+00	2.20E+00	2.98E-01
sediment	d	1.18E-01	4.15E-02	1.77E-01	0.00%	1.57E+00	1.57E+00	8.46E+00
aquifer	q	1.21E-04	6.02E+01	4.29E-05	0.42%	4.51E-07	2.34E+00	8.24E+03

Mass Flows (g/d)

air-ground	1.42E-02	Tag*Na*MW	ground-water	6.29E-01	Tgw*Ng*MW
air-water	6.23E-06	Taw*Na*MW	ground-trnsfrm	3.52E+00	Rg*Ng*MW
air-out	1.44E+00	Tao*Na*MW	soil-ground	5.79E+02	Tsg*Ns*MW
air-leaves	1.44E-02	Tal*Na*MW	soil-leaves	3.59E-03	Tsl*Ns*MW
air-leaf surfaces	7.32E-02	Tac*Na*MW	soil-vadose	1.62E-02	Tsv*Ns*MW
air-transform	8.28E-04	Ra*Na*MW	soil-trnsfrm	9.94E+02	Rs*Ns*MW
leaves-air	5.28E-03	Tla*Nl*MW	vadose-aquifer	4.51E-07	Tvq*Nv*MW
leaves-leaf surfaces	4.28E-02	Tlc*Nl*MW	vadose-trnsfrm	5.66E-03	Rv*Nv*MW
leaves-ground	5.45E-04	Tlg*Nl*MW	aquifer-removal	2.34E+00	Lq*Nq*MW
leaves-soil	3.19E-08	Tls*Nl*MW	water-air	3.56E-04	Twa*Nw*MW
leaf-surface - air	1.94E-02	Tca*Nc*MW	water-sediment	1.57E+00	Twd*Nw*MW
leaf-surfaces - leaves	3.06E-02	Tcl*Nc*MW	water-out	6.28E-01	Two*Nw*MW
leaf-surfaces - ground	6.56E-02	Tcg*Nc*MW	water-trnsfrm	1.42E-04	Rw*Nw*MW
leaf surfaces-trnsfrm	2.85E-04	Rls*Nc*MW	sediment-water	1.57E+00	Tdw*Nd*MW
ground-air	1.52E+00	Tga*Ng*MW	sedmnt-trnsfrm	2.37E-08	Rd*Nd*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW	sediment-out	3.32E-04	Tdo*Nd*MW
ground-soil	5.73E+02	Tgs*Ng*MW			

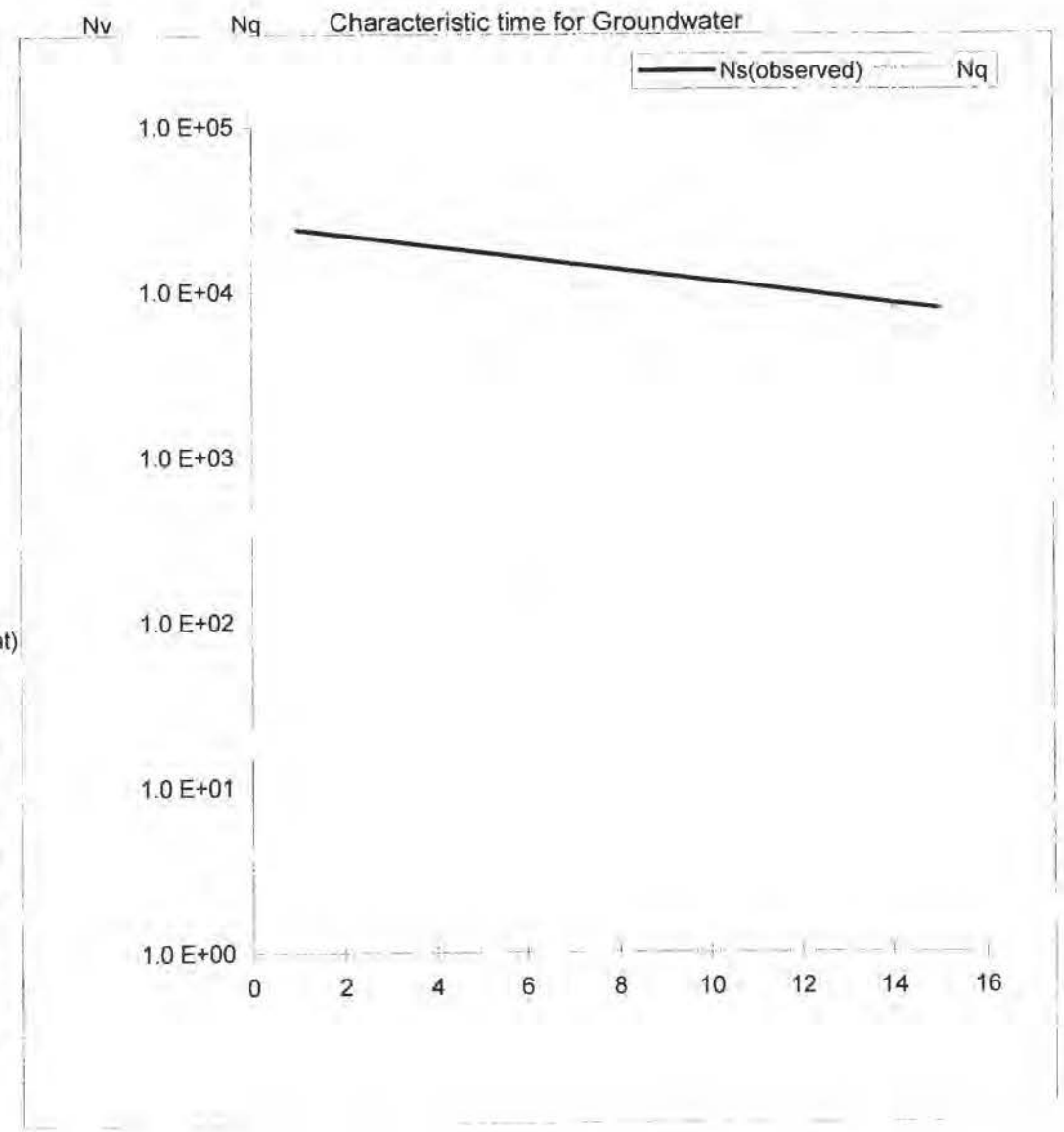
Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	2.4 E+04	1.3 E+01
2.4	876	2.1 E+04	2.8 E+01
3.8	1387	1.9 E+04	4.1 E+01
5.2	1898	1.7 E+04	5.1 E+01
6.6	2409	1.5 E+04	6.0 E+01
8	2920	1.4 E+04	6.7 E+01
9.4	3431	1.2 E+04	7.2 E+01
10.8	3942	1.1 E+04	7.6 E+01
12.2	4453	9.8 E+03	7.9 E+01
13.6	4964	8.8 E+03	8.1 E+01
15	5475	7.9 E+03	8.2 E+01

		Ns(0)[total]	
		2.6 E+04	
	const_sat	Ns(sat)	
	-46.58547565	2.1E+05	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
0	8.75 E+03	2.4E+04	2.7E-01
0	-1.18 E+01	2.1E+04	4.0E-01
0	-2.51 E+03	1.9E+04	4.4E-01
0	-4.74 E+03	1.7E+04	4.7E-01
0	-6.74 E+03	1.5E+04	4.9E-01
0	-8.53 E+03	1.4E+04	5.1E-01
0	-1.01 E+04	1.2E+04	5.3E-01
0	-1.16 E+04	1.1E+04	5.4E-01
0	-1.29 E+04	9.8E+03	5.5E-01
0	-1.40 E+04	8.8E+03	5.5E-01
0	-1.50 E+04	7.9E+03	5.6E-01

Plot

Nv Nq



CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==>	DDE
Landscape ==>	Calif. Residential Site (CA Res.)
Exposure Factors Set=>	(Residential) Exposure Factors

Toxicity Data ==>	potencies 1/(mg/kg-d)	ADIs (mg/kg-d)
Inhalation	3.4 E-01	0
Ingestion	3.4 E-01	0
Dermal	3.4 E-01	0
Total dose		0

	Risk	Hazard quotie
Target Risk/Hazard =	1.0 E-06	1.00

	current value	should be >
Root-soil thickness ===>	1.4	OK
Alter root soil thickness to?	n/a	
Distance off-site for air exposure=	0.0 E+00	meters
Time after initial concentrations when exposure begins =	3.7 E+02	days

Measured Concentrations (at time = 0)

Root-zone soil	318	ppm (mg/kg)
Vadose-zone soil	0	ppm (mg/kg)
Ground water	0	ppm (mg/L)
Methane flux m/d		0

Continuous inputs

Source term to air (mol/d)	0.0 E+00	Sa
Source term to ground-surface soil (mol/d)	0.0 E+00	Sg
Source term to root-zone soil (mol/d)	0.0 E+00	Ss
Source term to surface water(mol/d)	0.0 E+00	Sw

Aquifer characteristics

	Distance to first well (m)	0.0 E+00	d_well
0.001341446	Darcy veleocity (m/d)	1.0 E-01	v_darc
	Water dispersion coeff. (m2/d)	5.0 E-02	D_T

Summary of Results:

See Warnings Please

Un-mitigated risk and/or hazard ratio

Risk	5.9 E-4		
Hazard ratio	0.0 E+0		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	5.4 E-1	Non-linear
Vadose soil	0.0 E+0	not avlbl.
		Root Soil 5.4 E-1
		Vadose soil n/a

Based on hazard:

Root soil	0.0 E+0	not avlbl.
Vadose soil	0.0 E+0	not avlbl.

Concentration limits without NAPL

Root soil	5.1 E+01	mg/kg solid
Vadose soil	1.3 E+01	mg/kg solid
Ground water	5.5 E-02	mg/L water

Time avrg. Conc. in on-site environmental media

Air	4.7 E-04	mg/m3
Total Leaf	7.3 E-01	mg/kg(total)
Grnd-surface soil	4.3 E+01	mg/kg(total)
Root-zone soil	5.1 E+01	mg/kg(total)
Vadose-zone soil	2.2 E-03	mg/kg(total)
Ground water	5.2 E-05	mg/L(water)
Surface water	5.9 E-02	mg/L
Sediment	3.4 E+01	mg/kg

Chemical Properties

0.00297 0.003 .... 1 -5.9 E+04

Compound	DDE		Value used	Mean value	Coeff. Var.	Adjustment	Notes
Molecular weight (g/mol)		MW	3.18 E+02	3.18E+02	0.01	1	
Octanol-water partition coefficient		Kow	3.95 E+06	3.95E+06	1.03	1	
Melting point (K)		Tm	3.62 E+02	3.62E+02	0.03	1	
Vapor Pressure in (Pa)		VP	8.43 E-04	8.43E-04	0.49	1	
Solubility in mol/m3		S	1.71 E-04	1.71E-04	0.96	1	Kaw
Henry's law constant (Pa-m^3/mol)		H -	4.92 E+00	-9.90E+01	0.46	1	0.0020481
Diffusion coefficient in pure air (m2/d)		Dair	1.24 E-01	1.24E-01	0.08	1	1.44 E-06
Diffusion coefficient; pure water (m2/d)		Dwater	5.91 E-05	5.91E-05	0.25	1	6.84 E-10
Organic carbon partition coefficient Koc		**Koc -**	8.64 E+04	8.64E+04	0.85	1	m^2/s
Ocatanol/air partition coefficient		**Koa -**	1.93 E+09	-9.90E+01	0.10	1	
Partition coefficient in ground/root soil layer		**Kd_s -**	1.08 E+03	-9.90E+01	0.10	1	
Partition coefficient in vadose-zone soil layer		**Kd_v -**	2.64 E+02	-9.90E+01	0.10	1	
Partition coefficient in aquifer layer		**Kd_q -**	2.64 E+02	-9.90E+01	0.10	1	
Partition coeffic. in surface wtr sediments		**Kd_d -**	1.73 E+03	-9.90E+01	0.10	1	
NOT USED		Kps -	1.18 E-03	-9.90E+01	4.00	1	
Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)		**Kl_phl -**	7.99 E+02	-9.90E+01	0.10	1	
Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])		**Ks_x -**	1.37 E+04	-9.90E+01	0.10	1	
Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])		**TSCF -**	7.98 E-03	-9.90E+01	0.10	1	
Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])		**Kpa -**	4.70 E+03	-9.90E+01	14.00	1	
Biotransfer factor; cattle-diet/milk (d/kg[milk])		**Bk -**	3.14 E-02	-9.90E+01	11.00	1	
Biotransfer factor; cattle-diet/meat (d/L)		**Bt -**	9.92 E-02	-9.90E+01	13.00	1	
Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])		**Be -**	6.26 E-01	-9.90E+01	14.00	1	
Biotrnsfr fctr; brst mlk/mthr intake (d/kg)		**Bbmk -**	7.90 E-01	-9.90E+01	10.00	1	
Bioconcentration factor; fish/water		**BCF -**	1.90 E+05	-9.90E+01	0.60	1	
Particle scavenging ratio of rain drops		**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
Skin permeability coefficient; cm/h		**Kp_w -**	1.05 E+00	-9.90E+01	2.40	1	
Skin-water/soil partition coefficient (L/kg)		**Km -**	1.00 E+00	-9.90E+01	1.30	1	
Fraction dermal uptake from soil		**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0**. Otherwise the liste value is used.

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	4.06 E+00	4.06E+00	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	3.21 E+03	3.21E+03	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	3.21 E+03	3.21E+03	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	5.70 E+03	5.70E+03	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	5.70 E+03	5.70E+03	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	3.37 E+00	3.37E+00	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	2.86 E+03	2.86E+03	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	3.21 E+03	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

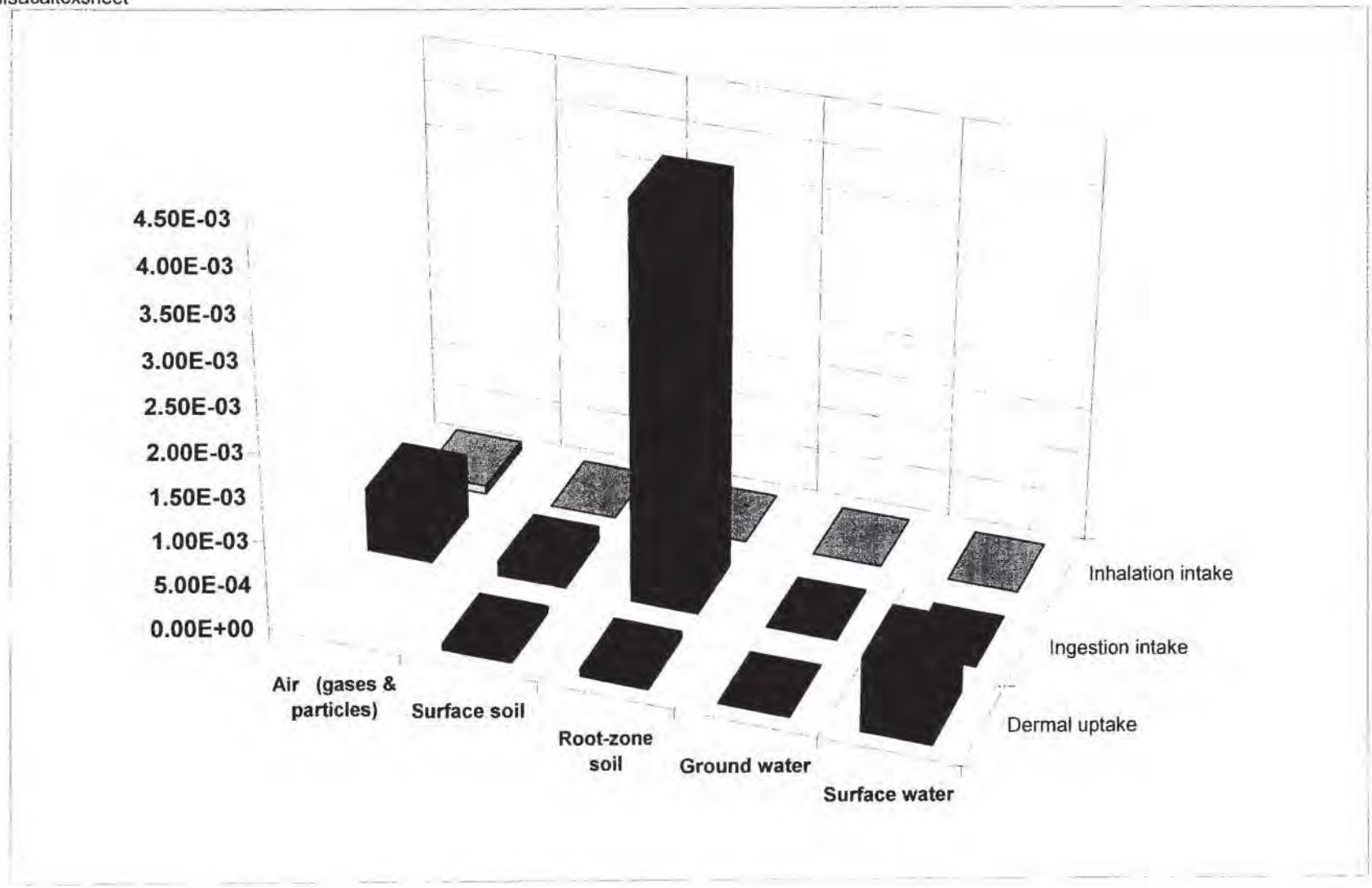
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prtn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	9.79E-05	2.99E-07	2.27E-06	0.00E+00	0.00E+00	**1.00E-04**	1.56
INGESTION:							
Water				0.00E+00	8.53E-07	8.53E-07	0.01
Exposed produce	7.28E-04	1.66E-04	2.70E-06	0.00E+00	0.00E+00	8.97E-04	13.88
Unexposed produce			4.46E-03	0.00E+00	0.00E+00	4.46E-03	69.08
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		1.38E-07	1.65E-07			3.04E-07	0.00
Total ingestion	7.28 E-04	1.66 E-04	4.46 E-03	0.00 E+00	8.53 E-07	**5.36 E-03**	82.98
DERMAL UPTAKE		7.22E-05	8.64E-05	0.00E+00	8.40E-04	**9.99E-04**	15.46
Dose SUM	**8.26E-04**	**2.39E-04**	**4.55E-03**	**0.00E+00**	**8.41E-04**	**6.46E-03**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	4.27 E-02	1.23 E-02	2.35 E-01	0.00 E+00	4.34 E-02	3.34 E-01
						dose_bm
Infant dose	4.69 E-03	1.36 E-03	2.59 E-02	0.00 E+00	4.78 E-03	**3.67 E-02**

Ingestion dose used =>	7.60 E-03
Total dose used =>	8.70 E-03

ENVIRONMENTAL Media	Air (gases) mg/m^3 (air)	Air (dust) mg/m^3 (air)	Ground soil mg/kg(soil solids)	Root soil mg/kg(soil solids)	Ground water mg/L (pure)	Surface water mg/L (pure)
CONCENTRATIONS	4.55 E-04	1.33 E-05	4.90E+01	5.86 E+01	5.19 E-05	2.49 E-02

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	4.55 E-04	1.33 E-05	1.47 E-06	1.12 E-05	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	4.55 E-04	1.33 E-05				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	7.10 E-01	2.07 E-02	1.67 E-01	2.71 E-03	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				7.16 E+00	0.00 E+00	0.00 E+00
Meat (mg/kg)	4.23 E+00	1.23 E-01	9.92 E-01	1.62 E-02	0.00 E+00	0.00 E+00
Milk (mg/kg)	1.89 E+00	5.53 E-02	4.44 E-01	7.24 E-03	0.00 E+00	0.00 E+00
Eggs (mg/kg)	5.39 E-02	1.57 E-03	1.25 E-02	2.04 E-04	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						4.72 E+03
Household soil (mg/kg)			2.45 E+01	2.93 E+01		
Swimming water (mg/L)						5.93 E-02

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE Media	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	8.87 E-02
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	3.37 E-02

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	5.9 E-09	3.2 E-07	5.9 E-08	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
2.4	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
3.8	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
5.2	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
6.6	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
8	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
9.4	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
10.8	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
12.2	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
13.6	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
15	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
Cumulative doses				33.00158383		
over ED by route, mg/kg	5.1 E-01	2.7 E+01	5.1 E+00	3.3 E+01	3.3 E+01	0.0 E+00
fraction	0.0156	0.8298	0.1546	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	1.0 E-04	5.4 E-03	1.0 E-03	6.5 E-03	6.5 E-03	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	1.0 E-04	7.6 E-03	1.0 E-03	5.1 E-02	6.5 E-03	0.0 E+00
fraction	0.0020	0.1504	0.0198	0.1721	1.000	0.000

Max breast-milk dose	4.9 E-02	mg/kg-d	Max_ing	4.9 E-02

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 3.4 E-01 mol/day
bbb2 = 1.1 E-03 bbb4 = 2.6 E+01
bbb3 = 1.7 E-01 bbb5 = 5.6 E-03

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	4.6 E-04	**mg/m3**	3.4 E-06	3.4 E-06	air
Off-site concentration (particles)	1.3 E-05	**mg/m3**			
Off-site surface-water concentrtn.	1.3 E-04	**mg/L**	1.9 E-06	3.9 E-04	water
Off-site surface soil concentration	2.4 E-01	**mg/kg**	3.5 E-06	7.0 E-04	ground soil
Off-site root-soil concentration	8.9 E-02	**mg/kg**	1.3 E-06	8.4 E-04	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	3.5 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01	m/d
Contaminant velocity	Vc	2.1 E-04	m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02	m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	1.0 E-04	m2/d
Dispersion depth	dzz	10.4	m
Thickness of aquifer	d_q	30	m
Transverse dispersivity (chem)	alpha_t	5.0 E-01	m
Width of the contaminated area	Y	216	m
Distrance to off-site location	X	0	m
Mass tranfer rate, aquifer - out	T_qo	9.6 E-07	1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	2.03E-01	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	5.91E-04	del_aw		
bndry lyr thickness in wtr below air (m)	2.46E-04	del_wa		
diffusion length in surface soil (m)	1.37E-02	del_g		
diffusion length in upper soil (m)	6.68E-01	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	3.55E-04	del_dw		
Initial concentration in soil (mol/m3)	1.61E+00	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	1.87E+01	tlag		
Skin/water partition coefficient	4.73E+04	Km		
Reaction rate constant in air (1/d)	1.71E-01	Ra		
Reaction rate constant, ground soil (1/d)	2.16E-04	Rg		
Reaction rate constant, root-zone soil (1/d)	2.16E-04	Rs		
Reaction rate constant, vadose-zone soil (1/d)	1.22E-04	Rv		
Reaction rate constant, ground water (1/d)	1.22E-04	Rq		
Reaction rate constant, surface water (1/d)	2.06E-01	Rw		
Reaction rate constant, sediment (1/d)	1.35E-08	Rd		
Reaction rate constant in leaf surface (1/d)	2.16E-04	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.74E+01	mtc_s		
cuticular conductance (m/d)	1.17E+01	mtc_c		
air side conductance over leaf (m/d)	6.22E+01	mtc_a		
cuticle water permeance (m/d)	2.40E-02	mtc_l		
conductance air/cuticle (m/d)	9.87E+00	mtc_ct		
conductance air/stomata (m/d)	1.36E+01	mtc_st		
root-soil / stem transfer factor	1.94E-09	x_rs		
stem / leaf transfer factor	1.16E-06	x_sl		
leaf / stem transfer factor	2.33E-05	p_ls		
stem / root-soil transfer factor	5.80E-08	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
0 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
1 Risk from breast milk exposure is large compared to other ingestion pathways
1 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
2 total

Fugacity (Pa)

Air	fa	3.44E-06
Cuticle	fc	1.06E-06
Leaf	fl	1.92E-06
Ground	fg	7.05E-04
Root	fs	8.43E-04
Vadose	fv	1.44E-07
Water	fw	3.85E-04
Sediment	fd	3.29E-04
Groundwater	fq	8.03E-07

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

phi 2.83E-02

Fugacity Capacities (mol/m^3 per Pa)

Zap	5.13E+05	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	5.68E+02	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	5.68E+02	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	1.40E+02	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	9.13E+02	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	9.13E+02	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	1.40E+02	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	1.65E+03	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.28E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	1.43E+05	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	1.62E+02	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	3.08E+02	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	3.07E+02	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	7.85E+01	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	4.84E-01	fugacity capacity of water compartment in mol/m3-Pa
Zd	7.31E+02	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	9.78E+01	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d

Compartment	Phase	Compartment		Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y		Overall intercompartment mass transfer rate constants (1/day) T			Compartment Interface
					one-sided	both-sides	Diffusion	Advection	Total	
Dair	1.24E-01	Da	1.21E-01	5.91E-04	8.51E-02	3.10E-02	4.46E-04	1.00E-04	5.46E-04	air-water, T_aw
Dwater	5.91E-05	Dw	2.48E-05	2.46E-04	4.88E-02		1.28 E-02		1.28E-02	water-air, T_wa
Dair_g	7.17E-03	Dg	1.20E-04	5.00E-03	1.04E-02	1.03E-02	1.48E+00	3.54E-01	1.84E+00	air-ground, T_ag
Dwater_g	1.15E-06			1.37E-02	2.71E+00		6.70E-03	4.36E-06	6.71E-03	ground-air, T_ga
Dair_s	6.06E-03	Ds	1.20E-04	1.37E-02	2.71E+00	5.41E-02	3.51E-02	7.36E-06	3.51E-02	ground-soil, T_gs
Dwater_s	1.45E-06			6.68E-01	5.52E-02		1.26E-04	0.00E+00	1.26E-04	soil-ground, T_sg
Dair_v	5.25E-03	Dv	1.20E-04	6.68E-01	5.52E-02	1.12E-02		2.64E-08	2.64E-08	soil-vadose, T_sv
Dwater_v	1.50E-06			6.69E-01	1.41E-02					vadose-soil, T_vs
Dwater_d	6.91E-06	Dd	1.92E-09	2.00E-02	1.43E-03	1.05E-03	4.34E-04	1.52E+00	1.52E+00	water-sediment, T_wd
				3.55E-04	3.96E-03		2.88E-05	1.18E-01	1.18E-01	sediment-water, T_dw
							4.28E+00	6.49E-01	4.93E+00	air-cuticle, T_ac
							1.42E-02	2.48E-03	1.67E-02	cuticle-air, T_ca
							2.95E+00		2.95E+00	air - leaf T_al
							9.19E-02		9.19E-02	leaf-air, T_la
							1.69E-02		1.69E-02	cuticle-leaf, T_cl
							1.57E-01		1.57E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
								2.74E-03	2.74E-03	leaf-ground T_lg
								5.79E-08	5.79E-08	leaf-soil, T_ls
								1.93E-09	1.93E-09	soil-leaf, T_sl
									0.00E+00	ground-cuticle, T_gc
								7.22E-08	7.22E-08	vadose-aquifer, T_vq
								2.50E-05	2.50E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								1.01E-04	1.01E-04	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	4.64E-04	C0_1	1.06E+05
aaa2	8.59E-05	C0_2	0.00E+00
aaa3	2.20E-05	S_1	0.00E+00
aaa4	3.56E-12	S_2	0.00E+00
aaa5	2.99E-03	AA	4.47E-04
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	2.64E-08
bbb3	0.00E+00	DDD	1.22E-04
ccc1	2.20E-01	Gam1	-1.22E-04
ccc2	3.95E+00	Gam2	-4.47E-04
ccc3	3.06E+02	Gm1mGm2	3.25E-04
ccc4	1.23E-01	Gam1p	4.47E-04
ccc5	4.77E+00	Gam2p	1.22E-04
ccc6	9.61E-02	Gm1mGm2p	3.25E-04

aaa6	1.06E+05
aaa7	2.43E+01
aaa8	-2.43E+01
bbb4	0.00E+00
bbb5	0
Lam1	0.000236

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.07E+02	1.12E-03	1.47E-09	0.00%	1.10E+02	1.10E+02	3.25E-03
leaf	l	2.51E-01	2.03E-02	3.11E-04	0.00%	1.62E+00	1.62E+00	3.98E+00
cuticle	c	8.36E-02	1.04E-01	1.52E-01	0.00%	2.77E+00	2.77 E+00	1.20E+01
ground-soil	g	4.21E-02	5.08E+01	2.17E-01	0.30%	6.80E+02	6.81E+02	2.37E+01
root-soil	s	3.41E-04	1.70E+04	2.59E-01	99.05%	5.68E+02	1.84E+03	2.93E+03
vadose-zone	v	1.22E-04	1.06E+00	1.13E-05	0.01%	1.42E-01	4.09E-02	8.22E+03
surface water	w	2.70E+00	4.37E-03	1.86E-04	0.00%	3.75E+00	3.75E+00	3.70E-01
sediment	d	1.18E-01	5.63E-02	2.40E-01	0.00%	2.12E+00	2.12E+00	8.46E+00
aquifer	q	1.22E-04	1.10E+02	7.86E-05	0.64%	2.43E-05	4.30E+00	8.16E+03

Mass Flows (g/d)

air-ground	6.54E-01	Tag*Na*MW
air-water	1.95E-04	Taw*Na*MW
air-out	1.06E+02	Tao*Na*MW
air-leaves	1.05E+00	Tal*Na*MW
air-leaf surfaces	1.76E+00	Tac*Na*MW
air-transform	6.09E-02	Ra*Na*MW
leaves-air	5.94E-01	Tla*Nl*MW
leaves-leaf surfaces	1.01E+00	Tlc*Nl*MW
leaves-ground	1.77E-02	Tlg*Nl*MW
leaves-soil	3.74E-07	Tls*Nl*MW
leaf-surface - air	5.53E-01	Tca*Nc*MW
leaf-surfaces - leaves	5.60E-01	Tcl*Nc*MW
leaf-surfaces - ground	1.65E+00	Tcg*Nc*MW
leaf surfaces-trnsfrm	7.15E-03	Rls*Nc*MW
ground-air	1.08E+02	Tga*Ng*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW
ground-soil	5.68E+02	Tgs*Ng*MW

ground-water	1.63E+00	Tgw*Ng*MW
ground-trnsfrm	3.49E+00	Rg*Ng*MW
soil-ground	6.79E+02	Tsg*Ns*MW
soil-leaves	1.04E-02	Tsl*Ns*MW
soil-vadose	1.42E-01	Tsv*Ns*MW
soil-trnsfrm	1.17E+03	Rs*Ns*MW
vadose-aquifer	2.43E-05	Tvq*Nv*MW
vadose-trnsfrm	4.09E-02	Rv*Nv*MW
aquifer-removal	4.30E+00	Lq*Nq*MW
water-air	1.78E-02	Twa*Nw*MW
water-sediment	2.12E+00	Twd*Nw*MW
water-out	1.33E+00	Two*Nw*MW
water-trnsfrm	2.86E-01	Rw*Nw*MW
sediment-water	2.12E+00	Tdw*Nd*MW
sedmnt-trnsfrm	2.42E-07	Rd*Nd*MW
sediment-out	4.48E-04	Tdo*Nd*MW

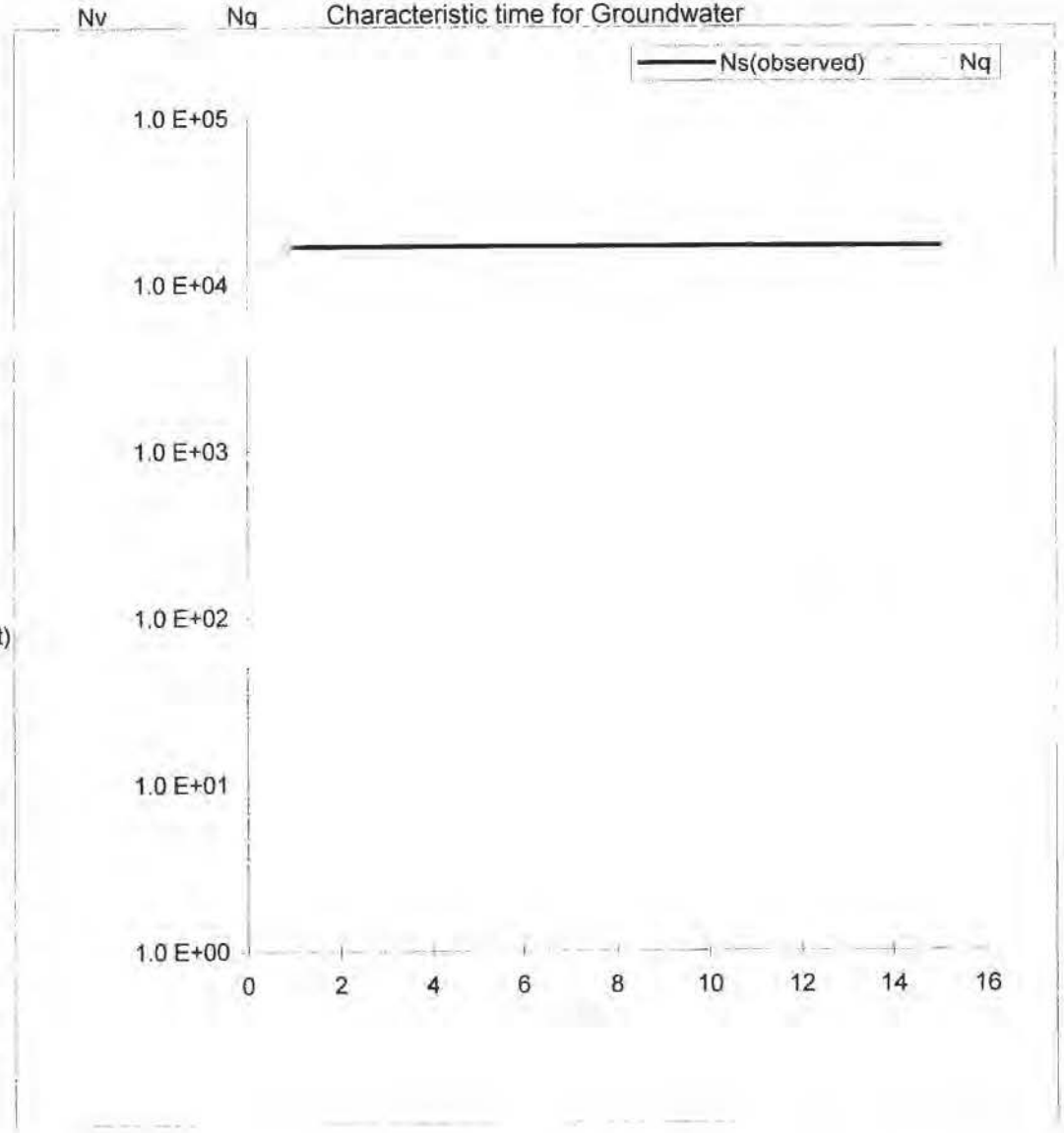
Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	1.7 E+04	1.7 E+01
2.4	876	1.7 E+04	3.9 E+01
3.8	1387	1.7 E+04	6.0 E+01
5.2	1898	1.7 E+04	7.9 E+01
6.6	2409	1.7 E+04	9.8 E+01
8	2920	1.7 E+04	1.1 E+02
9.4	3431	1.7 E+04	1.3 E+02
10.8	3942	1.7 E+04	1.5 E+02
12.2	4453	1.7 E+04	1.6 E+02
13.6	4964	1.7 E+04	1.7 E+02
15	5475	1.7 E+04	1.9 E+02

		Ns(0)[total]	
		1.1 E+05	
	const_sat	Ns(sat)	
	-4.014391829	1.7E+04	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
22089.305	1.04 E+05	1.0E+05	1.6E-01
22089.305	1.02 E+05	1.0E+05	3.7E-01
22089.305	1.00 E+05	1.0E+05	5.7E-01
22089.305	9.80 E+04	9.8E+04	7.6E-01
22089.305	9.60 E+04	9.6E+04	9.3E-01
22089.305	9.39 E+04	9.4E+04	1.1E+00
22089.305	9.19 E+04	9.2E+04	1.3E+00
22089.305	8.98 E+04	9.0E+04	1.4E+00
22089.305	8.78 E+04	8.8E+04	1.5E+00
22089.305	8.57 E+04	8.6E+04	1.7E+00
22089.305	8.37 E+04	8.4E+04	1.8E+00

Plot

Nv Nq Characteristic time for Groundwater



CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==>	DDT		
Landscape ==>	Calif. Residential Site (CA Res.)		
Exposure Factors Set=>	(Residential) Exposure Factors		
		potencies	ADIs
Toxicity Data ==>		1/(mg/kg-d)	(mg/kg-d)
	Inhalation	3.4 E-01	0.0005
	Ingestion	3.4 E-01	0.0005
	Dermal	3.4 E-01	0.0005
	Total dose		0
		Risk	Hazard quotie
Target Risk/Hazard =		1.0 E-06	1.00
		current value	**should be >**
Root-soil thickness ===>		**1.4**	**OK**
Alter root soil thickness to?		n/a	
Distance off-site for air exposure=		0.0 E+00	meters
Time after initial concentrations when exposure begins =		3.7 E+02	days
Measured Concentrations	**(at time = 0)**		
	Root-zone soil	13820	ppm (mg/kg)
	Vadose-zone soil	0	ppm (mg/kg)
	Ground water	0	ppm (mg/L)
Continuous inputs	Methane flux m/d		0
	Source term to air (mol/d)	0.0 E+00	Sa
	Source term to ground-surface soil (mol/d)	0.0 E+00	Sg
	Source term to root-zone soil (mol/d)	0.0 E+00	Ss
	Source term to surface water(mol/d)	0.0 E+00	Sw
Aquifer characteristics			
	Distance to first well (m)	0.0 E+00	d_well
0.001341446	Darcy veleocity (m/d)	1.0 E-01	v_darc
	Water dispersion coeff. (m2/d)	5.0 E-02	D_T

Summary of Results:

See Warnings Please

Un-mitigated risk and/or hazard ratio

Risk	6.8 E-5		
Hazard ratio	4.0 E+0		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	**2.0 E+2**	**Non-linear**
Vadose soil	**0.0 E+0**	**not avlbl.**

Based on hazard:

Root soil	**3.5 E+3**	**Non-linear**
Vadose soil	**0.0 E+0**	**not avlbl.**

Root Soil	**2.0 E+2**
Vadose soil	**n/a**

Concentration limits without NAPL

Root soil	2.4 E+01	mg/kg solid
Vadose soil	6.1 E+00	mg/kg solid
Ground water	7.3 E-03	mg/L water

Time avrg. Conc. in on-site environmental media

Air	1.4 E-04	mg/m3
Total Leaf	5.3 E-02	mg/kg(total)
Grnd-surface soil	2.2 E+01	mg/kg(total)
Root-zone soil	2.4 E+01	mg/kg(total)
Vadose-zone soil	2.9 E-04	mg/kg(total)
Ground water	5.3 E-06	mg/L(water)
Surface water	1.8 E-02	mg/L
Sediment	1.5 E+01	mg/kg

Chemical Properties

0.00297 0.003 .... 1 -6.7 E+03

Compound	DDT		Value used	Mean value	Coeff. Var.	Adjustment	Notes
Molecular weight (g/mol)		MW	3.55 E+02	3.55E+02	0.01	1	
Octanol-water partition coefficient		Kow	1.38 E+06	1.38E+06	0.51	1	
Melting point (K)		Tm	3.82 E+02	3.82E+02	0.03	1	
Vapor Pressure in (Pa)		VP	2.26 E-04	2.26E-04	1.93	1	
Solubility in mol/m3		S	2.06 E-05	2.06E-05	1.52	1	Kaw
Henry's law constant (Pa-m^3/mol)		H -	1.10 E+01	-9.90E+01	0.46	1	0.004568
Diffusion coefficient in pure air (m2/d)		Dair	1.18 E-01	1.18E-01	0.08	1	1.37 E-06
Diffusion coefficient; pure water (m2/d)		Dwater	5.49 E-05	5.49E-05	0.25	1	6.36 E-10
Organic carbon partition coefficient Koc		**Koc -**	3.09 E+05	3.09E+05	0.74	1	m^2/s
Ocatanol/air partition coefficient		**Koa -**	3.03 E+08	-9.90E+01	0.10	1	
Partition coefficient in ground/root soil layer		**Kd_s -**	3.84 E+03	-9.90E+01	0.10	1	
Partition coefficient in vadose-zone soil layer		**Kd_v -**	9.44 E+02	-9.90E+01	0.10	1	
Partition coefficient in aquifer layer		**Kd_q -**	9.44 E+02	-9.90E+01	0.10	1	
Partition coeffic. in surface wtr sediments		**Kd_d -**	6.18 E+03	-9.90E+01	0.10	1	
NOT USED		Kps -	2.17 E-03	-9.90E+01	4.00	1	
Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)		**Kl_phl -**	2.80 E+02	-9.90E+01	0.10	1	
Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])		**Ks_x -**	5.04 E+03	-9.90E+01	0.10	1	
Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])		**TSCF -**	2.35 E-02	-9.90E+01	0.10	1	
Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])		**Kpa -**	7.56 E+02	-9.90E+01	14.00	1	
Biotransfer factor; cattle-diet/milk (d/kg[milk])		**Bk -**	1.10 E-02	-9.90E+01	11.00	1	
Biotransfer factor; cattle-diet/meat (d/L)		**Bt -**	3.48 E-02	-9.90E+01	13.00	1	
Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])		**Be -**	2.19 E-01	-9.90E+01	14.00	1	
Biotrnsfr fctr; brst mlk/mthr intake (d/kg)		**Bbmk -**	2.77 E-01	-9.90E+01	10.00	1	
Bioconcentration factor; fish/water		**BCF -**	1.65 E+04	1.65E+04	0.60	1	
Particle scavenging ratio of rain drops		**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
Skin permeability coefficient; cm/h		**Kp_w -**	3.00 E-01	-9.90E+01	2.40	1	
Skin-water/soil partition coefficient (L/kg)		**Km -**	1.00 E+00	-9.90E+01	1.30	1	
Fraction dermal uptake from soil		**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0.** Otherwise the liste value is used.

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	4.06 E+00	4.06E+00	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	9.17 E+03	9.17E+03	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	9.17 E+03	9.17E+03	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	5.70 E+03	5.70E+03	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	5.70 E+03	5.70E+03	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	1.79 E+02	1.79E+02	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	2.86 E+03	2.86E+03	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	9.17 E+03	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

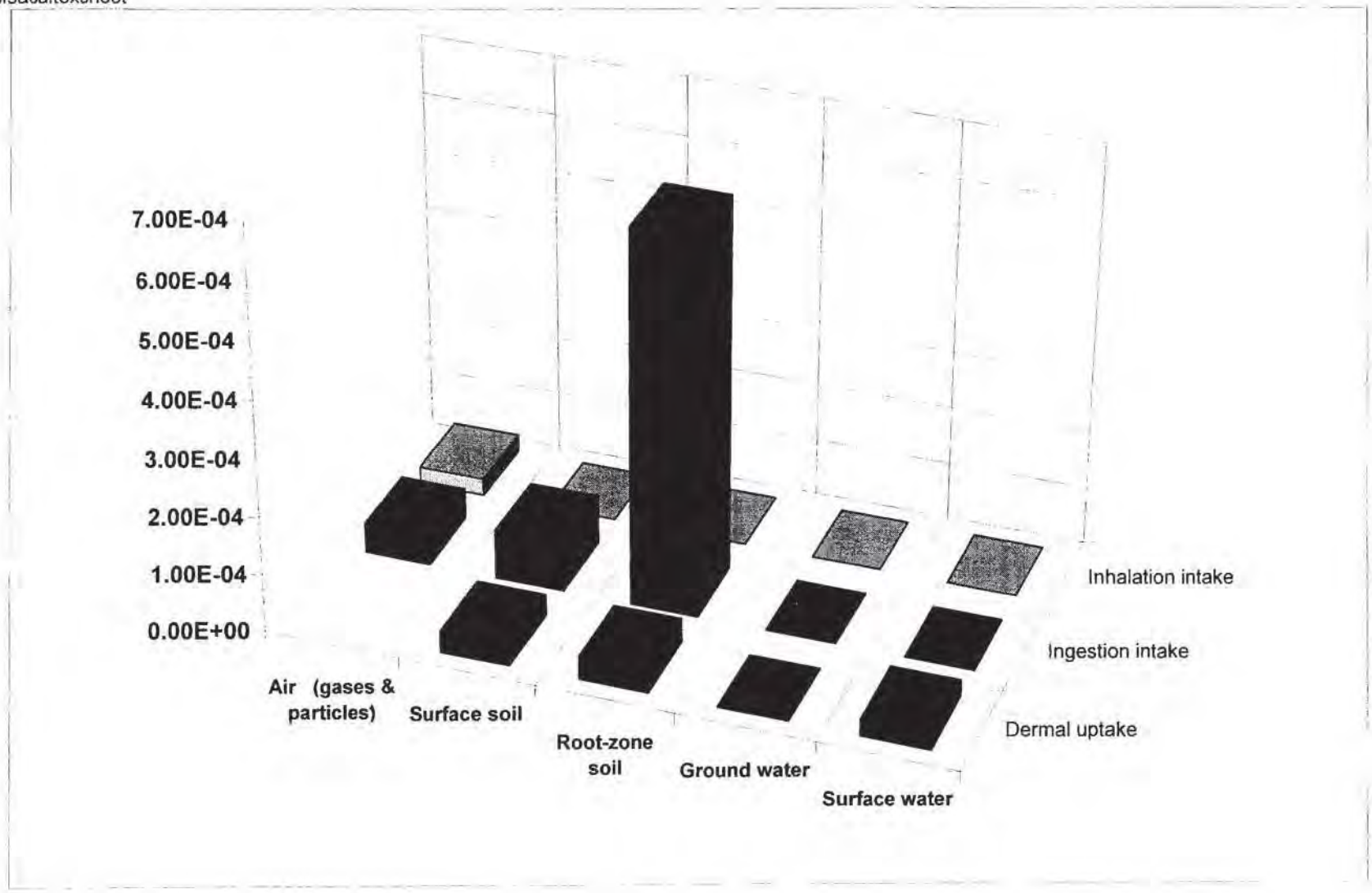
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prtn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	3.03E-05	1.53E-07	6.78E-07	0.00E+00	0.00E+00	**3.11E-05**	3.35
INGESTION:							
Water				0.00E+00	2.58E-07	2.58E-07	0.03
Exposed produce	5.28E-05	8.52E-05	4.87E-07	0.00E+00	0.00E+00	1.38E-04	14.92
Unexposed produce			6.50E-04	0.00E+00	0.00E+00	6.50E-04	70.10
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		7.10E-08	7.92E-08			1.50E-07	0.02
Total ingestion	5.28 E-05	8.53 E-05	6.51 E-04	0.00 E+00	2.58 E-07	**7.89 E-04**	85.07
DERMAL UPTAKE		3.71E-05	4.14E-05	0.00E+00	2.90E-05	**1.07E-04**	11.58
Dose SUM	**8.30E-05**	**1.22E-04**	**6.93E-04**	**0.00E+00**	**2.93E-05**	**9.28E-04**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	1.50 E-03	2.22 E-03	1.25 E-02	0.00 E+00	5.30 E-04	1.68 E-02
						dose_bm
Infant dose	1.65 E-04	2.44 E-04	1.38 E-03	0.00 E+00	5.83 E-05	**1.85 E-03**

Ingestion dose used =>	8.65 E-04
Total dose used =>	1.00 E-03

ENVIRONMENTAL Media	Air (gases) mg/m^3 (air)	Air (dust) mg/m^3 (air)	Ground soil mg/kg(soil solids)	Root soil mg/kg(soil solids)	Ground water mg/L (pure)	Surface water mg/L (pure)
CONCENTRATIONS	1.44 E-04	6.61 E-07	2.51E+01	2.81 E+01	5.30 E-06	3.02 E-03

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	1.44 E-04	6.61 E-07	7.54 E-07	3.33 E-06	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	1.44 E-04	6.61 E-07				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	5.27 E-02	2.41 E-04	8.55 E-02	4.89 E-04	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				1.04 E+00	0.00 E+00	0.00 E+00
Meat (mg/kg)	1.11 E-01	5.06 E-04	1.78 E-01	1.02 E-03	0.00 E+00	0.00 E+00
Milk (mg/kg)	4.94 E-02	2.26 E-04	7.99 E-02	4.57 E-04	0.00 E+00	0.00 E+00
Eggs (mg/kg)	1.46 E-03	6.67 E-06	2.25 E-03	1.29 E-05	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						5.00 E+01
Household soil (mg/kg)			1.26 E+01	1.40 E+01		
Swimming water (mg/L)						1.80 E-02

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE Media	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	2.52 E-02
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	9.60 E-03

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	4.3 E-09	1.1 E-07	1.5 E-08	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
2.4	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
3.8	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
5.2	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
6.6	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
8	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
9.4	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
10.8	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
12.2	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
13.6	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
15	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
Cumulative doses				4.74103441		
over ED by route, mg/kg	1.6 E-01	4.0 E+00	5.5 E-01	4.7 E+00	4.7 E+00	0.0 E+00
fraction	0.0335	0.8507	0.1158	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	3.1 E-05	7.9 E-04	1.1 E-04	9.3 E-04	9.3 E-04	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	3.1 E-05	8.6 E-04	1.1 E-04	2.1 E-03	9.3 E-04	0.0 E+00
fraction	0.0146	0.4049	0.0503	0.4697	1.000	0.000

Max breast-milk dose	2.0 E-03	mg/kg-d	Max_ing	2.0 E-03

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 9.3 E-02 mol/day

bbb2 = 3.1 E-04 bbb4 = 8.2 E+00

bbb3 = 2.1 E-02 bbb5 = 5.0 E-04

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	1.4 E-04	**mg/m3**	9.8 E-07	9.8 E-07	air
Off-site concentration (particles)	6.6 E-07	**mg/m3**			
Off-site surface-water concentrtn.	6.3 E-06	**mg/L**	1.9 E-07	9.4 E-05	water
Off-site surface soil concentration	5.0 E-02	**mg/kg**	4.1 E-07	2.0 E-04	ground soil
Off-site root-soil concentration	3.1 E-02	**mg/kg**	2.5 E-07	2.3 E-04	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	2.6 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01	m/d
Contaminant velocity	Vc	1.0 E-04	m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02	m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	2.9 E-05	m2/d
Dispersion depth	dzz	7.9	m
Thickness of aquifer	d_q	30	m
Transverse dispersivity (chem)	alpha_t	2.9 E-01	m
Width of the contaminated area	Y	216	m
Distrance to off-site location	X	0	m
Mass tranfer rate, aquifer - out	T_qo	4.6 E-07	1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	9.11E-02	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	5.94E-04	del_aw		
bndry lyr thickness in wtr below air (m)	2.29E-04	del_wa		
diffusion length in surface soil (m)	1.37E-02	del_g		
diffusion length in upper soil (m)	6.68E-01	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	1.41E-04	del_dw		
Initial concentration in soil (mol/m3)	6.28E+01	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	2.85E+01	tlag		
Skin/water partition coefficient	2.05E+04	Km		
Reaction rate constant in air (1/d)	1.71E-01	Ra		
Reaction rate constant, ground soil (1/d)	7.56E-05	Rg		
Reaction rate constant, root-zone soil (1/d)	7.56E-05	Rs		
Reaction rate constant, vadose-zone soil (1/d)	1.22E-04	Rv		
Reaction rate constant, ground water (1/d)	1.22E-04	Rq		
Reaction rate constant, surface water (1/d)	3.88E-03	Rw		
Reaction rate constant, sediment (1/d)	3.78E-09	Rd		
Reaction rate constant in leaf surface (1/d)	7.56E-05	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.66E+01	mtc_s		
cuticular conductance (m/d)	2.51E+00	mtc_c		
air side conductance over leaf (m/d)	5.92E+01	mtc_a		
cuticle water permeance (m/d)	1.15E-02	mtc_l		
conductance air/cuticle (m/d)	2.41E+00	mtc_ct		
conductance air/stomata (m/d)	1.29E+01	mtc_st		
root-soil / stem transfer factor	1.60E-09	x_rs		
stem / leaf transfer factor	3.14E-06	x_sl		
leaf / stem transfer factor	6.65E-05	p_ls		
stem / root-soil transfer factor	1.57E-07	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
0 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
1 Risk from breast milk exposure is large compared to other ingestion pathways
1 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
2 total

Fugacity (Pa)

Air	fa	9.77E-07
Cuticle	fc	4.39E-07
Leaf	fl	8.26E-07
Ground	fg	2.02E-04
Root	fs	2.26E-04
Vadose	fv	1.08E-08
Water	fw	9.36E-05
Sediment	fd	7.99E-05
Groundwater	fq	1.64E-07

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

phi 4.56E-03

Fugacity Capacities (mol/m^3 per Pa)

Zap	8.07E+04	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	9.11E+02	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	9.11E+02	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	2.24E+02	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	1.46E+03	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	1.46E+03	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	2.24E+02	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	2.59E+02	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.18E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	2.24E+04	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	2.55E+01	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	4.94E+02	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	4.92E+02	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	1.26E+02	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	5.42E-01	fugacity capacity of water compartment in mol/m3-Pa
Zd	1.17E+03	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	1.57E+02	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d				Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y		Overall intercompartment mass transfer rate constants (1/day) T			
Compartment Phase		Compartment			one-sided	both-sides	Diffusion	Advection	Total	Compartment Interface
Dair	1.18E-01	Da	1.18E-01	5.94E-04	8.26E-02	1.73E-02	2.55E-04	1.71E-05	2.72E-04	air-water, T_aw
Dwater	5.49E-05	Dw	9.24E-06	2.29E-04	2.19E-02		6.39 E-03		6.39E-03	water-air, T_wa
Dair_g	6.82E-03	Dg	1.20E-04	5.00E-03	9.86E-03	9.83E-03	1.45E+00	6.56E-02	1.51E+00	air-ground, T_ag
Dwater_g	1.07E-06			1.37E-02	4.34E+00		3.98E-03	4.36E-06	3.99E-03	ground-air, T_ga
Dair_s	5.76E-03	Ds	1.20E-04	1.37E-02	4.34E+00	8.66E-02	3.51E-02	2.06E-06	3.51E-02	ground-soil, T_gs
Dwater_s	1.35E-06			6.68E-01	8.84E-02		1.26E-04	0.00E+00	1.26E-04	soil-ground, T_sg
Dair_v	4.99E-03	Dv	1.20E-04	6.68E-01	8.84E-02	1.80E-02		7.37E-09	7.37E-09	soil-vadose, T_sv
Dwater_v	1.39E-06			6.68E-01	2.26E-02					vadose-soil, T_vs
Dwater_d	6.42E-06	Dd	5.00E-10	2.00E-02	1.49E-03	1.09E-03	4.04E-04	2.18E+00	2.18E+00	water-sediment, T_wd
				1.41E-04	4.14E-03		1.87E-05	1.18E-01	1.18E-01	sediment-water, T_dw
							1.07E+00	1.05E-01	1.18E+00	air-cuticle, T_ac
							2.21E-02	2.48E-03	2.46E-02	cuticle-air, T_ca
							2.88E+00		2.88E+00	air - leaf T_al
							5.56E-01		5.56E-01	leaf-air, T_la
							2.31E-02		2.31E-02	cuticle-leaf, T_cl
							2.14E-01		2.14E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
							aaa6 4.12E+06	2.74E-03	2.74E-03	leaf-ground T_lg
							aaa7 -9.23E+02	1.57E-07	1.57E-07	leaf-soil, T_ls
							aaa8 9.23E+02	1.60E-09	1.60E-09	soil-leaf, T_sl
							bbb4 0.00E+00		0.00E+00	ground-cuticle, T_gc
							bbb5 0	2.02E-08	2.02E-08	vadose-aquifer, T_vq
							Lam1 8.87E-05	2.50E-05	2.50E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								4.90E-05	4.90E-05	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	2.81E-04	C0_1	4.12E+06
aaa2	5.07E-05	C0_2	0.00E+00
aaa3	1.33E-05	S_1	0.00E+00
aaa4	4.49E-12	S_2	0.00E+00
aaa5	3.21E-03	AA	3.14E-04
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	7.37E-09
bbb3	0.00E+00	DDD	1.22E-04
ccc1	7.22E-01	Gam1	-1.22E-04
ccc2	3.16E+00	Gam2	-3.14E-04
ccc3	3.03E+02	Gm1mGm2	1.92E-04
ccc4	6.10E-01	Gam1p	3.14E-04
ccc5	2.11E+00	Gam2p	1.22E-04
ccc6	1.12E-01	Gm1mGm2p	1.92E-04

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.03E+02	3.11E-04	4.09E-10	0.00%	3.34E+01	3.34E+01	3.30E-03
leaf	l	7.73E-01	1.37E-03	2.11E-05	0.00%	3.77E-01	3.77E-01	1.29E+00
cuticle	c	9.75E-02	6.76E-03	9.84E-03	0.00%	2.34E-01	2.34 E-01	1.03E+01
ground-soil	g	3.92E-02	2.34E+01	9.99E-02	0.32%	3.25E+02	3.25E+02	2.55E+01
root-soil	s	2.01E-04	7.30E+03	1.11E-01	99.19%	2.91E+02	5.20E+02	4.97E+03
vadose-zone	v	1.22E-04	1.27E-01	1.36E-06	0.00%	1.91E-02	5.48E-03	8.23E+03
surface water	w	3.15E+00	1.19E-03	5.07E-05	0.00%	1.33E+00	1.33E+00	3.17E-01
sediment	d	1.18E-01	2.19E-02	9.36E-02	0.00%	9.19E-01	9.19E-01	8.46E+00
aquifer	q	1.22E-04	3.62E+01	2.57E-05	0.49%	9.11E-07	1.56E+00	8.20E+03

Mass Flows (g/d)

air-ground	1.67E-01	Tag*Na*MW
air-water	2.99E-05	Taw*Na*MW
air-out	3.28E+01	Tao*Na*MW
air-leaves	3.17E-01	Tal*Na*MW
air-leaf surfaces	1.30E-01	Tac*Na*MW
air-transform	1.88E-02	Ra*Na*MW
leaves-air	2.71E-01	Tla*Nl*MW
leaves-leaf surfaces	1.04E-01	Tlc*Nl*MW
leaves-ground	1.34E-03	Tlg*Nl*MW
leaves-soil	7.64E-08	Tls*Nl*MW
leaf-surface - air	5.90E-02	Tca*Nc*MW
leaf-surfaces - leaves	5.53E-02	Tcl*Nc*MW
leaf-surfaces - ground	1.19E-01	Tcg*Nc*MW
leaf surfaces-trnsfrm	1.81E-04	Rls*Nc*MW
ground-air	3.31E+01	Tga*Ng*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW
ground-soil	2.91E+02	Tgs*Ng*MW

ground-water	4.07E-01	Tgw*Ng*MW
ground-trnsfrm	6.27E-01	Rg*Ng*MW
soil-ground	3.25E+02	Tsg*Ns*MW
soil-leaves	4.13E-03	Tsl*Ns*MW
soil-vadose	1.91E-02	Tsv*Ns*MW
soil-trnsfrm	1.95E+02	Rs*Ns*MW
vadose-aquifer	9.11E-07	Tvq*Nv*MW
vadose-trnsfrm	5.48E-03	Rv*Nv*MW
aquifer-removal	1.56E+00	Lq*Nq*MW
water-air	2.69E-03	Twa*Nw*MW
water-sediment	9.19E-01	Twd*Nw*MW
water-out	4.02E-01	Two*Nw*MW
water-trnsfrm	1.63E-03	Rw*Nw*MW
sediment-water	9.18E-01	Tdw*Nd*MW
sedmnt-trnsfrm	2.93E-08	Rd*Nd*MW
sediment-out	1.94E-04	Tdo*Nd*MW

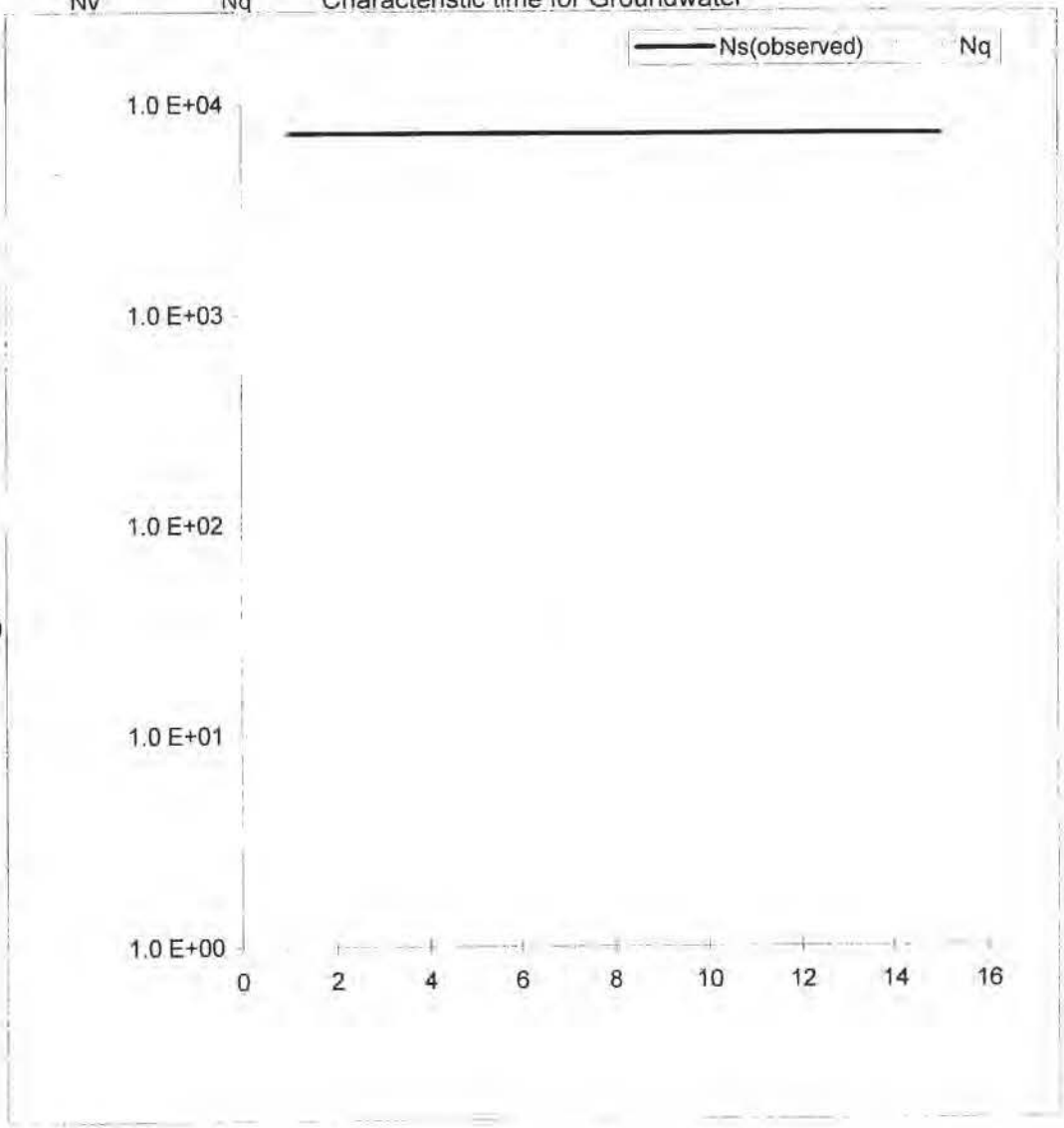
Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	7.3 E+03	5.5 E+00
2.4	876	7.3 E+03	1.3 E+01
3.8	1387	7.3 E+03	2.0 E+01
5.2	1898	7.3 E+03	2.6 E+01
6.6	2409	7.3 E+03	3.2 E+01
8	2920	7.3 E+03	3.8 E+01
9.4	3431	7.3 E+03	4.3 E+01
10.8	3942	7.3 E+03	4.8 E+01
12.2	4453	7.3 E+03	5.3 E+01
13.6	4964	7.3 E+03	5.7 E+01
15	5475	7.3 E+03	6.1 E+01

		Ns(0)[total]	
		4.1 E+06	
	const_sat	Ns(sat)	
	-0.646757481	7.3E+03	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
6358493	4.12 E+06	4.1E+06	1.9E-02
6358493	4.12 E+06	4.1E+06	4.5E-02
6358493	4.12 E+06	4.1E+06	6.9E-02
6358493	4.12 E+06	4.1E+06	9.1E-02
6358493	4.12 E+06	4.1E+06	1.1E-01
6358493	4.12 E+06	4.1E+06	1.3E-01
6358493	4.12 E+06	4.1E+06	1.5E-01
6358493	4.12 E+06	4.1E+06	1.7E-01
6358493	4.12 E+06	4.1E+06	1.9E-01
6358493	4.12 E+06	4.1E+06	2.0E-01
6358493	4.12 E+06	4.1E+06	2.2E-01

Plot

Nv Nq Characteristic time for Groundwater



CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==>	Dieldrin		
Landscape ==>	Calif. Residential Site (CA Res.)		
Exposure Factors Set=>	(Residential) Exposure Factors		
	potencies	ADIs	
Toxicity Data ==>	1/(mg/kg-d)	(mg/kg-d)	
Inhalation	1.6 E+01	0.00005	
Ingestion	1.6 E+01	0.00005	
Dermal	1.6 E+01	0.00005	
Total dose		0	
	Risk	Hazard quotie	
Target Risk/Hazard =	1.0 E-06	1.00	
	current value	should be >	
Root-soil thickness ===>	1.4	OK	
Alter root soil thickness to?	n/a		
Distance off-site for air exposure=	0.0 E+00	meters	
Time after initial concentrations when exposure begins =	3.7 E+02	days	
Measured Concentrations	**(at time = 0)**		
Root-zone soil	41	ppm (mg/kg)	
Vadose-zone soil	0	ppm (mg/kg)	
Ground water	0	ppm (mg/L)	
Continuous inputs	Methane flux m/d	0	
Source term to air (mol/d)	0.0 E+00	Sa	
Source term to ground-surface soil (mol/d)	0.0 E+00	Sg	
Source term to root-zone soil (mol/d)	0.0 E+00	Ss	
Source term to surface water(mol/d)	0.0 E+00	Sw	
Aquifer characteristics			
Distance to first well (m)	0.0 E+00	d_well	
0.001341446 Darcy veleocity (m/d)	1.0 E-01	v_darc	
Water dispersion coeff. (m2/d)	5.0 E-02	D_T	

Summary of Results:

Un-mitigated risk and/or hazard ratio

Risk	1.3 E-2		
Hazard ratio	3.3 E+2		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	3.2 E-3	Non-linear	
Vadose soil	0.0 E+0	not avlbl.	
		Root Soil	3.2 E-3
		Vadose soil	n/a

Based on hazard:

Root soil	1.3 E-1	Non-linear
Vadose soil	0.0 E+0	not avlbl.

Concentration limits without NAPL

Root soil	2.6 E+01	mg/kg solid
Vadose soil	6.4 E+00	mg/kg solid
Ground water	1.9 E-01	mg/L water

Time avrg. Conc. in on-site environmental media

Air	4.2 E-05	mg/m3
Total Leaf	9.2 E-02	mg/kg(total)
Grnd-surface soil	5.1 E+00	mg/kg(total)
Root-zone soil	6.0 E+00	mg/kg(total)
Vadose-zone soil	1.4 E-03	mg/kg(total)
Ground water	3.4 E-05	mg/L(water)
Surface water	4.4 E-02	mg/L
Sediment	7.2 E+00	mg/kg

Chemical Properties

0.00297 0.003 ... 1 -1.3 E+06

Compound	Dieldrin		Value used	Mean value	Coeff. Var.	Adjustment	Notes
Molecular weight (g/mol)		MW	3.81 E+02	3.81E+02	0.01	1	
Octanol-water partition coefficient		Kow	5.13 E+05	5.13E+05	1.22	1	
Melting point (K)		Tm	4.48 E+02	4.48E+02	0.03	1	
Vapor Pressure in (Pa)		VP	3.10 E-04	3.10E-04	1.00	1	
Solubility in mol/m3		S	4.96 E-04	4.96E-04	0.16	1	Kaw
Henry's law constant (Pa-m^3/mol)		H -	6.25 E-01	-9.90E+01	0.46	1	0.0002602
Diffusion coefficient in pure air (m2/d)		Dair	1.08 E-01	1.08E-01	0.08	1	1.25 E-06
Diffusion coefficient; pure water (m2/d)		Dwater	4.64 E-05	4.64E-05	0.25	1	5.37 E-10
Organic carbon partition coefficient Koc		**Koc -**	1.26 E+04	1.26E+04	0.56	1	m^2/s
Ocatanol/air partition coefficient		**Koa -**	1.97 E+09	-9.90E+01	0.10	1	
Partition coefficient in ground/root soil layer		**Kd_s -**	1.57 E+02	-9.90E+01	0.10	1	
Partition coefficient in vadose-zone soil layer		**Kd_v -**	3.85 E+01	-9.90E+01	0.10	1	
Partition coefficient in aquifer layer		**Kd_q -**	3.85 E+01	-9.90E+01	0.10	1	A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0**. Otherwise the liste value is used.
Partition coeffic. in surface wtr sediments		**Kd_d -**	2.52 E+02	-9.90E+01	0.10	1	
NOT USED		Kps -	3.86 E-03	-9.90E+01	4.00	1	
Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)		**Kl_phl -**	1.04 E+02	-9.90E+01	0.10	1	
Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])		**Ks_x -**	1.96 E+03	-9.90E+01	0.10	1	
Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])		**TSCF -**	5.71 E-02	-9.90E+01	0.10	1	
Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])		**Kpa -**	4.80 E+03	-9.90E+01	14.00	1	
Biotransfer factor; cattle-diet/milk (d/kg[milk])		**Bk -**	0.00 E+00	0.00E+00	11.00	1	
Biotransfer factor; cattle-diet/meat (d/L)		**Bt -**	0.00 E+00	0.00E+00	13.00	1	
Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])		**Be -**	8.12 E-02	-9.90E+01	14.00	1	
Biotrnsfr fctr; brst mlk/mthr intake (d/kg)		**Bbmk -**	1.03 E-01	-9.90E+01	10.00	1	
Bioconcentration factor; fish/water		**BCF -**	2.46 E+04	-9.90E+01	0.60	1	
Particle scavenging ratio of rain drops		**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
Skin permeability coefficient; cm/h		**Kp_w -**	1.02 E-01	-9.90E+01	2.40	1	
Skin-water/soil partition coefficient (L/kg)		**Km -**	1.00 E+00	-9.90E+01	1.30	1	
Fraction dermal uptake from soil		**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	9.27 E-01	9.27E-01	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	6.98 E+02	6.98E+02	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	6.98 E+02	6.98E+02	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	1.10 E+03	1.10E+03	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	1.10 E+03	1.10E+03	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	6.35 E+02	6.35E+02	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	5.48 E+02	5.48E+02	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	6.98 E+02	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

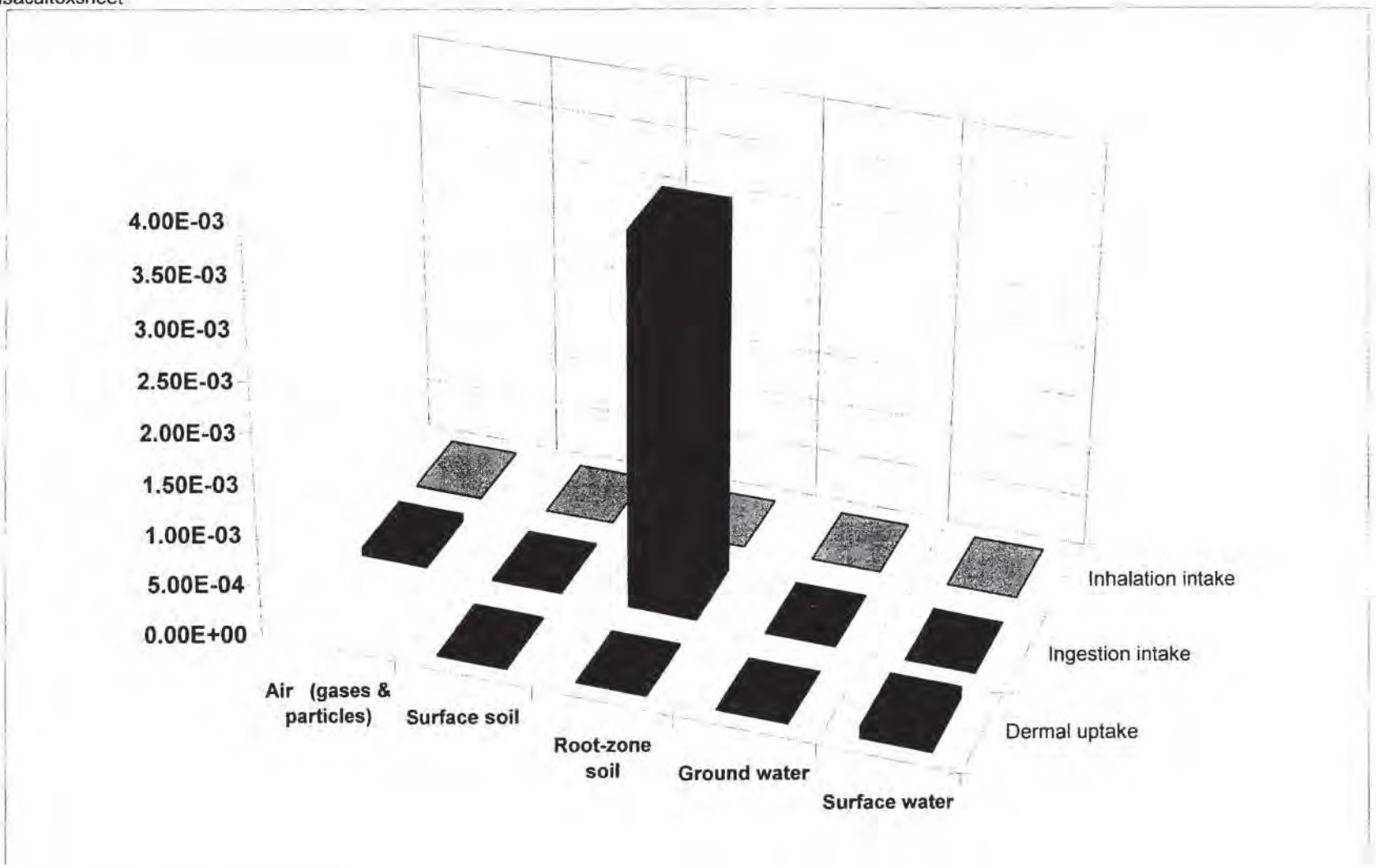
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prtn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	8.74E-06	3.53E-08	2.31E-07	0.00E+00	0.00E+00	**9.00E-06**	0.23
INGESTION:							
Water				0.00E+00	6.37E-07	6.37E-07	0.02
Exposed produce	7.73E-05	1.96E-05	1.44E-05	0.00E+00	0.00E+00	1.11E-04	2.82
Unexposed produce			3.68E-03	0.00E+00	0.00E+00	3.68E-03	93.40
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		1.63E-08	1.94E-08			3.57E-08	0.00
Total ingestion	7.73 E-05	1.96 E-05	3.70 E-03	0.00 E+00	6.37 E-07	**3.80 E-03**	96.24
DERMAL UPTAKE		8.54E-06	1.01E-05	0.00E+00	1.21E-04	**1.39E-04**	3.53
Dose SUM	**8.61E-05**	**2.82E-05**	**3.71E-03**	**0.00E+00**	**1.21E-04**	**3.94E-03**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	5.77 E-04	1.89 E-04	2.49 E-02	0.00 E+00	8.13 E-04	2.64 E-02
Infant dose	6.35 E-05	2.08 E-05	2.73 E-03	0.00 E+00	8.95 E-05	**dose_bm 2.91 E-03**

Ingestion dose used =>	3.80 E-03
Total dose used =>	3.94 E-03

ENVIRONMENTAL Media	Air (gases) mg/m^3 (air)	Air (dust) mg/m^3 (air)	Ground soil mg/kg(soil solids)	Root soil mg/kg(soil solids)	Ground water mg/L (pure)	Surface water mg/L (pure)
CONCENTRATIONS	4.06 E-05	1.21 E-06	5.79E+00	6.86 E+00	3.36 E-05	3.69 E-02

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	4.06 E-05	1.21 E-06	1.74 E-07	1.14 E-06	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	4.06 E-05	1.21 E-06				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	7.53 E-02	2.25 E-03	1.97 E-02	1.45 E-02	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				5.91 E+00	0.00 E+00	0.00 E+00
Meat (mg/kg)	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Milk (mg/kg)	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00	0.00 E+00
Eggs (mg/kg)	7.42 E-04	2.21 E-05	1.92 E-04	1.41 E-04	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						9.07 E+02
Household soil (mg/kg)			2.89 E+00	3.43 E+00		
Swimming water (mg/L)						4.43 E-02

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE Media	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	8.60 E-03
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	3.27 E-03

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	5.4 E-09	2.3 E-06	8.4 E-08	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	3.9 E-05	1.6 E-02	6.0 E-04	1.7 E-02	1.7 E-02	0.0 E+00
2.4	2.9 E-05	1.2 E-02	4.4 E-04	1.3 E-02	1.3 E-02	0.0 E+00
3.8	1.7 E-05	7.2 E-03	2.7 E-04	7.5 E-03	7.5 E-03	0.0 E+00
5.2	1.0 E-05	4.3 E-03	1.6 E-04	4.5 E-03	4.5 E-03	0.0 E+00
6.6	6.1 E-06	2.6 E-03	9.4 E-05	2.7 E-03	2.7 E-03	0.0 E+00
8	3.6 E-06	1.5 E-03	5.6 E-05	1.6 E-03	1.6 E-03	0.0 E+00
9.4	2.2 E-06	9.1 E-04	3.3 E-05	9.5 E-04	9.5 E-04	0.0 E+00
10.8	1.3 E-06	5.4 E-04	2.0 E-05	5.6 E-04	5.6 E-04	0.0 E+00
12.2	7.7 E-07	3.2 E-04	1.2 E-05	3.4 E-04	3.4 E-04	0.0 E+00
13.6	4.6 E-07	1.9 E-04	7.1 E-06	2.0 E-04	2.0 E-04	0.0 E+00
15	2.7 E-07	1.1 E-04	4.2 E-06	1.2 E-04	1.2 E-04	0.0 E+00
Cumulative doses				20.15094903		
over ED by route, mg/kg	4.6 E-02	1.9 E+01	7.1 E-01	2.0 E+01	2.0 E+01	0.0 E+00
fraction	0.0023	0.9624	0.0353	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	9.0 E-06	3.8 E-03	1.4 E-04	3.9 E-03	3.9 E-03	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	3.9 E-05	1.6 E-02	6.0 E-04	1.7 E-02	1.7 E-02	0.0 E+00
fraction	0.0023	0.9624	0.0353	1.0000	1.000	0.000

Max breast-milk dose	1.3 E-02	mg/kg-d	Max_ing	1.6 E-02

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 2.6 E-02 mol/day

bbb2 = 8.4 E-05 bbb4 = 5.3 E-01

bbb3 = 1.5 E-02 bbb5 = 1.5 E-04

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	4.1 E-05	**mg/m3**	2.6 E-07	2.6 E-07	air
Off-site concentration (particles)	1.2 E-06	**mg/m3**			
Off-site surface-water concentrtn.	1.3 E-04	**mg/L**	2.1 E-07	6.0 E-05	water
Off-site surface soil concentration	2.0 E-02	**mg/kg**	2.0 E-07	6.1 E-05	ground soil
Off-site root-soil concentration	2.2 E-03	**mg/kg**	2.3 E-08	7.2 E-05	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	3.5 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01	m/d
Contaminant velocity	Vc	1.4 E-03	m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02	m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	7.1 E-04	m2/d
Dispersion depth	dzz	10.4	m
Thickness of aquifer	d_q	30	m
Transverse dispersivity (chem)	alpha_t	5.0 E-01	m
Width of the contaminated area	Y	216	m
Distrance to off-site location	X	0	m
Mass tranfer rate, aquifer - out	T_qo	6.6 E-06	1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	1.60E+00	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	5.62E-04	del_aw		
bndry lyr thickness in wtr below air (m)	1.93E-04	del_wa		
diffusion length in surface soil (m)	1.37E-02	del_g		
diffusion length in upper soil (m)	6.68E-01	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	1.12E-03	del_dw		
Initial concentration in soil (mol/m3)	1.73E-01	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	3.77E+01	tlag		
Skin/water partition coefficient	9.24E+03	Km		
Reaction rate constant in air (1/d)	7.48E-01	Ra		
Reaction rate constant, ground soil (1/d)	9.93E-04	Rg		
Reaction rate constant, root-zone soil (1/d)	9.93E-04	Rs		
Reaction rate constant, vadose-zone soil (1/d)	6.33E-04	Rv		
Reaction rate constant, ground water (1/d)	6.33E-04	Rq		
Reaction rate constant, surface water (1/d)	1.09E-03	Rw		
Reaction rate constant, sediment (1/d)	4.83E-07	Rd		
Reaction rate constant in leaf surface (1/d)	9.93E-04	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.51E+01	mtc_s		
cuticular conductance (m/d)	2.19E+01	mtc_c		
air side conductance over leaf (m/d)	5.40E+01	mtc_a		
cuticle water permeance (m/d)	5.70E-03	mtc_l		
conductance air/cuticle (m/d)	1.56E+01	mtc_ct		
conductance air/stomata (m/d)	1.18E+01	mtc_st		
root-soil / stem transfer factor	9.49E-08	x_rs		
stem / leaf transfer factor	8.07E-06	x_sl		
leaf / stem transfer factor	1.79E-04	p_ls		
stem / root-soil transfer factor	4.03E-07	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
0 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
0 Risk from breast milk exposure is large compared to other ingestion pathways
0 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
0 total

Fugacity (Pa)

Air	fa	2.56E-07
Cuticle	fc	1.11E-07
Leaf	fl	1.79E-07
Ground	fg	6.06E-05
Root	fs	7.18E-05
Vadose	fv	6.74E-08
Water	fw	6.05E-05
Sediment	fd	5.17E-05
Groundwater	fq	5.50E-08

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

Fugacity Capacities (mol/m^3 per Pa) phi 2.89E-02

Zap	5.25E+05	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	6.52E+02	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	6.52E+02	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	1.60E+02	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	1.05E+03	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	1.05E+03	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	1.60E+02	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	1.69E+03	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.29E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	1.46E+05	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	1.67E+02	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	3.54E+02	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	3.53E+02	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	9.04E+01	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	1.92E+00	fugacity capacity of water compartment in mol/m3-Pa
Zd	8.39E+02	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	1.13E+02	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d

Compartment	Phase	Compartment		Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y		Overall intercompartment mass transfer rate constants (1/day) T			Compartment Interface
					one-sided	both-sides	Diffusion	Advection	Total	
Dair	1.08E-01	Da	1.05E-01	5.62E-04	7.77E-02	6.47E-02	9.28E-04	1.25E-04	1.05E-03	air-water, T_aw
Dwater	4.64E-05	Dw	3.86E-05	1.93E-04	3.84E-01		6.73 E-03		6.73E-03	water-air, T_wa
Dair_g	6.22E-03	Dg	1.20E-04	5.00E-03	8.99E-03	8.97E-03	1.29E+00	5.62E-01	1.85E+00	air-ground, T_ag
Dwater_g	9.06E-07			1.37E-02	3.11E+00		5.07E-03	4.36E-06	5.07E-03	ground-air, T_ga
Dair_s	5.26E-03	Ds	1.20E-04	1.37E-02	3.11E+00	6.21E-02	3.51E-02	5.05E-05	3.52E-02	ground-soil, T_gs
Dwater_s	1.14E-06			6.68E-01	6.33E-02		1.26E-04	0.00E+00	1.26E-04	soil-ground, T_sg
Dair_v	4.56E-03	Dv	1.20E-04	6.68E-01	6.33E-02	1.29E-02		1.81E-07	1.81E-07	soil-vadose, T_sv
Dwater_v	1.18E-06			6.69E-01	1.62E-02					vadose-soil, T_vs
Dwater_d	5.43E-06	Dd	1.04E-08	2.00E-02	4.46E-03	2.83E-03	2.95E-04	4.40E-01	4.41E-01	water-sediment, T_wd
				1.12E-03	7.75E-03		6.75E-05	1.18E-01	1.18E-01	sediment-water, T_dw
							6.76E+00	6.85E-01	7.45E+00	air-cuticle, T_ac
							2.20E-02	2.48E-03	2.45E-02	cuticle-air, T_ca
							2.56E+00		2.56E+00	air - leaf T_al
							7.78E-02		7.78E-02	leaf-air, T_la
							3.09E-02		3.09E-02	cuticle-leaf, T_cl
							2.86E-01		2.86E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
								2.74E-03	2.74E-03	leaf-ground T_lg
								4.03E-07	4.03E-07	leaf-soil, T_ls
								9.38E-08	9.38E-08	soil-leaf, T_sl
									0.00E+00	ground-cuticle, T_gc
								4.94E-07	4.94E-07	vadose-aquifer, T_vq
								2.50E-05	2.50E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								5.23E-04	5.23E-04	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	1.09E-03	C0_1	1.14E+04
aaa2	5.43E-04	C0_2	0.00E+00
aaa3	1.66E-05	S_1	0.00E+00
aaa4	1.56E-10	S_2	0.00E+00
aaa5	3.02E-03	AA	1.23E-03
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	1.81E-07
bbb3	0.00E+00	DDD	6.33E-04
ccc1	2.83E-01	Gam1	-6.33E-04
ccc2	4.73E+00	Gam2	-1.23E-03
ccc3	3.08E+02	Gm1mGm2	5.92E-04
ccc4	1.44E-01	Gam1p	1.23E-03
ccc5	5.34E+00	Gam2p	6.33E-04
ccc6	1.37E-01	Gm1mGm2p	5.92E-04

aaa6	1.14E+04
aaa7	5.41E+00
aaa8	-5.41E+00
bbb4	0.00E+00
bbb5	0
Lam1	0.001013

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.10E+02	8.35E-05	1.10E-10	0.00%	9.87E+00	9.87E+00	3.22E-03
leaf	l	3.66E-01	1.95E-03	2.99E-05	0.00%	2.72E-01	2.72E-01	2.73E+00
cuticle	c	1.06E-01	1.11E-02	1.61E-02	0.00%	4.49E-01	4.49 E-01	9.42E+00
ground-soil	g	4.17E-02	5.02E+00	2.14E-02	0.30%	7.96E+01	7.98E+01	2.40E+01
root-soil	s	1.12E-03	1.66E+03	2.53E-02	99.15%	6.72E+01	7.08E+02	8.93E+02
vadose-zone	v	6.33E-04	5.70E-01	6.09E-06	0.03%	1.14E-01	1.38E-01	1.58E+03
surface water	w	1.41E+00	2.72E-03	1.16E-04	0.00%	1.46E+00	1.46E+00	7.12E-01
sediment	d	1.18E-01	1.01E-02	4.33E-02	0.00%	4.57E-01	4.57E-01	8.46E+00
aquifer	q	6.39E-04	8.71E+00	6.20E-06	0.52%	1.07E-04	2.12E+00	1.56E+03

Mass Flows (g/d)

air-ground	5.88E-02	Tag*Na*MW
air-water	3.35E-05	Taw*Na*MW
air-out	9.47E+00	Tao*Na*MW
air-leaves	8.15E-02	Tal*Na*MW
air-leaf surfaces	2.37E-01	Tac*Na*MW
air-transform	2.38E-02	Ra*Na*MW
leaves-air	5.77E-02	Tla*Nl*MW
leaves-leaf surfaces	2.12E-01	Tlc*Nl*MW
leaves-ground	2.03E-03	Tlg*Nl*MW
leaves-soil	2.99E-07	Tls*Nl*MW
leaf-surface - air	1.04E-01	Tca*Nc*MW
leaf-surfaces - leaves	1.31E-01	Tcl*Nc*MW
leaf-surfaces - ground	2.10E-01	Tcg*Nc*MW
leaf surfaces-trnsfrm	4.20E-03	Rls*Nc*MW
ground-air	9.70E+00	Tga*Ng*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW
ground-soil	6.72E+01	Tgs*Ng*MW

ground-water	1.00E+00	Tgw*Ng*MW
ground-trnsfrm	1.90E+00	Rg*Ng*MW
soil-ground	7.95E+01	Tsg*Ns*MW
soil-leaves	5.94E-02	Tsl*Ns*MW
soil-vadose	1.14E-01	Tsv*Ns*MW
soil-trnsfrm	6.29E+02	Rs*Ns*MW
vadose-aquifer	1.07E-04	Tvq*Nv*MW
vadose-trnsfrm	1.37E-01	Rv*Nv*MW
aquifer-removal	2.12E+00	Lq*Nq*MW
water-air	6.98E-03	Twa*Nw*MW
water-sediment	4.57E-01	Twd*Nw*MW
water-out	9.93E-01	Two*Nw*MW
water-trnsfrm	1.13E-03	Rw*Nw*MW
sediment-water	4.57E-01	Tdw*Nd*MW
sedmnt-trnsfrm	1.87E-06	Rd*Nd*MW
sediment-out	9.66E-05	Tdo*Nd*MW

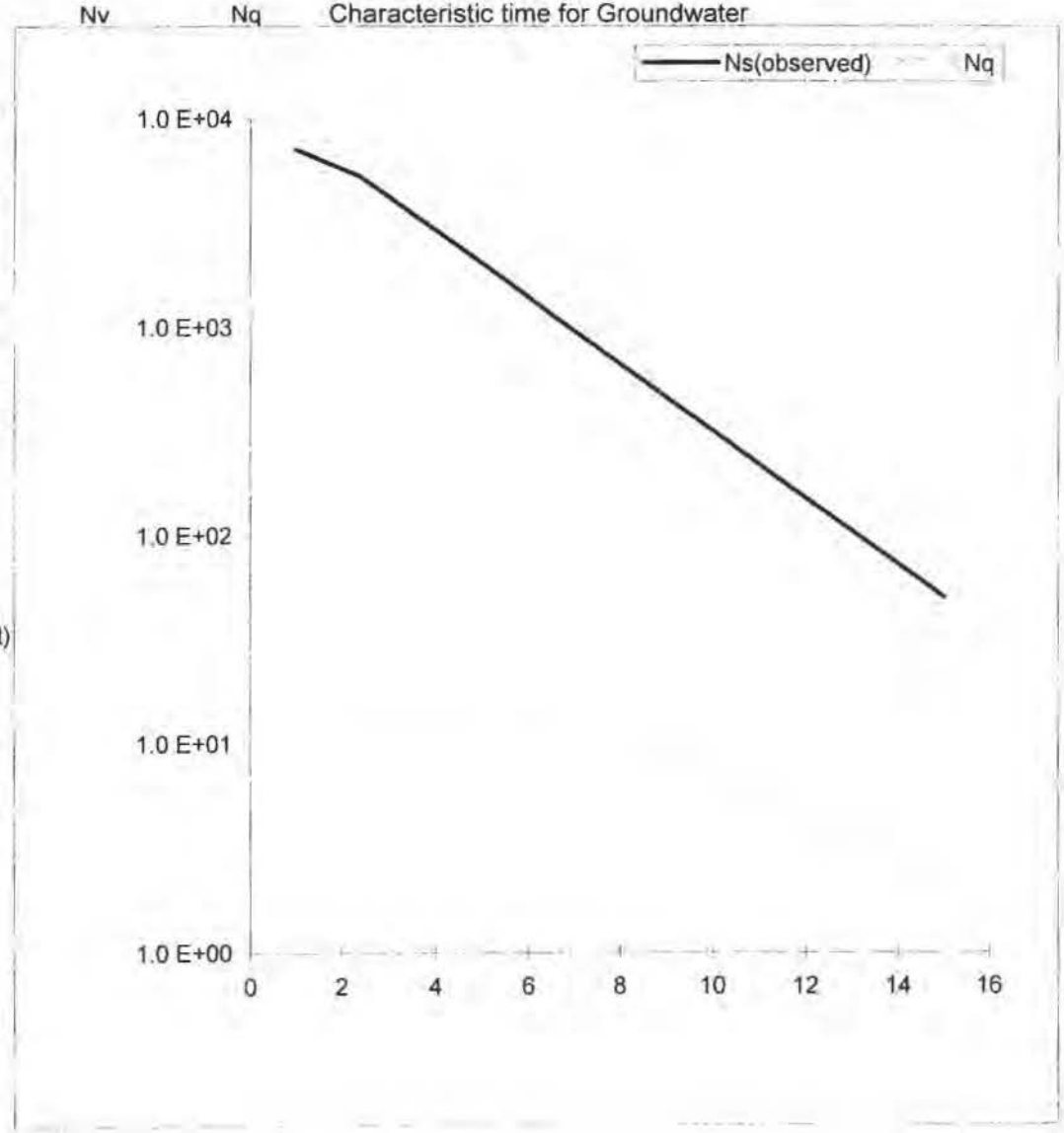
Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	7.2 E+03	6.5 E+00
2.4	876	5.3 E+03	1.3 E+01
3.8	1387	3.2 E+03	1.4 E+01
5.2	1898	1.9 E+03	1.3 E+01
6.6	2409	1.1 E+03	1.1 E+01
8	2920	6.7 E+02	9.3 E+00
9.4	3431	4.0 E+02	7.4 E+00
10.8	3942	2.4 E+02	5.7 E+00
12.2	4453	1.4 E+02	4.3 E+00
13.6	4964	8.4 E+01	3.3 E+00
15	5475	5.0 E+01	2.5 E+00

		Ns(0)[total]	
		1.1 E+04	
	const_sat	Ns(sat)	
	-7.266994958	7.2E+03	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
578.05323	8.72 E+03	8.7E+03	4.2E-01
578.05323	5.30 E+03 **	5.3E+03	8.7E-01
578.05323	1.59 E+03	3.2E+03	1.2E+00
578.05323	-5.53 E+02	1.9E+03	1.3E+00
578.05323	-1.83 E+03	1.1E+03	1.2E+00
578.05323	-2.59 E+03	6.7E+02	1.1E+00
578.05323	-3.04 E+03	4.0E+02	1.0E+00
578.05323	-3.31 E+03	2.4E+02	9.2E-01
578.05323	-3.48 E+03	1.4E+02	8.4E-01
578.05323	-3.57 E+03	8.4E+01	7.7E-01
578.05323	-3.63 E+03	5.0E+01	7.2E-01

Plot

Nv Nq Characteristic time for Groundwater



CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==>	Endosulfan		
Landscape ==>	Calif. Residential Site (CA Res.)		
Exposure Factors Set=>	(Residential) Exposure Factors		
		potencies	ADIs
Toxicity Data ==>		1/(mg/kg-d)	(mg/kg-d)
	Inhalation	0.0 E+00	0.006
	Ingestion	0.0 E+00	0.006
	Dermal	0.0 E+00	0.006
	Total dose		0
		Risk	Hazard quotie
Target Risk/Hazard =		1.0 E-06	1.00
		current value	**should be >**
Root-soil thickness ===>		**1.4**	**OK**
Alter root soil thickness to?		n/a	
Distance off-site for air exposure=		0.0 E+00	meters
Time after initial concentrations when exposure begins =		3.7 E+02	days
Measured Concentrations	**(at time = 0)**		
	Root-zone soil	423	ppm (mg/kg)
	Vadose-zone soil	0	ppm (mg/kg)
	Ground water	0	ppm (mg/L)
Continuous inputs	Methane flux m/d		0
	Source term to air (mol/d)	0.0 E+00	Sa
	Source term to ground-surface soil (mol/d)	0.0 E+00	Sg
	Source term to root-zone soil (mol/d)	0.0 E+00	Ss
	Source term to surface water(mol/d)	0.0 E+00	Sw
Aquifer characteristics			
	Distance to first well (m)	0.0 E+00	d_well
0.001341446	Darcy veleocity (m/d)	1.0 E-01	v_darc
	Water dispersion coeff. (m2/d)	5.0 E-02	D_T

Summary of Results:

Un-mitigated risk and/or hazard ratio

Risk	0.0 E+0		
Hazard ratio	4.6 E-1		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	**0.0 E+0**	**not avlbl.**
Vadose soil	**0.0 E+0**	**not avlbl.**

Based on hazard:

Root soil	**9.3 E+2**	**Non-linear**
Vadose soil	**0.0 E+0**	**not avlbl.**

Root Soil	**9.3 E+2**	
Vadose soil	**n/a**	

Concentration limits without NAPL

Root soil	5.9 E+00	mg/kg solid
Vadose soil	1.5 E+00	mg/kg solid
Ground water	2.9 E-01	mg/L water

Time avrg. Conc. in on-site environmental media

Air	2.5 E-04	mg/m3
Total Leaf	1.8 E-02	mg/kg(total)
Grnd-surface soil	1.6 E+00	mg/kg(total)
Root-zone soil	5.9 E+00	mg/kg(total)
Vadose-zone soil	2.0 E-04	mg/kg(total)
Ground water	4.8 E-06	mg/L(water)
Surface water	7.7 E-02	mg/L
Sediment	2.2 E+00	mg/kg

Chemical Properties

0.00297 0.003 ... 1 5.4 E+01

Compound	Endosulfan		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Molecular weight (g/mol)	MW	4.07 E+02	4.07E+02	0.01	1	
	Octanol-water partition coefficient	Kow	3.83 E+03	3.83E+03	0.55	1	
	Melting point (K)	Tm	4.11 E+02	4.11E+02	0.03	1	
	Vapor Pressure in (Pa)	VP	1.33 E-03	1.33E-03	0.35	1	
	Solubility in mol/m3	S	7.20 E-04	7.20E-04	0.59	1	Kaw
	Henry's law constant (Pa-m^3/mol)	H -	1.84 E+00	-9.90E+01	0.46	1	0.0007675
	Diffusion coefficient in pure air (m2/d)	Dair	9.94 E-02	9.94E-02	0.08	1	1.15 E-06
	Diffusion coefficient; pure water (m2/d)	Dwater	4.68 E-05	4.68E-05	0.25	1	5.41 E-10
	Organic carbon partition coefficient Koc	**Koc -**	1.84 E+03	-9.90E+01	1.00	1	m^2/s
	Ocatanol/air partition coefficient	**Koa -**	4.99 E+06	-9.90E+01	0.10	1	
	Partition coefficient in ground/root soil layer	**Kd_s -**	2.29 E+01	-9.90E+01	0.10	1	
	Partition coefficient in vadose-zone soil layer	**Kd_v -**	5.62 E+00	-9.90E+01	0.10	1	
	Partition coefficient in aquifer layer	**Kd_q -**	5.62 E+00	-9.90E+01	0.10	1	
	Partition coeffic. in surface wtr sediments	**Kd_d -**	3.67 E+01	-9.90E+01	0.10	1	
	NOT USED	Kps -	6.54 E-02	-9.90E+01	4.00	1	
	Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)	**Kl_phl -**	1.27 E+00	-9.90E+01	0.10	1	
	Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])	**Ks_x -**	1.94 E+01	-9.90E+01	0.10	1	
	Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])	**TSCF -**	6.37 E-01	-9.90E+01	0.10	1	
	Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])	**Kpa -**	1.33 E+01	-9.90E+01	14.00	1	
	Biotransfer factor; cattle-diet/milk (d/kg[milk])	**Bk -**	3.04 E-05	-9.90E+01	11.00	1	
	Biotransfer factor; cattle-diet/meat (d/L)	**Bt -**	9.61 E-05	-9.90E+01	13.00	1	
	Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])	**Be -**	6.07 E-04	-9.90E+01	14.00	1	
	Biotrnsfr fctr; brst mlk/mthr intake (d/kg)	**Bbmk -**	7.65 E-04	-9.90E+01	10.00	1	
	Bioconcentration factor; fish/water	**BCF -**	6.01 E+02	6.01E+02	0.60	1	
	Particle scavenging ratio of rain drops	**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
	Skin permeability coefficient; cm/h	**Kp_w -**	2.19 E-03	-9.90E+01	2.40	1	
	Skin-water/soil partition coefficient (L/kg)	**Km -**	1.00 E+00	-9.90E+01	1.30	1	
	Fraction dermal uptake from soil	**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0**. Otherwise the liste value is used.

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	5.69 E-01	5.69E-01	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	2.28 E+02	2.28E+02	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	2.28 E+02	2.28E+02	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	2.81 E+01	2.81E+01	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	4.60 E+00	4.60E+00	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	4.60 E+00	4.60E+00	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	2.90 E+01	2.90E+01	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	2.28 E+02	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

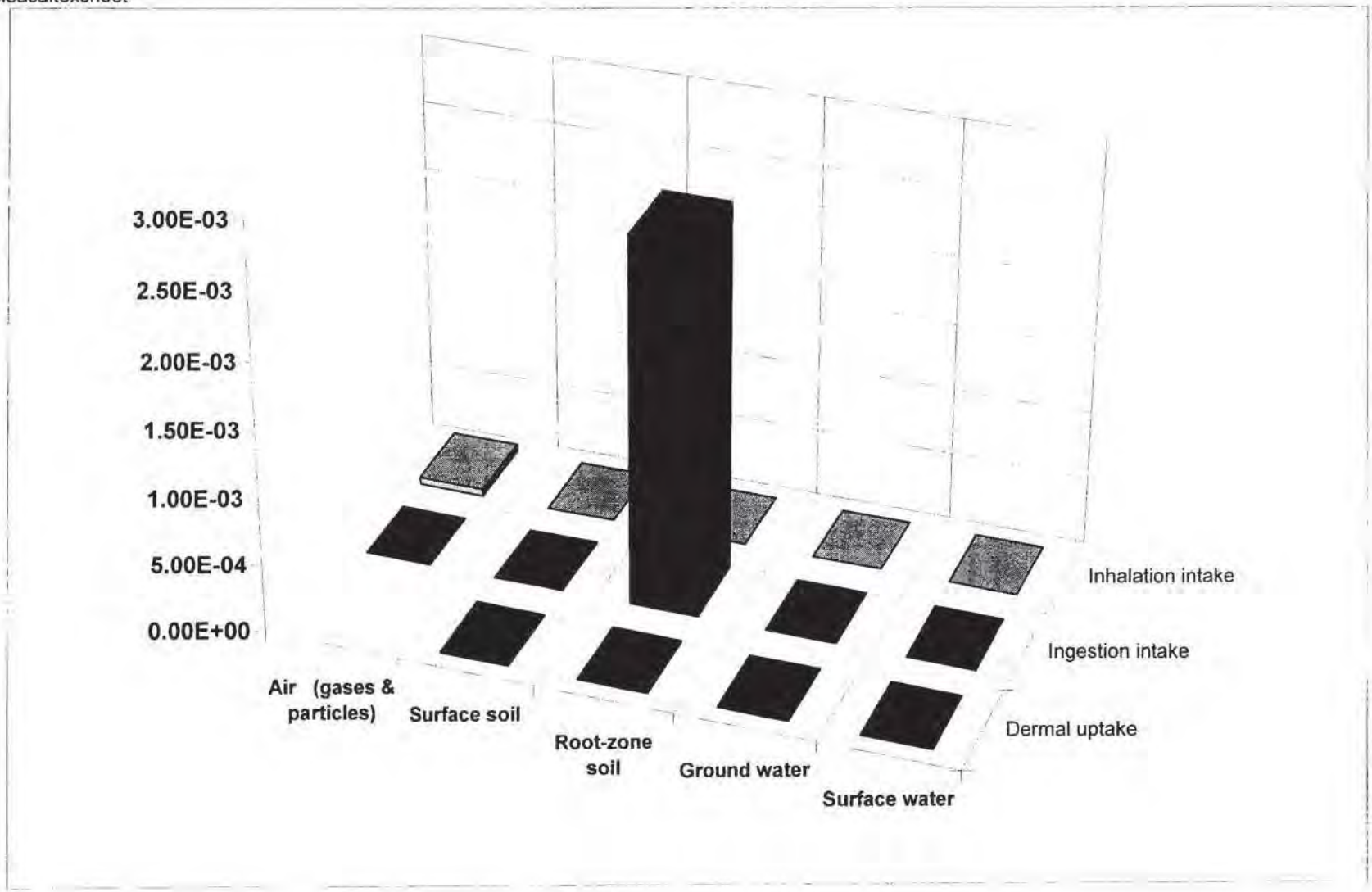
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prtn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	5.29E-05	1.10E-08	4.57E-06	0.00E+00	0.00E+00	**5.75E-05**	2.04
INGESTION:							
Water				0.00E+00	1.11E-06	1.11E-06	0.04
Exposed produce	1.83E-06	6.10E-06	1.66E-05	0.00E+00	0.00E+00	2.45E-05	0.87
Unexposed produce			2.72E-03	0.00E+00	0.00E+00	2.72E-03	96.42
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		5.08E-09	1.89E-08			2.40E-08	0.00
Total ingestion	1.83 E-06	6.10 E-06	2.73 E-03	0.00 E+00	1.11 E-06	**2.74 E-03**	97.33
DERMAL UPTAKE		2.65E-06	9.88E-06	0.00E+00	5.26E-06	**1.78E-05**	0.63
Dose SUM	**5.47E-05**	**8.76E-06**	**2.75E-03**	**0.00E+00**	**6.37E-06**	**2.82E-03**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	2.74 E-06	4.39 E-07	1.38 E-04	0.00 E+00	3.19 E-07	1.41 E-04
						dose_bm
Infant dose	3.01 E-07	4.83 E-08	1.51 E-05	0.00 E+00	3.51 E-08	**1.55 E-05**

Ingestion dose used =>	2.74 E-03
Total dose used =>	2.82 E-03

ENVIRONMENTAL Media	Air (gases) mg/m^3 (air)	Air (dust) mg/m^3 (air)	Ground soil mg/kg(soil solids)	Root soil mg/kg(soil solids)	Ground water mg/L (pure)	Surface water mg/L (pure)
CONCENTRATIONS	2.53 E-04	1.91 E-08	1.80E+00	6.70 E+00	4.81 E-06	7.49 E-02

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	2.53 E-04	1.91 E-08	5.40 E-08	2.25 E-05	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	2.53 E-04	1.91 E-08				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	1.83 E-03	1.38 E-07	6.12 E-03	1.66 E-02	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				4.36 E+00	0.00 E+00	0.00 E+00
Meat (mg/kg)	1.35 E-05	1.02 E-09	3.53 E-05	9.59 E-05	0.00 E+00	0.00 E+00
Milk (mg/kg)	5.68 E-06	4.28 E-10	1.58 E-05	4.30 E-05	0.00 E+00	0.00 E+00
Eggs (mg/kg)	4.71 E-07	3.56 E-11	4.45 E-07	1.21 E-06	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						4.50 E+01
Household soil (mg/kg)			8.99 E-01	3.35 E+00		
Swimming water (mg/L)						7.71 E-02

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE Media	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	1.84 E-04
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	7.02 E-05

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	3.8 E-08	1.8 E-06	1.2 E-08	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
2.4	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
3.8	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
5.2	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
6.6	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
8	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
9.4	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
10.8	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
12.2	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
13.6	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
15	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
Cumulative doses				14.40228309		
over ED by route, mg/kg	2.9 E-01	1.4 E+01	9.1 E-02	1.4 E+01	1.4 E+01	0.0 E+00
fraction	0.0204	0.9733	0.0063	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	5.7 E-05	2.7 E-03	1.8 E-05	2.8 E-03	2.8 E-03	0.0 E+00
fraction	0.0204	0.9733	0.0063	1.0000	1.000	0.000

Max breast-milk dose	1.6 E-05	mg/kg-d	Max_ing	2.7 E-03

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 1.4 E-01 mol/day

bbb2 = 4.7 E-04 bbb4 = 5.2 E-02

bbb3 = 4.6 E-03 bbb5 = 2.6 E-06

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	2.5 E-04	**mg/m3**	1.5 E-06	1.5 E-06	air
Off-site concentration (particles)	1.9 E-08	**mg/m3**			
Off-site surface-water concentrtn.	2.4 E-04	**mg/L**	1.1 E-06	3.4 E-04	water
Off-site surface soil concentration	5.7 E-03	**mg/kg**	1.1 E-06	3.6 E-04	ground soil
Off-site root-soil concentration	2.3 E-04	**mg/kg**	4.5 E-08	1.3 E-03	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	3.5 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01	m/d
Contaminant velocity	Vc	9.5 E-03	m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02	m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	4.8 E-03	m2/d
Dispersion depth	dzz	10.4	m
Thickness of aquifer	d_q	30	m
Transverse dispersivity (chem)	alpha_t	5.0 E-01	m
Width of the contaminated area	Y	216	m
Distrance to off-site location	X	0	m
Mass tranfer rate, aquifer - out	T_qo	4.4 E-05	1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	5.42E-01	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	5.34E-04	del_aw		
bndry lyr thickness in wtr below air (m)	1.95E-04	del_wa		
diffusion length in surface soil (m)	1.37E-02	del_g		
diffusion length in upper soil (m)	6.69E-01	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	4.19E-03	del_dw		
Initial concentration in soil (mol/m3)	1.68E+00	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	3.51E+01	tlag		
Skin/water partition coefficient	1.84E+02	Km		
Reaction rate constant in air (1/d)	1.22E+00	Ra		
Reaction rate constant, ground soil (1/d)	3.04E-03	Rg		
Reaction rate constant, root-zone soil (1/d)	3.04E-03	Rs		
Reaction rate constant, vadose-zone soil (1/d)	2.47E-02	Rv		
Reaction rate constant, ground water (1/d)	1.51E-01	Rq		
Reaction rate constant, surface water (1/d)	1.51E-01	Rw		
Reaction rate constant, sediment (1/d)	6.24E-05	Rd		
Reaction rate constant in leaf surface (1/d)	3.04E-03	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.39E+01	mtc_s		
cuticular conductance (m/d)	2.36E-01	mtc_c		
air side conductance over leaf (m/d)	4.97E+01	mtc_a		
cuticle water permeance (m/d)	1.81E-04	mtc_l		
conductance air/cuticle (m/d)	2.35E-01	mtc_ct		
conductance air/stomata (m/d)	1.09E+01	mtc_st		
root-soil / stem transfer factor	7.22E-06	x_rs		
stem / leaf transfer factor	8.17E-04	x_sl		
leaf / stem transfer factor	1.46E-02	p_ls		
stem / root-soil transfer factor	4.08E-05	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
0 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
0 Risk from breast milk exposure is large compared to other ingestion pathways
0 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
0 total

Fugacity (Pa)

Air	fa	1.49E-06
Cuticle	fc	6.97E-06
Leaf	fl	1.52E-05
Ground	fg	3.56E-04
Root	fs	1.33E-03
Vadose	fv	1.78E-07
Water	fw	3.40E-04
Sediment	fd	2.90E-04
Groundwater	fq	2.18E-08

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

phi 7.54E-05

Fugacity Capacities (mol/m^3 per Pa)

Zap	1.33E+03	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	3.22E+01	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	3.22E+01	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	7.92E+00	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	5.18E+01	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	5.18E+01	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	7.92E+00	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	4.54E+00	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.16E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	3.69E+02	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	6.91E-01	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	1.76E+01	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	1.75E+01	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	4.56E+00	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	5.58E-01	fugacity capacity of water compartment in mol/m3-Pa
Zd	4.16E+01	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	5.71E+00	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d

Compartment	Phase	Compartment		Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y one-sided	Y both-sides	Overall intercompartment mass transfer rate constants (1/day) T Diffusion	Advection	Total	Compartment Interface
Dair	9.94E-02	Da	9.94E-02	5.34E-04	7.74E-02	4.86E-02	7.18E-04	9.21E-06	7.27E-04	air-water, T_aw
Dwater	4.68E-05	Dw	4.54E-05	1.95E-04	1.30E-01		1.74 E-02		1.74E-02	water-air, T_wa
Dair_g	5.73E-03	Dg	1.20E-04	5.00E-03	8.27E-03	7.85E-03	1.16E+00	8.14E-02	1.24E+00	air-ground, T_ag
Dwater_g	9.13E-07			1.37E-02	1.55E-01		8.94E-02	4.34E-06	8.94E-02	ground-air, T_ga
Dair_s	4.84E-03	Ds	1.20E-04	1.37E-02	1.55E-01	3.09E-03	3.51E-02	3.44E-04	3.55E-02	ground-soil, T_gs
Dwater_s	1.15E-06			6.69E-01	3.15E-03		1.26E-04	0.00E+00	1.26E-04	soil-ground, T_sg
Dair_v	4.19E-03	Dv	1.21E-04	6.69E-01	3.15E-03	6.52E-04		1.23E-06	1.23E-06	soil-vadose, T_sv
Dwater_v	1.18E-06			6.70E-01	8.22E-04					vadose-soil, T_vs
Dwater_d	5.47E-06	Dd	7.14E-08	2.00E-02	1.31E-03	4.59E-04	1.65E-04	7.50E-02	7.51E-02	water-sediment, T_wd
				4.19E-03	7.08E-04		2.21E-04	1.18E-01	1.18E-01	sediment-water, T_dw
							1.05E-01	1.07E-02	1.16E-01	air-cuticle, T_ac
							1.31E-01	2.48E-03	1.34E-01	cuticle-air, T_ca
							2.43E+00		2.43E+00	air - leaf T_al
							1.73E+01		1.73E+01	leaf-air, T_la
							1.32E-01		1.32E-01	cuticle-leaf, T_cl
							7.43E-01		7.43E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
								2.74E-03	2.74E-03	leaf-ground T_lg
								4.07E-05	4.07E-05	leaf-soil, T_ls
								7.15E-06	7.15E-06	soil-leaf, T_sl
									0.00E+00	ground-cuticle, T_gc
								3.32E-06	3.32E-06	vadose-aquifer, T_vq
								2.49E-05	2.49E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								3.40E-03	3.40E-03	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	6.46E-04	C0_1	1.10E+05
aaa2	3.02E-03	C0_2	0.00E+00
aaa3	2.98E-04	S_1	0.00E+00
aaa4	2.37E-08	S_2	0.00E+00
aaa5	9.61E-04	AA	3.21E-03
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	1.23E-06
bbb3	0.00E+00	DDD	2.47E-02
ccc1	1.77E+01	Gam1	-3.21E-03
ccc2	2.48E+00	Gam2	-2.47E-02
ccc3	3.02E+02	Gm1mGm2	2.15E-02
ccc4	1.76E+01	Gam1p	2.47E-02
ccc5	1.26E+00	Gam2p	3.21E-03
ccc6	1.19E-01	Gm1mGm2p	2.15E-02

aaa6	1.10E+05
aaa7	-6.29E+00
aaa8	6.29E+00
bbb4	0.00E+00
bbb5	0
Lam1	0.003143

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.03E+02	4.73E-04	6.22E-10	0.00%	5.83E+01	5.83E+01	3.31E-03
leaf	l	1.80E+01	6.83E-04	1.05E-05	0.00%	5.01E+00	5.01E+00	5.55E-02
cuticle	c	3.18E-01	1.77E-03	2.57E-03	0.00%	2.29E-01	2.29 E-01	3.14E+00
ground-soil	g	1.31E-01	1.47E+00	6.27E-03	0.10%	7.83E+01	7.84E+01	7.62E+00
root-soil	s	3.18E-03	1.53E+03	2.33E-02	99.89%	2.12E+01	1.97E+03	3.15E+02
vadose-zone	v	2.47E-02	7.63E-02	8.14E-07	0.00%	7.65E-01	7.65E-01	4.05E+01
surface water	w	1.20E+00	4.44E-03	1.90E-04	0.00%	2.17E+00	2.17E+00	8.33E-01
sediment	d	1.18E-01	2.82E-03	1.20E-02	0.00%	1.36E-01	1.36E-01	8.46E+00
aquifer	q	1.51E-01	1.75E-01	1.24E-07	0.01%	1.03E-04	1.07E+01	6.64E+00

Mass Flows (g/d)

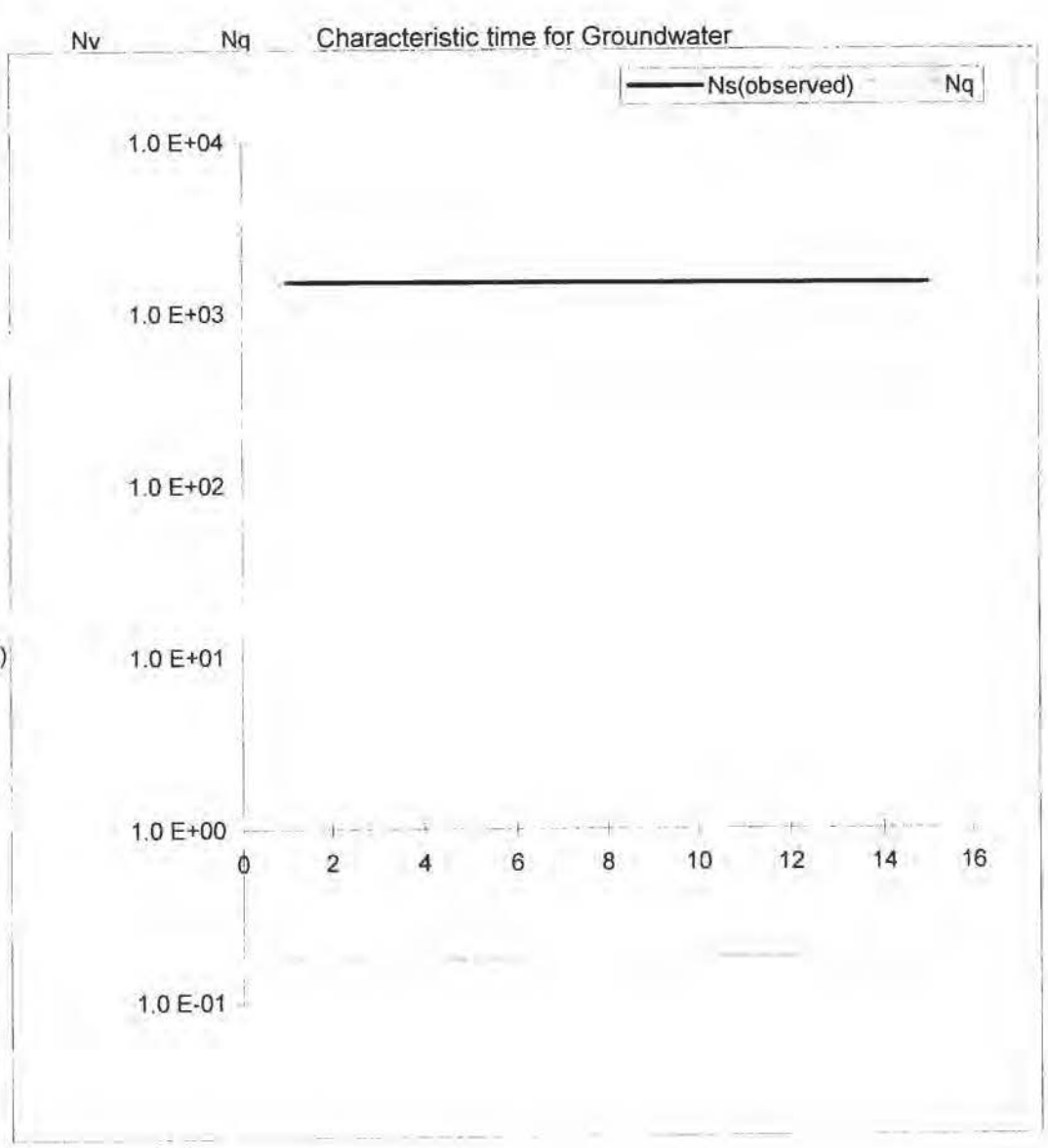
air-ground	2.39E-01	Tag*Na*MW	ground-water	2.03E+00	Tgw*Ng*MW
air-water	1.40E-04	Taw*Na*MW	ground-trnsfrm	1.82E+00	Rg*Ng*MW
air-out	5.73E+01	Tao*Na*MW	soil-ground	7.81E+01	Tsg*Ns*MW
air-leaves	4.68E-01	Tal*Na*MW	soil-leaves	4.44E+00	Tsl*Ns*MW
air-leaf surfaces	2.23E-02	Tac*Na*MW	soil-vadose	7.65E-01	Tsv*Ns*MW
air-transform	2.35E-01	Ra*Na*MW	soil-trnsfrm	1.89E+03	Rs*Ns*MW
leaves-air	4.80E+00	Tla*Nl*MW	vadose-aquifer	1.03E-04	Tvq*Nv*MW
leaves-leaf surfaces	2.07E-01	Tlc*Nl*MW	vadose-trnsfrm	7.65E-01	Rv*Nv*MW
leaves-ground	7.62E-04	Tlg*Nl*MW	aquifer-removal	1.07E+01	Lq*Nq*MW
leaves-soil	1.13E-05	Tls*Nl*MW	water-air	3.14E-02	Twa*Nw*MW
leaf-surface - air	9.62E-02	Tca*Nc*MW	water-sediment	1.36E-01	Twd*Nw*MW
leaf-surfaces - leaves	9.48E-02	Tcl*Nc*MW	water-out	1.73E+00	Two*Nw*MW
leaf-surfaces - ground	3.58E-02	Tcg*Nc*MW	water-trnsfrm	2.72E-01	Rw*Nw*MW
leaf surfaces-trnsfrm	2.19E-03	Rls*Nc*MW	sediment-water	1.36E-01	Tdw*Nd*MW
ground-air	5.34E+01	Tga*Ng*MW	sedmnt-trnsfrm	7.16E-05	Rd*Nd*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW	sediment-out	2.86E-05	Tdo*Nd*MW
ground-soil	2.12E+01	Tgs*Ng*MW			

Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	1.5 E+03	1.7 E-01
2.4	876	1.5 E+03	1.7 E-01
3.8	1387	1.5 E+03	1.7 E-01
5.2	1898	1.5 E+03	1.7 E-01
6.6	2409	1.5 E+03	1.7 E-01
8	2920	1.5 E+03	1.7 E-01
9.4	3431	1.5 E+03	1.7 E-01
10.8	3942	1.5 E+03	1.7 E-01
12.2	4453	1.5 E+03	1.7 E-01
13.6	4964	1.5 E+03	1.7 E-01
15	5475	1.5 E+03	1.7 E-01

		Ns(0)[total]	
		1.1 E+05	
	const_sat	Ns(sat)	
	-4.797616749	1.5E+03	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
22577.146	1.08 E+05	1.1E+05	7.6E-02
22577.146	1.06 E+05	1.1E+05	7.6E-02
22577.146	1.03 E+05	1.0E+05	7.6E-02
22577.146	1.01 E+05	1.0E+05	7.6E-02
22577.146	9.83 E+04	9.8E+04	7.6E-02
22577.146	9.58 E+04	9.6E+04	7.6E-02
22577.146	9.34 E+04	9.3E+04	7.6E-02
22577.146	9.09 E+04	9.1E+04	7.6E-02
22577.146	8.85 E+04	8.8E+04	7.6E-02
22577.146	8.60 E+04	8.6E+04	7.6E-02
22577.146	8.36 E+04	8.4E+04	7.6E-02

Plot



CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==> Endrin

Landscape ==> Calif. Residential Site (CA Res.)

Exposure Factors Set=> (Residential) Exposure Factors

Toxicity Data ==>	potencies 1/(mg/kg-d)	ADIs (mg/kg-d)
Inhalation	0.0 E+00	0.0003
Ingestion	0.0 E+00	0.0003
Dermal	0.0 E+00	0.0003
Total dose		0

	Risk	Hazard quotie
Target Risk/Hazard =	1.0 E-06	1.00

	current value	should be >
Root-soil thickness ===>	1.4	OK
Alter root soil thickness to?	n/a	
Distance off-site for air exposure=	0.0 E+00	meters
Time after initial concentrations when exposure begins =	3.7 E+02	days

Measured Concentrations (at time = 0)

Root-zone soil	15	ppm (mg/kg)
Vadose-zone soil	0	ppm (mg/kg)
Ground water	0	ppm (mg/L)
Methane flux m/d	0	

Continuous inputs

Source term to air (mol/d)	0.0 E+00	Sa
Source term to ground-surface soil (mol/d)	0.0 E+00	Sg
Source term to root-zone soil (mol/d)	0.0 E+00	Ss
Source term to surface water(mol/d)	0.0 E+00	Sw

Aquifer characteristics

	Distance to first well (m)	0.0 E+00	d_well
0.001341446	Darcy veleocity (m/d)	1.0 E-01	v_darc
	Water dispersion coeff. (m2/d)	5.0 E-02	D_T

Summary of Results:

Un-mitigated risk and/or hazard ratio

Risk	0.0 E+0		
Hazard ratio	1.8 E+1		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	0.0 E+0	not avlbl.	
Vadose soil	0.0 E+0	not avlbl.	
		Root Soil	8.3 E-1
		Vadose soil	n/a

Based on hazard:

Root soil	8.3 E-1	
Vadose soil	0.0 E+0	not avlbl.

Concentration limits without NAPL

Root soil	3.1 E+01	mg/kg solid
Vadose soil	7.6 E+00	mg/kg solid
Ground water	2.5 E-01	mg/L water

Time avrg. Conc. in on-site environmental media

Air	1.9 E-05	mg/m3
Total Leaf	3.5 E-02	mg/kg(total)
Grnd-surface soil	3.5 E+00	mg/kg(total)
Root-zone soil	3.9 E+00	mg/kg(total)
Vadose-zone soil	1.5 E-03	mg/kg(total)
Ground water	3.6 E-05	mg/L(water)
Surface water	3.3 E-02	mg/L
Sediment	5.0 E+00	mg/kg

Chemical Properties

0.00297 0.003 1 -1.7 E+03

Compound	Endrin		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Molecular weight (g/mol)	MW	3.81 E+02	3.81E+02	0.01	1	
	Octanol-water partition coefficient	Kow	8.53 E+04	8.53E+04	0.36	1	
	Melting point (K)	Tm	4.73 E+02	4.73E+02	0.03	1	
	Vapor Pressure in (Pa)	VP	2.38 E-04	2.38E-04	1.26	1	
	Solubility in mol/m3	S	6.48 E-04	6.48E-04	0.05	1	Kaw
	Henry's law constant (Pa-m^3/mol)	H -	3.67 E-01	-9.90E+01	0.46	1	0.0001529
	Diffusion coefficient in pure air (m2/d)	Dair	1.08 E-01	1.08E-01	0.08	1	1.25 E-06
	Diffusion coefficient; pure water (m2/d)	Dwater	4.66 E-05	4.66E-05	0.25	1	5.40 E-10
	Organic carbon partition coefficient Koc	**Koc -**	1.14 E+04	1.14E+04	0.32	1	m^2/s
	Ocatanol/air partition coefficient	**Koa -**	5.58 E+08	-9.90E+01	0.10	1	
	Partition coefficient in ground/root soil layer	**Kd_s -**	1.42 E+02	-9.90E+01	0.10	1	
	Partition coefficient in vadose-zone soil layer	**Kd_v -**	3.49 E+01	-9.90E+01	0.10	1	
	Partition coefficient in aquifer layer	**Kd_q -**	3.49 E+01	-9.90E+01	0.10	1	
	Partition coeffic. in surface wtr sediments	**Kd_d -**	2.28 E+02	-9.90E+01	0.10	1	
	NOT USED	Kps -	1.09 E-02	-9.90E+01	4.00	1	
	Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)	**Kl_phl -**	1.77 E+01	-9.90E+01	0.10	1	
	Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])	**Ks_x -**	3.58 E+02	-9.90E+01	0.10	1	
	Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])	**TSCF -**	2.01 E-01	-9.90E+01	0.10	1	
	Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])	**Kpa -**	1.39 E+03	-9.90E+01	14.00	1	
	Biotransfer factor; cattle-diet/milk (d/kg[milk])	**Bk -**	6.78 E-04	-9.90E+01	11.00	1	
	Biotransfer factor; cattle-diet/meat (d/L)	**Bt -**	2.14 E-03	-9.90E+01	13.00	1	
	Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])	**Be -**	1.35 E-02	-9.90E+01	14.00	1	
	Biotrnsfr fctr; brst mlk/mthr intake (d/kg)	**Bbmk -**	1.71 E-02	-9.90E+01	10.00	1	
	Bioconcentration factor; fish/water	**BCF -**	1.87 E+03	1.87E+03	0.60	1	
	Particle scavenging ratio of rain drops	**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
	Skin permeability coefficient; cm/h	**Kp_w -**	2.86 E-02	-9.90E+01	2.40	1	
	Skin-water/soil partition coefficient (L/kg)	**Km -**	1.00 E+00	-9.90E+01	1.30	1	
	Fraction dermal uptake from soil	**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0**. Otherwise the liste value is used.

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	5.30 E-01	5.30E-01	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	1.21 E+03	1.21E+03	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	1.21 E+03	1.21E+03	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	2.56 E+03	2.56E+03	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	7.33 E+02	7.33E+02	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	3.29 E+03	3.29E+03	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	2.56 E+03	2.56E+03	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	3.29 E+03	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

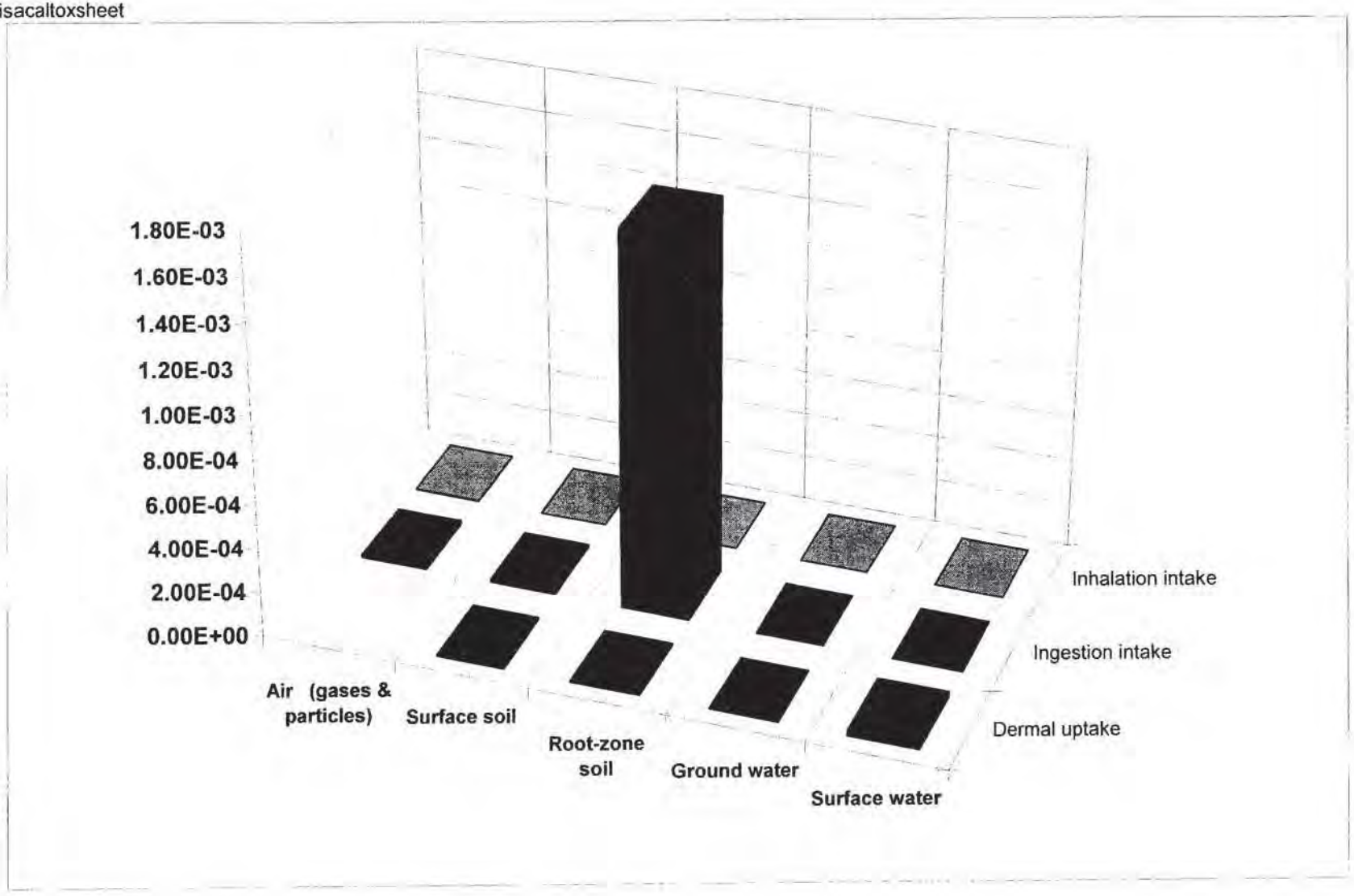
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prttn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	3.98E-06	2.40E-08	9.68E-08	0.00E+00	0.00E+00	**4.10E-06**	0.23
INGESTION:							
Water				0.00E+00	4.77E-07	4.77E-07	0.03
Exposed produce	1.40E-05	1.33E-05	2.13E-05	0.00E+00	0.00E+00	4.86E-05	2.74
Unexposed produce			1.69E-03	0.00E+00	0.00E+00	1.69E-03	94.87
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		1.11E-08	1.25E-08			2.36E-08	0.00
Total ingestion	1.40 E-05	1.33 E-05	1.71 E-03	0.00 E+00	4.77 E-07	**1.74 E-03**	97.63
DERMAL UPTAKE		5.80E-06	6.53E-06	0.00E+00	2.57E-05	**3.80E-05**	2.14
Dose SUM	**1.79E-05**	**1.92E-05**	**1.71E-03**	**0.00E+00**	**2.61E-05**	**1.78E-03**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	2.00 E-05	2.14 E-05	1.91 E-03	0.00 E+00	2.92 E-05	1.98 E-03
						dose_bm
Infant dose	2.20 E-06	2.35 E-06	2.10 E-04	0.00 E+00	3.21 E-06	**2.18 E-04**

Ingestion dose used =>	1.74 E-03
Total dose used =>	1.78 E-03

ENVIRONMENTAL Media	Air (gases) mg/m^3 (air)	Air (dust) mg/m^3 (air)	Ground soil mg/kg(soil solids)	Root soil mg/kg(soil solids)	Ground water mg/L (pure)	Surface water mg/L (pure)
CONCENTRATIONS	1.89 E-05	1.59 E-07	3.93E+00	4.43 E+00	3.60 E-05	2.80 E-02

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	1.89 E-05	1.59 E-07	1.18 E-07	4.76 E-07	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	1.89 E-05	1.59 E-07				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	1.39 E-02	1.17 E-04	1.34 E-02	2.14 E-02	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				2.71 E+00	0.00 E+00	0.00 E+00
Meat (mg/kg)	1.79 E-03	1.51 E-05	1.72 E-03	2.75 E-03	0.00 E+00	0.00 E+00
Milk (mg/kg)	8.02 E-04	6.77 E-06	7.70 E-04	1.23 E-03	0.00 E+00	0.00 E+00
Eggs (mg/kg)	2.31 E-05	1.95 E-07	2.17 E-05	3.47 E-05	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						5.25 E+01
Household soil (mg/kg)			1.97 E+00	2.21 E+00		
Swimming water (mg/L)						3.31 E-02

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE Media	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	2.41 E-03
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	9.16 E-04

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	3.8 E-09	1.6 E-06	3.5 E-08	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	1.3 E-05	5.4 E-03	1.2 E-04	5.6 E-03	5.6 E-03	0.0 E+00
2.4	9.5 E-06	4.0 E-03	8.8 E-05	4.1 E-03	4.1 E-03	0.0 E+00
3.8	7.0 E-06	3.0 E-03	6.5 E-05	3.1 E-03	3.1 E-03	0.0 E+00
5.2	5.2 E-06	2.2 E-03	4.8 E-05	2.3 E-03	2.3 E-03	0.0 E+00
6.6	3.9 E-06	1.6 E-03	3.6 E-05	1.7 E-03	1.7 E-03	0.0 E+00
8	2.9 E-06	1.2 E-03	2.7 E-05	1.2 E-03	1.2 E-03	0.0 E+00
9.4	2.1 E-06	9.0 E-04	2.0 E-05	9.2 E-04	9.2 E-04	0.0 E+00
10.8	1.6 E-06	6.7 E-04	1.5 E-05	6.8 E-04	6.8 E-04	0.0 E+00
12.2	1.2 E-06	4.9 E-04	1.1 E-05	5.1 E-04	5.1 E-04	0.0 E+00
13.6	8.6 E-07	3.7 E-04	8.0 E-06	3.8 E-04	3.8 E-04	0.0 E+00
15	6.4 E-07	2.7 E-04	5.9 E-06	2.8 E-04	2.8 E-04	0.0 E+00
Cumulative doses				9.084601886		
over ED by route, mg/kg	2.1 E-02	8.9 E+00	1.9 E-01	9.1 E+00	9.1 E+00	0.0 E+00
fraction	0.0023	0.9763	0.0214	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	4.1 E-06	1.7 E-03	3.8 E-05	1.8 E-03	1.8 E-03	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	1.3 E-05	5.4 E-03	1.2 E-04	5.6 E-03	5.6 E-03	0.0 E+00
fraction	0.0023	0.9763	0.0214	1.0000	1.000	0.000

Max breast-milk dose	6.8 E-04	mg/kg-d	Max_ing	5.4 E-03

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 1.2 E-02 mol/day
bbb2 = 3.8 E-05 bbb4 = 2.5 E-01
bbb3 = 4.2 E-03 bbb5 = 1.8 E-04

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	1.9 E-05	**mg/m3**	1.2 E-07	1.2 E-07	air
Off-site concentration (particles)	1.6 E-07	**mg/m3**			
Off-site surface-water concentrtn.	4.1 E-05	**mg/L**	4.0 E-08	2.7 E-05	water
Off-site surface soil concentration	5.7 E-03	**mg/kg**	3.9 E-08	2.7 E-05	ground soil
Off-site root-soil concentration	1.0 E-03	**mg/kg**	7.0 E-09	3.0 E-05	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	3.5 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01 m/d
Contaminant velocity	Vc	1.6 E-03 m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02 m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	7.8 E-04 m2/d
Dispersion depth	dzz	10.4 m
Thickness of aquifer	d_q	30 m
Transverse dispersivity (chem)	alpha_t	5.0 E-01 m
Width of the contaminated area	Y	216 m
Distrance to off-site location	X	0 m
Mass tranfer rate, aquifer - out	T_qo	7.2 E-06 1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	2.72E+00	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	5.62E-04	del_aw		
bndry lyr thickness in wtr below air (m)	1.94E-04	del_wa		
diffusion length in surface soil (m)	1.37E-02	del_g		
diffusion length in upper soil (m)	6.68E-01	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	1.20E-03	del_dw		
Initial concentration in soil (mol/m3)	6.35E-02	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	3.21E+01	tlag		
Skin/water partition coefficient	2.20E+03	Km		
Reaction rate constant in air (1/d)	1.31E+00	Ra		
Reaction rate constant, ground soil (1/d)	5.72E-04	Rg		
Reaction rate constant, root-zone soil (1/d)	5.72E-04	Rs		
Reaction rate constant, vadose-zone soil (1/d)	2.71E-04	Rv		
Reaction rate constant, ground water (1/d)	9.46E-04	Rq		
Reaction rate constant, surface water (1/d)	2.11E-04	Rw		
Reaction rate constant, sediment (1/d)	1.14E-07	Rd		
Reaction rate constant in leaf surface (1/d)	2.11E-04	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.51E+01	mtc_s		
cuticular conductance (m/d)	1.06E+01	mtc_c		
air side conductance over leaf (m/d)	5.40E+01	mtc_a		
cuticle water permeance (m/d)	1.61E-03	mtc_l		
conductance air/cuticle (m/d)	8.83E+00	mtc_ct		
conductance air/stomata (m/d)	1.18E+01	mtc_st		
root-soil / stem transfer factor	3.69E-07	x_rs		
stem / leaf transfer factor	4.43E-05	x_sl		
leaf / stem transfer factor	1.05E-03	p_ls		
stem / root-soil transfer factor	2.21E-06	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
0 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
0 Risk from breast milk exposure is large compared to other ingestion pathways
0 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
0 total

Fugacity (Pa)

Air	fa	1.19E-07
Cuticle	fc	1.43E-07
Leaf	fl	3.01E-07
Ground	fg	2.67E-05
Root	fs	3.00E-05
Vadose	fv	4.69E-08
Water	fw	2.70E-05
Sediment	fd	2.31E-05
Groundwater	fq	3.47E-08

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

phi 8.37E-03

Fugacity Capacities (mol/m^3 per Pa)

Zap	1.49E+05	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	1.01E+03	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	1.01E+03	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	2.47E+02	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	1.62E+03	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	1.62E+03	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	2.47E+02	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	4.79E+02	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.20E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	4.13E+04	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	4.83E+01	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	5.46E+02	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	5.45E+02	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	1.40E+02	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	3.22E+00	fugacity capacity of water compartment in mol/m3-Pa
Zd	1.29E+03	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	1.74E+02	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d

Compartment	Phase	Compartment		Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y		Overall intercompartment mass transfer rate constants (1/day) T			
					one-sided	both-sides	Diffusion	Advection	Total	Compartment Interface
Dair	1.08E-01	Da	1.07E-01	5.62E-04	7.94E-02	7.08E-02	1.04E-03	7.32E-05	1.11E-03	air-water, T_aw
Dwater	4.66E-05	Dw	3.94E-05	1.94E-04	6.54E-01		4.40 E-03		4.40E-03	water-air, T_wa
Dair_g	6.22E-03	Dg	1.20E-04	5.00E-03	8.99E-03	8.98E-03	1.32E+00	4.97E-01	1.81E+00	air-ground, T_ag
Dwater_g	9.10E-07			1.37E-02	4.79E+00		3.29E-03	4.36E-06	3.29E-03	ground-air, T_ga
Dair_s	5.26E-03	Ds	1.20E-04	1.37E-02	4.79E+00	9.58E-02	3.51E-02	5.57E-05	3.52E-02	ground-soil, T_gs
Dwater_s	1.14E-06			6.68E-01	9.78E-02		1.26E-04	0.00E+00	1.26E-04	soil-ground, T_sg
Dair_v	4.56E-03	Dv	1.20E-04	6.68E-01	9.78E-02	1.99E-02		1.99E-07	1.99E-07	soil-vadose, T_sv
Dwater_v	1.18E-06			6.69E-01	2.51E-02					vadose-soil, T_vs
Dwater_d	5.45E-06	Dd	1.15E-08	2.00E-02	7.51E-03	4.67E-03	2.90E-04	4.06E-01	4.06E-01	water-sediment, T_wd
				1.20E-03	1.24E-02		7.22E-05	1.18E-01	1.18E-01	sediment-water, T_dw
							3.91E+00	2.35E-01	4.15E+00	air-cuticle, T_ac
							4.40E-02	2.48E-03	4.65E-02	cuticle-air, T_ca
							2.62E+00		2.62E+00	air - leaf T_al
							2.68E-01		2.68E-01	leaf-air, T_la
							5.26E-02		5.26E-02	cuticle-leaf, T_cl
							4.74E-01		4.74E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
							aaa6 4.16E+03	2.74E-03	2.74E-03	leaf-ground T_lg
							aaa7 2.63E+00	2.21E-06	2.21E-06	leaf-soil, T_ls
							aaa8 -2.63E+00	3.66E-07	3.66E-07	soil-leaf, T_sl
							bbb4 0.00E+00		0.00E+00	ground-cuticle, T_gc
							bbb5 0	5.44E-07	5.44E-07	vadose-aquifer, T_vq
							Lam1 0.000587	2.50E-05	2.50E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								5.74E-04	5.74E-04	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	1.16E-03	C0_1	4.16E+03
aaa2	5.97E-04	C0_2	0.00E+00
aaa3	1.09E-05	S_1	0.00E+00
aaa4	8.69E-10	S_2	0.00E+00
aaa5	3.18E-03	AA	8.10E-04
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	1.99E-07
bbb3	0.00E+00	DDD	2.72E-04
ccc1	5.78E-01	Gam1	-2.72E-04
ccc2	4.08E+00	Gam2	-8.10E-04
ccc3	3.06E+02	Gm1mGm2	5.39E-04
ccc4	4.16E-01	Gam1p	8.10E-04
ccc5	3.20E+00	Gam2p	2.72E-04
ccc6	1.61E-01	Gm1mGm2p	5.39E-04

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.07E+02	3.80E-05	5.00E-11	0.00%	4.45E+00	4.45E+00	3.25E-03
leaf	l	7.45E-01	9.48E-04	1.45E-05	0.00%	2.69E-01	2.69E-01	1.34E+00
cuticle	c	1.49E-01	4.07E-03	5.92E-03	0.00%	2.31E-01	2.31 E-01	6.71E+00
ground-soil	g	3.96E-02	3.41E+00	1.46E-02	0.31%	5.14E+01	5.15E+01	2.53E+01
root-soil	s	6.98E-04	1.07E+03	1.64E-02	98.85%	4.57E+01	2.85E+02	1.43E+03
vadose-zone	v	2.72E-04	6.12E-01	6.54E-06	0.06%	8.14E-02	6.33E-02	3.68E+03
surface water	w	1.37E+00	2.04E-03	8.70E-05	0.00%	1.06E+00	1.06E+00	7.31E-01
sediment	d	1.18E-01	6.99E-03	2.99E-02	0.00%	3.15E-01	3.15E-01	8.46E+00
aquifer	q	9.53E-04	8.49E+00	6.04E-06	0.78%	1.27E-04	3.08E+00	1.05E+03

Mass Flows (g/d)

air-ground	2.62E-02	Tag*Na*MW
air-water	1.61E-05	Taw*Na*MW
air-out	4.31E+00	Tao*Na*MW
air-leaves	3.79E-02	Tal*Na*MW
air-leaf surfaces	6.00E-02	Tac*Na*MW
air-transform	1.89E-02	Ra*Na*MW
leaves-air	9.69E-02	Tla*Nl*MW
leaves-leaf surfaces	1.71E-01	Tlc*Nl*MW
leaves-ground	9.89E-04	Tlg*Nl*MW
leaves-soil	7.97E-07	Tls*Nl*MW
leaf-surface - air	7.21E-02	Tca*Nc*MW
leaf-surfaces - leaves	8.16E-02	Tcl*Nc*MW
leaf-surfaces - ground	7.72E-02	Tcg*Nc*MW
leaf surfaces-trnsfrm	3.27E-04	Rls*Nc*MW
ground-air	4.28E+00	Tga*Ng*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW
ground-soil	4.57E+01	Tgs*Ng*MW
ground-water	7.46E-01	Tgw*Ng*MW
ground-trnsfrm	7.43E-01	Rg*Ng*MW
soil-ground	5.14E+01	Tsg*Ns*MW
soil-leaves	1.50E-01	Tsl*Ns*MW
soil-vadose	8.14E-02	Tsv*Ns*MW
soil-trnsfrm	2.34E+02	Rs*Ns*MW
vadose-aquifer	1.27E-04	Tvq*Nv*MW
vadose-trnsfrm	6.32E-02	Rv*Nv*MW
aquifer-removal	3.08E+00	Lq*Nq*MW
water-air	3.41E-03	Twa*Nw*MW
water-sediment	3.15E-01	Twd*Nw*MW
water-out	7.43E-01	Two*Nw*MW
water-trnsfrm	1.64E-04	Rw*Nw*MW
sediment-water	3.15E-01	Tdw*Nd*MW
sedmnt-trnsfrm	3.04E-07	Rd*Nd*MW
sediment-out	6.66E-05	Tdo*Nd*MW

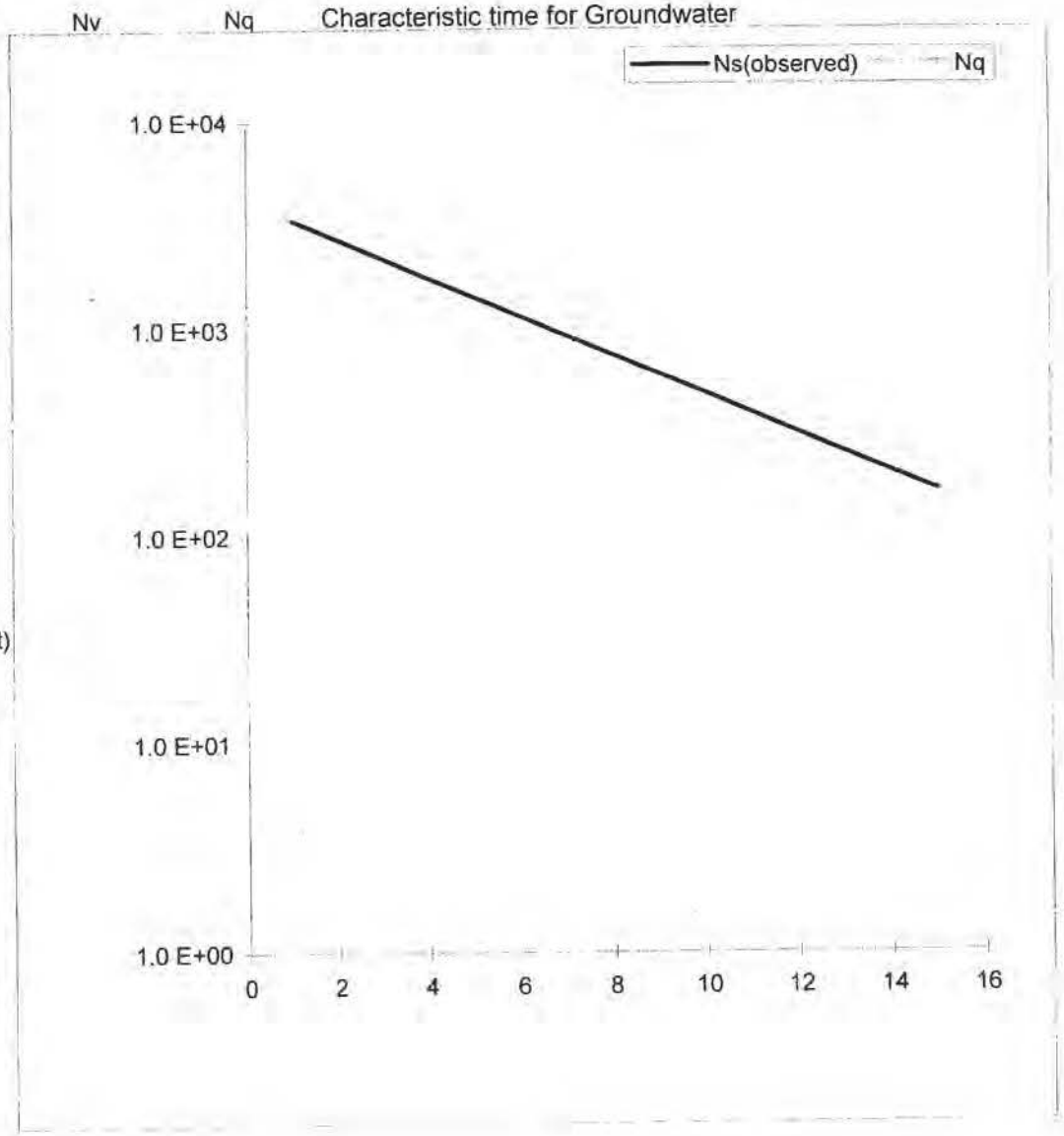
Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	3.4 E+03	3.6 E+00
2.4	876	2.5 E+03	6.9 E+00
3.8	1387	1.8 E+03	8.9 E+00
5.2	1898	1.4 E+03	9.8 E+00
6.6	2409	1.0 E+03	1.0 E+01
8	2920	7.5 E+02	9.9 E+00
9.4	3431	5.6 E+02	9.5 E+00
10.8	3942	4.1 E+02	8.9 E+00
12.2	4453	3.1 E+02	8.2 E+00
13.6	4964	2.3 E+02	7.5 E+00
15	5475	1.7 E+02	6.8 E+00

		Ns(0)[total]	
		4.2 E+03	
	const_sat	Ns(sat)	
	-4.987532018	8.5E+03	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
0	2.34 E+03	3.4E+03	5.9E-01
0	8.11 E+02	2.5E+03	1.0E+00
0	-5.94 E+01	1.8E+03	1.2E+00
0	-7.04 E+02	1.4E+03	1.4E+00
0	-1.18 E+03	1.0E+03	1.4E+00
0	-1.54 E+03	7.5E+02	1.4E+00
0	-1.80 E+03	5.6E+02	1.4E+00
0	-1.99 E+03	4.1E+02	1.4E+00
0	-2.14 E+03	3.1E+02	1.4E+00
0	-2.24 E+03	2.3E+02	1.3E+00
0	-2.32 E+03	1.7E+02	1.3E+00

Plot

Nv Nq Characteristic time for Groundwater



CalTOX™ 4.0 beta: Eight-Compartment Multimedia Exposure Model - Contaminated Soil

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Chemical ==>	Toxaphene		
Landscape ==>	Calif. Residential Site (CA Res.)		
Exposure Factors Set=>	(Residential) Exposure Factors		
		potencies	ADIs
Toxicity Data ==>		1/(mg/kg-d)	(mg/kg-d)
	Inhalation	1.2 E+00	0.00025
	Ingestion	1.2 E+00	0.00025
	Dermal	1.2 E+00	0.00025
	Total dose		0
		Risk	Hazard quotie
Target Risk/Hazard =		1.0 E-06	1.00
		current value	**should be >**
Root-soil thickness ===>		**1.4**	**3.6 E+0**
Alter root soil thickness to?		n/a	
Distance off-site for air exposure=		0.0 E+00	meters
Time after initial concentrations when exposure begins =		3.7 E+02	days
Measured Concentrations	**(at time = 0)**		
	Root-zone soil	9724	ppm (mg/kg)
	Vadose-zone soil	0	ppm (mg/kg)
	Ground water	0	ppm (mg/L)
Continuous inputs	Methane flux m/d		0
	Source term to air (mol/d)	0.0 E+00	Sa
	Source term to ground-surface soil (mol/d)	0.0 E+00	Sg
	Source term to root-zone soil (mol/d)	0.0 E+00	Ss
	Source term to surface water(mol/d)	0.0 E+00	Sw
Aquifer characteristics			
	Distance to first well (m)	0.0 E+00	d_well
0.001341446	Darcy veleocity (m/d)	1.0 E-01	v_darc
	Water dispersion coeff. (m2/d)	5.0 E-02	D_T

Summary of Results:

See Warnings Please

Un-mitigated risk and/or hazard ratio

Risk	1.3 E-2		
Hazard ratio	1.9 E+2		

Target Soil Concentrations (in ppm)

Based on cancer risk:

Root soil	**7.8 E-1**	**Non-linear**	
Vadose soil	**0.0 E+0**	**not avlbl.**	
		Root Soil	**7.8 E-1**
		Vadose soil	**n/a**

Based on hazard:

Root soil	**5.1 E+1**	**Non-linear**
Vadose soil	**0.0 E+0**	**not avlbl.**

Concentration limits without NAPL

Root soil	9.5 E+00	mg/kg solid
Vadose soil	2.7 E+00	mg/kg solid
Ground water	9.3 E-01	mg/L water

Time avrg. Conc. in on-site environmental media

Air	1.1 E-03	mg/m3
Total Leaf	1.4 E-05	mg/kg(total)
Grnd-surface soil	7.1 E-02	mg/kg(total)
Root-zone soil	9.5 E+00	mg/kg(total)
Vadose-zone soil	2.5 E-02	mg/kg(total)
Ground water	5.4 E-04	mg/L(water)
Surface water	7.6 E-03	mg/L
Sediment	1.0 E-01	mg/kg

Chemical Properties

0.00297 0.003 ... 1 -1.3 E+08

Compound	Toxaphene		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Molecular weight (g/mol)	MW	4.14 E+02	4.14E+02	0.01	1	
	Octanol-water partition coefficient	Kow	1.85 E+03	1.85E+03	0.08	1	
	Melting point (K)	Tm	3.58 E+02	3.58E+02	0.03	1	
	Vapor Pressure in (Pa)	VP	8.29 E-04	8.29E-04	0.66	1	
	Solubility in mol/m3	S	2.25 E-03	2.25E-03	1.00	1	Kaw
	Henry's law constant (Pa-m^3/mol)	H -	5.97 E+03	5.97E+03	0.46	1	2.4845429
	Diffusion coefficient in pure air (m2/d)	Dair	1.00 E-01	1.00E-01	0.08	1	1.16 E-06
	Diffusion coefficient; pure water (m2/d)	Dwater	4.40 E-05	4.40E-05	0.25	1	5.10 E-10
	Organic carbon partition coefficient Koc	**Koc -**	8.87 E+02	-9.90E+01	1.00	1	m^2/s
	Ocatanol/air partition coefficient	**Koa -**	7.43 E+02	-9.90E+01	0.10	1	
	Partition coefficient in ground/root soil layer	**Kd_s -**	1.10 E+01	-9.90E+01	0.10	1	
	Partition coefficient in vadose-zone soil layer	**Kd_v -**	2.71 E+00	-9.90E+01	0.10	1	
	Partition coefficient in aquifer layer	**Kd_q -**	2.71 E+00	-9.90E+01	0.10	1	A parameter with a "-" symbol after it, indicates a parameter that can be calculated by a default algoritm when **the value of mean for this parameter is <0.** Otherwise the liste value is used.
	Partition coeffic. in surface wtr sediments	**Kd_d -**	1.77 E+01	-9.90E+01	0.10	1	
	NOT USED	Kps -	9.96 E-02	-9.90E+01	4.00	1	
	Leaves/phlm wtr prtn cff.(wet kg/m3 per wet kg/m3)	**Kl_phl -**	1.32 E+00	-9.90E+01	0.10	1	
	Stem/xylem-fluid prtn cff (m^3[xylem]/m^3[stem])	**Ks_x -**	1.00 E+01	-9.90E+01	0.10	1	
	Transpiration stream cncntrtn fctr (m^3[wtr]/m^3[ts])	**TSCF -**	6.90 E-01	-9.90E+01	0.10	1	
	Biotrnsfr fctr, plant/air (m3[a]/kg[pFM])	**Kpa -**	2.32 E-03	-9.90E+01	14.00	1	
	Biotransfer factor; cattle-diet/milk (d/kg[milk])	**Bk -**	1.47 E-05	-9.90E+01	11.00	1	
	Biotransfer factor; cattle-diet/meat (d/L)	**Bt -**	4.64 E-05	-9.90E+01	13.00	1	
	Biotransfer fctr; hen-diet/eggs (d/kg[egg contents])	**Be -**	2.93 E-04	-9.90E+01	14.00	1	
	Biotrnsfr fctr; brst mlk/mthr intake (d/kg)	**Bbmk -**	3.69 E-04	-9.90E+01	10.00	1	
	Bioconcentration factor; fish/water	**BCF -**	8.87 E+01	-9.90E+01	0.60	1	
	Particle scavenging ratio of rain drops	**Psr_rain -**	5.00 E+04	5.00E+04	2.40	1	
	Skin permeability coefficient; cm/h	**Kp_w -**	1.19 E-03	-9.90E+01	2.40	1	
	Skin-water/soil partition coefficient (L/kg)	**Km -**	1.00 E+00	-9.90E+01	1.30	1	
	Fraction dermal uptake from soil	**dfct_sl-**	2.01 E-01	2.01E-01	1.00	1	

Chemical Properties (continued)

Reaction half-life in air (d)	Thalf_a	2.20 E+01	2.20E+01	1.00	1	
Reaction half-life in surface soil (d)	Thalf_g	4.02 E+03	4.02E+03	1.10	1	
Reaction half-life in root-zone soil (d)	Thalf_s	4.02 E+03	4.02E+03	1.20	1	
Reaction half-life in vadose-zone soil (d)	Thalf_v	1.85 E+03	1.85E+03	1.00	1	
Reaction half-life in ground water (d)	Thalf_q	1.85 E+03	1.85E+03	1.30	1	
Reaction half-life in surface water (d)	Thalf_w	4.38 E+03	4.38E+03	1.20	1	
Reaction half-life in sediments (d)	Thalf_d	2.58 E+03	2.58E+03	1.40	1	
Reaction half-life in the leaf surface (d)	Thalf_ls	4.38 E+03	-9.90E+01	1.00	1	

Landscape properties

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Contaminated area in m2	Area	4.68 E+04	4.68E+04	0.10	1	(m/y)
	Annual average precipitation (m/d)	rain	1.12 E-03	1.12E-03	0.56	1	4.07 E-01
	Not currently used	rain_days	0.00 E+00	0.00E+00	0.00	1	
	Flux; surface water into landscape (m/d)	inflow	0.00 E+00	0.00E+00	0.10	1	0.00 E+00
	Land surface runoff (m/d)	runoff	5.47 E-04	6.10E-04	1.00	1	2.00 E-01
	Atmospheric dust load (kg/m3)	rhob_a	6.15 E-08	6.15E-08	0.20	1	
	Dry deposition velocity, air particles (m/d)	v_d	5.00 E+02	5.00E+02	0.30	1	
	Aerosol organic fraction	foc_ap	2.00 E-01	2.00E-01	1.00	1	
	Volume fraction of water in leaf	beta_leaf	5.00 E-01	5.00E-01	0.05	1	
	Volume fraction of air in leaf	alpha_leaf	1.80 E-01	1.80E-01	0.20	1	
	Volume fraction of lipid in leaf	lipid_leaf	2.00 E-03	2.00E-03	0.20	1	
	Volume fraction of water in stem	beta_stem	4.00 E-01	4.00E-01	0.20	1	
	Volume fraction of water in root	beta_root	6.00 E-01	6.00E-01	0.20	1	
	Primary produciton dry vegetation(kg/m2/y)	veg_prod	9.00 E-01	9.00E-01	0.20	1	
	One-sided Leaf Area Index	**LAI -**	3.63 E+00	-9.90E+01	0.40	1	
	Wet interception fraction	IF_w	1.00 E-01	1.00E-01	0.10	1	
	Avg thickness of leaf surface(cuticle)(m)	d_cuticle	2.00 E-06	2.00E-06	0.20	1	
	Stem wet density (kg/m3)	rho_stm	8.30 E+02	8.30E+02	0.20	1	
	Leaf wet density (kg/m3)	rho_leaf	8.20 E+02	8.20E+02	0.30	1	
	Root wet density (kg/m3)	rho_root	8.00 E+02	8.00E+02	0.05	1	
	Veg attenuation fctr, dry interception(m2/kg)	atf_leaf	2.90 E+00	2.90E+00	0.01	1	

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var	Adjustment	Notes
	Stomata area frctn(area stomata/area leaf)	na_st	7.00 E-03	7.00E-03	0.20	1	
	Effective pore depth	del_st	2.50 E-05	2.50E-05	0.20	1	
	Boundary layer thickness over leafs	del_a	2.00 E-03	2.00E-03	1.00	1	
	Leaf surface erosion half-life (d)	Thalf_le	1.40 E+01	1.40E+01	1.00	1	
	Ground-water recharge (m/d)	recharge	5.58 E-05	5.58E-05	1.00	1	2.04 E-02
	Evaporation of water from surface wtr (m/d)	evaporate	6.85 E-05	6.85E-05	1.00	1	
	Thickness of the ground soil layer (m)	d_g	5.00 E-03	5.00E-03	1.00	1	
	Soil particle density (kg/m3)	rhos_s	2.60 E+03	2.60E+03	0.05	1	
	Water content in surface soil (vol fraction)	beta_g	1.92 E-01	1.92E-01	0.33	1	
	Air content in the surface soil (vol frctn)	alpha_g	2.66 E-01	2.66E-01	0.29	1	cm/y
	Erosion of surface soil (kg/m2-d)	erosion_g	2.03 E-04	2.03E-04	1.00	1	0.004636
	Bioturbation (m^2/d)	D_bio	1.20 E-04	1.20E-04	1.00	1	
	Thickness of the root-zone soil (m)	d_s	1.40 E+00	1.40E+00	0.47	1	
	Water content of root-zone soil (vol. frctn.)	beta_s	2.06 E-01	2.06E-01	0.34	1	
	Air content of root-zone soil (vol. frctn.)	alpha_s	2.53 E-01	2.53E-01	0.31	1	
	Thickness of the vadose-zone soil (m)	d_v	2.00 E+00	2.00E+00	0.37	1	
	Water content; vadose-zone soil (vol. frctn.)	beta_v	2.02 E-01	2.02E-01	0.32	1	
	Air content of vadose-zone soil (vol. frctn.)	alpha_v	2.36 E-01	2.36E-01	0.30	1	
	Thickness of the aquifer layer (m)	d_q	3.00 E+01	3.00E+01	0.30	1	
	Solid material density in aquifer (kg/m3)	rhos_q	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the aquifer zone	beta_q	3.00 E-01	3.00E-01	0.20	1	
	Fraction of land area in surface water	f_arw	1.00 E-04	1.00E-04	0.20	1	
	Average depth of surface waters (m)	d_w	5.00 E+00	5.00E+00	1.00	1	
	Suspended sedmnt in surface wtr (kg/m3)	rhob_w	8.00 E-01	8.00E-01	1.00	1	
	Suspended sdmnt deposition (kg/m2/d)	deposit	1.05 E+01	1.05E+01	0.30	1	(m/s)
	Thickness of the sediment layer (m)	d_d	5.00 E-02	5.00E-02	1.00	1	
	Solid material density in sediment (kg/m3)	rhos_d	2.60 E+03	2.60E+03	0.05	1	
	Porosity of the sediment zone	beta_d	2.00 E-01	2.00E-01	0.20	1	m/y
	Sediment burial rate (m/d)	bury_d	1.00 E-06	1.00E-06	5.00	1	3.65 E-04
	Ambient environmental temperature (K)	Temp	2.89 E+02	2.89E+02	0.06	1	(m/s)
	Surface water current in m/d	current_w	0.00 E+00	0.00E+00	1.00	1	0.00 E+00

Landscape properties (continued)

site name	Calif. Residential Site (CA Res.)		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Organic carbon fraction in upper soil zone	foc_s	1.24 E-02	8.47E-03	1.98	1	
	Organic carbon fraction in vadose zone	foc_v	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in aquifer zone	foc_q	3.06 E-03	3.06E-03	0.96	1	
	Organic carbon fraction in sediments	foc_d	2.00 E-02	2.00E-02	1.00	1	
	Bndry lyr thickness in air above soil (m)	del_ag	5.00 E-03	5.00E-03	0.20	1	(m/s)
	Yearly average wind speed (m/d)	v_w	2.80 E+05	2.80E+05	0.17	1	3.24 E+00

Human Exposure Factors

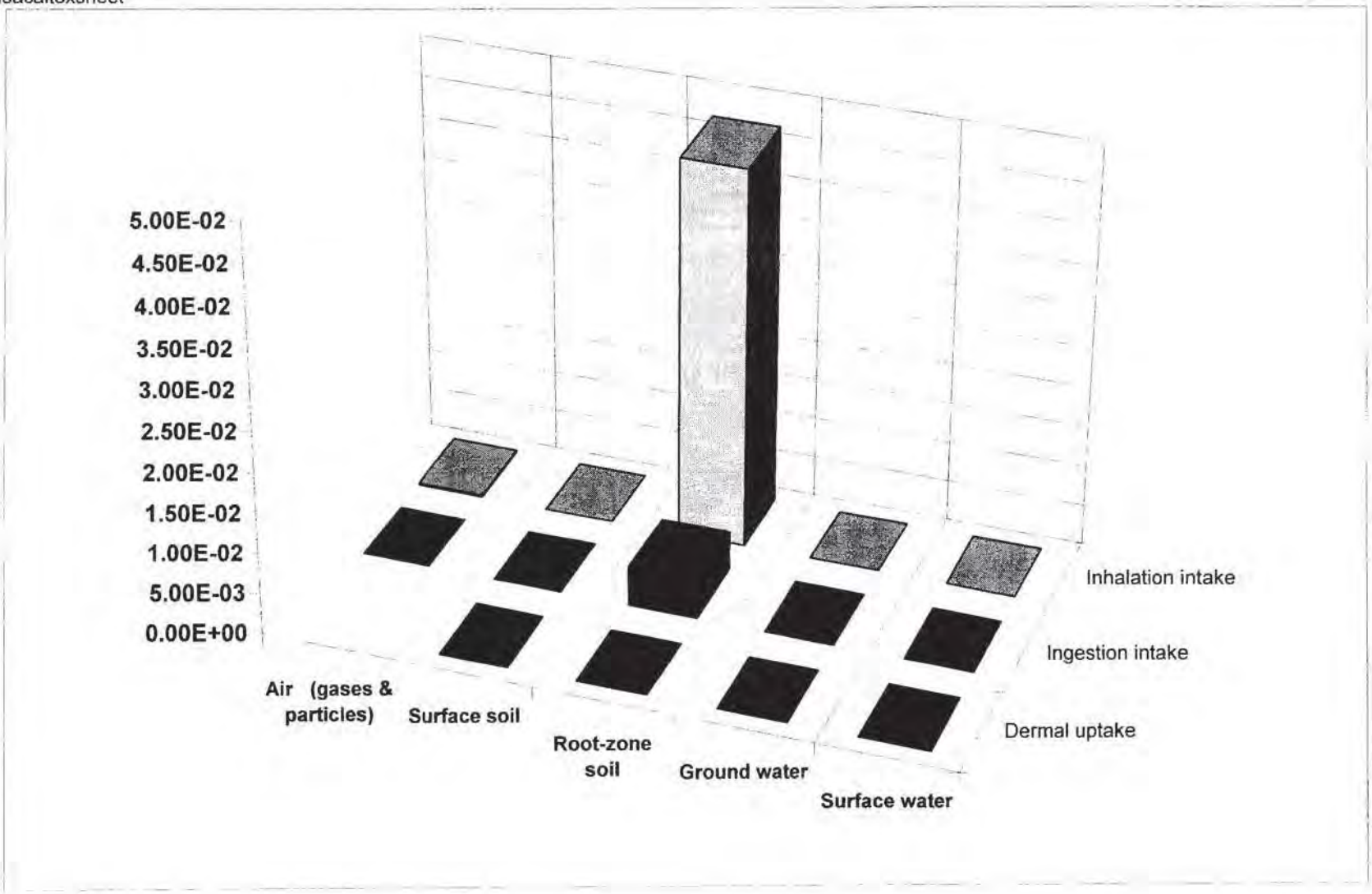
scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Body weight (kg)	BW	6.20 E+01	6.20E+01	0.20	1	
	Surface area (m2/kg)	SAb	2.60 E-02	2.60E-02	0.07	1	
	Active breathing rate (m3/kg-h)	BRa	1.90 E-02	1.90E-02	0.30	1	
	Resting breathing rate (m3/kg-h)	BRr	6.40 E-03	6.40E-03	0.20	1	
	Fluid Intake (L/kg-d)	Ifl	2.20 E-02	2.20E-02	0.20	1	
	Fruit and vegetable intake (kg/kg-d)	Ifv	4.90 E-03	4.90E-03	0.20	1	
	Grain intake (kg/kg-d)	Ig	3.70 E-03	3.70E-03	0.20	1	
	Milk intake (kg/kg-d)	Imk	6.50 E-03	6.50E-03	0.20	1	
	Meat intake (kg/kg-d)	Imt	3.00 E-03	3.00E-03	0.20	1	
	Egg intake (kg/kg-d)	Iegg	4.60 E-04	4.60E-04	0.30	1	
	Fish intake (kg/kg-d)	Ifsh	2.90 E-04	2.90E-04	0.40	1	
	Soil ingestion (kg/d)	Isl	3.50 E-07	3.50E-07	3.00	1	
	Breast milk ingestion by infants (kg/kg-d)	Ibm	1.10 E-01	1.10E-01	0.20	1	
	Inhalation by cattle (m3/d)	Inc	1.22 E+02	1.22E+02	0.30	1	
	Inhalation by hens (m3/d)	Inh	2.20 E+00	2.20E+00	0.30	1	
	Ingestion of pasture, dairy cattle (kg[FM]/d)	Ivdc	8.50 E+01	8.50E+01	0.20	1	
	Ingestion of pasture, beef cattle (kg[FM]/d)	Ivbc	6.00 E+01	6.00E+01	0.40	1	
	Ingestion of pasture by hens (kg[FM]/d)	Ivh	1.20 E-01	1.20E-01	0.04	1	
	Ingestion of water by dairy cattle (L/d)	Iwdc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by beef cattle (L/d)	Iwbc	3.50 E+01	3.50E+01	0.20	1	
	Ingestion of water by hens (L/d)	Iwh	8.40 E-02	8.40E-02	0.10	1	
	Ingestion of soil by cattle (kg/d)	Isc	4.00 E-01	4.00E-01	0.70	1	
	Ingestion of soil by hens (kg/d)	Ish	1.30 E-05	1.30E-05	1.00	1	

Human Exposure Factors (continued)

scenario	(Residential) Exposure Factors		Value used	Mean value	Coeff. Var.	Adjustment	Notes
	Fraction of water needs from ground water	fw_gw	8.00 E-01	8.00E-01	0.10	1	
	Fraction of water needs from surface water	fw_sw	2.00 E-01	2.00E-01	0.10	1	
	Water irrigation rate applied to agr.soil (l/m2-d)	R_irr	2.59 E+00	2.59E+00	1.00	1	
	Frctn frts & vgtbls that are exposed produce	fabv_grd_v	4.70 E-01	4.70E-01	0.10	1	
	Fraction of fruits and vegetables local	flocal_v	2.40 E-01	2.40E-01	0.70	1	
	Fraction of grains local	flocal_g	1.20 E-01	1.20E-01	0.70	1	
	Fraction of milk local	flocal_mk	4.00 E-01	4.00E-01	0.70	1	
	Fraction of meat local	flocal_mt	4.40 E-01	4.40E-01	0.50	1	
	Fraction of eggs local	flocal_egg	4.00 E-01	4.00E-01	0.70	1	
	Fraction of fish local	flocal_fsh	7.00 E-01	7.00E-01	0.30	1	
	Plant-air prtn fctr, particles, m3/kg[FM]	Kpa_part	3.30 E+03	3.30E+03	1.80	1	
	Rainsplash (mg/kg[plnt FM])/(mg/kg[dry soil])	rainsplash	3.40 E-03	3.40E-03	1.00	1	
	Water use in the shower (L/min)	Wshower	8.00 E+00	8.00E+00	0.40	1	
	Water use in the House (L/h)	Whouse	4.00 E+01	4.00E+01	0.40	1	
	Room ventilation rate, bathroom (m3/min)	VRbath	1.00 E+00	1.00E+00	0.40	1	
	Room ventilation rate, house (m3/h)	VRhouse	7.50 E+02	7.50E+02	0.30	1	
	Exposure time, in shower or bath (h/day)	ETsb	2.70 E-01	2.70E-01	0.60	1	
	Exposure time, active indoors (h/day)	ETai	8.00 E+00	8.00E+00	0.14	1	
	Exposure time, outdoors at home (h/day)	ETao	3.00 E-01	3.00E-01	0.14	1	
	Exposure time, indoors resting (h/day)	ETri	8.00 E+00	8.00E+00	0.04	1	
	Indoor dust load (kg/m^3)	dust_in	3.00 E-08	3.00E-08	0.40	1	
	Exposure frequency to soil on skin, (d/y)	EFsl	1.37 E+02	1.37E+02	0.60	1	
	Soil adherence to skin (mg/cm^2)	Slsk	5.00 E-01	5.00E-01	0.40	1	
	Ratio of indoor gas conc. to soil gas conc.	alpha_inair	1.00 E-04	1.00E-04	2.00	1	
	Exposure time swimming (h/d)	ETsw	5.00 E-01	5.00E-01	0.50	1	
	Exposure frequency, swimming (d/y)	EFsw	1.50 E+01	1.50E+01	4.00	1	
	Water ingestion while swimming (L/kg-h)	Isww	7.00 E-04	7.00E-04	1.00	1	
	Exposure duration (years)	ED	1.40 E+01	1.40E+01	1.15	1	
	Averaging time (days)	AT	2.56 E+04	2.56E+04	0.10	1	

Constants		
Gas Constant (Pa-m^3/mol-K)	8.31E+00	Rgas

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Exposure Pathway-Include-and-Exclude Toggles

All inhalation exposures indoors active	1	Contaminant transfer, air to plants surfaces	1
All inhalation exposures indoors resting	1	Cntmnnt. transfer, grnd. soil to plant surfaces	1
Inhalation exposure in shower/bath	1	Contamnnt. transfer, root soil to plant tissues	1
Inhalation exposures outdoors active	1	On-site grazing of animals	0
Inhalation of air particles indoors	1		
Transfer of soil dust to indoor air	1	Ingestion of home-grown exposed produce	1
Transfer of soil vapors to indoor air	1	Ingestion of home-grown unexposed produce	1
On-site inhalation by animals	1	Ingestion of home-grown meat	0
		Ingestion of home-grown milk	0
Use of ground water as tap water	0	Ingestion of home-grown eggs	0
Use of surface water as tap water	0	Ingestion of locally caught fish	0
Ingestion of tap water	1	Direct soil ingestion	1
Use of ground water for irrigation	0	Soil contact exposure at home or at work	1
Use of surface water for irrigation	0	Dermal exposure during shower/bath	1
		Dermal & ingstn exposures while swimming	1
Use of ground water for feeding animals	0		
Use of surface water for feeding animals	0	Breast-milk ingestion by infants	1

MEDIA AND CORRESPONDING POTENTIAL DOSES IN mg/kg-d (averaged over the exposure duration)

PATHWAYS	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	Totals	%
INHALATION	2.31E-04	4.66E-10	4.71E-02	0.00E+00	0.00E+00	**4.73E-02**	90.66
INGESTION:							
Water				0.00E+00	1.09E-07	1.09E-07	0.00
Exposed produce	1.60E-09	2.59E-07	1.19E-08	0.00E+00	0.00E+00	2.73E-07	0.00
Unexposed produce			4.85E-03	0.00E+00	0.00E+00	4.85E-03	9.31
Meat	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Milk	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Eggs	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00
Fish					0.00E+00	0.00E+00	0.00
Soil		2.16E-10	2.90E-08			2.92E-08	0.00
Total ingestion	1.60 E-09	2.60 E-07	4.85 E-03	0.00 E+00	1.09 E-07	**4.86 E-03**	9.31
DERMAL UPTAKE		1.13E-07	1.52E-05	0.00E+00	2.85E-07	**1.56E-05**	0.03
Dose SUM	**2.31E-04**	**3.73E-07**	**5.19E-02**	**0.00E+00**	**3.94E-07**	**5.22E-02**	100.0

Breast milk concentration	Air (gases & particles)	Surface soil	Root-zone soil	Ground water	Surface water	total
	5.59 E-06	9.01 E-09	1.25 E-03	0.00 E+00	9.51 E-09	1.26 E-03
						dose_bm
Infant dose	6.15 E-07	9.91 E-10	1.38 E-04	0.00 E+00	1.05 E-09	**1.39 E-04**

Ingestion dose used =>	4.86 E-03
Total dose used =>	5.22 E-02

ENVIRONMENTAL Media	**Air (gases)** mg/m^3 (air)	**Air (dust)** mg/m^3 (air)	**Ground soil** mg/kg(soil solids)	**Root soil** mg/kg(soil solids)	**Ground water** mg/L (pure)	**Surface water** mg/L (pure)
CONCENTRATIONS	1.11 E-03	1.25 E-11	7.65E-02	1.03 E+01	5.37 E-04	7.48 E-03

EXPOSURE MEDIA CONCENTRATIONS (averaged over the exposure duration)

EXPOSURE	Air (gases)	Air (dust)	Ground soil	Root soil	Ground water	Surface water
Indoor air (mg/m^3)	1.11 E-03	1.25 E-11	2.30 E-09	2.32 E-01	0.00 E+00	0.00 E+00
Bathroom air (mg/m^3)					0.00 E+00	0.00 E+00
Outdoor air (mg/m^3)	1.11 E-03	1.25 E-11				
Tap water (mg/L)					0.00 E+00	0.00 E+00
Exposed produce (mg/kg)	1.61 E-06	1.81 E-14	2.60 E-04	1.19 E-05	0.00 E+00	0.00 E+00
Unexposed produce (mg/kg)				7.79 E+00	0.00 E+00	0.00 E+00
Meat (mg/kg)	6.28 E-06	7.06 E-14	7.24 E-07	3.32 E-08	0.00 E+00	0.00 E+00
Milk (mg/kg)	1.99 E-06	2.23 E-14	3.24 E-07	1.49 E-08	0.00 E+00	0.00 E+00
Eggs (mg/kg)	7.14 E-07	8.03 E-15	9.14 E-09	4.19 E-10	0.00 E+00	0.00 E+00
Fish and seafood (mg/kg)						6.63 E-01
Household soil (mg/kg)			3.83 E-02	5.14 E+00		
Swimming water (mg/L)						7.58 E-03

PATHWAY CONTACT FACTORS (CR/BW*FI)

EXPOSURE *Media*	Units	Inhalation	Ingestion	Dermal
Indoor air (active)		1.52 E-01		
Indoor air (resting)		5.12 E-02		
Indoor air (shower/bath)		5.13 E-03		
Outdoor air (active)		5.70 E-03		
Tap water			2.20 E-02	1.00 E-04
Exposed produce			9.97 E-04	
Unexposed produce			6.23 E-04	
Meat			0.00 E+00	
Milk			0.00 E+00	
Eggs			0.00 E+00	
Fish and seafood			0.00 E+00	
Household soil			5.65 E-09	2.95 E-06
Swimming wtr			1.44 E-05	3.81 E-05

Dose ratios	inh-dose/Ns	ing-dose/Ns	drml-dose/Ns	inh-dose/Nq	ing-dose/Nq	drml-dose/Nq
	2.0 E-05	2.0 E-06	6.4 E-09	0.0 E+00	0.0 E+00	0.0 E+00

Time (y)	Total inhalation dose	Total ingestion dose	Total dermal dose	Total dose	Total dose from root soil	Total dose from ground water
1	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
2.4	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
3.8	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
5.2	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
6.6	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
8	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
9.4	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
10.8	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
12.2	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
13.6	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
15	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
Cumulative doses				266.5119777		
over ED by route, mg/kg	2.4 E+02	2.5 E+01	8.0 E-02	2.7 E+02	2.7 E+02	0.0 E+00
fraction	0.9066	0.0931	0.0003	1.0000	1.000	0.000
Average doses						
over ED by route, mg/kg-d	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
Maximum doses						
over ED by route, mg/kg-d	4.7 E-02	4.9 E-03	1.6 E-05	5.2 E-02	5.2 E-02	0.0 E+00
fraction	0.9066	0.0931	0.0003	1.0000	1.000	0.000

Max breast-milk dose	1.4 E-04	mg/kg-d	Max_ing	4.9 E-03

Off-site 1-h max X/Q (mol/m3-s)	6.2 E-03
Off-site Long-term X/Q	5.0 E-04
On-site Long-term X/Q	3.8 E-04
Off-site air dilution factor	1.0 E+00

Off-site pseudo Sa = 6.1 E-01 mol/day

bbb2 = 2.0 E-03 bbb4 = 6.5 E-04

bbb3 = 4.1 E-06 bbb5 = 4.1 E-06

			fugacity off-site	**fugacity on-site**	
Off-site air concentration (gases)	1.1 E-03	**mg/m3**	6.4 E-06	6.4 E-06	air
Off-site concentration (particles)	1.2 E-11	**mg/m3**			
Off-site surface-water concentrtn.	5.0 E-07	**mg/L**	7.2 E-06	1.1 E-01	water
Off-site surface soil concentration	4.9 E-06	**mg/kg**	6.4 E-06	1.0 E-01	ground soil
Off-site root-soil concentration	2.8 E-06	**mg/kg**	3.6 E-06	1.3 E+01	root soil

Off-site ground-water dilution	**0**

w	erf(w)
0.0 E+00	0.0 E+00
Dispsn redctn	3.5 E-01
decay reductn.	1.0 E+00

Darcy velociy of water	v_darc	1.0 E-01	m/d
Contaminant velocity	Vc	1.9 E-02	m/d
Trnsvrs. disprsn. coeff. (water)	D_T	5.0 E-02	m2/d
Trnsvrs. disprsn. coeff. (chem)	D_Tc	9.6 E-03	m2/d
Dispersion depth	dzz	10.4	m
Thickness of aquifer	d_q	30	m
Transverse dispersivity (chem)	alpha_t	5.0 E-01	m
Width of the contaminated area	Y	216	m
Distrance to off-site location	X	0	m
Mass tranfer rate, aquifer - out	T_qo	8.8 E-05	1/d

Calculated Properties

fugacity capacity of pure air	4.16E-04	Zair		
fugacity capacity of pure water	1.68E-04	Zwater		
height of the air compartment (m)	1.62E+01	d_a		
evapotranspiration of water from soil (m/d)	5.13E-04	evapotrans	1.87 E-01	m/y
transpiration of water from plants (m/d)	5.13E-04	transpire	1.87 E-01	m/y
Total surface water runoff (m/d)	4.78E-04	outflow	1.75 E-01	m/y
bndry lyr thickness in air above wtr (m)	5.43E-04	del_aw		
bndry lyr thickness in wtr below air (m)	1.84E-04	del_wa		
diffusion length in surface soil (m)	2.22E-02	del_g		
diffusion length in upper soil (m)	2.57E+00	del_s		
Thickness of the root-zone soil layer	1.40E+00	d_s		
wtr-side bndry lyr thickness with sed (m)	2.00E-02	del_wd		
sed-side bndry lyr thickness with wtr (m)	6.60E-03	del_dw		
Initial concentration in soil (mol/m3)	3.79E+01	Cs0		
Initial conc. in the vadose zone (mol/m3)	0.00E+00	Cv0		
Sediment resuspension rate (kg/m2-d)	1.23E+01	resuspend		
soil particle density; surface layer(kg/m3)	2.60E+03	rhos_g		
soil particle density; vadose layer(kg/m3)	2.60E+03	rhos_v		
Initial iventory in groundwater zone	0.00E+00	Nq0		
diffusion lag time in skin (h)	3.62E+01	tlag		
Skin/water partition coefficient	1.03E+02	Km		
Reaction rate constant in air (1/d)	3.15E-02	Ra		
Reaction rate constant, ground soil (1/d)	1.73E-04	Rg		
Reaction rate constant, root-zone soil (1/d)	1.73E-04	Rs		
Reaction rate constant, vadose-zone soil (1/d)	3.75E-04	Rv		
Reaction rate constant, ground water (1/d)	3.75E-04	Rq		
Reaction rate constant, surface water (1/d)	1.58E-04	Rw		
Reaction rate constant, sediment (1/d)	1.45E-06	Rd		
Reaction rate constant in leaf surface (1/d)	1.58E-04	Rls		
Continuous source term to air (mol/d)	0.00E+00	Sa		
Root lipid in root-zone soil(m3(organic)/m3(soil))	3.98E-03	RootLipid		

Leaf wet mass per area of soil (kg/m2)	1.15E+00	bm_leaf		
Wood and stem wet mass per area of soil(kg/m2)	2.69E+01	bm_stem		
Root wet mass per area of root-zone soil(kg/m2)	1.11E+01	bm_root		
Interception fraction for dry deposition on leaf	7.29E-01	IF_d		
Volume of the stem (m3)	1.52E+03	Vstm		
stomatal conductance (m/d)	1.40E+01	mtc_s		
cuticular conductance (m/d)	4.37E-05	mtc_c		
air side conductance over leaf (m/d)	5.01E+01	mtc_a		
cuticle water permeance (m/d)	1.09E-04	mtc_l		
conductance air/cuticle (m/d)	4.37E-05	mtc_ct		
conductance air/stomata (m/d)	1.10E+01	mtc_st		
root-soil / stem transfer factor	1.55E-05	x_rs		
stem / leaf transfer factor	1.58E-03	x_sl		
leaf / stem transfer factor	1.41E-02	p_ls		
stem / root-soil transfer factor	7.88E-05	p_sr		

Warnings

0 Ground soil depth greater than 2 cm
1 Root-zone soil too shallow for accuracy of diffusion model (must be at least 1.4*del_s)
0 Starting time cannot be 0 and should be greater than 365 day
0 Recharge velocity is negative
0 Recharge velocity is too large accuracy of model
0 Concentration in root-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in vadose-zone soil-water <0 or exceeds solubility when there are non-zero sources
0 Concentration in groundwater exceeds solubility or < 0
0 Concentration in surface water exceeds solubility
0 Concentration in sediment-zone water exceeds solubility
0 Exposure time indoors and outdoors at home or at work exceeds 24 h
0 Risk from breast milk exposure is large compared to other ingestion pathways
0 Hazard from breast milk exposure is large compared to other ingestion pathways
0 Fraction of water from groundwater plus fraction from surface >1
1 total

Fugacity (Pa)

Air	fa	6.43E-06
Cuticle	fc	2.63E-05
Leaf	fl	5.36E-05
Ground	fg	1.00E-01
Root	fs	1.34E+01
Vadose	fv	1.28E-01
Water	fw	1.08E-01
Sediment	fd	9.22E-02
Groundwater	fq	7.75E-03

Compartment Volumes (m^3)

Va	7.6 E+05	Air compartment
Vc	6.88E-01	Cuticle compartment
Vl	6.52E+01	Leaf compartment
Vg	2.3 E+02	Ground-soil compartment
Vs	6.6 E+04	Root-zone compartment
Vv	9.4 E+04	Vadose compartment volume
Vw	2.3 E+01	Water compartment
Vd	2.3 E-01	Sediment compartment
Vq	1.4 E+06	aquifer compartment

rhob_c 0.01141113 Volume fraction of atmospheric particles on cuticle (m3/m3)

phi 1.12E-08

Fugacity Capacities (mol/m^3 per Pa)

Zap	1.98E-01	fugacity capacity of air particles in mol/m3[s]-Pa
Zgp	4.81E-03	fugacity capacity of ground soil compartment particles in mol/m3[s]-Pa
Zsp	4.81E-03	fugacity capacity of root zone compartment particles in mol/m3[s]-Pa
Zvp	1.18E-03	fugacity capacity of vadose zone compartment particles in mol/m3[s]-Pa
Zwp	7.72E-03	fugacity capacity of suspended sediment in surface water in mol/m3[s]-Pa
Zdp	7.72E-03	fugacity capacity of bottom sediment particles in mol/m3[s]-Pa
Zqp	1.18E-03	fugacity capacity of aquifer solids in mol/m3-Pa
Zleaftotal	7.93E-04	fugacity capacity of the total leaf compartment in mol/Pa/m3
Za	4.16E-04	fugacity capacity of air compartment in mol/m3-Pa
Zc	5.50E-02	fugacity capacity of leaf surface compartment in mol/Pa/m3
Zl	2.21E-04	fugacity capacity of internal leaf compartment in mol/Pa/m3
Zg	2.75E-03	fugacity capacity of ground soil compartment in mol/m3-Pa
Zs	2.74E-03	fugacity capacity of root-soil compartment in mol/m3-Pa
Zv	7.96E-04	fugacity capacity of vadose-zone compartment in mol/m3-Pa
Zw	1.70E-04	fugacity capacity of water compartment in mol/m3-Pa
Zd	6.21E-03	fugacity capacity of sediment compartment in mol/m3-Pa
Zq	8.77E-04	fugacity capacity of aquifer compartment in mol/m3-Pa

Diffusion coefficients in m2/d

Compartment Phase		Compartment		Boundary-layer thickness (del)	Fugacity mass-transfer coefficients mol/Pa-m2-d Y		Overall intercompartment mass transfer rate constants (1/day) T			Compartment Interface
					one-sided	both-sides	Diffusion	Advection	Total	
Dair	1.00E-01	Da	1.00E-01	5.43E-04	7.68E-02	4.02E-05	5.94E-07	2.80E-09	5.97E-07	air-water, T_aw
Dwater	4.40E-05	Dw	4.34E-05	1.84E-04	4.02E-05		4.73 E-02		4.73E-02	water-air, T_wa
Dair_g	5.78E-03	Dg	9.95E-04	5.00E-03	8.34E-03	1.21E-04	1.80E-02	2.50E-05	1.80E-02	air-ground, T_ag
Dwater_g	8.60E-07			2.22E-02	1.23E-04		8.84E+00	4.14E-06	8.84E+00	ground-air, T_ga
Dair_s	4.88E-03	Ds	8.62E-04	2.22E-02	1.23E-04	9.12E-07	6.64E-02	6.80E-04	6.70E-02	ground-soil, T_gs
Dwater_s	1.08E-06			2.57E+00	9.18E-07		2.38E-04	0.00E+00	2.38E-04	soil-ground, T_sg
Dair_v	4.23E-03	Dv	2.33E-03	2.57E+00	9.18E-07	4.04E-07		2.44E-06	2.44E-06	soil-vadose, T_sv
Dwater_v	1.12E-06			5.07E+00	7.22E-07					vadose-soil, T_vs
Dwater_d	5.15E-06	Dd	1.39E-07	2.00E-02	3.74E-07	9.69E-08	1.14E-04	3.67E-02	3.68E-02	water-sediment, T_wd
				6.60E-03	1.31E-07		3.12E-04	1.18E-01	1.18E-01	sediment-water, T_dw
							1.95E-05	3.02E-06	2.26E-05	air-cuticle, T_ac
							1.64E-01	2.48E-03	1.66E-01	cuticle-air, T_ca
							2.45E+00		2.45E+00	air - leaf T_al
							5.44E+04		5.44E+04	leaf-air, T_la
							1.64E-01		1.64E-01	cuticle-leaf, T_cl
							4.29E-01		4.29E-01	leaf-cuticle, T_lc
								4.98E-02	4.98E-02	cuticle-ground T_cg
								2.74E-03	2.74E-03	leaf-ground T_lg
								7.84E-05	7.84E-05	leaf-soil, T_ls
								1.53E-05	1.53E-05	soil-leaf, T_sl
									0.00E+00	ground-cuticle, T_gc
								5.87E-06	5.87E-06	vadose-aquifer, T_vq
								2.49E-05	2.49E-05	sediment-out, T_do
								2.98E+02	2.98E+02	air-out, T_ao
								6.69E-03	6.69E-03	ground-water, T_gw
								9.57E-01	9.57E-01	water-out, T_wo

aaa1	5.95E-07	C0_1	2.48E+06
aaa2	6.67E-03	C0_2	0.00E+00
aaa3	2.97E-02	S_1	0.00E+00
aaa4	5.15E-08	S_2	0.00E+00
aaa5	2.67E-05	AA	4.30E-04
bbb1	0.00E+00	BB	0.00E+00
bbb2	0.00E+00	CC	2.44E-06
bbb3	0.00E+00	DDD	3.81E-04
ccc1	5.44E+04	Gam1	-3.81E-04
ccc2	2.45E+00	Gam2	-4.30E-04
ccc3	3.00E+02	Gm1mGm2	4.87E-05
ccc4	5.44E+04	Gam1p	4.30E-04
ccc5	1.80E-02	Gam2p	3.81E-04
ccc6	5.90E-02	Gm1mGm2p	4.87E-05

aaa6	2.48E+06
aaa7	1.34E+05
aaa8	-1.34E+05
bbb4	0.00E+00
bbb5	0
Lam1	0.000426

Source terms (g/d)

air	0.0 E+00	ground	0.0 E+00	water	0.0 E+00

Compartment Name		Loss-rate constant (1/day) L	Total Inventory (moles) N	Concen-tration (mol/m3) C	Mass distri-bution %	Gains g/d	Losses g/d	Residence Time (days)
air	a	3.00E+02	2.04E-03	2.68E-09	0.00%	2.53E+02	2.53E+02	3.33E-03
leaf	l	5.44E+04	7.73E-07	1.19E-08	0.00%	1.74E+01	1.74E+01	1.84E-05
cuticle	c	3.80E-01	9.95E-07	1.45E-06	0.00%	1.56E-04	1.56 E-04	2.63E+00
ground-soil	g	8.92E+00	6.44E-02	2.75E-04	0.00%	2.37E+02	2.37E+02	1.12E-01
root-soil	s	4.28E-04	2.41E+03	3.68E-02	99.21%	1.79E+00	4.28E+02	2.34E+03
vadose-zone	v	3.81E-04	9.51E+00	1.02E-04	0.39%	2.43E+00	1.50E+00	2.62E+03
surface water	w	1.04E+00	4.29E-04	1.83E-05	0.00%	1.85E-01	1.85E-01	9.60E-01
sediment	d	1.18E-01	1.34E-04	5.73E-04	0.00%	6.54E-03	6.54E-03	8.48E+00
aquifer	q	4.64E-04	9.55E+00	6.80E-06	0.39%	2.31E-02	1.83E+00	2.16E+03

Mass Flows (g/d)

air-ground	1.52E-02	Tag*Na*MW
air-water	5.03E-07	Taw*Na*MW
air-out	2.51E+02	Tao*Na*MW
air-leaves	2.06E+00	Tal*Na*MW
air-leaf surfaces	1.90E-05	Tac*Na*MW
air-transform	2.66E-02	Ra*Na*MW
leaves-air	1.74E+01	Tla*Nl*MW
leaves-leaf surfaces	1.37E-04	Tlc*Nl*MW
leaves-ground	8.76E-07	Tlg*Nl*MW
leaves-soil	2.51E-08	Tls*Nl*MW
leaf-surface - air	6.83E-05	Tca*Nc*MW
leaf-surfaces - leaves	6.73E-05	Tcl*Nc*MW
leaf-surfaces - ground	2.05E-05	Tcg*Nc*MW
leaf surfaces-trnsfrm	6.51E-08	Rls*Nc*MW
ground-air	2.36E+02	Tga*Ng*MW
ground-leaf surface	0.00E+00	T_gc*Ng*MW
ground-soil	1.79E+00	Tgs*Ng*MW

ground-water	1.78E-01	Tgw*Ng*MW
ground-trnsfrm	4.60E-03	Rg*Ng*MW
soil-ground	2.37E+02	Tsg*Ns*MW
soil-leaves	1.53E+01	Tsl*Ns*MW
soil-vadose	2.43E+00	Tsv*Ns*MW
soil-trnsfrm	1.72E+02	Rs*Ns*MW
vadose-aquifer	2.31E-02	Tvq*Nv*MW
vadose-trnsfrm	1.48E+00	Rv*Nv*MW
aquifer-removal	1.83E+00	Lq*Nq*MW
water-air	8.40E-03	Twa*Nw*MW
water-sediment	6.54E-03	Twd*Nw*MW
water-out	1.70E-01	Two*Nw*MW
water-trnsfrm	2.81E-05	Rw*Nw*MW
sediment-water	6.54E-03	Tdw*Nd*MW
sedmnt-trnsfrm	8.05E-08	Rd*Nd*MW
sediment-out	1.38E-06	Tdo*Nd*MW

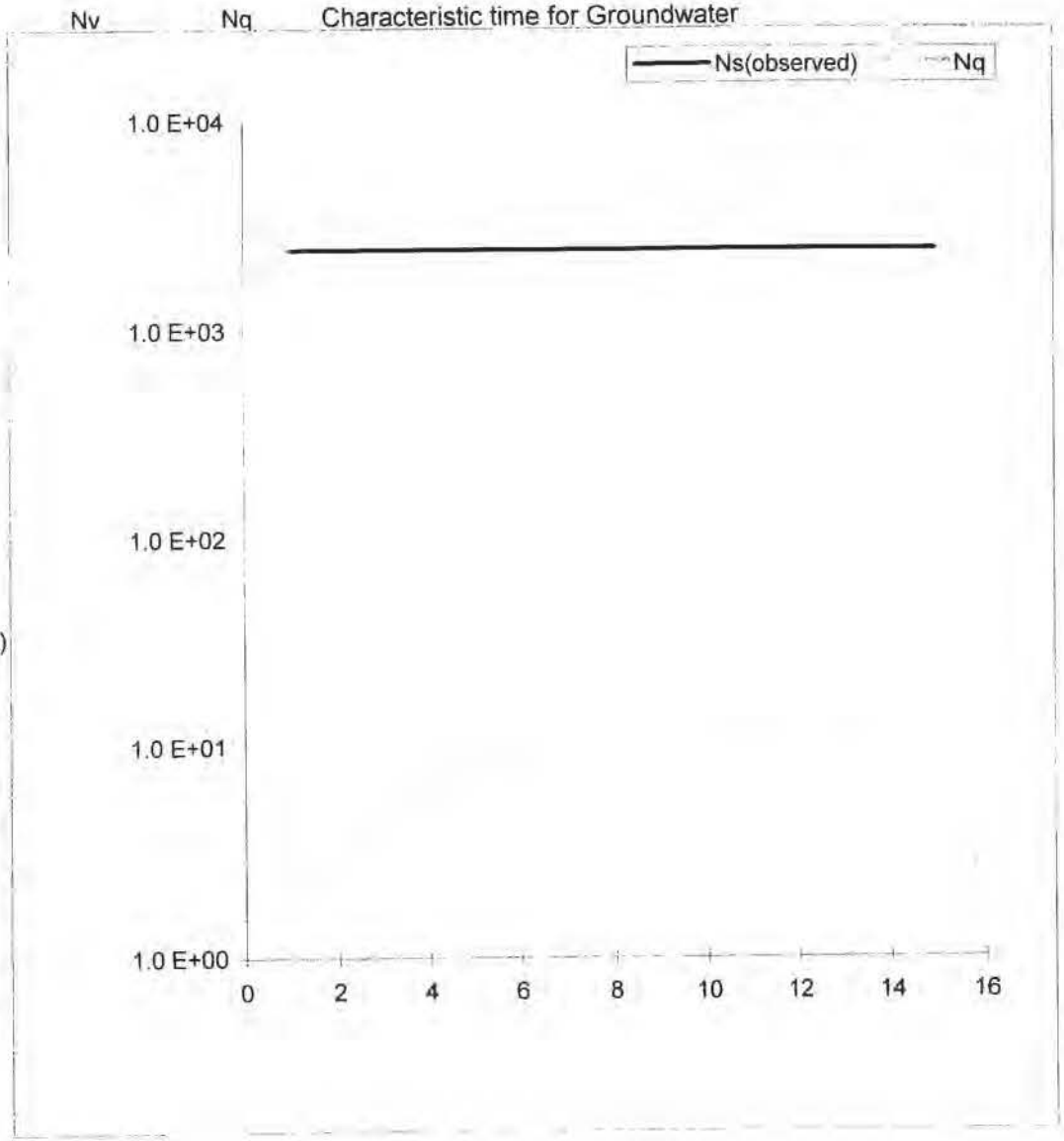
Time-dependent Compartment Inventories

Time (y)	Time (d)	Ns(observed)	Nq
1	365	2.4 E+03	2.0 E+00
2.4	876	2.4 E+03	4.4 E+00
3.8	1387	2.4 E+03	6.4 E+00
5.2	1898	2.4 E+03	8.0 E+00
6.6	2409	2.4 E+03	9.3 E+00
8	2920	2.4 E+03	1.0 E+01
9.4	3431	2.4 E+03	1.1 E+01
10.8	3942	2.4 E+03	1.2 E+01
12.2	4453	2.4 E+03	1.3 E+01
13.6	4964	2.4 E+03	1.3 E+01
15	5475	2.4 E+03	1.4 E+01

		Ns(0)[total]	
		2.5 E+06	
	const_sat	Ns(sat)	
	-1.029520705	2.4E+03	
t*	Ns(@Ns>=Nsat)	Ns(total)	Nv(@Ns=sat)
2410908.1	2.48 E+06	2.5E+06	2.0E+00
2410908.1	2.48 E+06	2.5E+06	4.4E+00
2410908.1	2.48 E+06	2.5E+06	6.3E+00
2410908.1	2.48 E+06	2.5E+06	8.0E+00
2410908.1	2.48 E+06	2.5E+06	9.3E+00
2410908.1	2.48 E+06	2.5E+06	1.0E+01
2410908.1	2.48 E+06	2.5E+06	1.1E+01
2410908.1	2.48 E+06	2.5E+06	1.2E+01
2410908.1	2.48 E+06	2.5E+06	1.3E+01
2410908.1	2.48 E+06	2.5E+06	1.3E+01
2410908.1	2.48 E+06	2.5E+06	1.4E+01

Plot

Nv Nq Characteristic time for Groundwater



Appendix F

Field Notes

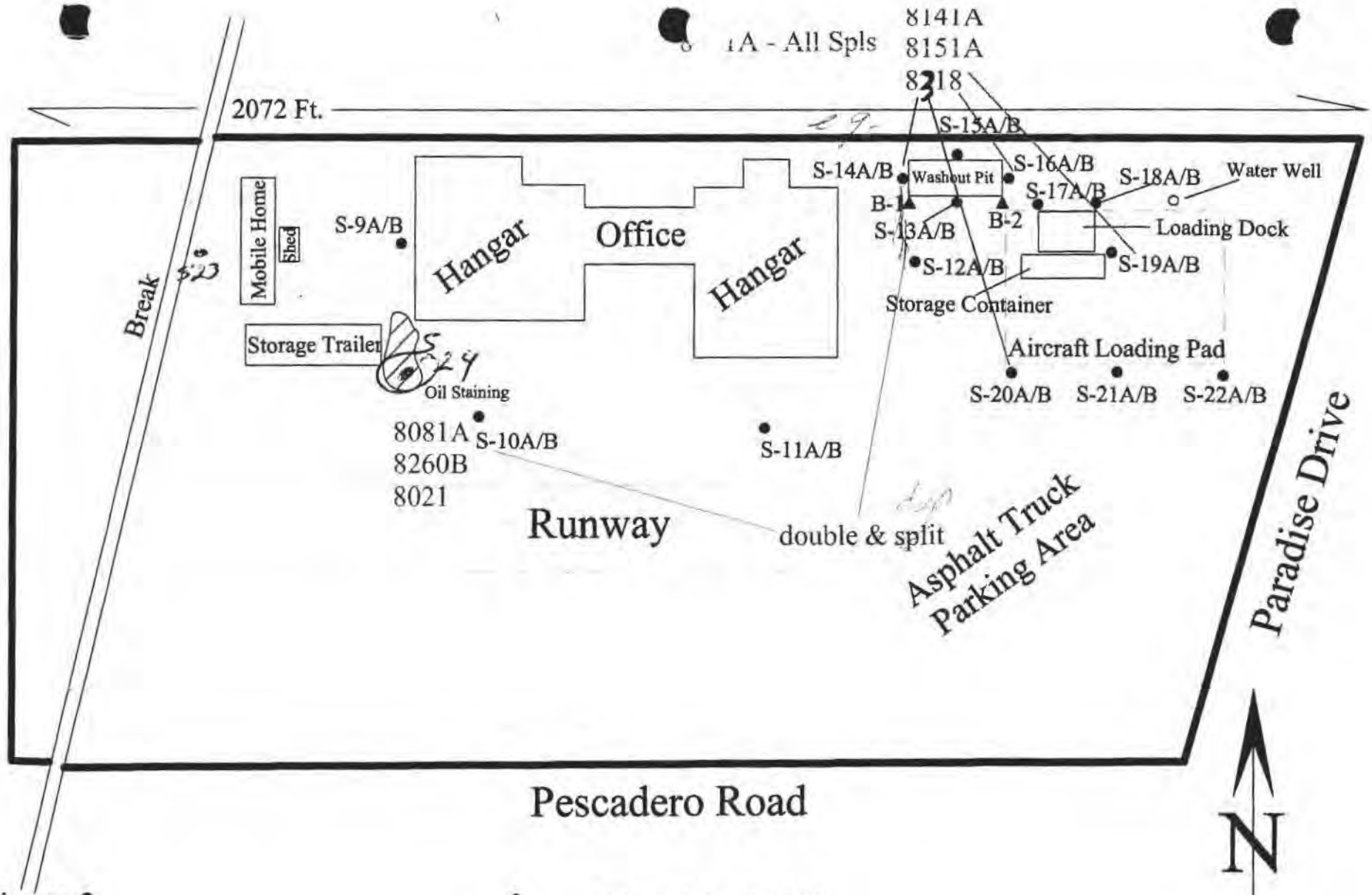


Figure 3
Detail Site Sketch Map
With Targeted Samplel Locations
Former Haley's Flying Service
21,000 Paradise Ave.
Tracy, CA

Field/Activity Log

Job Name/Number: Haley's 474.2

Date(s): 8/24/03

Date	Time	Activity
8/24	655	arr. on site, Wx clear, mild 19°, NW wind 5 mph
	72[illegible]	Eric arrived
	733	Tailgate complete
	11 10	eric left site
	1250	Temp 30°
	1700	stop work. cleaning up
8/25	705	arr at site
	750	finish rotohammer thru ~~base~~ road base along pad
	10 10	26°
	1230	32°
	1238	quit work - clean up
	110	leave site

Additional Notes:

General photos

#1 loaded truck

#2 down slope [illegible]

Mileage:

To	From	Start Mileage	Stop Mileage	Total Miles
			Total Mileage-Job:	

Date	Time	Activity
9/26	610	arr site, WX cool clear, no wind. started by getting replacement S2C
"	930	Finished shallow soil spls. Left site.

Soil Borings

Additional Notes: WX Clear sunny, calm EST 65°
9/6 arr on site 830 AM hand bored shallow holes for conductor, (

805 VEW arrived - had safety mtg
815 talked to eric - cont come out
935 set up on S-2, drilled thru 2 of 3.5" PVC. Found GW ± 11'
1015 took GW spl. Move to B-1.
1105 start on B-1
1125 took # GW sp.

Grouted boring left loc at 12:15

Station # S14

Photo

Sample ID S14 Date 8/24 Time 0800

Location
W end of pit

Soil Description

Color reddish brown 5YR 4/3 Texture (sand/silt/clay) sand/silt

Grain Size vf-silt Sorting poor

Comments
collected double spl for dup.
collected by blank

Station # S10

Photo #3 of 15

Moved spl pt 3' W & 3' S due to cse gravel under sump

Sample ID S10 Date 8/24 Time 930-35

Location
West drum sump

Soil Description

Color 5YR 5/2 reddish gy Texture (sand/silt/clay) silt

Grain Size — Sorting —

Comments
0-6 spl for TPH 8081
6-12 " " " "
" for VOC & DUP.
spl # C is dup

Station # 3

Photo

Sample ID S15 Date 8/24 Time 941

Location N side of washout pit.

Soil Description

Color 5YR5/1 grey Texture (sand/silt/clay) silt

Grain Size Sorting

Comments

Station # 4

Photo #4 over looking pit

Sample ID S16 Date 8/24 Time 1135

Location E side of pit

Soil Description

Color 5YR 5/2 reddish gry Texture (sand/silt/clay) silt

Grain Size Sorting

Comments

Station # 5

Photo

Sample ID ~~5~~ 13 Date 8/24 Time 1156

Location
S side washout pit

Soil Description

Color 5YR 4/2 dk reddish gry Texture (sand/silt/clay) silty clay

Grain Size Sorting

Comments

Station # 6

Photo

Sample ID 518 Date 8/24 Time 1240

Location
NE corner loading dock

Soil Description

Color a.a. Texture (sand/silt/clay) clayey silt

Grain Size Sorting

Comments
8" road base on top of spl

Station # 7

Photo 5
near at loading dock

Sample ID S17 Date 8/24 Time 12 55

Location
NW corner loading dock

Soil Description

Color 5YR 3/1 very dk gry Texture (sand/silt/clay) silt

Grain Size _____ Sorting _____

Comments _____

oily odor on top

Station # 8

Photo 6

Sample ID S19 Date 8/24 Time 1340

Location
Trough in concrete

Soil Description

Color black Texture (sand/silt/clay) sandy silt

Grain Size _____ Sorting _____

Comments _____

rapid hammer thru ± 1" of conc.
oily odor
black stain

Station # 9

Photo 7

row of spl pts along S side of apron

Sample ID S22 Date 8/25 Time 805

Location E side of pad

Soil Description

Color 5YR 3/3 dk reddish brn Texture (sand/silt/clay) sandy silt

Grain Size vf Sorting

Comments under 10" of road base

Station # 10

Photo

Sample ID S21 Date 8/25 Time 822

Location center S of pad

Soil Description

Color gg Texture (sand/silt/clay) sandy silt

Grain Size vf Sorting

Comments under 8" of road base

1051

Station # 11

Photo

Sample ID S 20 Date 8/25 Time 835

Location W side of pad

Soil Description yellowish red

Color 5YR 4/6 Texture (sand/silt/clay) clayey silt

Grain Size Sorting

Comments slightly plastic dot

W end S side of pad

under 10" road base

Sample 12 1051

see station 19

Station # 12

Photo

Sample ID S 12 Date 8/25 Time 844

Location E side of hangar - in depression

Soil Description

Color 5YR 4/3 reddish brn Texture (sand/silt/clay) silt

Grain Size Sorting

Comments

under ~ 6" road base

Station # 13

Photo

Sample ID S11 Date 8/25 Time 928

Location Sump infront of E Hangar

Soil Description

Color Fill Texture (sand/silt/clay)

Grain Size Sorting

Comments

Sump is full of a mixture of cobbles & soil. Took spl 12-18" bgs removing material & separating the cobbles.

Station # 14

Photo 6

Sample ID S1 Date 8/25 Time 1609

Location W end of parcel

Soil Description

Color 5YR 3/2 dk reddish brn Texture (sand/silt/clay) silt

Grain Size Sorting

Comments

under 6" of gravel

Station # 15

Photo _____

Sample ID S2 Date 9/25 Time 1045

Location along air strip

Soil Description yellowish red

Color 5YR 4/6 Texture (sand/silt/clay) S/T

Grain Size _____ Sorting _____

Comments _____

Station # 16

Photo 9

Sample ID S3 Date 9/25 Time 1122

Location along air strip

Soil Description

Color 5YR 5/4 reddish brn Texture (sand/silt/clay) S/T

Grain Size _____ Sorting _____

Comments _____

Station # 17

Photo

Sample ID 54 Date 8/25 Time ~~1243~~ 1143

Location along air str.p

Soil Description dk reddish brn

Color 5YR 3/2 Texture (sand/silt/clay) silty clay

Grain Size Sorting

Comments slightly plastic dst.

Station # 15

Photo

Sample ID 55 Date 8/25 Time 1220

Location along air str.p

Soil Description

Color 5YR3/2 dk reddish brn Texture (sand/silt/clay) sandy silt

Grain Size vf Sorting

Comments

under 12" of mixed gravel

Station # 19

Photo 10

Sample ID S20 Date 8/26 Time 654

Location e south side of pad - replacement for original S20

Soil Description

Color See Stn # 11 Texture (sand/silt/clay) _____

Grain Size _____ Sorting _____

Comments _____

Taken 5' W of original spl pt

Station # 20

Photo 11

Sample ID S6 Date 8/26 Time 728

Location along air strip

Soil Description

Color 5YR 3/3 dk brn Texture (sand/silt/clay) clayey silt

Grain Size _____ Sorting _____

Comments _____

scattered white mottling

Station # 21

Photo _____

Sample ID 57 Date 5/26 Time 753

Location along air strip

Soil Description

Color ash Texture (sand/silt/clay) clayey silt

Grain Size _____ Sorting _____

Comments _____

less white mottling

Station # 22

Photo _____

Sample ID 58 Date 5/26 Time 811

Location e end of runway

Soil Description

Color ash Texture (sand/silt/clay) clayey silt

Grain Size _____ Sorting _____

Comments _____

no mottling

Station # 23

Photo 12

Sample ID 59 Date 8/26 Time 835

Location w end of hangar

Soil Description

Color 5Y 3/4 dk brn Texture (sand/silt/clay) Slt

Grain Size _____ Sorting _____

Comments sl. moist - crumbly

Station # 24

Photo _____

Sample ID S23 Date 8/26 Time 844

Location w of mobile home

Soil Description

Color 5Y 3/4 Texture (sand/silt/clay) clay / Slt

Grain Size _____ Sorting _____

Comments _____

next to 3 drums w of old house trailer. Taken 1' bgs

Station # 25

Photo 13

Sample ID S24 Date 8/26 Time 905

Location
between hangar & storage structure
in a/l grassed area

Soil Description

Color dk brn 5YR 3/3 Texture (sand/silt/clay) SiLT

Grain Size _____ Sorting _____

Comments white mottling

Under 10-12" of gravel
s/l Topsoil at 18"

Station # _____

Photo _____

Sample ID _____ Date _____ Time _____

Location _____

Soil Description

Color _____ Texture (sand/silt/clay) _____

Grain Size _____ Sorting _____

Comments _____

Station # 26

Photo _____
1 & 2
bore loc w conductor

3 & 4
drilling

Sample ID B2 Date 9/6 Time _____

Location 6' E & 1's of SE corner of pit

Soil Description

Color _____ Texture (sand/silt/clay) _____

Grain Size _____ Sorting _____

Comments _____

Station # 27

Photo _____
5-8

Sample ID B-1 Date 9/6 Time _____

Location, 6' W & 2's of SW corner of pit

Soil Description

Color _____ Texture (sand/silt/clay) _____

Grain Size _____ Sorting _____

Comments _____

Department of Toxic Substances Control

Maureen F. Gorsen, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Alan C. Lloyd, Ph.D.
Agency Secretary
Cal/EPA

Arnold Schwarzenegger
Governor

February 9, 2006

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

APPROVAL OF PRELIMINARY ENDANGERMENT ASSESSMENT FOR HALEY FLYING SERVICE, TRACY, CALIFORNIA

Dear Ms. Haley:

The Department of Toxic Substances Control (DTSC) has reviewed the Report entitled "Preliminary Endangerment Assessment, Former Haley Flying Service, 21,000 Paradise Road, Tracy, CA (Cal-Site #39070037)" dated January 18, 2006 (PEA Report). The PEA Report was prepared by Geo-Phase Environmental (Geo-Phase) for the Haley Flying Service site, Assessor's Parcel Number 213-060-13 (Site), pursuant to the Voluntary Cleanup Agreement (VCA) between DTSC and Ms. Dorothy Haley (Docket No. HSA-A 04/05-170), dated May 11, 2005. DTSC finds that the PEA Report meets the standard for review identified in the second printing of the "Preliminary Endangerment Assessment: Guidance Manual" dated June 1999, and that the project Proponent has satisfactorily completed the Scope of Work identified in Exhibit C of the VCA. DTSC also acknowledges Geo-Phase's conclusion in the PEA Report that based on the risk assessment, an Interim Removal Measure and further characterization are warranted due to releases of pesticides and herbicides from historic crop-dusting activities at the Site.

The soil in and around the aircraft loading dock, surrounding pad, and the washout pit at the Site, is highly contaminated by organo-chlorine pesticides and herbicides including: DDT, Toxaphene, Dieldrin, Chlordane, DCPA, Endrin, Aldrin, Methoxychlor, and Endosulfans. The organo-phosphorous chemicals, Ethion and Ethyl parathion, were also detected, as were the N-methyl Carbamate pesticides, Carbaryl and Methiocarb. These pesticides and herbicides were determined to be the Contaminants of Potential Concern (COPCs). The sample with the highest contaminant concentration was collected from a point adjacent to the loading dock. It contained a total pesticide concentration of approximately 50,000 parts per million (ppm).

Groundwater at the Site lies about 11 feet below the surface and two groundwater samples were collected from points near either end of the washout pit. Laboratory analysis detected the presence of several of the COPCs in the groundwater samples.

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However, these results are questionable given that samples were collected through highly contaminated shallow soil. It is possible that cross-contamination from the shallow soil may have affected the groundwater samples.

The United States Environmental Protection Agency statistical program known as ProUCL was used to evaluate the statistical distribution of the soil samples to derive a 95 percent upper confidence limit (UCL). There were too few analytical tests for herbicides and pesticides outside the organo-chlorine group for a statistically significant population. Accordingly, mean contaminant concentrations for these chemicals were assumed to be the maximum concentration actually detected.

CalTox software was used for the human health risk screening. A 70 year residential exposure scenario was assumed for all of the COPCs. The CalTOX software contains a library of chemical characteristics and toxicity information on various chemicals, but not all the COPCs were included in the CalTOX library of chemicals. Those chemicals, however, represent only a very small percentage of the total contaminant mass present at the site, and the assumption was made that excluding these chemicals from the risk assessment would not materially affect the results of the risk assessment. The following table represents the increased cancer risk and the non-cancer chemical risk estimated by the CalTOX program for the standard scenario (i.e., residential):

Chemical	**Increased Cancer Risk**	**Hazard Ratio (non-Cancer)**
Chlordane	2.2E-3	3.8E+2
DDD	4.9E-5	0.0
DDE	5.9E-4	0.0
DDT	6.8E-5	4E+0
Dieldrin	1.3E-2	3.3E+2
Endosulfan	0.0	4.6E-1
Endrin	0.0	1.8E+1
Toxaphene	1.3E-2	1.9E+2
TOTALS	**2.9E-2 (=0.029)**	**9.2E+2 (=922)**

As the increased cancer risk of 2.9E-2 exceeds the DTSC target risk of 1.0E-06 and the hazard ratio of 922 exceeds the DTSC target hazard ratio of 1.0E-0, the site poses a significant risk to residential occupants and, though not specifically evaluated, on-site workers and trespassers would also likely be subjected to an elevated risk from exposure to these COPCs. Accordingly, further site characterization and remedial measures are warranted for this Site.

DTSC concurs with Geo-Phase's recommendations regarding further investigation and remedial measures. Specifically, the following Geo-Phase recommended actions should be taken:

1. Additional groundwater samples should be collected in the assumed down-gradient direction (north) to obtain information on the possible presence of pesticides in the groundwater. The best location would be along the south line of the agricultural parcel that lies on the north side of the irrigation ditch that marks the boundary between these parcels.

2. The concrete loading dock, washout pit, and aircraft loading pad should be removed and the concrete properly disposed of. This would allow access to the underlying soil so that additional samples can be collected to better define the lateral and vertical extent of the intensely contaminated soil.

3. Once this additional soil characterization is complete, the highly contaminated soil should be excavated and either treated on-site, or hauled to a Class I hazardous waste landfill as an interim remedial measure. This work would be expected to remove nearly all of the contaminant mass, thereby removing the source of potential groundwater contamination. New soil samples would then be collected from the freshly exposed surface and new groundwater samples could be collected to determine if additional remedial action is needed.

4. Additional sampling is needed in the vicinity of sample point S-5 to characterize the extent of low levels of organo-chlorine pesticides found there.

Please contact the DTSC Project Manager, Mr. Eric Wallberg at 916-255-3749 to discuss the additional remedial measures and investigations specified above. An amendment to the VCA will be required to conduct the additional work associated with the above recommendations.

Sincerely,

James L. Tjosvold, PE, Chief
Northern California-Central Cleanup Operations Branch

cc: See next page.

cc: Mr. Steve Lankford, P.G.
Geo-Phase Environmental
2937 Veneman, #B240
Modesto, California 95356

Mr. Eric Wallberg
Project Manager
Site Evaluation and Remediation Unit
Northern California-Central Cleanup Operations Branch
Site Mitigation and Brownfields Reuse Program
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

CONTACT INFORMATION

CONTACT NAME
LEONA WINNER

E-MAIL ADDRESS
leona.winner@dtsc.ca.gov

ORGANIZATION NAME
DTSC - CLEANUP PROGRAM SAN JOAQUIN BRANCH (SACRAMENTO)

ADDRESS

SACRAMENTO , CA

PHONE NUMBERS
Work - (916) 255-6679

SUPERVISOR NAME
LORA JAMESON

E-MAIL ADDRESS
lora.jameson@dtsc.ca.gov

ORGANIZATION NAME
DTSC - CLEANUP PROGRAM SANTA SUSANA LAB PROJECT (SACRAMENTO)

ADDRESS

SACRAMENTO , CA

PHONE NUMBERS
Work - (916) 255-3586

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0VVYRFZ Site Location: 2395 E Pescadero Ave Account ID: :

Received by: EE0004636 BACKUS
Assigned To: EE0001421 RIVERA

Received Date: 7/10/2018
Assigned Date: 7/10/2018

Print Date: 7/11/2018 11:18:46AM

Program/Element 2300 - UNDERGROUND TANK PROGRAM

Complainant:
Address [redacted]

Nature of complaint:

Possible abandoned UST. Dispenser and piping was observed onsite.

Complaint Mode: P

Complaint Mode Codes

A-Agency Referral
B-Bd of Supervisors / City Council
C-Counter
E-Code Enforcement
F-Fax
M-Mail / Correspondence
O-Other EH Unit
P-Phone
I-Internet / Email
S-Sheriff's Office

PROPERTY INFORMATION

Property Name:

Site Location: 2395 E Pescadero
TRACY, CA 95304

Cross Street

Phone :

District :

APN 21306013

Date Abated 8/23/18

Inspector ID #: BM1495

PROPERTY OWNER INFORMATION

Responsible Party or Property Owner: Mary C Bacchetti Tr

RP/DBA :

RP Address [redacted]

Billing Address

Home Phone

Work Phone :

Location :

Send Referral to

Referral Address

Referral Letter Sent by

Date:

Complaint Status Code: 01

Circle appropriate Status Code

01 - Field Response-Violations Cited and Corrected
02 - Office Response Only
06 - Violations Cited - see Linked PROGRAM FACILITY FILE
07 - Refferred to Other Agency _____
08 - Unable to Verify Alleged Complaint
10 - POSTED SUBSTANDARD/UNSECURED - See Housing File
11 - Multiple Complaints - SEE ACTIVE CASE #_____
12 - DA Referred Complaint-See Program Enforcement Action Form
15 - ACTIVE HOUSING CASE - NEW COMPLAINT see ACTIVE CASE #
28 - Alleged FBI - No Major Violations Identified
29 - Alleged FBI - Major Violations Identified
50 - LEAD Assessment Performed-No Abatement Required
52 - LEAD Abatement Reqired-See Program Record File
97 - Disaster Planning and Response
99 - UNSPECIFIED-Old Complaint-No Original Found
MN - EHD Monitoring Status
PD - Permit Issued-Pending Well Installation
RS - Resolved - New Well Installed
S1 - Tank pumped
S2 - Hooked up to public sewer
S3 - Septic system repaired

formerly 21000 Paradise Road

Complaint Reviewed by: Date: 8/23/18

Updated by: Date: 8-23-18

5104.rpt

SAN JOAQUIN COUNTY

Environmental Health Department

Complaint Record Daily Time and Activity Summary from 3/1/2015 to 6/21/2034 for **CO0VVYRFZ** located at 2395 E Pescadero Ave

Activity Date			Recorded by
07/11/2018 72 min	11:30am - Left to site with GB. 12:00pm - Arrived. Met with Lisa Middleton of the Air District, and Jim Decker of City of Tracy Code Enforcement. Could not verify if any UST's present. Observed concrete secondary containment that potentially indicates an AST. Observed piping, but could not verify if piping is for fuel. Observed various sized containers of potentially acetylene, oxygen, butane cannisters, and propane tanks. Took photographs. Left site. 12:42pm - Arrived in office.	PE 2300 SC 004	HANG
07/11/2018 120 min	Inspected site with Aaron H. Jim Decker of Tracy Code Enforcement let us on the property. Naseem A. also on site to check the water well. We found a concrete platform with piping in it. The main structure had burnt down and several compressed gas cylinders were observed. Also two partially full 55 gallon drums and several vehicles were burnt in the fire. I wrote a notice to abate to dispose of all hazardous waste and also provide information about the concrete platform which may contain an underground tank. The notice was emailed to Jim Decker and maiiled to the property owner in Parcel Viewer. The property owner is Mary C Bacchetti Tr, 10876 W Tracy Blvd, Tracy, CA 95304. There is historical information in Geotracker.	PE 2300 SC 544	BACKUS
07/12/2018 0 min	Mailed Notice to Abate dated 7/11/18 with photographs & list of hazardous waste cleanup companies by regular mail to Property Owner on Parcel Viewer: BACCHETTI, MARY C TR, 10876 W TRACY BLVD, TRACY CA 95304.	PE 2300 SC 177	JIMENEZ
08/06/2018 24 min	Received call from Marty Thorpe of Jim Thorpe Oil, 209-329-5481. Marty is contracted to remove the surface debris. I asked him to provide profile and HW manifest documentation for the potential hazardous waste in the surface debris. Compressed gas containers, burned vehicles and several partially full 55 gallon drums were observed on site. Marty also said he will not remove the evaporator pit or the concrete platform. He will try to find out if there is a tank inside the concrete platform. Work will start around August 20. This address was formerly 21000 Paradise Rd and is in Geotracker as an "open - inactive" site.	PE 2200 SC 544	BACKUS
08/23/2018 12 min	Received call from Marty Thorpe. Fire damaged debris from the property was taken to Forward Landfill. Propane bottle is being taken to Campora. Acetylene / Oxygen compressed gas bottles are being taken to a gas dealer. Marty investigated for possible USTs and found the old fuel piping but no tank. Two fuel USTs were removed May 1990 (PR0501911) Abated complaint.	PE 2300 SC 544	BACKUS

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT
1868 East Hazelton Avenue, Stockton, CA 95205-6232
(209) 468-3420 ***Fax:*** (209) 468-3433 ***Web:*** www.sjgov.org/ehd

WASTE DISCHARGE/SPILL RESPONSE NOTICE TO ABATE

FACILITY TYPE/NAME: Vacant Property		**DATE:** July 11, 2018
SITE ADDRESS: 2395 E Pescadero Ave	**CITY:** Tracy	**ZIP CODE:** 95304
OWNER/OPERATOR: Mary C Bacchetti Tr		**TELEPHONE:** 209-835-0555
TYPE OF INSPECTION: ☐ WARNING CENTER RESPONSE ☐ OTHER ☒ COMPLAINT ☐ CONSULTATION ☐ ROUTINE	**PROGRAM ELEMENT:** 2300	**RECORD ID#:** CO0VVYRFZ

NATURE OF WASTE DISCHARGE/SPILL RELEASE: Possible hazardous waste and underground tanks on the property.

OBSERVATIONS: The main structure burned to the ground recently. Compressed gas containers, burned vehicles, and several partially full 55 gallon drums were observed. A concrete platform with piping was also observed which may be an underground tank.

Dispose of all hazardous waste including the items listed in accordance with Title 22 California Code of Regulations. Furnish information to this agency regarding the concrete platform and any underground tanks on the property.

VIOLATIONS:

- ☒ Discharge of any Waste, including Sewage
  (*CA Health and Safety Code 5411*)
- ☒ Discharge of Waste or Sewage to Water or within 150' of Waterway
  (*SJC Ordinance Code Sections 9-1125.3, 9-1125.4*)
- ☒ Improper Disposal of a Hazardous Waste
  (*CA Health and Safety Code 25189.5*)
- ☒ Permitting or Maintaining a Nuisance
  (*SJC Ordinance Code Section 8-5100)*
- ☒ Other: CA Health and Safety Code 25185.6 Furnish information to the local agency

CORRECTIVE ACTIONS/ORDER:

Immediately contain, clean up, and dispose of the waste at an authorized, permitted location. Ensure that clean up personnel possess adequate training.

- ☒ Investigate and abate contamination under the oversight of the appropriate lead agency.
- ☒ Submit copies of hazardous waste manifests/disposal records to the EHD within 30 days.
- ☐ Other: _____ Correct By: Immediately

COST RECOVERY: All EHD Staff Time Associated with this Spill Response is Billed to the Responsible Party at the Current Hourly Rate. Failure to Comply with this Notice may Result in Formal Enforcement Action.

INSPECTED BY: _____ **PRINT NAME:** Garrett Backus
SIGNATURE OF ENVIRONMENTAL HEALTH STAFF

RECEIVED BY: mailed **DATE:** 7/11/18
SIGNATURE OF OWNER/OPERATOR

Photo 1: Concrete platform with piping coming out of it



Photo 2: Concrete platform with piping coming out of it



Photo 3: Concrete platform with piping coming out of it

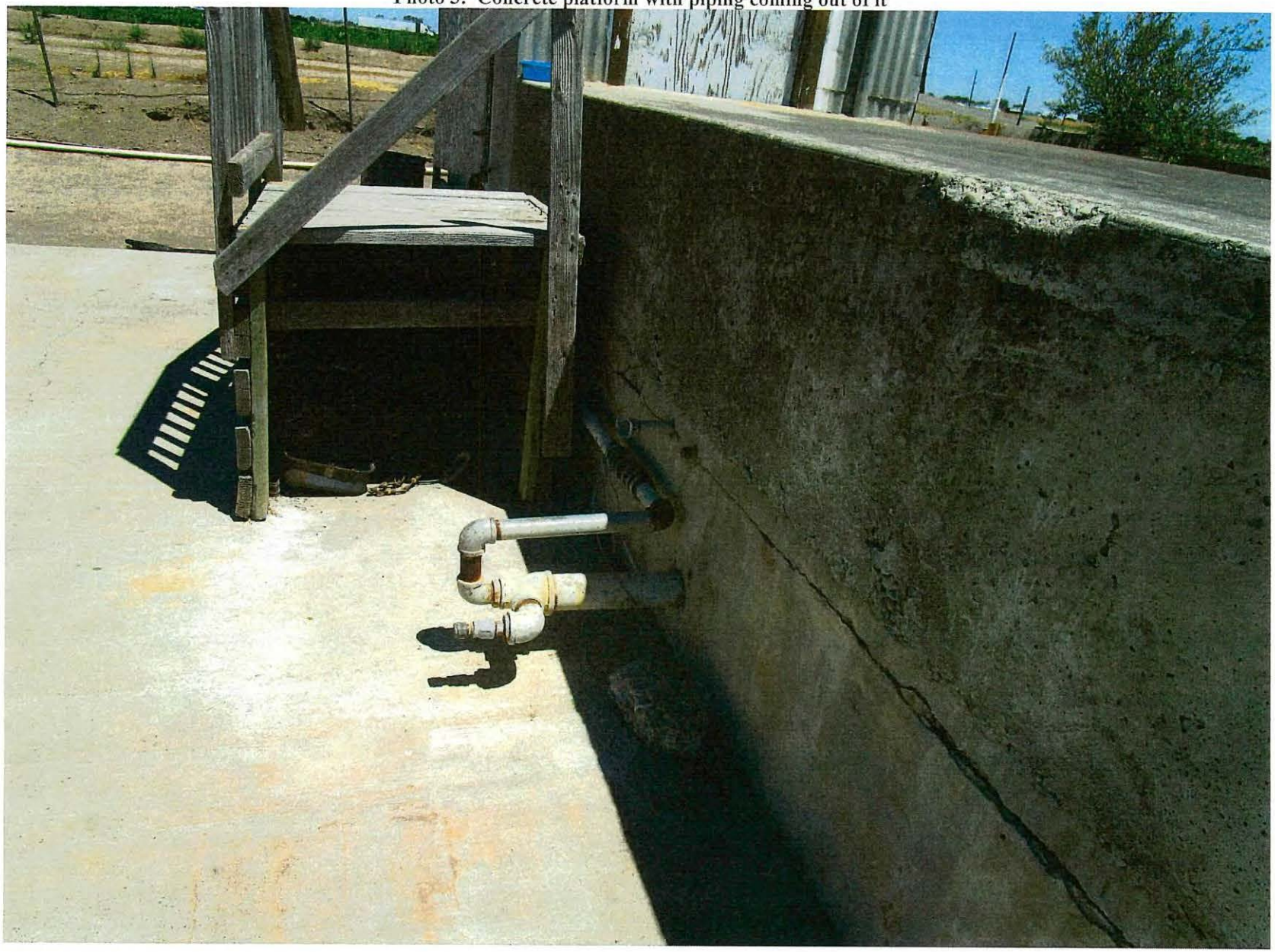


Photo 4: Probable evaporator pit for pesticide rinsate used when this property was used for a flying service.



Photo 5: Main building – burnt down



Photo 6: Compressed gas cylinders



Photo 7: Compressed gas cylinder



C00VU YRFZ

Garrett Backus [EH]

From: marty@jimthorpeoil.com
Sent: Thursday, August 23, 2018 4:09 PM
To: Garrett Backus [EH]
Subject: Tracy propane bottles
Attachments: Scan_20180823 (2).png

Garrett, Please see the attached propane and bottle disposal tag. Thank You! Marty

C00VVYRF2

CAMPORA PROPANE SERVICE
2525 S. MARIPOSA ROAD STOCKTON CA.
(209) 466-8611

DIV 2

** INVOICE **
#232254

ACCOUNT # 26 (209) 466-8611

LOC # 1 (209) 466-8611

CASH SALE - STOCKTON
P.O. BOX 31625
STOCKTON, CA 95213

CASH SALE - STOCKTON
2525 E MARIPOSA RD.
STOCKTON CA 95205

TERMS: NET 30 DAYS

SHIPPED: 8/23/18 INVOICED: 8/23/18 SALESMAN: CLERK: MEJ

STOCK #	WHS	/QUANTITY\ SHIP	RET	DESCRIPTION	UNIT QUANTITY	PRICE PER UNIT	EXTENDED AMOUNT
LABOR2	AP1	20		DISPOSAL OF 4EA 5GAL CYLS	20.000 EACH	1.000000	20.00
NON-HAZARDOUS LIQUID							

SUBTOTAL	20.00
TOTAL	$20.00
AMT TENDERED	20.00
CHANGE DUE	.00

WE APPRECIATE YOUR BUSINESS. THANK YOU!

THE OXYGEN & ACETYLENE BOTTLES WERE BOTH BORNED AND EMPTY AND WILL BE DISPOSED OF AT ALCO METAL & IRON SCRAP YARD IN STOCKTON.

Mark Thayer

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0023831 Site Location: 2395 ~~PASCADERO~~ E. Pescadero Ave Account ID: :

Received by: EE0000060 RUIZ
Assigned To: EE0000060 RUIZ
Received Date: 12/30/2005
Assigned Date: 12/30/2005
Print Date: 1/3/2006 3:48:36PM

SCANNED

Program/Element Code: 4400 - SOLID WASTE PROGRAM
Complainant: [redacted]
Address

Nature of complaint:

LOT HAS AN ABUNDANCE OF ACCUMULATED TRASH, APPLIANCES, TIRES, ABANDONED VEHICLES, ETC

Complaint Mode: P | Complaint Mode Codes | A-Agency Referral | B-Bd of Supervisors / City Council | C-Counter | E-Code Enforcement | M-Mail / Correspondence | O-Other EH Unit | P-Phone

PROPERTY INFORMATION

Property Name:

Site Location: 2395 ~~PASCADERO~~ E. Pescadero Ave
TRACY, CA 95304

Phone :

District : 005
APN : 213-060-13

Date Abated: 1/05/06

Inspector: Jennifer Ruiz

Send Referral to: City of Tracy
Referral Address: 520 N. Tracy Blvd
Tracy CA 95376

PROPERTY OWNER INFORMATION

Responsible Party or Property Owner: DOROTHY HALEY Trustee
RP/DBA :
RP Address: [redacted]
Billing Address

Home Phone :
Work Phone :

Location Code : 99

Referral Letter Sent by: Jenni Ruiz
Date: 1/05/06

Complaint Status Code: 07

Circle appropriate Status Code

01 - FIELD ABATED
02 - OFFICE ABATED
03 - NAI SENT
04 - NOTICE TO ABATE ISSUED
05 - ENFORCEMENT ACTION INITIATED
06 - EHD PERMIT FACILITY - see Linked PROGRAM FACILITY FILE
07 - REFERRED TO OTHER AGENCY
08 - UNABLE TO VERIFY
09 - FOODBORNE ILLNESS
10 - SUBSTANDARD PROPERTY - SEE HOUSING ABATEMENT FILE
11 - Multiple Complaints - SEE ACTIVE CASE #
12 - ENFORCEMENT CASE - Transferred to LIQUID WASTE FILE
13 - ENFORCEMENT CASE - Transferred to SOLID WASTE FILE
14 - ENFORCEMENT CASE - Transferred to ER FILE
15 - ACTIVE HOUSING CASE - NEW COMPLAINT see ACTIVE CASE #
16 - LETTER SENT TO TENANT
17 - 15 DAY LETTER SENT
18 - ENFORCEMENT CASE - Transferred to VECTOR CONTROL FILE
19 - ENFORCEMENT CASE - Transferred to WELL PROGRAM FILE
20 - ENFORCEMENT CASE - Transferred to UIC PROGRAM FILE
28 - FOODBORNE ILLNESS - Unconfirmed
29 - FOODBORNE ILLNESS - Confirmed
50 - LEAD HAZ EVALUATION REQUIRED (1)
51 - LEAD HAZ WORK PLAN SUBMITTED (2)
52 - LEAD HAZ ABATEMENT IN PROGRESS (3)
53 - LEAD HAZ VISUAL INSPECT SATISFACTORY (4)

Complaint History Attached But Not Scanned

☑ completed

COMPLAINT ID: CO0023831
Assigned To: EE0000060 - RUIZ

Site Location: 2395 PASCADERO

INVESTIGATION REPORT

Detail all progress report (s) chronologically. List dates, times, types of notices. Describe conditions and actions taken. Attach all pertinent paperwork to this report.

Date: 12/07/05
Inspector: Jenni Ruiz

- Complaint initiated by CIWMB and CHP flyover of San Joaquin County with Waste Tire Program. GPS coordinate system was not functioning. Aerial photos were taken. Garrett Backus, REHS @ SJCEHD, and Officers Marks and Neilson of California Highway Patrol were present.

Date: 12/30/05
Inspector: Jenni Ruiz

- Site visit this day. Premise address is 2395 Pescadero Ave, Tracy CA 95304. Tenant is Raj Chhina (209) 832-7222 of Continental C Express. Nine truck trailers and Four truck tractors were in Front of facility. Tenant claims no repairs are done on site and he does not have employees at present. When questioned about accumulated junk on the property tenant claimed illegal dumping takes place all the time. Owner is Dorothy Haley. Present was Natalya Subbotnikova.

Date: 1/05/06
Inspector: Jenni Ruiz

- Letter of referral to City of Tracy sent. Abated complaint.

Date:
Inspector:

Date:
Inspector:

Complaint Reviewed by: [signature] Date: 1/9/06

Updated by: CP Date: 1/11/06

5104.rpt

ENVIRONMENTAL HEALTH DEPARTMENT
SAN JOAQUIN COUNTY

Donna K. Heran, R.E.H.S.
Director
Al Olsen, R.E.H.S.
Program Manager
Laurie A. Cotulla, R.E.H.S.
Program Manager

304 East Weber Avenue, Third Floor
Stockton, California 95202-2708
Telephone: (209) 468-3420
Fax: (209) 464-0138
Website: www.sjgov.org/ehd/

Unit Supervisors
Carl Borgman, R.E.H.S.
Mike Huggins, R.E.H.S., R.D.I.
Douglas W. Wilson, R.E.H.S.
Margaret Lagorio, R.E.H.S.
Robert McClellon, R.E.H.S.
Jeff Carruesco, R.E.H.S.

January 5, 2006

COPY

City Of Tracy
Community Development Department
520 N Tracy Blvd
Tracy, CA 95376

Re: Complaint No. CO0023831

The following complaint was received by this office and is being referred as a matter under your jurisdiction.

Referenced Premise: 2395 Pescadero Ave, Tracy, CA 95304

Complaint: Lot has an abundance of accumulated trash, appliances, tires, abandoned vehicles, junk, etc.

Phone number of Complainant:

Complainant: Jenni Ruiz per California Integrated Waste Management Board and California Highway Patrol Flyover on December 8, 2005.

Remarks:

Environmental Health Contact: Jenni Ruiz, REHS (209) 468-9966

Robert McClellon, Supervising REHS
Environmental Health Department

cc: Environmental Health Department Complaint Desk
Laura Niles, CIWMB

RM: kb

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0024765 Site Location: 2395 E PESCADERO AVE Account ID: :

Received by: EE0000753 NG
Assigned To: EE0003973 MCCLELLON
Received Date: 7/6/2006
Assigned Date: 7/6/2006
Print Date: 7/6/2006 4:31:20PM

Program/Element Code: 4400 - SOLID WASTE PROGRAM

SCANNED

Complainant:
Address [redacted]

Nature of complaint:

DUMPING OF TIRES, CONCRETE, APPLIANCES, AND OLD CARS ON-SITE.

Complaint Mode: P

Complaint Mode Codes

A-Agency Referral B-Bd of Supervisors / City Council C-Counter
E-Code Enforcement M-Mail / Correspondence O-Other EH Unit P-Phone

PROPERTY INFORMATION

Property Name:

Site Location 2395 E PESCADERO
TRACY, CA

Phone :

District 005 - ORNELLAS, LEROY
APN 21306013

PROPERTY OWNER INFORMATION

Responsible Party or Property Owner: DOROTHY HALEY TRUSTEE
RP/DBA :
RP Address [redacted]
Billing Address

Home Phone :
Work Phone :

Location Code 99 - UNINCORPORATED AREA

Date Abated 7-7-06 Inspector: NS 4680

Send Referral to
Referral Address

Referral Letter Sent by
Date:

Complaint Status Code: 04

Circle appropriate Status Code

01 - FIELD ABATED
02 - OFFICE ABATED
03 - NAI SENT
04 - NOTICE TO ABATE ISSUED
05 - ENFORCEMENT ACTION INITIATED
06 - EHD PERMIT FACILITY - see Linked PROGRAM FACILITY FILE
07 - REFERRED TO OTHER AGENCY
08 - UNABLE TO VERIFY
09 - FOODBORNE ILLNESS
10 - SUBSTANDARD PROPERTY - SEE HOUSING ABATEMENT FILE
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51 - LEAD HAZ WORK PLAN SUBMITTED (2)
52 - LEAD HAZ ABATEMENT IN PROGRESS (3)
53 - LEAD HAZ VISUAL INSPECT SATISFACTORY (4)

☑ completed

Complaint History Attached But Not Scanned

COMPLAINT ID: CO0024765

Assigned To: EE0003973 - MCCLELLON

Site Location: 2395 E PESCADERO AVE

INVESTIGATION REPORT

Detail all progress report (s) chronologically. List dates, times, types of notices. Describe conditions and actions taken. Attach all pertinent paperwork to this report.

Date: 7/7/06
Inspector: NS 4680

Site visit on July 7, 2006. Observed approximately 100 waste/used tires on site. Verified the presence of appliances, furniture, concrete and other solid waste on the property. Photos taken. Sent NAI.

Date:
Inspector:

Date:
Inspector:

Date:
Inspector:

Date:
Inspector:

Complaint Reviewed by: Date: 7/7/06

Updated by: Date: 7/21/06

5104.rpt

ENVIRONMENTAL HEALTH DEPARTMENT
SAN JOAQUIN COUNTY

Donna K. Heran, R.E.H.S.
Director
Laurie A. Cotulla, R.E.H.S.
Program Manager

304 East Weber Avenue, Third Floor
Stockton, California 95202-2708
Telephone: (209) 468-3420
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Margaret Lagorio, R.E.H.S.
Robert McClellon, R.E.H.S.
Jeff Carruesco, R.E.H.S.

NOTICE TO ABATE IMMEDIATELY

July 7, 2006

Sent U.S. Mail

Dorothy Haley Trustee
1311 Madison Ave
Tracy, CA 95304

RE: Accumulation of solid waste at 2395 E Pescadero, Tracy, CA 95304,
Complaint ID: CO0024765

The San Joaquin County Environmental Health Department (EHD) received a complaint on July 6, 2006 regarding the above referenced location. The complaint alleges that there is a dumping of tires and other solid waste on the property. A site visit by EHD on July 7, 2006 verified the presence of approximately 100 tires, appliances, furniture and concrete. In addition there is an accumulation of trash on the property. This is a violation of the following San Joaquin County Ordinance:

1. San Joaquin County Ordinance (SJCO), No. 2887, Chapter 4, Section 5-2400; Accumulation of refuse, waste, and filth is prohibited.

According to Public Resources Code (PRC) sections 45000, 45005, and 45011, this department has the authority to: issue an administrative order requiring the owner of the above property to take corrective action as necessary to abate a nuisance, cease and desist any improper action, and establish a time schedule according to which the site shall be brought into compliance.

Within 30 days of receipt of this notice, haul the trash and tires from this location to a permitted disposal site. Contact a Registered Waste Tire Hauler to transport the tires and obtain a Waste Tire Manifest from the hauler. A list of haulers and disposal sites is enclosed.
Failure to respond to this notice will result in further legal action.

Recommended that the property be secured from the future dumping.

If you have any questions please contact Natalia Subbotnikova at (209) 468-0338.

Robert McClellon, Supervisor REHS

Environmental Health Department

ENFORCEMENT PROCEDURE

Violation(s) of County and/or State law(s) have been identified on the referenced property. If the violation(s) are not corrected within the specified time frame, one of the following enforcement options will be initiated. All enforcement costs incurred by this agency to bring the violation(s) into compliance are to be paid by the responsible person. Failure to pay these costs will result in a special assessment added to the property tax.

Agency enforcement costs are accrued from the time the violation(s) are documented until the abatement has been confirmed. Enforcement costs are in addition to any fines or penalties that may be assessed through the enforcement options identified below.

ENVIRONMENTAL HEALTH DIVISION ENFORCEMENT OPTIONS

1. **Referral to the District Attorney** for prosecution as a misdemeanor. A misdemeanor may be punishable by a fine of not more than $500 or by imprisonment in the County jail, or by both fine and imprisonment, unless otherwise specified by the County Ordinance Code. Each day the violation(s) is found to exist shall be considered a separate offense.

2. **Infraction Citation** requiring the responsible person to appear in Municipal Court to enter a plea. The bail schedule is as follows:

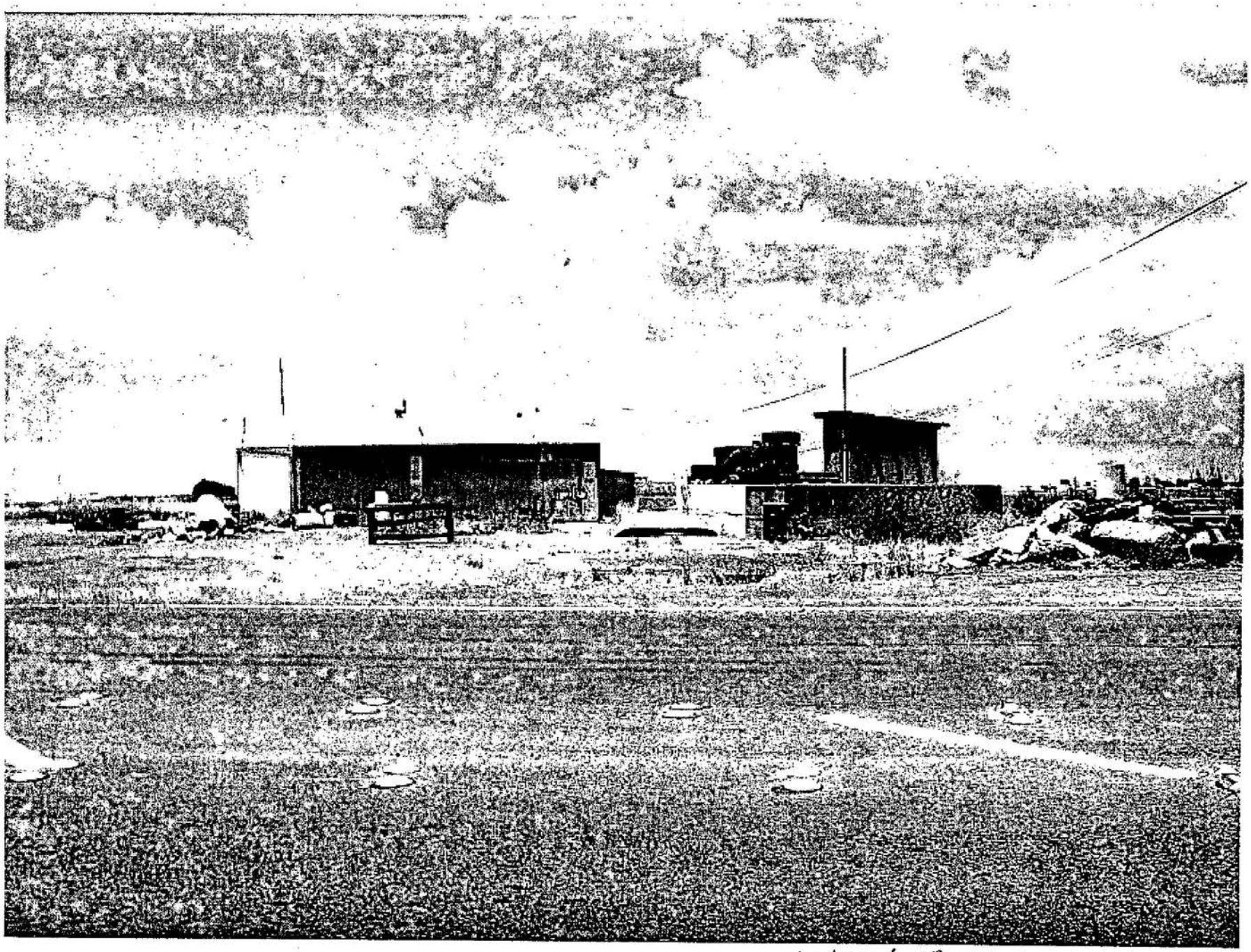
   First Offense.....$100 fine plus court penalties
   Second Offense.....$200 fine plus court penalties
   Third Offense.....$500 fine plus court penalties

   The fourth and subsequent violation will be handled as a misdemeanor through filing a formal complaint with the District Attorney's Office. However, in the event of a major public health & safety threat, a misdemeanor complaint may be requested when the first, second, or third offense is documented.

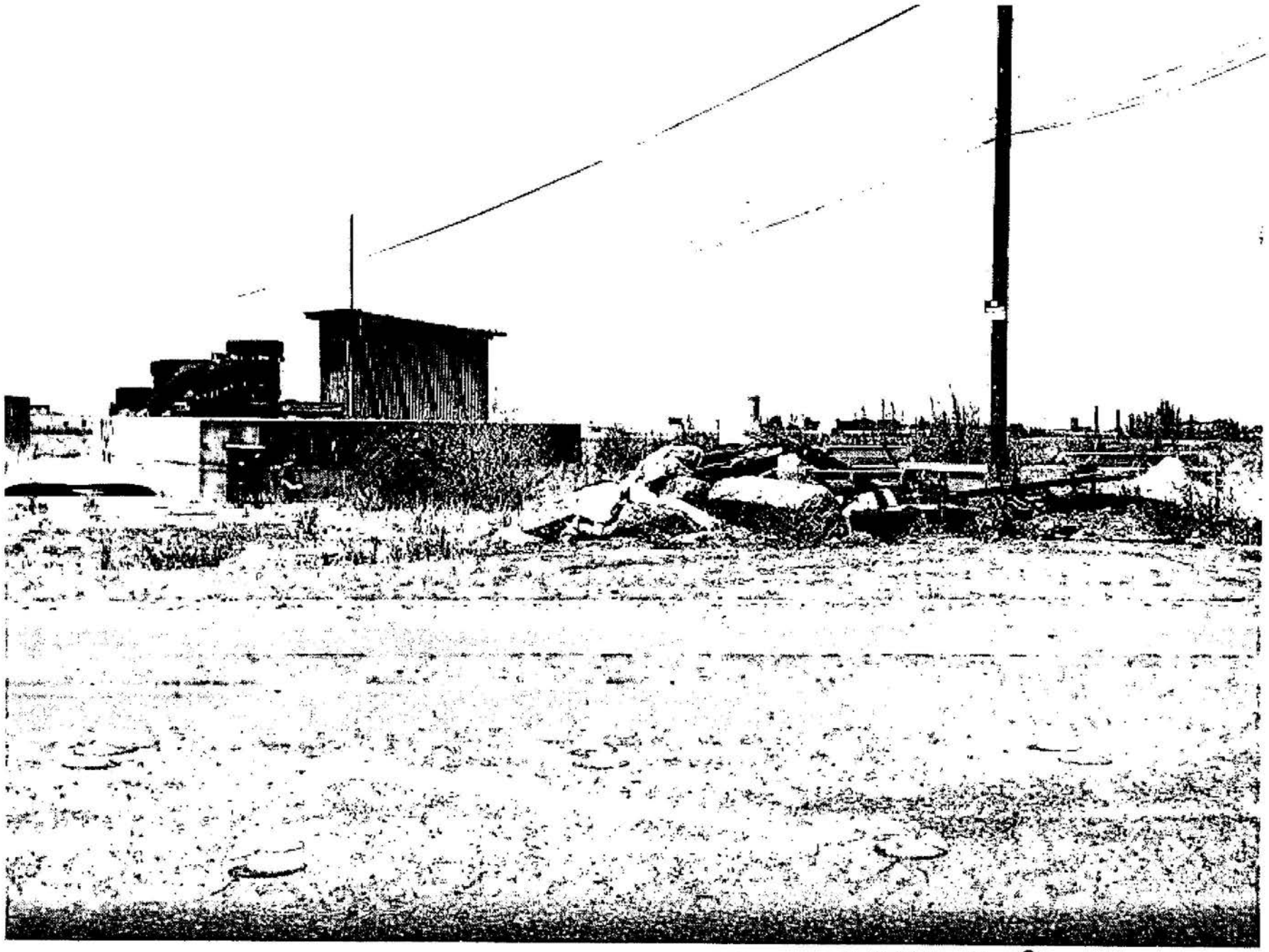
3. **Administrative Abatement** or removal of the violation by the County. The cost of removal to be paid by the property owner. If the costs are not paid upon demand, a special assessment will be added to the property tax.

APPEAL PROCEDURE

If you do not agree with the conditions or requirements of this notice, you may request a hearing before a Hearing Officer appointed by the Director of Environmental Health. This hearing must be requested in writing within thirty (30) days of verbal or written notice of a violation(s). If the Hearing Officer finds that there is no basis to substantiate the validity of the appeal, the hearing cost will be added to the enforcement cost.



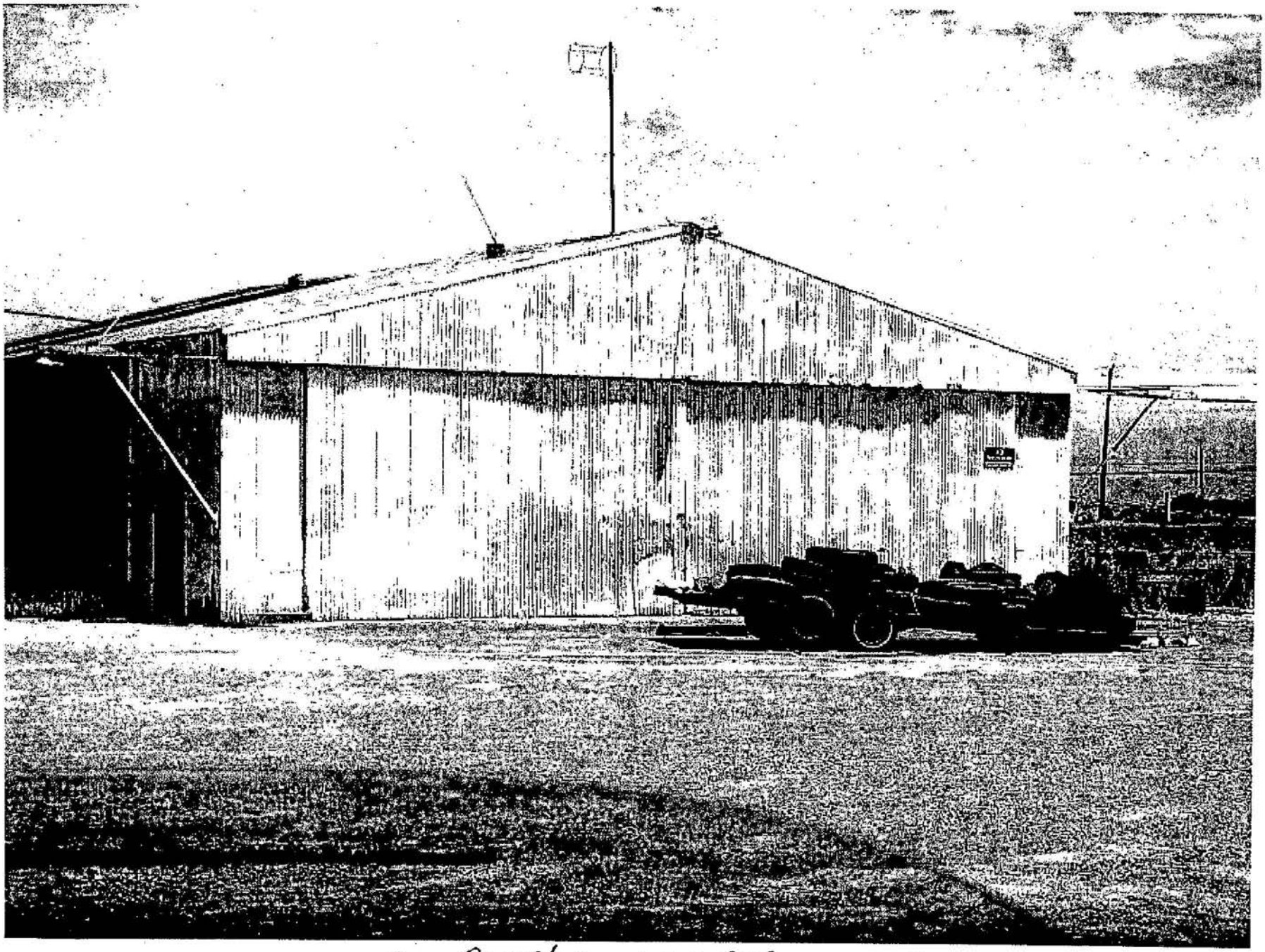
C0002476S –
2395 E Pescadero Ave



C00024765 - 2395 E Pescadero Ave



C0008476S - 2395 E Pescadero Ave



CO#24765 - 2395 E Pescadero Ave

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0047080 Site Location: 2395 E PESCADERO AVE Account ID: :

Received by: EE0000034 AHMED Received Date: 7/11/2018 Print Date: 7/13/2018 9:37:27AM
Assigned To: EE0000034 AHMED Assigned Date: 7/13/2018

Program/Element Code: 4300 - WELL PROGRAM

Complainant: [redacted]
Address

Nature of complaint:

ABANDONED WELL ON SITE.

Complaint Mode: A

Complaint Mode Codes

A-Agency Referral B-Bd of Supervisors / City Council C-Counter F-Fax
E-Code Enforcement M-Mail / Correspondence O-Other EH Unit P-Phone
I-Internet / Email S-Sheriff's Office

PROPERTY INFORMATION

Property Name:

Site Location: 2395 E PESCADERO
TRACY, CA 95304
Cross Street: PARADISE

Phone :

District: 005 - ELLIOTT, BOB
APN: 21306013

Date Abated: 10/3/18 Inspector ID #: MASTEM

PROPERTY OWNER INFORMATION

Responsible Party or Property Owner: MARY C BACCHETTI TR
RP/DBA :
RP Address: [redacted]
Billing Address

Home Phone :
Work Phone :

Location Code: 03 - TRACY

Send Referral to
Referral Address

Referral Letter Sent by
Date:

Complaint Status Code: 01

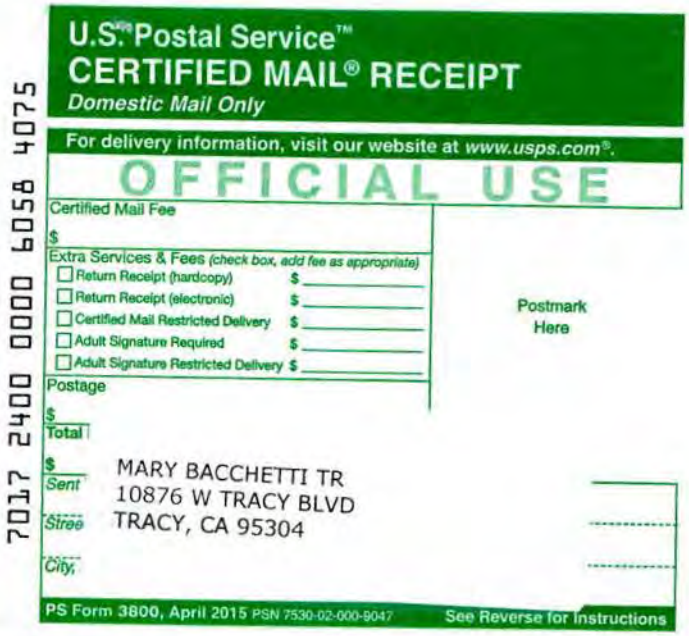
Circle appropriate Status Code

01 - Field Response-Violations Cited and Corrected
02 - Office Response Only
06 - Violations Cited - see Linked PROGRAM FACILITY FILE
07 - Refferred to Other Agency _____
08 - Unable to Verify Alleged Complaint
10 - POSTED SUBSTANDARD/UNSECURED - See Housing File
11 - Multiple Complaints - SEE ACTIVE CASE #_____
12 - DA Referred Complaint-See Program Enforcement Action Form
15 - ACTIVE HOUSING CASE - NEW COMPLAINT see ACTIVE CASE #
28 - Alleged FBI - No Major Violations Identified
29 - Alleged FBI - Major Violations Identified
50 - LEAD Assessment Performed-No Abatement Required
52 - LEAD Abatement Reqired-See Program Record File
97 - Disaster Planning and Response
99 - UNSPECIFIED-Old Complaint-No Original Found
MN - EHD Monitoring Status
PD - Permit Issued-Pending Well Installation
RS - Resolved - New Well Installed
S1 - Tank pumped
S2 - Hooked up to public sewer
S3 - Septic system repaired

WPO38784

Complaint Reviewed by: Jeffrey Wong Date: 10/5/18 Updated by: Date:

5104.rpt



U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total
$

Sent
Stree
City;

MARY BACCHETTI TR
10876 W TRACY BLVD
TRACY, CA 95304

Postmark Here

7017 2400 0000 6058 4075

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

UNIT II

1. Article Addressed to:

MARY BACCHETTI TR
10876 W TRACY BLVD
TRACY, CA 95304

9590 9402 3741 7335 6417 09

2. Article Number (Transfer from service label)
7017 2400 0000 6058 4075

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Mary Bacchetti ☐ Agent ☒ Addressee

B. Received by (Printed Name) Mary Bacchetti
C. Date of Delivery 8/25/18

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

RECEIVED
AUG 27 2018
ENVIRONMENTAL HEALTH
PERMIT SERVICES

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☒ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

SAN JOAQUIN COUNTY EHD
ENVIRONMENTAL HEALTH DEPARTMENT
1868 East Hazelton Avenue, Stockton, CA 95205-6232
Office: (209) 468-3420 ***Fax:*** (209) 464-0138 ***Web:*** www.sjgov.org/ehd

WATER WELL NOTICE TO ABATE

San Joaquin County Ordinance Code, Title 9 and Title 8, Section 5-5100:
It is a violation for any property owner to maintain a nuisance in his property.

LOCATION: 2375 E. Poscadero **CITY:** Tracy **DATE:** 8/20/16

PROPERTY OWNER NAME: Mary C. Bacchetti **RECORD ID#:** CO0047080

TYPE OF INSPECTION: ☒ COMPLAINT ☐ STATUS CHECK ☐ OTHER

NATURE OF COMPLAINT/VIOLATION: Abandoned well onsite

VIOLATIONS:

1. ☐ **It shall be unlawful to maintain or use any residence or place of business which is not in compliance with the requirements of SJC Ordinance Code, Title 9, Chapter 9-1115, or the SJC Water Well Standards.** SJC Ord. Code, Title 9, Section 9-1115.9 – Compliance Required.
2. ☒ **Abandoned Well** - not in use; no power source to well; open and unsecured; approved out-of-service well not being maintained; in a state of disrepair; or well casing buried. CA Health & Safety Code, Section 115700(a)(b)(d); CA Health & Safety Code, Section 115710; SJC Ord. Code, Title 9, Section 9-1115.5 – Well Regulations, SJC Water Well Standards, Section 6.1.
3. ☐ **Approved Out-of-Service Well not being Maintained Properly** - well has defects; well acting as conduit for contamination of groundwater; well is not properly sealed; well is not marked; well is not kept clear of brush or debris. CA Health & Safety Code, Section 115700(d); SJC Water Well Standards, Section 5.1. – Out of Service Wells.
4. ☐ **Provision of Water from Separate Parcel, Use of a Well Pit.** SJC Ord. Code, Title 9, Section 9-1115.8 – Prohibited Uses
5. ☐ **Lack of or Inadequate Sanitary Seal at Wellhead.** SJC Ord. Code, Title 9, Section 9-1115.5 – Well Regulations
6. ☐ **Lack of or Inadequate Surface Seal around Well Casing.** SJC Water Well Standards, Section 4.10. – Surface Seal
7. ☐ **Sounding Tube or Air Vent not Sealed.** SJC Water Well Standards, Section 4.12. – Sounding Tube/Air Vent Pipe
8. ☐ **Lack of or Inadequate Sampling Tap.** SJC Water Well Standards, Section 4.13. – Sampling Tap
9. ☐ **Lack of or Inadequate Backflow Prevention.** SJC Water Well Standards, Section 4.14. – Backflow Prevention
10. ☐ **Work being Conducted without a Permit** - construction; destruction; pump; repair; sanitary seal broken; or cross-connection repair. SJC Ord. Code, Title 9, Section 9-1115.3 – Well Permit Required

CORRECTIVE ACTIONS/ORDERS:

☐ Cease work and obtain an approved permit as indicated below. ☐ Cover well with a watertight, secure well cover.
☐ Obtain permit as indicated: ☒ Destruction ☐ Construction ☐ Pump ☐ Well Repair/Cross Connection ☐ Out of Service Well
COMPLIANCE DATE: ☒ IMMEDIATELY ☐ 24 HOURS ☐ 48 HOURS ☐ 7 DAYS ☐ 14 DAYS ☒ 30 days

COMMENTS: obtain service at contractor and obtain well destruction permit and destroy well under EHD inspection

COST RECOVERY: **All EHD staff time associated with resolving this complaint will be billed at the current hourly rate ($139).**
FAILURE TO COMPLY: **Failure to Comply with this Notice May Result in Formal Enforcement Action.**
APPEAL PROCESS: **Any owner or person in possession who objects to the finding of violations cited on this notice may request an office hearing by filing a written request with the San Joaquin County Environmental Health Department within 30 days of receipt of this notice.**

INSPECTED BY: _____ **PHONE:** 209-669-7051
SIGNATURE OF REGISTERED ENVIRONMENTAL HEALTH SPECIALIST

RECEIVED BY: Mail to owner. **DATE:** _____
SIGNATURE OF OWNER/TENANT

COPY

WELL DESTRUCTION PERMIT 15 ✓

PUBLIC WATER SYSTEM ☐ Yes ☐ No

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT — 1868 East Hazelton Avenue - STOCKTON CA 95205 - (209) 468-3420

NON-REFUNDABLE PERMIT — CALL (209) 953-7697 FOR INSPECTIONS — EXPIRES 1 YEAR FROM DATE ISSUED

SITE ADDRESS:

JOB ADDRESS 2395 E Escadero Rd CITY/ZIP Tracy 95304

CROSS STREET PARADISE APN 213-060-13 PARCEL SIZE 9.78 LAND USE APPLICATION #

OWNER BACCHETTI, MARY C TC PHONE

OWNER ADDRESS 1087 W TRACY BL CITY/STATE/ZIP TRACY 95304

CONTRACTOR Keith Gross Wells & Pumps PHONE 209-327-3120

CONTRACTOR ADDRESS P.O. Box 168 CITY/STATE/ZIP Lodi, CA 95241

☒ C-57 WELL DRILLING LICENSE NUMBER 646123 EXPIRATION DATE 16

PERFORATION CONTRACTOR PHONE

PERFORATION CONTRACTOR ADDRESS CITY/STATE/ZIP

☐ C-57 Well Drilling	License Number	Expiration Date
☐ Bureau of Alcohol, Tobacco and Firearms - Users of High Explosives	License Number	Expiration Date
☐ CHP Hazardous Material Transportation for Explosives	License Number	Expiration Date
☐ San Joaquin County Sheriff-Coroner Explosives Application and Permit	License Number	Expiration Date
☐ California Occupational Safety Health - Blaster	License Number	Expiration Date

REASON FOR DESTRUCTION ☐ Dry ☐ Replacement Well ☐ Caved In ☐ Pit Well ☐ Inactive ☐ Test Hole

Detected/Suspected **Well Water Contaminant(s)**

Adjacent property with **contamination** (Address)

Known Soil/Water **contaminants** at adjacent property

EXISTING WELL CONSTRUCTION DETAILS ☐ Open Bottom ☐ Gravel Pack ☐ Uncased ☐ Other

Well Log copy attached ☐ Yes ☐ No **Grout Seal** ☐ No ☐ Yes ____ ft below ground surface (bgs) **Hole Diameter** ____ inches

Well Conductor Casing ☐ Yes ☐ No **Depth of Conductor Casing** ____ ft bgs **Diameter of Conductor Casing** ____ inches

Well Casing Diameter 7 3/4" inches **Total Depth** 65 ft **Depth to Water** 12 ft **Depth of Casing** ____ ft bgs

DESTRUCTION SPECIFICATION

Sealing Material from 65 ft bgs to 3 ft bgs **Filler Material** Bentonite from ____ ft bgs to ____ ft bgs

Well casing to be perforated by one of the following methods: ____ **from** ____ ft bgs **to** ____ ft bgs

☐ **Mills Knife** ____ Number of cuts every ____ ft and/or ____

☐ **Explosives** ☐ Detonating cord ☐ with projectiles every ____ ft ☐ without projectile

☐ Detonating cord and boosters ☐ with projectiles every ____ ft ☐ without projectile

☐ **Other** ____

Sealing Material ☐ **Neat Cement** *(94 lb bag/5-6 gal water)* ☐ **Sand Cement** ____ *sack mix/7* gal water ☐ **Bentonite Pellets**

☐ **Bentonite (20% solids)** ☐ Manufacturer Spec % solids ____ % Name ____ ☐ Specs on File ☐ Specs Submitted

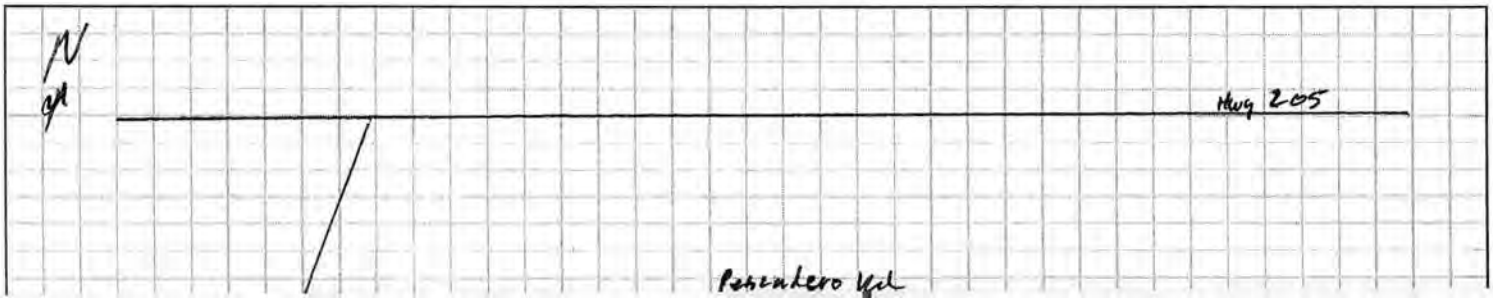
Placement Method ☐ Pumped ☐ Free Fall ☐ Other ____

Seal Completion ☐ Complete with **Mushroom Cap** 3-5 ft bgs ☐ Complete to **Existing Surface Pad**

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS. I ALSO CERTIFY THAT MY REQUIRED LICENSE IS CURRENT AND ACTIVE WITH THE CALIFORNIA CONTRACTORS STATE LICENSE BOARD AND THAT I AM IN COMPLIANCE WITH ALL WORKERS COMPENSATION LAWS.

MINIMUM 48 HOUR ADVANCE NOTICE REQUIRED FOR INSPECTIONS

CONTRACTORS SIGNATURE ____ TITLE President DATE 9-15-16



PAYMENT RECEIVED

SEP 17 2018

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

DEPARTMENT USE ONLY

Application Accepted By Steven Shih Date 9/17/18 Area S/TRACY

Destruction Inspection By Nasaam Ahmed Date 10/3/18 Employee ID# AHMED

COMMENTS

PE Codes	SC Info	Received By	Check#/ Cash	Amount Remitted	Date	Permit/ Service Request #	Invoice #	Well ID#
433161		DN	Visa	$195	9/17/18	WP0038784		

EHD 43-08

WELL DESTRUCTION PERMIT

WELL/PUMP PERMIT

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT — 600 EAST MAIN STREET - STOCKTON CA 95202 - (209) 468-3420

NON-REFUNDABLE PERMIT — CALL (209) 953-7697 FOR INSPECTIONS — EXPIRES 1 YEAR FROM DATE ISSUED

JOB ADDRESS 2395 E. PESCADERO CITY/ZIP BANTA 95304

CROSS STREET PARADISE APN 213-060-13 PARCEL SIZE 9.78 LAND USE APPLICATION #

OWNER NAME DOROTHY HALEY PHONE (209) 835-4725

OWNER ADDRESS 1311 Madison Ave CITY/STATE/ZIP TRACY CA 95376

CONTRACTOR FREITAS DRILLING & PUMP PHONE (209) 835-2814

CONTRACTOR ADDRESS PO BOX 312 CITY/STATE/ZIP BYRON CA 94514

SUBCONTRACTOR PHONE

SUBCONTRACTOR ADDRESS CITY/STATE/ZIP

LICENSE C-57 ☐ C-61 ☐ D-09 ☐ Other NUMBER 967863 EXPIRATION DATE 11/30/13

SITE ADDRESS: 2395 E PESCADERO AVE

GEOGRAPHICAL INFORMATION: Coordinates X Y Township Range Section

INTENDED USE ☒ Domestic/Private ☐ Irrigation/Agricultural ☐ Industrial ☐ Water Quality Monitoring ☐ Soil Sampling/Characterization
☐ Public Water System If different from Owner: Water System Name Contact Name or Phone Number

TYPE OF WORK ☐ New Well ☐ Replacement Well ☐ Well Alteration/Modification ☒ Other # of borings RE-PIPE & WIRE # of borings
☐ Monitoring Well(s) # of wells ☐ Soil Boring(s) ☐ Geotechnical
☐ Out-Of-Service Well ☐ Out-Of-Service Well Renewal ☐ Cross-Connection Repair
☐ New Pump ☐ Pump Replacement ☐ Pump Repair ☐ Raise Well Casing

WELL CONSTRUCTION

Drilling Method ☐ Mud Rotary ☐ Air Rotary ☐ Auger ☐ Cable Tool ☐ Push Point ☐ Other

Proposed Well Depth ft Excavation in diameter ☐ Open Bottom ☐ Gravel Pack/Gravel Size in diameter
☐ Conductor Casing in diameter / Conductor Casing Depth ft

Well Casing Diameter in Thickness/Gauge/ASTM Sched ☐ Steel ☐ Plastic ☐ Stainless Steel ☐ Other

Grout Seal Depth ft ☐ Neat Cement *(94 lb bag/5-10 gal water)* ☐ Sand Cement *sack mix/7 gal water*
☐ Bentonite (20% solids) ☐ Other

Grout Placement Method ☐ Pumped ☐ Free Fall ☐ Other ☐ Retardant / Accelerator (name)

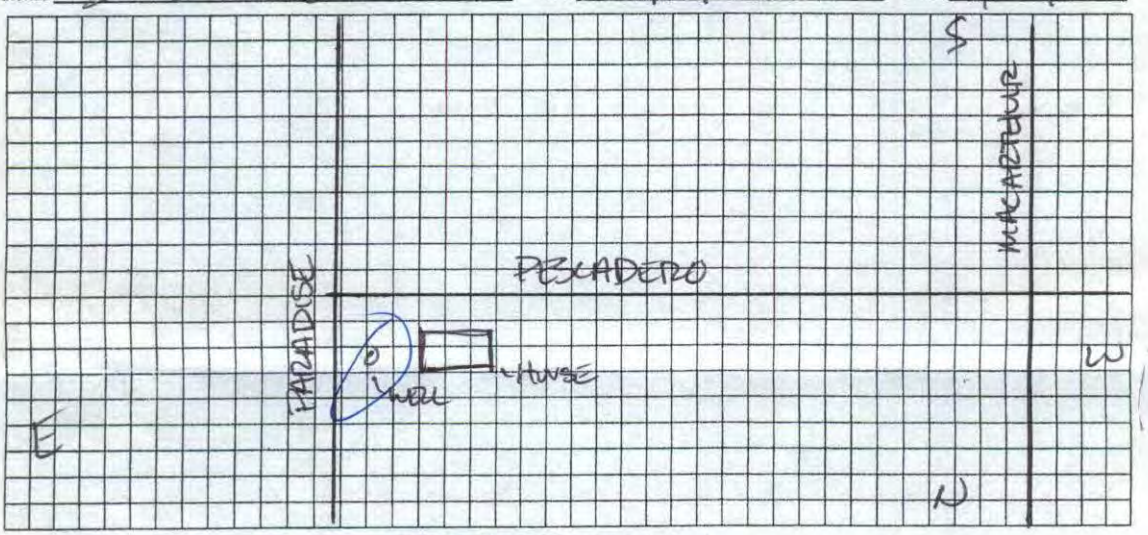
PEDESTAL Installed By ☐ Driller ☐ Pump Contractor ☐ Other
☐ Concrete Pedestal Dimensions: Width ft Length ft Thick in ☐ Christy Box ☐ Stove Pipe

PUMP ☒ Submersible ☐ Turbine ☐ Other HP 3/4 Pump Set 40 ft Standing Water Level 10 ft

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS. I ALSO CERTIFY THAT MY REQUIRED LICENSE IS CURRENT AND ACTIVE WITH THE CALIFORNIA CONTRACTORS STATE LICENSE BOARD AND THAT I AM IN COMPLIANCE WITH ALL WORKERS COMPENSATION LAWS.

MINIMUM 24 HOUR ADVANCE NOTICE REQUIRED FOR INSPECTIONS

SIGNED TITLE Pump Tech DATE 7/23/12



PAYMENT RECEIVED
AUG 13 2012
SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

DEPARTMENT USE ONLY

Application Accepted By Steven Date 8/13/12 Area 005 Employee ID# 4045

Grout Inspection By Date

Pump Inspection By Date 8/17/12 SPECIAL Well Permit WAIVER Received

Soil Boring Inspection By Date Constructed Well Depth ft

COMMENTS Pump OK (Wms)

PE Codes	SC Info	Received By	Check# Cash	Amount Remitted	Date	Permit/ Service Request #	Invoice #	Well ID#
4382	050	M	3380	53-	8/13/12	SR0065499		

EHD 43-06 8/04/08 WELL /PUMP PERMIT

JOB ADDRESS: 2395 E. PESCADERO PERMIT #: _____

LICENSED CONTRACTORS DECLARATION

I hereby affirm that I am licensed under the provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License # 967863 Expiration Date 10/30/13

Date 7/23/12 Contractor FREITAS DRILLING & PUMP

OWNER-BUILDER DECLARATION

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Section 7031.5, Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he is exempt herefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500)):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Section 7044, Business and Professions Code: The contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale.)

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Section 7044, Business and Professions Code (B&PC): The Contractor's License Law does not apply to an owner of property who builds or improves hereon, and who constructs for such projects with a contractor(s) licensed pursuant to the Contractor's License Law.)

☐ I am exempt under Section _____, B&PC for this reason _____

Date: _____ Owner: _____

WORKERS' COMPENSATION DECLARATION

I hereby affirm that I have a certificate of consent to self-insure or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Section 3800, Labor Code).

Expiration Date _____ Company _____

☐ Certified copy is hereby furnished

☐ Certified copy is filed with the Environmental Health Department

CERTIFICATE OF EXEMPTION FROM WORKERS' COMPENSATION INSURANCE

(This section need not be completed if the permit is for one hundred dollars ($100) or less)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Date: _____ Applicant _____

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith comply with such provisions or this permit shall be deemed revoked.

CONSTRUCTION LENDING AGENCY

I hereby affirm that there is a construction lending agency for the performance of the work for which this permit is issued (Section 3097, Civil Code).

Lender's Name _____

Lender' Address _____

DIVISION OF INDUSTRIAL SAFETY PERMIT CERTIFICATION

☐ I hereby certify that no excavation five (5) or more feet in depth into which a person is required to descend, will be made in connection with work authorized by the permit, and that no building structure, scaffolding, falsework, or demolition or dismantling thereof, will be more than thirty-six (36) feet high. (Chapter 3.2, Group 2, Article 2, Section 341, Title 8, California Administrative Code).

☐ As owner-builder, I will not employ anyone to do work which would require a permit from the Division of Industrial Safety, as noted above, unless such person has a permit to do such work from the division.

☐ Division of Industrial Safety Permit # _____

I certify that I have read this application and state that the above information is correct. I agree to comply with all city and county ordinances and state laws relating to well construction and or sewage system construction, and hereby authorize representatives of this county to enter upon the above-mentioned property for inspection purposes.

Date _____ Applicant _____

ONSITE WASTEWATER TREATMENT SYSTEM PERMIT

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT — 1868 E. HAZELTON AVENUE - STOCKTON CA 95205 - (209) 468-3420

NON-REFUNDABLE PERMIT — *CALL (209) 953-7697 FOR INSPECTIONS* — EXPIRES 1 YEAR FROM DATE ISSUED

SITE ADDRESS:

JOB ADDRESS 2395 EAST PESCADERO AVE CITY/ZIP TRACY CA. 95376

CROSS STREET PARADISE ROAD APN 21306013 PARCEL SIZE 9.74

OWNER NAME MARY C. BACCHETTI TRUST PHONE 209835-0555

OWNER ADDRESS 22180 N. MAY ROAD CITY/STATE/ZIP ACAMPO CA. 95220

CONTRACTOR Jim THORPE OILINE. PHONE 209 462-4581

CONTRACTOR ADDRESS PO BOX 357 CITY/STATE/ZIP LODI CA. 95241

LICENSE ☐ C-42 ☐ C-36 OTHER A,B HAZ NUMBER 495699 EXPIRATION DATE 7/20

WATER TABLE DEPTH: _____ ft GEOGRAPHICAL INFORMATION: Coordinates X _____ Y _____

☐ PERC TEST # _____ BUILDING PERMIT # _____ LAND USE APPLICATION # _____

TYPE OF WORK: ☐ NEW INSTALLATION ☐ REPAIR/ADDITION ☐ ENGINEER DESIGNED /ALTERNATIVE
☐ REPLACEMENT _____ ☐ OUT-OF-SERVICE SEPTIC SYSTEM ☒ DESTRUCTION SEPTIC

INSTALLATION WILL SERVE: ☐ RESIDENCE ☒ COMMERCIAL ☐ OTHER _____
NUMBER OF LIVING UNITS: _____ NUMBER OF BEDROOMS: _____ NUMBER OF EMPLOYEES: _____

☒ SEPTIC TANK TYPE/MFG _____ CAPACITY _____ gal # OF COMPARTMENTS _____

☐ GREASE TRAP TYPE/MFG _____ CAPACITY _____ gal # OF COMPARTMENTS _____

DISTANCE TO NEAREST: WELL _____ ft FOUNDATION _____ ft PROPERTY LINE _____ ft

☐ LIFT STATION SIZE _____ TYPE OF PUMP _____ ☐ PKG TX PLANT ☐ SAND OIL SEPARATOR (ENCLOSED SYSTEM)

☐ LEACH LINES ☐ LEACHING CHAMBERS _____ # OF LINES _____ LENGTH OF LINES _____ ft
DISTANCE TO NEAREST WELL _____ ft FOUNDATION _____ ft PROPERTY LINE _____ ft

☐ FILTER BED WIDTH _____ ft LENGTH _____ ft DEPTH _____ ft
DISTANCE TO NEAREST WELL _____ ft FOUNDATION _____ ft PROPERTY LINE _____ ft

☐ MOUNDED WIDTH _____ ft LENGTH _____ ft DEPTH _____ ft
DISTANCE TO NEAREST WELL _____ ft FOUNDATION _____ ft PROPERTY LINE _____ ft

☐ SUMPS WIDTH _____ ft LENGTH _____ ft DEPTH _____ ft
DISTANCE TO NEAREST WELL _____ ft FOUNDATION _____ ft PROPERTY LINE _____ ft

☐ DISPOSAL PONDS WIDTH _____ ft LENGTH _____ ft DEPTH _____ ft
DISTANCE TO NEAREST WELL _____ ft FOUNDATION _____ ft PROPERTY LINE _____ ft

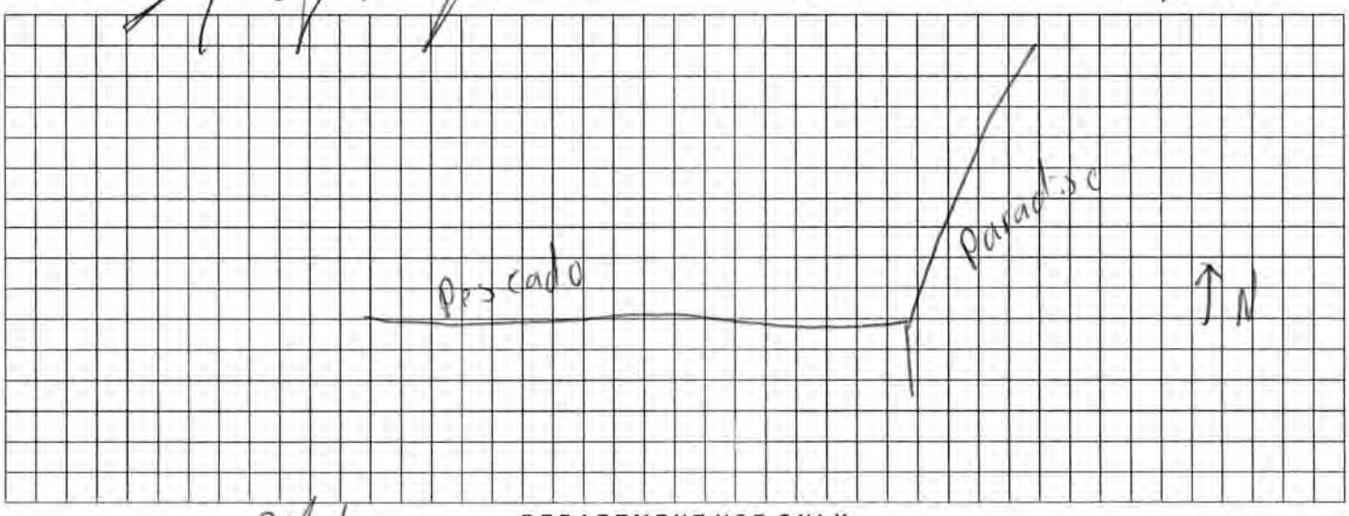
☐ SEEPAGE PITS NUMBER _____ WIDTH _____ ft DEPTH _____ ft
DISTANCE TO NEAREST WELL _____ ft FOUNDATION _____ ft PROPERTY LINE _____ ft

PAYMENT RECEIVED
SEP 04 2018
SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS. I ALSO CERTIFY THAT MY REQUIRED LICENSE IS CURRENT AND ACTIVE WITH THE CALIFORNIA CONTRACTORS STATE LICENSE BOARD AND THAT I AM IN COMPLIANCE WITH ALL WORKERS COMPENSATION LAWS.

MINIMUM ~~24~~ 48 HOUR ADVANCE NOTICE REQUIRED FOR INSPECTIONS - PLEASE CALL (209) 953-7697

SIGNED _____ TITLE CONTRACTOR DATE 9/4/18



DEPARTMENT USE ONLY

Application Accepted By _____ Date 9-4-18 Area S / Tracy Employee ID# Ahmed

Final Inspection By _____ Date 9/11/18 ☐ SPECIAL PERMIT - Approved by _____

Character of Soil to Depth of 3 Ft: _____ Pit/Sump Soil Character: _____

COMMENTS Septic tank will be located

PE Code	SC INFO	Received By	Check#/ Cash	Amount Remitted	Date	Permit/ Service Request #	Invoice #	Permit ID#
4221	075	MD	683	152	9-4-18	SR0079585		

WELL DESTRUCTION PERMIT 15 ✓

PUBLIC WATER SYSTEM ☐ Yes ☐ No

SAN JOAQUIN COUNTY ENVIRONMENTAL HEALTH DEPARTMENT — 1868 East Hazelton Avenue - STOCKTON CA 95205 - (209) 468-3420

NON-REFUNDABLE PERMIT — CALL (209) 953-7697 FOR INSPECTIONS — EXPIRES 1 YEAR FROM DATE ISSUED

SITE ADDRESS:

JOB ADDRESS 2395 E Pescadero Rd — CITY/ZIP Tracy 95304

CROSS STREET PARADISE — APN 213-060-13 — PARCEL SIZE 9.78 — LAND USE APPLICATION #

OWNER BACCHETTI, MARY C TC — PHONE

OWNER ADDRESS 1087 W TRACY BL — CITY/STATE/ZIP TRACY 95304

CONTRACTOR Keith Gross Wells & Pumps — PHONE 209-327-3120

CONTRACTOR ADDRESS P.O. Box 168 — CITY/STATE/ZIP Lodi, CA 95241

☒ C-57 WELL DRILLING — LICENSE NUMBER 648123 — EXPIRATION DATE 16

PERFORATION CONTRACTOR — PHONE

PERFORATION CONTRACTOR ADDRESS — CITY/STATE/ZIP

☐	C-57 Well Drilling	License Number	Expiration Date
☐	Bureau of Alcohol, Tobacco and Firearms - Users of High Explosives	License Number	Expiration Date
☐	CHP Hazardous Material Transportation for Explosives	License Number	Expiration Date
☐	San Joaquin County Sheriff-Coroner Explosives Application and Permit	License Number	Expiration Date
☐	California Occupational Safety Health - Blaster	License Number	Expiration Date

REASON FOR DESTRUCTION ☐ Dry ☐ Replacement Well ☐ Caved In ☐ Pit Well ☐ Inactive ☐ Test Hole

Detected/Suspected **Well Water Contaminant(s)**

Adjacent property with **contamination** (Address)

Known Soil/Water **contaminants** at adjacent property

EXISTING WELL CONSTRUCTION DETAILS ☐ Open Bottom ☐ Gravel Pack ☐ Uncased ☐ Other

Well Log copy attached ☐ Yes ☐ No — **Grout Seal** ☐ No ☐ Yes ____ ft below ground surface (bgs) — **Hole Diameter** ____ inches

Well Conductor Casing ☐ Yes ☐ No — **Depth of Conductor Casing** ____ ft bgs — **Diameter of Conductor Casing** ____ inches

Well Casing Diameter 7 3/4" inches — **Total Depth** 65 ft — **Depth to Water** 12 ft — **Depth of Casing** ____ ft bgs

DESTRUCTION SPECIFICATION

Sealing Material from 65 ft bgs to 3 ft bgs **Filler Material** Bentonite from ____ ft bgs to ____ ft bgs

Well casing to be perforated by one of the following methods: ____ **from** ____ ft bgs **to** ____ ft bgs

☐ **Mills Knife** ____ Number of cuts every ____ ft and/or ____

☐ **Explosives** ☐ Detonating cord ☐ with projectiles every ____ ft ☐ without projectile

☐ Detonating cord and boosters ☐ with projectiles every ____ ft ☐ without projectile

☐ **Other** ____

Sealing Material ☐ **Neat Cement** *(94 lb bag/5-6 gal water)* ☐ **Sand Cement** ____ *sack mix/7* gal water ☐ **Bentonite Pellets**

☐ **Bentonite (20% solids)** ☐ Manufacturer Spec % solids ____ % Name ____ ☐ Specs on File ☐ Specs Submitted

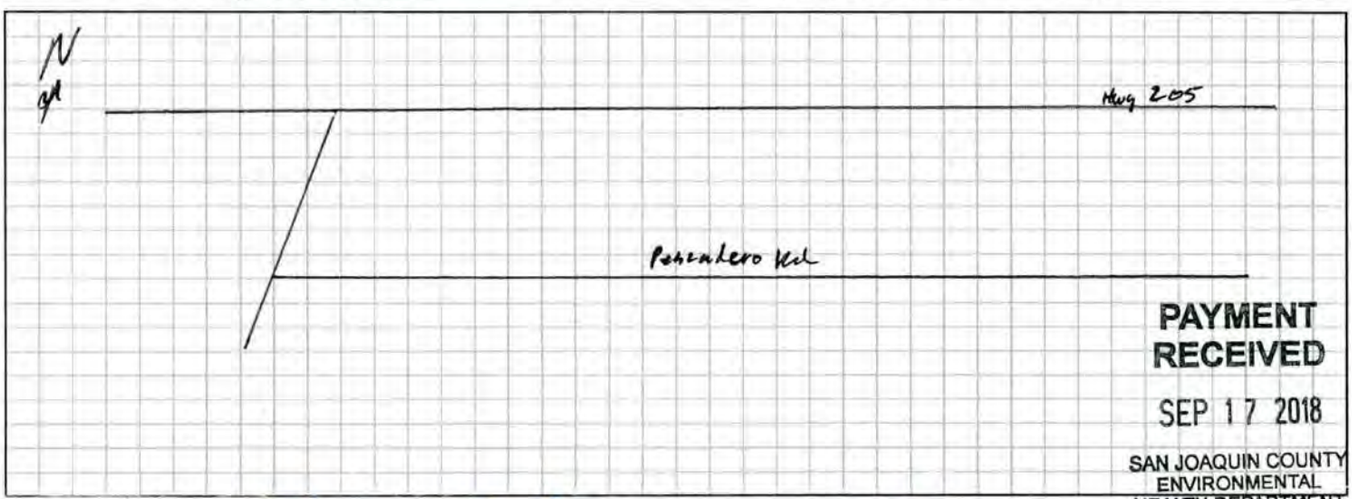
Placement Method ☐ Pumped ☐ Free Fall ☐ Other ____

Seal Completion ☐ Complete with **Mushroom Cap** 3-5 ft bgs ☐ Complete to **Existing Surface Pad**

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS. I ALSO CERTIFY THAT MY REQUIRED LICENSE IS CURRENT AND ACTIVE WITH THE CALIFORNIA CONTRACTORS STATE LICENSE BOARD AND THAT I AM IN COMPLIANCE WITH ALL WORKERS COMPENSATION LAWS.

MINIMUM ~~24~~ 48 HOUR ADVANCE NOTICE REQUIRED FOR INSPECTIONS

CONTRACTORS SIGNATURE [signature] TITLE President DATE 9-15-18



DEPARTMENT USE ONLY

Application Accepted By [signature] Date 9/17/18 Area S/TRACY

Destruction Inspection By Nasoom Ahmed Date 10/3/18 Employee ID# AHMED

COMMENTS

PE Codes	SC Info	Received By	Check#/ Cash	Amount Remitted	Date	Permit/ Service Request #	Invoice #	Well ID#
4373	161	[signature]	Visa	$195	9/17/18	WP0038784		


Legend
Rivers
Water
Streets
Parcels
County Limit
Photo2018AccessGeographic
PESCADERO
PARADISE
21307078
21307077
21317027
21307085
21307086
21307049
21307078
21307087
0
550ft
WELL TO BE DESTROYED
San Joaquin County Parcel Viewer
San Joaquin County Geographic Information Systems
1810 East Hazelton Avenue, Stockton, California 95205
The information on this map is based on the most current information available to San Joaquin County Geographic Information Systems.
The County of San Joaquin does not warrant its accuracy, completeness, or suitability for any particular purpose.
The information on this map is not intended to replace engineering, financial or primary records research.

FOR OFFICE USE:

SAN JOAQUIN LOCAL HEALTH DISTRICT
1601 E. Hazelton Ave., Stockton, CA 95205
Telephone: (209) 466-6781

Permit No. 78-1419
Date Issued 9-26-78

APPLICATION FOR WELL CONSTRUCTION OR PUMP PERMIT

This Permit Expires 1 Year From Date Issued

(Complete In Triplicate)

Application is hereby made to the San Joaquin Local Health District for a permit to construct and/or install the work herein described. This application is made in compliance with San Joaquin County Ordinance No. 1862 and the Rules and Regulations of the San Joaquin Local Health District.

EXACT STREET ADDRESS NW 21000 S. Paradise CORNER Paradise & Pescadero Rds CITY/TOWN Banta

Owner's Name Haley Flying Service Phone 836-0213

Address P.O. Box 1049 City Tracy 95376

Contractor's Name Panero Well Drilling License# 333114 Phone 847-2810

IS CERTIFICATE OF WORKMAN'S COMPENSATION INSURANCE ON FILE WITH SJLHD? YES X NO

TYPE OF WORK (Check): NEW WELL ☒ DEEPEN ☐ RECONDITION ☐ DESTRUCTION ☐
WELL CHLORINATION ☐ WELL ABANDONMENT ☐ OTHER ☐ _____
PUMP INSTALLATION ☐ PUMP REPAIR ☐ PUMP REPLACEMENT ☐

DISTANCE TO NEAREST: SEPTIC TANK 50'+ SEWER LINES 50'+ PIT PRIVY —
SEWAGE DISPOSAL FIELD 50'+ CESSPOOL/SEEPAGE PIT — OTHER —
PROPERTY LINE 20'+ PRIVATE DOMESTIC WELL 50'+ PUBLIC DOMESTIC WELL —

INTENDED USE	TYPE OF WELL	CONSTRUCTION SPECIFICATIONS
Industrial	Cable Tool	Dia. of Well Excavation 12"
X Domestic/private	Drilled	Dia. of Well Casing 8"
Domestic/public	Driven	Gauge of Casing class 160 PVC
Irrigation	X Gravel Pack	Depth of Grout Seal 50'
Cathodic Protection	X Rotary	Type of Grout cement
Disposal	Other	Other Information
Geophysical		Surface Seal Installed by: driller

PUMP INSTALLATION: / Contractor
Type of Pump H.P.

PUMP REPLACEMENT: ☐ State Work Done

PUMP REPAIR: ☐ State Work Done

DESTRUCTION OF WELL: Well Diameter Approximate Depth
Describe Material and Procedure

21000 S. Paradise

I hereby certify that I have prepared this application and that the work will be done in accordance with San Joaquin County Ordinances, State Laws, and Rules and Regulations of the San Joaquin Local Health District. Home owner or licensed agent's signature certifies the following:
"I certify that in the performance of the work for which this permit is issued, I shall not employ any person in such manner as to become subject to Workman's Compensation laws of California."

I WILL CALL FOR A GROUT INSPECTION PRIOR TO GROUTING AND A FINAL INSPECTION.

SIGNED M Schultz TITLE: AGENT DATE: 26 Sept '78
(DRAW PLOT PLAN ON REVERSE SIDE)

FOR DEPARTMENT USE ONLY

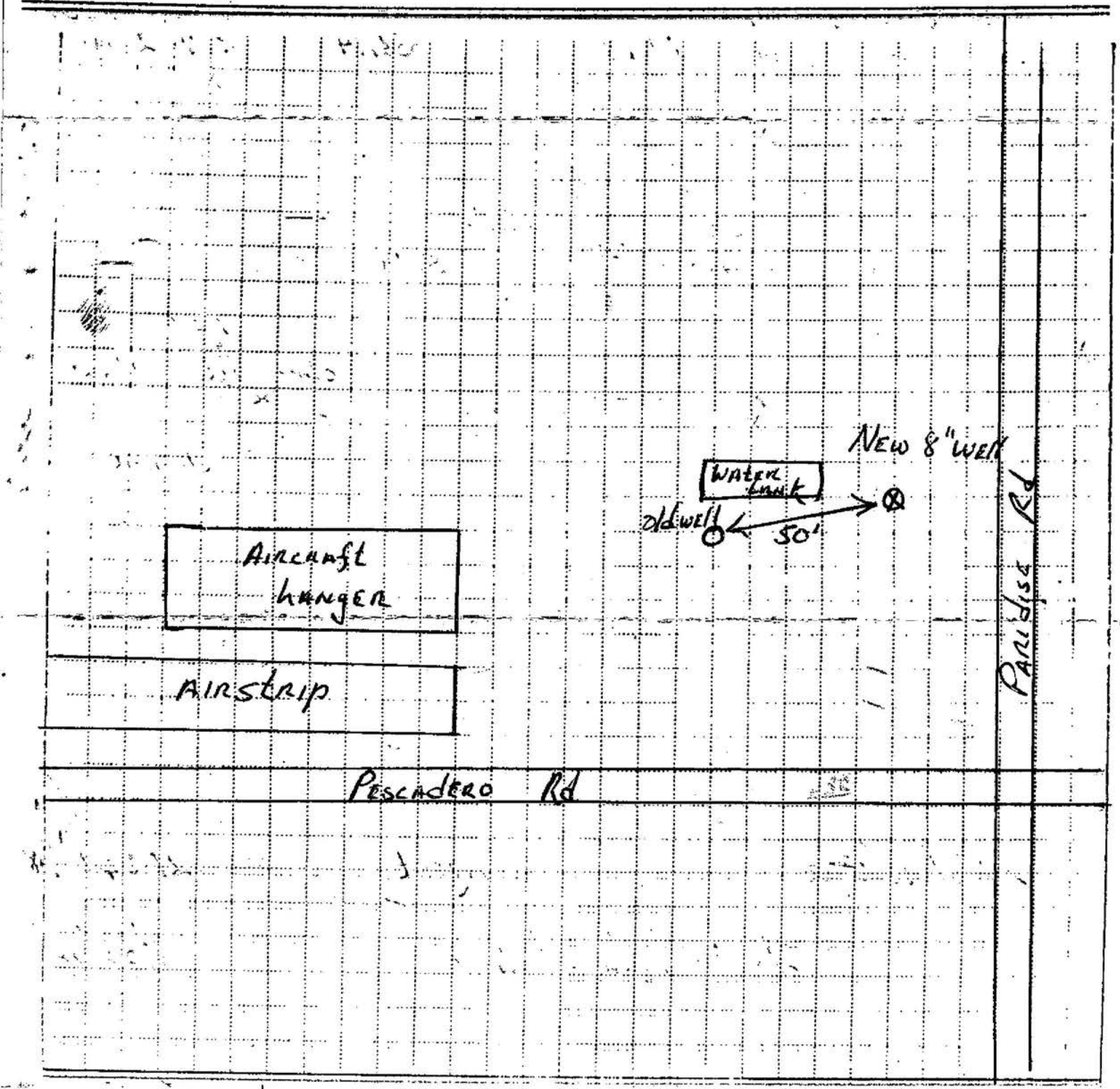
PHASE I
APPLICATION ACCEPTED BY Fred Kaufman / Wilson DATE 9/26/78
ADDITIONAL COMMENTS:

PHASE II GROUT INSPECTION
INSPECTION BY [illegible] DATE 10-11-78

PHASE III FINAL INSPECTION
INSPECTION BY [illegible] DATE 3-23-79

PLOT PLAN
(DRAW TO SCALE)
SCALE ____" TO ____'

1. Names of streets or roads nearest to or bounding the property.
2. Outline of the property, giving dimensions and North direction.
3. Dimensioned outlines and locations of all existing and proposed structures, including covered areas such as patios, driveways and walks.
4. Location of house sewer outlet, public sewer, sewage disposal system or proposed sewage disposal system, proposed expansion of sewage disposal system, or any other possible source of contamination.
5. Location of other wells within radius of 75-feet on the property or adjoining property.
6. Location of sewage disposal system on adjoining property or within a radius of 150 feet.



FOR OFFICE USE:

SAN JOAQUIN LOCAL HEALTH DISTRICT
1601 E. Hazelton Ave., Stockton, CA 95205
Telephone: (209) 466-6781

Permit No. 79-432
Date Issued 5-2-79

APPLICATION FOR WELL CONSTRUCTION OR PUMP PERMIT

This Permit Expires 1 Year From Date Issued
(Complete In Triplicate)

Application is hereby made to the San Joaquin Local Health District for a permit to construct and/or install the work herein described. This application is made in compliance with San Joaquin County Ordinance No. 1862 and the Rules and Regulations of the San Joaquin Local Health District.

EXACT STREET ADDRESS 21000 So. Paradise Ave CITY/TOWN Tracy
Owner's Name Haley Flying Service Phone 836-0213
Address 21000 So. Paradise ave City Tracy
Contractor's Name Freitas Electric License# 388471 Phone 835-2814
IS CERTIFICATE OF WORKMAN'S COMPENSATION INSURANCE ON FILE WITH SJLHD? YES X NO

TYPE OF WORK (Check): NEW WELL ☐ DEEPEN ☐ RECONDITION ☐ DESTRUCTION ☐
WELL CHLORINATION ☐ WELL ABANDONMENT ☐ OTHER ☐ _____
PUMP INSTALLATION ☒ PUMP REPAIR ☐ PUMP REPLACEMENT ☐

21000 S. Paradise

DISTANCE TO NEAREST: SEPTIC TANK _____ SEWER LINES _____ PIT PRIVY _____
SEWAGE DISPOSAL FIELD _____ CESSPOOL/SEEPAGE PIT _____ OTHER _____
PROPERTY LINE - PRIVATE DOMESTIC WELL _____ PUBLIC DOMESTIC WELL _____

INTENDED USE	TYPE OF WELL	CONSTRUCTION SPECIFICATIONS
X Industrial	Cable Tool	Dia. of Well Excavation
Domestic/private	Drilled	Dia. of Well Casing
Domestic/public	Driven	Gauge of Casing
Irrigation	Gravel Pack	Depth of Grout Seal
Cathodic Protection	Rotary	Type of Grout
Disposal	Other	Other Information
Geophysical		Surface Seal Installed by:

PUMP INSTALLATION: Contractor Freitas Electric
Type of Pump Sub H.P. 3

PUMP REPLACEMENT: ☐ State Work Done

PUMP REPAIR: ☐ State Work Done

DESTRUCTION OF WELL: Well Diameter _____ Approximate Depth _____
Describe Material and Procedure _____

I hereby certify that I have prepared this application and that the work will be done in accordanc with San Joaquin County Ordinances, State Laws, and Rules and Regulations of the San Joaquin Local Health District. Home owner or licensed agent's signature certifies the following:

"I certify that in the performance of the work for which this permit is issued, I shall not employ any person in such manner as to become subject to Workman's Compensation laws of California."

I WILL CALL FOR A GROUT INSPECTION PRIOR TO GROUTING AND A FINAL INSPECTION.

SIGNED Freitas TITLE: owner DATE: 4-12-79
(DRAW PLOT PLAN ON REVERSE SIDE)

FOR DEPARTMENT USE ONLY

PHASE I
APPLICATION ACCEPTED BY Douglas Wilson DATE 4-26-79
ADDITIONAL COMMENTS:

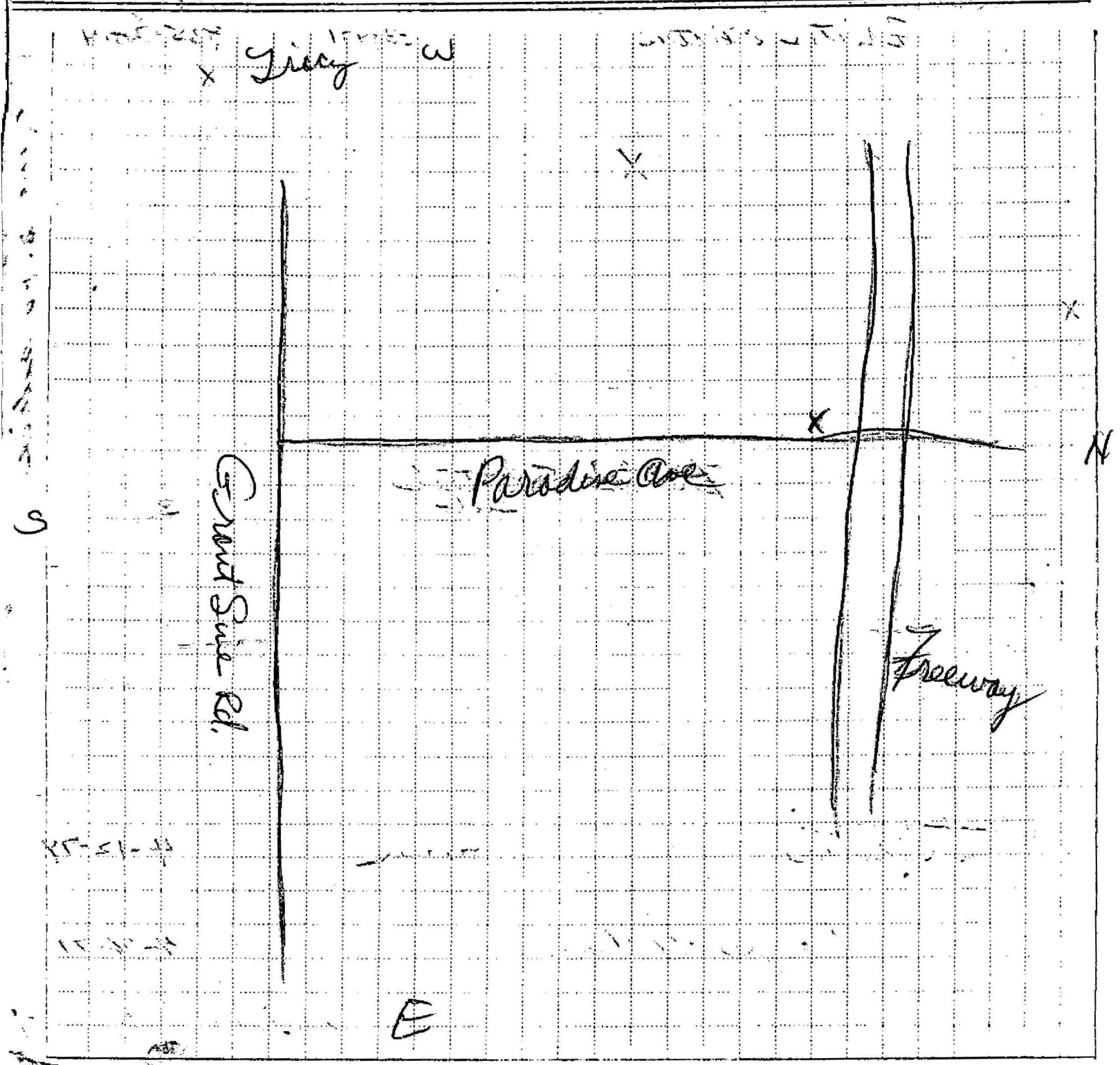
PHASE II GROUT INSPECTION
INSPECTION BY _____ DATE _____

PHASE III FINAL INSPECTION
INSPECTION BY D Wilson DATE 5-7-79

CB 1/78 -2M

PLOT PLAN
(DRAW TO SCALE)
SCALE ____" TO ____'

1. Names of streets or roads nearest to or bounding the property.
2. Outline of the property, giving dimensions and North direction.
3. Dimensioned outlines and locations of all existing and proposed structures, including covered areas such as patios, driveways and walks.
4. Location of house sewer outlet, public sewer, sewage disposal system or proposed sewage disposal system, proposed expansion of sewage disposal system, or any other possible source of contamination.
5. Location of other wells within radius of 75 feet on the property or adjoining property.
6. Location of sewage disposal system on adjoining property or within a radius of 150 feet.



Wright
Environmental
Services, Inc.

Construction ◆ Engineering ◆ Remediation

February 5, 1998
Project No 4111

Ms Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re: Quarterly Sampling Groundwater Monitoring Well
Haley Flying Services 21000 Paradise Road, Tracy, CA

Dear Ms Haley,

This report describes the monitoring well sampling at the above referenced site for the quarter ending December 1997 Wright Environmental Services, Inc (Wright) was retained to coordinate sampling and chemical analysis of the site monitoring wells Previous reports are on file with the County of San Joaquin Public Health Service, Environmental Health Division (PHS-EHD) regarding the removal of impacted soil discovered during underground fuel storage tank removal Three monitoring wells currently exist on-site

Field Sampling Procedures

Three monitoring wells were sampled on December 11, 1997 The samplers proceeded to purge well volumes of groundwater from each well using a submersible electric purge pump (a volume calculation was done for each well following water level measurements) Purge water was stored on-site in barrels Measurements of conductivity, pH, and water temperature were obtained between each well volume, and noted on the attached groundwater sampling information sheets Once the readings stabilized over two purge volumes, aquifer water was assumed to enter the well Each well was then allowed to recharge to about 80% of the initial water level prior to sample collection

A new disposable bailer was used to obtain each well groundwater sample Each sample was carefully poured into laboratory prepared containers leaving no headspace, capped, labeled, logged onto chain-of-custody forms and immediately placed on ice for shipment to Chromalab Inc , Pleasanton, California (a State Certified Testing Lab) Table 1 presents the groundwater monitoring well water level data

Table 1 Groundwater Monitoring Well Data

Well No	Date	Well Depth	Depth to Water	Casing Elev (ft)	Water Elev (ft)	Floating Product
MW-1	8/25/97	19 34	7 34	22 39	15 05	None
MW-1	12/11/97	19 34	12 63		9 76	None
MW-2	8/25/97	17 25	7 07	22 02	14 95	None
MW-2	12/11/97	17 25	12 34		9 68	None
MW-3	8/25/97	19 27	6 71	21 76	15 05	None
MW-3	12/11/97	19 27	12 05		9 71	None

4220 Commercial Dr , Suite 5 ◆ Tracy, CA 95376
209 833 0758 ◆ Fax 209 832 5152
wright@inreach com Lic #651501 A-B HazMat

Groundwater Gradient

Groundwater elevations were plotted to a known datum to prepare a groundwater contour map The groundwater flow direction was toward the north-northeast at sampling time, and a flow gradient of 0 002 was calculated Historic groundwater flow trends typically vary from north-northeasterly to north-northwesterly Groundwater levels rose over the last quarter and are attributed to winter rain recharge

Chemical Analysis and Results

Chromalab Inc tested the groundwater samples using EPA Methods for Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and fuel oxygenates including Methyl-tert-butyl-ether (MTBE) The analytical reports are attached, and the results are listed below in Table 2

Table 2 Groundwater Chemical Data

Well No	Date	TPHG	Kero	B	T	E	X	Fuel Ox
		ug/l						
MW-1	8/25/97	ND	NA	ND	ND	ND	ND	ND
MW-1	12/11/97	ND	170	ND	ND	ND	ND	ND
MW-2	8/25/97	ND	NA	ND	ND	ND	ND	ND
MW-2	12/11/97	ND	210	ND	ND	ND	ND	ND
MW-3	8/25/97	ND	NA	ND	ND	ND	ND	ND
MW-3	12/11/97	ND	ND	ND	ND	ND	ND	ND
Blank	12/11/97	ND	ND	ND	ND	ND	ND	ND

ND - None detected NA - Not Analyzed ug/l - micrograms per liter
Fuel Ox - Fuel Oxygenates by Method 8260
Kero - Kerosene, but does not match the Kerosene standard

Discussion

Groundwater flow direction appears consistent with historically observed trends Contaminants observed in two wells appear to be highly degraded TPH quantified as Kerosene However, these did not match the Kerosene standard and are interpreted to be residual TPH If the highly degraded TPH to none detected trend continues for two more quarters, then a proposal for site closure will be made to PHS-EHD

Monitoring Schedule

The quarterly monitoring for this site is scheduled to continue at quarterly intervals

Limitations

This report has been prepared specifically for the Haley Flying Services site in Tracy, CA, and was done according to the State and local agency suggested guidance documents for these investigations The interpretations, conclusions and recommendations made herein are based on the data and analysis for the water samples collected on-site and should be reviewed in the context of the whole report Please note that reports of contamination must be submitted to the agencies in a timely manner Wright Environmental Services, Inc is not responsible for errors in laboratory analysis and reporting, or for information withheld during the course of the study, and no warranty or guarantee is expressed or implied therein

If you have any questions please call

Sincerely,
Wright Environmental Services, Inc

John Affonso/ve
John Affonso
Project manager

Christopher M Palmer
Christopher M Palmer
C E G 1262, HG 246

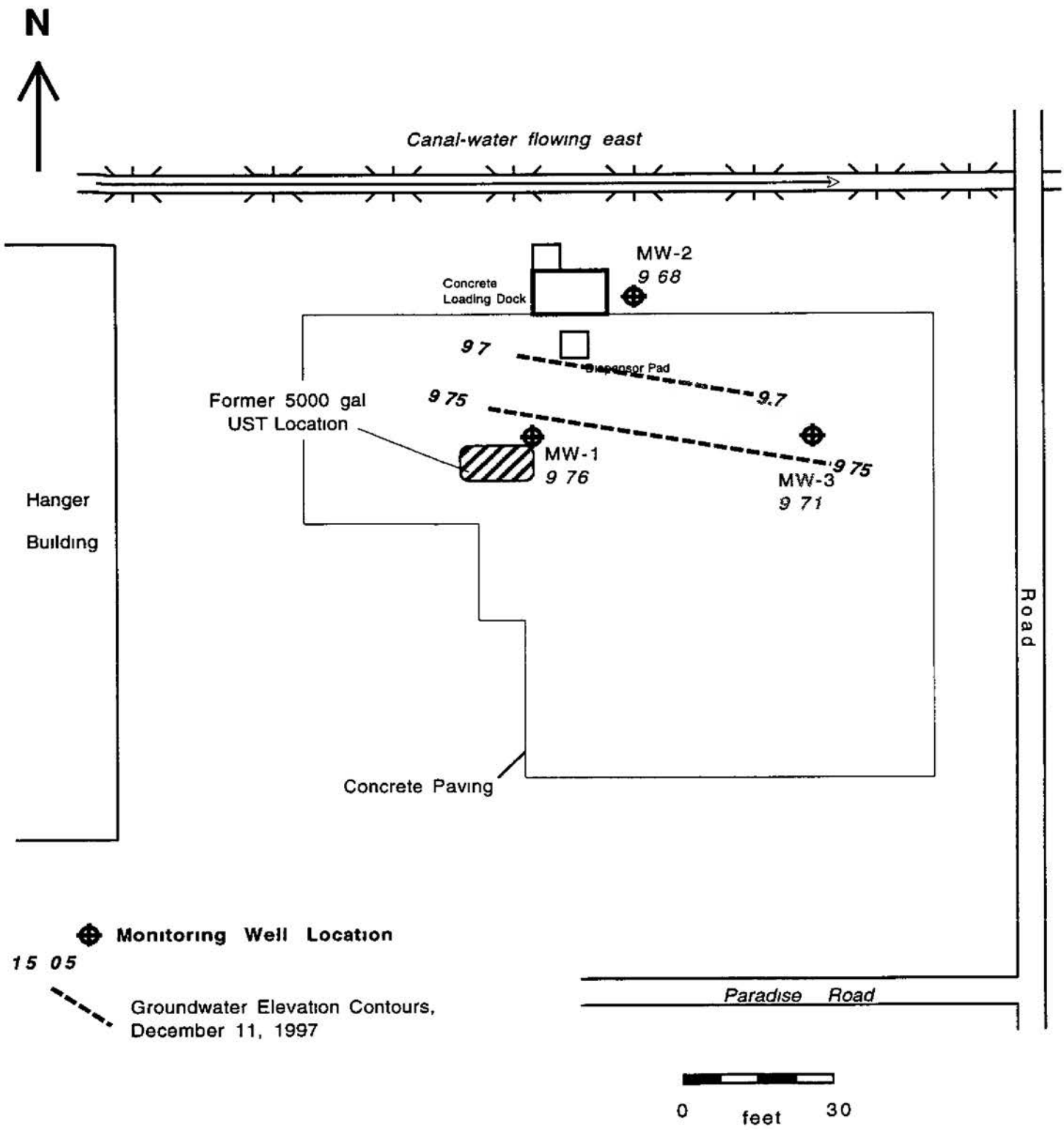
REGISTERED GEOLOGIST
CHRISTOPHER M PALMER
№ 1262
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Attachments: Figure 1 Groundwater Contour Map
Well Sampling Sheets
Chemical Analytical Reports and Chain-of-Custody

References

Wright Environmental Services, Inc letter dated October 3, 1995 entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project No 4111, 5 pg with attachments

Wright Environmental Services, Inc report dated July 26, 1996 entitled, "Reconnaissance Site Investigation, Haley Property 21000 Paradise Road, Tracy, CA," Project No 4111, 7 pg with attachments



Groundwater Contour Map
December 11, 1997

Haley Flying Serivces
21000 Paradise Road
Tracy, CA

Project No 4111
Scale 1" = 30'
Date Dec , 1997

Figure 1

Wright Environmental Services
Tracy, CA

WELL GAUGING DATA

Project No. 4205 Date _____ Client HALEY FLYING SERVICE

Site 21000 PARADISE ROAD TRACY, CA

Well I D	Well Size (in.)	Sheen/ Odor	Depth to Immisible Liquid (feet)	Thickness of Immiscible Liquid(ft.)	Volume of Immiscibles Removed (ml.)	Depth to Water (feet)	Depth to Well Bottom (feet)	Survey Point TOB or TOC
MW-1	2"					12.63	19.4	TOC
MW-2	2"					12.34	17.0	"
MW3	2"					1205	1934	"

WELL MONITORING DATA SHEET

Project No 4205	Client: HALEY
Sampler: Randy Chadwick	Start Date: 12/11/97
Well I.D. MW-1	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: Before. 17.7 After:	Depth to Water Before: 12.63 After:
Depth to Free Product:	Thickness of Free Product (feet).
Measurements referenced to (PVC)	Grade Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0 04	6"	1.47
2"	0 16	8"	2.61
3"	0 37	10"	4.08
4"	0 65	12"	5 87
5"	1 02	16"	10 43

1.08 (1 Case Volume) x 3 (Specified Volume) = 3.2 (Gallons)

Purging (Bailer)
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other _____

Sampling (Bailer)
Disposable Bailer
Extraction Port
Other _____

TIME	TEMP (C)	pH	COND	TURBIDITY	VOLUME REMOVED	OBSERVATIONS
9.15	19.5	8.39	4.57	999	1.0	TAN
9.23	19.0	8.38	4.64	79	1.0	TAN
9.30	19.0	8.36	4.64	999	1.2	TAN

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated. 3.2

Sampling Time: 10.00 a.m. Sampling Date: 12-11-97

Sample I D MW-1 Laboratory PEL

Analyzed for (Circle) (TPH-G) (BTEX) TPH-D Other: MTBE, AVIATION FUEL, KEROSENE, TOTAL LEAD, 8260

WELL MONITORING DATA SHEET

Project No 4205	Client: WALEY
Sampler: Randy Chadwick	Start Date: 12-4
Well I.D MW-2	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: Before 17.0 After	Depth to Water Before: 12.34 After:
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0 04	6"	1 47
2"	0 16	8"	2 61
3"	0 37	10"	4.08
4"	0 65	12"	5 87
5"	1 02	16"	10.43

1 Case Volume	x	Specified Volume	=	Gallons
.07	x	3	=	2.2

Purging: (Bailer) Disposable Bailer, Middleburg, Electric Submersible, Extraction Pump, Other _____

Sampling: (Bailer) Disposable Bailer, Extraction Port, Other _____

TIME	TEMP (C)	pH	COND	TURBIDITY.	VOLUME REMOVED	OBSERVATIONS
10:20	17.1	8.13	692	68	.07	TAN
10:25	17.9	8.08	.689	76	.09	"
10:30	17.7	8.08	.669	83	.07	"

Did Well Dewater? NO If yes, gals	Gallons Actually Evacuated 2.1
Sampling Time 10:45 am	Sampling Date 12-11-97
Sample I D. MW-2	Laboratory: PEL
Analyzed for (Circle): (TPH-G) (BTEX) TPH-D	Other: MTBE, AVIATION FUEL, KEROSENE, TOTAL LEAD, 8260

WELL MONITORING DATA SHEET

Project No 4205	Client: HALEY
Sampler: Randy Chadwick	Start Date: 12-11
Well I.D mw-3	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth Before 19.34 After	Depth to Water Before 12.05 After:
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC)	Grade Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0 04	6"	1 47
2"	0 16	8"	2 61
3"	0 37	10"	4 08
4"	0 65	12"	5 87
5"	1 02	16"	10.43

1.1 (1 Case Volume) x 3 (Specified Volume) = 3.5 (Gallons)

Purging (Bailer)
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other _____

Sampling (Bailer)
Disposable Bailer
Extraction Port
Other _____

TIME	TEMP (C)	pH	COND.	TURBIDITY	VOLUME REMOVED	OBSERVATIONS
11:14	18.5	7.82	1.87	999	10	TAN
11:20	19.0	7.81	1.98	999	10	↓
11:25	18.5	7.80	1.81	77	1.5	↓

Did Well Dewater? No If yes, gals

Gallons Actually Evacuated: 3.5

Sampling Time. 11.40 am

Sampling Date 12-11-97

Sample I D. mw-3

Laboratory: PEL

Analyzed for (TPH-G) (BTEX) TPH-D (Circle)

Other: MTBE, Aviation Fuel, Kerosene, Total Lead, 8260

CHROMALAB, INC.

Environmental Services (SDB)

December 31, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten John Lynch

Project: HALEY
Received December 11, 1997

re. One sample for Gasoline BTEX MTBE analysis
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix* WATER
Sampled: December 11, 1997 *Run#:*10302 *Analyzed:* December 19, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D	50	N.D	107	1
MTBE	N D	5 0	N.D	100	1
BENZENE	N.D.	0 50	N.D	99	1
TOLUENE	N.D	0.50	N D	99	1
ETHYL BENZENE	N D	0 50	N D	111	1
XYLENES	N D	0 50	N D	102	1

Vincent Vancil
Chemist

Michael Verona
Operations Manager

209-832-5152

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

PM V132 O:BTEXQC0220
VINCE 11 50

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Miscellaneous Metals analysis
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix:* WATER *Extracted:* December 15, 1997
Sampled: December 11, 1997 *Run#:* 10196 *Analyzed* December 16, 1997

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
LEAD	0 025	0 0050	N D	96 8	1

Christopher Arndt
Chemist

John S Labash
Inorganics Supervisor

209-832-5152 PM 12/18

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

M010 P 0C0405 JOHN 10 48

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten John Lynch

Project: HALEY
Received: December 11, 1997

re. One sample for TEPH analysis
Method. *EPA 8015M*

Client Sample ID: **MW-1**
Spl#. 162320 *Matrix:* WATER *Extracted* December 16, 1997
Sampled December 11, 1997 *Run#:*10235 *Analyzed* December 17, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
KEROSENE	170	53	N D	--	1

Note *Quantitation for the above Analyte is based on the response factor of Diesel Hydrocarbon reported is in the late Kerosene range and does not match our Kerosene standard*

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

4205

CHROMALAB, INC.

Environmental Services (SDB)

RECEIVED JAN 16 1998

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project. HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed:* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACETONE	N.D	50	N.D	--	1
BENZENE	N.D.	0.50	N.D	99 4	1
BROMODICHLOROMETHANE	N.D	0 50	N D	--	1
BROMOFORM	N.D.	0 50	N D	--	1
BROMOMETHANE	N D	1 0	N D.	--	1
CARBON TETRACHLORIDE	N.D	0 50	N.D.	--	1
CHLOROBENZENE	N.D	0 50	N.D	96 1	1
CHLOROETHANE	N.D	1 0	N D.	--	1
2-BUTANONE (MEK)	N.D	50	N D	--	1
2-CHLOROETHYLVINYLETHER	N.D	0 50	N D	--	1
CHLOROFORM	N.D	0 50	N D	--	1
CHLOROMETHANE	N.D	1 0	N D.	--	1
DIBROMOCHLOROMETHANE	N.D	0 50	N D	--	1
1,2-DICHLOROBENZENE	N.D	0 50	N D	--	1
1,3-DICHLOROBENZENE	N.D	0 50	N D	--	1
1,4-DICHLOROBENZENE	N.D	0 50	N D	--	1
1,2-DIBROMO-3-CHLOROPROPANE	N.D	5 0	N D	--	1
1,2-DIBROMOETHANE	N.D	0 50	N.D	--	1
DIBROMOMETHANE	N.D	0 50	N D.	--	1
DICHLORODIFLUOROMETHANE	N.D	0 50	N D	--	1
1,1-DICHLOROETHANE	N.D	0 50	N D.	--	1
1,2-DICHLOROETHANE	N.D	0 50	N D.	--	1
1,1-DICHLOROETHENE	N.D.	0 50	N D	101	1
1,2-DICHLOROETHENE (CIS)	N.D.	0 50	N D	--	1
1,2-DICHLOROETHENE (TRANS)	N.D	0 50	N D	--	1
1,2-DICHLOROPROPANE	N.D	0 50	N D	--	1
CIS-1,3-DICHLOROPROPENE	N.D	0 50	N D	--	1
TRANS-1,3-DICHLOROPROPENE	N.D	0 50	N D	--	1
ETHYLBENZENE	N.D	0 50	N D	--	1
2-HEXANONE	N.D	50	N D	--	1
METHYLENE CHLORIDE	N.D	3 0	N D	--	1
4-METHYL-2-PENTANONE (MIBK)	N.D	50	N D	--	1
NAPHTHALENE	N.D	1 0	N D	--	1
STYRENE	N.D	0 50	N D	--	1
1,1,2,2-TETRACHLOROETHANE	N.D	0 50	N.D	--	1
TETRACHLOROETHENE	N.D	0 50	N D	--	1
TOLUENE	N.D	0 50	N D	99.7	1
1,1,1-TRICHLOROETHANE	N.D	0 50	N D	--	1
1,1,2-TRICHLOROETHANE	N.D	0 50	N D	--	1
TRICHLOROETHENE	N.D	0 50	N D	102	1
TRICHLOROFLUOROMETHANE	N.D	0 50	N D	--	1
VINYL ACETATE	N.D	5 0	N D	--	1
VINYL CHLORIDE	N D.	0 50	N.D	--	1

209-832-5152 PM 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

V053 0 QC0405 DLEG 13 22

CHROMALAB, INC.
Environmental Services (SDB)

December 18, 1997

WRIGHT ENVIRONMENTAL SERVICES
Atten John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis, continued
Method *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-1**
Spl#. 162320 *Matrix* WATER
Sampled: December 11, 1997 *Run#.* 10270 *Analyzed* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
TOTAL XYLENES	N D.	1 0	N D	--	1
CARBON DISULFIDE	N D.	0 50	N.D	--	1
ISOPROPYLBENZENE	N.D.	0 50	N D	--	1
BROMOBENZENE	N D	0.50	N.D	--	1
BROMOCHLOROMETHANE	N D	1 0	N D	--	1
TRICHLOROFLUOROMETHANE	N.D	0.50	N D	--	1

Michael Lee
Chemist

for Oleg Newman
Michael Verona
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157
V053 0 QC0405 OLEG 13 22

CHROMALAB, INC.

Environmental Services (SDB)

December 31, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID **MW-2**
Spl# 162321 *Matrix* WATER
Sampled: December 11, 1997 *Run#* 10302 *Analyzed:* December 19, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N D	50	N D	107	1
MTBE	N D.	5 0	N D	100	1
BENZENE	N D	0.50	N D.	99	1
TOLUENE	N D	0 50	N D	99	1
ETHYL BENZENE	N D	0 50	N D	111	1
XYLENES	N D	0 50	N D	102	1

Vincent Vancil
Chemist

Michael Verona
Operations Manager

209-832-5152

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CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten. John Lynch

Project: HALEY
Received: December 11, 1997

re. One sample for Miscellaneous Metals analysis.
Method *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID **MW-2**
Spl#: 162321 *Matrix* WATER *Extracted:* December 15, 1997
Sampled: December 11, 1997 *Run#:* 10196 *Analyzed:* December 16, 1997

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
LEAD	0 038	0 0050	N D	96 8	1

Christopher Arndt
Chemist

John S Labash
Inorganics Supervisor

209-832-5152 PM 12/18

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten. John Lynch

Project. HALEY
Received December 11, 1997

re: One sample for TEPH analysis
Method: *EPA 8015M*

Client Sample ID **MW-2**
Spl#: 162321 *Matrix:* WATER *Extracted:* December 16, 1997
Sampled: December 11, 1997 *Run#:*10235 *Analyzed:* December 17, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
KEROSENE	210	54	N.D	--	1

Note *Quantitation for the above Analyte is based on the response factor of Diesel Hydrocarbon reported is in the late Kerosene range and does not match our Kerosene standard*

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

209-832 5152 PM 12/18

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CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID **MW-2**
Spl# 162321 *Matrix:* WATER
Sampled: December 11, 1997 *Run#* 10270 *Analyzed* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACETONE	N D.	50	N.D	--	1
BENZENE	N.D.	0 50	N D.	99 4	1
BROMODICHLOROMETHANE	N.D	0 50	N.D.	--	1
BROMOFORM	N D	0 50	N D.	--	1
BROMOMETHANE	N D	1.0	N D	--	1
CARBON TETRACHLORIDE	N D	0 50	N D	--	1
CHLOROBENZENE	N D	0 50	N D	96 1	1
CHLOROETHANE	N.D	1 0	N.D	--	1
2-BUTANONE (MEK)	N.D	50	N.D.	--	1
2-CHLOROETHYLVINYLETHER	N.D	0 50	N.D	--	1
CHLOROFORM	0 88	0 50	N D.	--	1
CHLOROMETHANE	N D	1 0	N D	--	1
DIBROMOCHLOROMETHANE	N D	0 50	N D	--	1
1,2-DICHLOROBENZENE	N.D	0 50	N D	--	1
1,3-DICHLOROBENZENE	N D	0 50	N D	--	1
1,4-DICHLOROBENZENE	N D	0 50	N.D	--	1
1,2-DIBROMO-3-CHLOROPROPANE	N D	5 0	N D.	--	1
1,2-DIBROMOETHANE	N D	0.50	N D.	--	1
DIBROMOMETHANE	N.D.	0 50	N D.	--	1
DICHLORODIFLUOROMETHANE	N D.	0 50	N D	--	1
1,1-DICHLOROETHANE	N.D	0 50	N D	--	1
1,2-DICHLOROETHANE	N D	0 50	N D	--	1
1,1-DICHLOROETHENE	N D	0.50	N.D	101	1
1,2-DICHLOROETHENE (CIS)	N D	0 50	N D.	--	1
1,2-DICHLOROETHENE (TRANS)	N D.	0 50	N D.	--	1
1,2-DICHLOROPROPANE	N D	0 50	N D	--	1
CIS-1,3-DICHLOROPROPENE	N D	0 50	N D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D	0 50	N.D.	--	1
ETHYLBENZENE	N D.	0 50	N D	--	1
2-HEXANONE	N D	50	N D	--	1
METHYLENE CHLORIDE	N D	3 0	N.D	--	1
4-METHYL-2-PENTANONE (MIBK)	N D	50	N D.	--	1
NAPHTHALENE	N.D	1 0	N D	--	1
STYRENE	N.D	0 50	N D	--	1
1,1,2,2-TETRACHLOROETHANE	N D.	0 50	N D.	--	1
TETRACHLOROETHENE	N.D	0 50	N D.	--	1
TOLUENE	N.D	0 50	N D	99 7	1
1,1,1-TRICHLOROETHANE	N D	0 50	N D.	--	1
1,1,2-TRICHLOROETHANE	N D	0 50	N D.	--	1
TRICHLOROETHENE	N.D	0 50	N D	102	1
1,1,1,2-TETRACHLOROETHANE	N D.	0.50	N D	--	1
VINYL ACETATE	N D	5 0	N.D.	--	1
VINYL CHLORIDE	N.D	0 50	N D	--	1

209-832-5152 PM 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

December 18, 1997

Submission #: 9712241
page 2

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received December 11, 1997
re One sample for Volatile Organics by GC/MS analysis, continued
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-2**
Spl# 162321 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed:* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
TOTAL XYLENES	N.D.	1 0	N D	--	1
CARBON DISULFIDE	N.D	0 50	N D	--	1
ISOPROPYLBENZENE	N.D	0 50	N D	--	1
BROMOBENZENE	N.D	0 50	N.D	--	1
BROMOCHLOROMETHANE	N.D	1 0	N D	--	1
TRICHLOROFLUOROMETHANE	N.D	0.50	N D	--	1

Michael Lee
Chemist

for Oleg Khaetskin
Michael Verona
Operations Manager

209-832-5152 PM 12/18
1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

V053 0 0C0405 OLEG 13 22

CHROMALAB, INC.

Environmental Services (SDB)

December 31, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Gasoline BTEX MTBE analysis
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-3**
Spl#: 162322 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:*10302 *Analyzed* December 19, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N D	50	N.D	107	1
MTBE	N D	5 0	N.D	100	1
BENZENE	N D	0 50	N D	99	1
TOLUENE	N D	0 50	N D	99	1
ETHYL BENZENE	N D	0 50	N D	111	1
XYLENES	N D	0 50	N D	102	1

Vincent Vancil
Chemist

Michael Verona
Operations Manager

209-832-5152

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten. John Lynch

Project· HALEY
Received December 11, 1997

re One sample for Miscellaneous Metals analysis
Method *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-3**
Spl# 162322 *Matrix:* WATER *Extracted:* December 15, 1997
Sampled: December 11, 1997 *Run#:* 10196 *Analyzed:* December 16, 1997

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
LEAD	0.039	0 0050	N D	96.8	1

Christopher Arndt
Chemist

John S Labash
Inorganics Supervisor

209-832-5152 PM 12/18

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(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

M010 0 000405 JOHN 10 48

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten. John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for TEPH analysis
Method: *EPA 8015M*

Client Sample ID. **MW-3**
Spl#: 162322 *Matrix* WATER *Extracted:* December 16, 1997
Sampled December 11, 1997 *Run#.*10235 *Analyzed:* December 17, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
KEROSENE	N.D	53	N.D	--	1

Note *Quantitation for the above Analyte is based on the response factor of Diesel*

Bruce Havlik
Chemist

Michael A Tam FOR
Alex Tam
Semivolatiles Supervisor

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

CHROMALAB, INC.
Environmental Services (SDB)

December 18, 1997 *Submission #* 9712241
page 2

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis, continued
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-3**
Spl#: 162322 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
TOTAL XYLENES	N.D	1 0	N D	--	1
CARBON DISULFIDE	N D	0 50	N D	--	1
ISOPROPYLBENZENE	N D	0 50	N D	--	1
BROMOBENZENE	N D	0 50	N D	--	1
BROMOCHLOROMETHANE	N D	1 0	N D	--	1
TRICHLOROFLUOROMETHANE	N D	0 50	N D	--	1

Michael Lee
Chemist

for Michael Verona
Michael Verona
Operations Manager

209-832-5152 PM 12/18
1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

V053 O QC0405 OLEG 13 22

12241 / 162320 - 162322

37198

CHAIN OF CUSTODY RECORD
REQUEST FOR ANALYSIS

DATE 12-11-97
PAGE 1 OF 1

Wright Environmental Services, Inc.
(209) 833-0758
Fax (209) 832-5152
4220 Commercial Dr, #5
Tracy, CA 95376

CLIENT NAME Haley Flying Service
ADDRESS 21000 Paradise Rd.
Tracy, CA
PHONE NO (209) 833-0758 FAX NO (209) 832-3152
PROJECT NAME Haley
SEND REPORT TO John Lynch

SAMPLER NAME/SIGNATURE
RANDY CHADWICK Randy Chadwick

TURN AROUND TIME
NORMAL ☒
RUSH ☐

SAMPLE NUMBER	SAMPLING DATE/TIME		PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION WATER	SOIL	OTHER	418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals	TPHG	BTEX	MTBE	Aviation Fuel	Kerosene	Total Lead	B260
MW-1	12-11-97	0800	Ice	(3) Liters	X											X	X	X	X	X	X	X
MW-1	12-11-97	0800		(3) VOAs	X																	
MW-2		1045		(3) Liters	X																	
MW-2		1045		(3) VOAs	X																	
MW-3		1140		(3) Liters	X																	
MW-3		1140		(3) VOAs	X																	

SUBN #: 971209[illegible] PM
CLIENT: WRIGHT
DUE: 12/16/97
RFT #: 37198

COMMENTS

Relinquished by (Signature)	Date	Received by (Signature)	Date	Relinquished by (Signature)	Date	Received by (Signature)	Date
RANDY CHADWICK	12-11					Mike Naranjo	12-11-97
Company: WES	Time	Company	Time	Company	Time	Company	Time: 1615

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical laboratory

March 31, 1998 PEL # 9708049

WRIGHT ENVIRONMENTAL, INC. Attn: John Afonso

Re: Three water samples for Gasoline/BTEX with MTBE and TEPH analyses.

QA/QC for

Project name: Haley Flying Service
Project location: 21000 Paradise Rd., - Tracy,CA.

Date sampled: Aug 25, 1997 Date submitted: Aug 28, 1997
Date extracted: Aug 28-30, 1997 Date analysed: Aug 28-30, 1997

RESULTS:

SAMPLE I.D.	MTBE (ug/L)	Gasoline (ug/L)	Aviation (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Kerosene (mg/L)
Duplicate MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Method Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	81.9%	---	82.5%	94.4%	85.7%	94.2%	---
Detection limit	0.5	50	50	0.5	0.5	0.5	0.5	50
Method of Analysis	602	5030 / 8015	3510/ 8015	602	602	602	602	3510/ 8015

David Duong
Laboratory Director

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical laboratory

March 31, 1998 PEL # 9707004

WRIGHT ENVIRONMENTAL SERVICES Attn: John Affonso

Re: Three water samples for Gasoline/BTEX with MTBE and TEPH analyses.

QA/QC for

Project name: Haley Flying Services
Project location: 21000 Paradise rd. - Tracy, CA.

Date sampled: June 30, 1997 Date submitted: July 01, 1997
Date extracted: July 01-03, 1997 Date analyzed: July 01-03, 1997

RESULTS:

SAMPLE I.D.	Aviation fuel (ug/L)	Kerosene (ug/L)	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)
Duplicate MW-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Dilution Factor	1	1	1	1	1	1	1	1
Spiked Recovery	---	---	86.4%	93.7%	92.9%	88.4%	94.3%	---
Method Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Detection limit	50	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	3510/ 8015	3510/ 8015	5030/ 8015	602	602	602	602	602

Post-it® Fax Note 7671 | Date 4-1-98 | # of pages ▶ 2
To Carol | From Marvin
Co./Dept. | Co
Phone # | Phone # 833075 8
Fax # 4683433 | Fax #

David Duong
Laboratory Director

Wright Environmental Services, Inc.

Construction ◆ Engineering ◆ Remediation

November 6, 1997
Project No 4111

Ms Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re Quarterly Sampling Groundwater Monitoring Well
Haley Flying Services 21000 Paradise Road, Tracy, CA

Dear Ms Haley,

This report describes the monitoring well sampling at the above referenced site for the quarter ending September, 1997 Wright Environmental Services, Inc (Wright) was retained to coordinate sampling and chemical analysis of the site monitoring wells Previous reports are on file with the County of San Joaquin Public Health Service, Environmental Health Division (PHS-EHD) regarding the removal of impacted soil discovered during underground fuel storage tank removal Three monitoring wells currently exist on-site

Field Sampling Procedures

Three monitoring wells were sampled on August 25, 1997 The samplers proceeded to purge well volumes of groundwater from each well using a submersible electric purge pump (a volume calculation was done for each well following water level measurements) Purge water was stored on-site in barrels Measurements of conductivity, pH, and water temperature were obtained between each well volume, and noted on the attached groundwater sampling information sheets Once the readings stabilized over two purge volumes, aquifer water was assumed to enter the well Each well was then allowed to recharge to about 80% of the initial water level prior to sample collection

A new disposable bailer was used to obtain each well groundwater sample Each sample was carefully poured into laboratory prepared containers leaving no headspace, capped, labeled, logged onto chain-of-custody forms and immediately placed on ice for shipment to Priority Environmental Laboratories Inc in Milpitas, California (a State Certified Testing Lab) Table 1 presents the groundwater monitoring well water level data

4220 Commercial Dr , Suite 5 ◆ Tracy CA 95376
209 833 0758 ◆ Fax 209 832 5152
wright@inreach com Lic #651501 A-B HazMat

Table 1. Groundwater Monitoring Well Data

Well No	Date Sampled	Well Depth (ft)	Depth to Water (ft)	Casing Elev ft	Water Elev ft	Floating Product
MW-1	8/25/97	19 34	7 34	22 39	15 05	None
MW-2	8/25/97	17 25	7 07	22 02	14 95	None
MW-3	8/25/97	19 27	6 71	21 76	15 05	None

Groundwater Gradient

Groundwater elevations were plotted to a known datum to prepare a groundwater contour map The groundwater flow direction was toward the north-northwest at sampling time, and a flow gradient of 0 0062 was calculated Historic groundwater flow trends typically vary from north-northeasterly to north-northwesterly

Chemical Analysis and Results

Priority Environmental Labs Inc tested the groundwater samples using EPA Methods 5030/ 8015 and 602 for Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and fuel oxygenates including Methyl-tert-butyl-ether (MTBE) The analytical reports are attached, and the results are listed below in Table 2

Table 2 Groundwater Chemical Data

Well No	Date	TPHG	B	T	E	X	Fuel Ox
		ug/l					
MW-1	8/25/97	ND	ND	ND	ND	ND	ND
MW-2	8/25/97	ND	ND	ND	ND	ND	ND
MW-3	8/25/97	ND	ND	ND	ND	ND	ND
Blank	8/25/97	ND	ND	ND	ND	ND	ND

ND - None detected NA - Not Analyzed ug/l - micrograms per liter
Fuel Ox - Fuel Oxygenates

Discussion

Groundwater flow direction appears consistent with historically observed trends Contaminants were not observed in any well If the none detected trend continues for two more quarters, then a proposal to close the site will be made to PHS-EHD

Monitoring Schedule

The quarterly monitoring for this site is scheduled to continue at quarterly intervals

Limitations

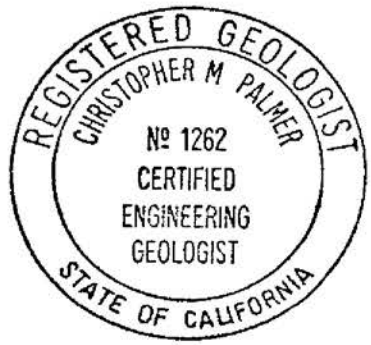
This report has been prepared specifically for the Haley Flying Services site in Tracy, CA, and was done according to the State and local agency suggested guidance documents for these investigations The interpretations, conclusions and recommendations made herein are based on the data and analysis for the water samples collected on-site and should be reviewed in the context of the whole report Please note that reports of contamination must be submitted to the agencies in a timely manner Wright Environmental Services, Inc is not responsible for errors in laboratory analysis and reporting, or for information withheld during the course of the study, and no warranty or guarantee is expressed or implied therein

If you have any questions please call

Sincerely,
Wright Environmental Services, Inc

John Affonso
Project manager

Christopher M Palmer
C E G 1262, HG 246



Attachments

Figure 1 Groundwater Contour Map
Well Sampling Sheets
Chemical Analytical Reports and Chain-of-Custody

References

Wright Environmental Services, Inc letter dated October 3, 1995 entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project No 4111, 5 pg with attachments

Wright Environmental Services, Inc report dated July 26, 1996 entitled, "Reconnaissance Site Investigation, Haley Property 21000 Paradise Road, Tracy, CA," Project No 4111, 7 pg with attachments

RECEIVED SEP

WELL GAUGING DATA

Project # 970825-M1 Date 8-25-97 Client Wright Env Svc.

Site 21000 Paradise Rd Tracy, Ca

Well I D	Well Size (in)	Sheen/ Odor	Depth to Immiscible Liquid (feet)	Thickness of Immiscible Liquid (ft)	Volume of Immiscibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Survey Point TOB or TOC
MW1	2					7.34	19.34	TOC
MW2	2					7.07	17.25	)
MW3	2					6.71	19.27	)

WELL MONITORING DATA SHEET

Project # 970825-M1	Client Wright Env
Sampler: Mikel	Start Date:
Well I D MW-1	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 19.34 After	Depth to Water Before 7.34 After
Depth to Free Product	Thickness of Free Product (feet):
Measurements referenced to (PVC) Grade Other	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1 Case Volume	x	Specified Volumes	=	gallons
1.9	x	3	=	5.7

Purging: Bailer
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other_____

Sampling: Bailer
Disposable Bailer
Extraction Port
Other_____

TIME	TEMP. (F)	pH	COND	TURBIDITY	VOLUME REMOVED:	OBSERVATIONS
1035	67.4	6.8	4900	>200	2.0	Turbid
1040	66.6	6.7	4700	>200	4.0	
1045	66.2	6.7	4400	>200	6.0	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated. 6.0

Sampling Time: 1050 Sampling Date 8-25-97

Sample I D.: mw1 Laboratory: Priority

Analyzed for: (TPH-G) (BTEX) TPH-D OTHER: MTBE, Aviation Fuel Kerosene
(Circle) Total Lead

Duplicate I D.: Cleaning Blank I D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:
(Circle)

WELL MONITORING DATA SHEET

Project # 970825-M1	Client: Wrllht Env
Sampler. Ukel	Start Date: 8-25-97
Well I D · MW2	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth· Before 17.25 After	Depth to Water. Before 7.07 After
Depth to Free Product	Thickness of Free Product (feet):
Measurements referenced to (PVC) Grade	Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0 04	6"	1.47.
2"	0 16	8"	2 61
3"	0 37	10"	4 08
4"	0 65	12"	5 87
5"	1 02	16"	10 43

1 Case Volume	x	Specified Volumes	=	gallons
16	x	3	=	48

Purging: Bailer✓ Disposable Bailer Middleburg Electric Submersible Extraction Pump Other_____

Sampling: Bailer Disposable Bailer✓ Extraction Port Other_____

TIME	TEMP (F)	pH	COND	TURBIDITY:	VOLUME REMOVED.	OBSERVATIONS·
1120	64.6	5.5	1800	>200	2.0	Turbid
1125	64.8	5.6	1500	>200	4.0	
1130	64.6	5.6	1500	>200	5.0	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 5.0

Sampling Time: 1130 Sampling Date· 8-25-97

Sample I D.: MW2 Laboratory: Priority

Analyzed for. (TPH-G) (BTEX) TPH-D OTHER: MTBE, Aviation Fuel Kerosene Total Lead
(Circle)

Duplicate I D.: Cleaning Blank I D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:
(Circle)

1300
SLS
7558

WELL MONITORING DATA SHEET

Project # 970825-MI	Client: WRIGHT ENV
Sampler: MIKEL	Start Date: 8-25-97
Well I.D : MW3	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 19.27 After	Depth to Water: Before 6.71 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to (PVC) Grade Other.	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1 Case Volume	x	Specified Volumes	=	gallons
2.0	x	3	=	6.0

Purging: Bailer(O)
Disposable Bailer
Middleburg
Electric Submersable
Extraction Pump
Other_____

Sampling Bailer
Disposable Bailer(X)
Extraction Port
Other_____

TIME	TEMP (F)	pH	COND.	TURBIDITY.	VOLUME REMOVED.	OBSERVATIONS:
1150	64.8	5.5	1300	7200	2.0	TURBID
1155	64.8	5.5	1300	7200	4.0	
1200	65.0	5.5	1300	7200	6.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 6.0

Sampling Time: 1215 Sampling Date: 8-25-97

Sample I D.: MW3 Laboratory: PHOENIX

Analyzed for: (Circle) TPH-G BTEX TPH-D (OTHER) MTBE, AVIATION FUEL/KEROSENE TOTAL Pb

Duplicate I D.: Cleaning Blank I D.:

Analyzed for: (Circle) TPH-G BTEX TPH-D OTHER:

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

August 31, 1997 PEL # 9708049

WRIGHT ENVIRONMENTAL, INC.

Attn: John Afonso

Re: Three water samples for Gasoline/BTEX with MTBE and TEPH analyses.

Project name: Haley Flying Service
Project location: 21000 Paradise Rd., - Tracy,CA.

Date sampled: Aug 25, 1997 Date submitted: Aug 28, 1997
Date extracted: Aug 28-30, 1997 Date analyzed: Aug 28-30, 1997

RESULTS:

SAMPLE I.D.	MTBE (ug/L)	Gasoline (ug/L)	Aviation (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Kerosene (mg/L)
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	81.9%	---	82.5%	94.4%	85.7%	94.2%	---
Detection limit	0.5	50	50	0.5	0.5	0.5	0.5	50
Method of Analysis	602	5030 / 8015	3510/ 8015	602	602	602	602	3510/ 8015

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA 95035 Tel 408-946-9636 Fax 408-946-9663

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

August 30, 1997 PEL # 9708049

WRIGHT ENVIRONMENTAL SERVICES, INC.

Attn: John Afonso

Re: Three water samples for total Lead analysis.

Project name: Haley Flying Service
Project location: 21000 Paradise Rd., - Tracy, CA.

Date sampled: Aug 25, 1997 Date submitted: Aug 28, 1997
Date extracted: Aug 28-30, 1997 Date analyzed: Aug 28-30, 1997

RESULTS:

SAMPLE I.D.	Lead (mg/L)
MW-1	N.D.
MW-2	N.D.
MW-3	N.D.
Blank	N.D.
Detection limit	0.05
Method of Analysis	7420

David Duong
Laboratory Director

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PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 02, 1997

PEL # 9708049
Page 01 of 02

WRIGHT ENVIRONMENTAL, INC. Attn: John Affonso

Project name: Haley Flying Service
Project location:21000 Paradise Rd.-Tracy, CA.

Sample I.D.: MW-1

Date Sampled: Aug 25, 1997 Date Submitted: Aug 28, 1997
Date Analyzed: Aug 28-Sep 02, 1997

Method of Analysis: EPA 8260 Detection limit: 5.0ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromoethane	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PEL # 9708049

SAMPLE I.D. MW-1

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
Isopropylbenzene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
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PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 02, 1997

PEL # 9708049

WRIGHT ENVIRONMENTAL, INC. Attn: John Affonso

Project name: Haley Flying Service
Project location:21000 Paradise Rd.-Tracy, CA.

Sample I.D.: MW-2

Date Sampled: Aug 25, 1997 Date Submitted: Aug 28, 1997
Date Analyzed: Aug 28-Sep 02, 1997

Method of Analysis: EPA 8260 Detection limit: 5.0ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromoethane	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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Precision Environmental Analytical Laboratory

PEL # 9708049

SAMPLE I.D. MW-2

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
Isopropylbenzene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
Laboratory Director

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

September 02, 1997

PEL # 9708049

WRIGHT ENVIRONMENTAL, INC. Attn: John Affonso

Project name: Haley Flying Service
Project location:21000 Paradise Rd.-Tracy, CA.

Sample I.D.: MW-3

Date Sampled: Aug 25, 1997 Date Submitted: Aug 28, 1997
Date Analyzed: Aug 28-Sep 02, 1997

Method of Analysis: EPA 8260 Detection limit: 5.0ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromoethane	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PEL # 9708049

SAMPLE I.D. MW-3

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
Isopropylbenzene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

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BLAINE TECH SERVICES INC

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY

CLIENT: Wright Environmental Services

SITE: Hadley Flying Service
21000 Paradise Rd.
Tracy, CA

C = COMPOSITE ALL CONTAINERS

CONDUCT ANALYSIS TO DETECT

LAB: Priority

DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

- ☐ EPA
- ☐ LIA
- ☐ OTHER
- ☐ RWQCB REGION: ____

SPECIAL INSTRUCTIONS: Invoice & Report to Wright Environmental Services Attn: John Affonso

PEL # 9708049

INV # 27894

SAMPLE I D	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL	TPH-DIAS	BTEX + MTBE	AVIA-FUEL	KEROSENE	TOTAL LEAD (Pb)	8260	ADD L INFORMAT
MW1	W	8	X	X	X	X	X	X	
MW2	W	8	X	X	X	X	X	X	
MW3	W	8	X	X	X	X	X	X	

SAMPLING COMPLETED: DATE 8/25 TIME 1215

SAMPLING PERFORMED BY: MIKEL

RESULTS NEEDED NO LATER THAN: Per client

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	8-28-97	1620		08/28/97	10:20 AM
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

Wright
Environmental
Services, Inc.

July 30, 1997
Project No 4111

FILE COPY

resubmitted with COC 31398

Ms Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re Groundwater Monitoring Well Installation and Initial Quarterly Sampling Haley Flying Services 21000 Paradise Road, Tracy, CA

Dear Ms Haley,

Wright Environmental Services, Inc (WRIGHT) has prepared this Groundwater Monitoring Well Installation and Sampling Report for the above referenced site This report presents the results of the groundwater monitoring well installation and sampling required by the County of San Joaquin County Public Health Services Environmental Health Division (PHS-EHD) The work presented herein was reviewed and approved by PHS-EHD representatives, and slightly modified in the field by a PHS-EHD representative

Background

Two underground storage tanks (one 1000 gallon gasoline and one 5000 gallon aviation gasoline) were removed on May 11, 1990 by Crisp Tank Testing of Stockton, CA The tanks were removed under approved permits of the PHS-EHD Soil samples under the tanks revealed that contaminants were not detected under the regular gasoline tank Soil samples collected under the aviation gasoline tank showed 610 parts per million (ppm) Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene at 6,500 parts per billion (ppb), Toluene at 62,240 ppb, Ethylbenzene at 41,450 ppb and Xylenes at 169,250 ppb A groundwater sample from the 5000 gallon tank pit revealed TPHG was not detected, Benzene at 3 9 ppb, Toluene at 18 4 ppb, Ethylbenzene at 7 5 ppb and Xylenes at 31 9 ppb Ethylene dibromide and organic lead were not detected in the groundwater sample (see References)

Wright performed a reconnaissance site exploration by drilling exploratory borings in June, 1996 Six exploratory borings were sampled and revealed degraded petroleum fuels (Total Petroleum Hydrocarbons as Gasoline, Kerosene and Aviation Gasoline, TPHG, TPHK TPHA) adjacent to and slightly downgradient from the former 5000 gallon aviation gasoline tank Upon review of the PHS-EHD, monitoring wells were requested for site monitoring

Exploratory Soil Borings and Monitoring Well Installation

Three exploratory borings were drilled at the locations shown on Figure 1 Drilling permits were secured from the PHS-EHD prior to doing the field work Boreholes were drilled with hollowstem auger drilling equipment All drilling equipment and sampling tools were cleaned

4220 Commercial Dr #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

Wright
Environmental
Services, Inc.

July 30, 1997
Project No 4111

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1311 Madison Avenue
Tracy, California 95376

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July 30, 1997
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Tracy, California 95376

Re Groundwater Monitoring Well Installation and Initial Quarterly Sampling Haley Flying Services 21000 Paradise Road, Tracy, CA

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Background

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Exploratory Soil Borings and Monitoring Well Installation

Three exploratory borings were drilled at the locations shown on Figure 1 Drilling permits were secured from the PHS-EHD prior to doing the field work Boreholes were drilled with hollowstem auger drilling equipment All drilling equipment and sampling tools were cleaned

prior to arriving, and before leaving the site Soil samples were collected by advancing the augers to the desired sampling depth interval, and driving a split spoon sampler equipped with clean brass liners The sampler was then retrieved and dissembled, and the soil samples retained for chemical analysis were cut from the soil filled acetate liner, sealed with foil and plastic endcaps, labeled, logged onto chain-of-custody forms and placed in a chilled ice chest The boreholes were logged using the Unified Soil Classification System under the supervision of a registered geologist Additional lithologic information was collected to describe the subsurface geology The samples were continuously collected at intervals of obvious contamination and at stratigraphic features of interest

Three groundwater monitoring wells were installed The wells were cased with Sch 40 PVC casing, threaded together, glues were not used The slotted interval was cased with 0 020 inch slot and the annular space around the slots was backfilled with a 2/12 size sand Previous experience has shown this to be a reliable well design in fine grained and stratified depositional environments Final well design was modified to the site specific conditions encountered in the borehole during drilling Once the aquifer strata has been defined, the casing was lowered to the bottom of the borehole, leaving a slotted interval above the occurrence of groundwater to observe for floating product The sand pack was placed to a point about two feet above the slots A bentonite seal was placed atop the sand pack, and a cement grout seal placed atop the bentonite using a tremie line, filling from the bottom to top of the borehole A traffic rated well head access box and security device completed the well

The location for monitoring well MW-3 was adjusted in the field after discussions with the PHS-EHD representative The location was moved about 15 feet closer to the former underground storage tank location from the initially proposed location

Well Head Survey

All wells will be surveyed to mean sea level using a known datum This allows accurate measurements and groundwater gradient to be calculated

Monitoring Well Sampling and Development

All monitoring wells were developed to remove the drilling muck, grade the sand pack and provide a more complete hydraulic connection to the aquifer The well volume was calculated and a number of those volumes were removed until the water clears and the amount of sand pumped was minimal The well was then allowed to recover for at least 72 hours prior to sampling A log of the development was kept for each well

Each monitoring well was sampled Each borehole was advanced into the aquifer and temporarily cased Each monitoring well was purged using calculated well volumes based upon the depth to water in each casing Depth to groundwater measurements were made to the nearest one-one hundredth of one foot, and also checked for the presence of separate phase product As each purge volume was removed, measurements of pH, electrical conductivity and temperature were taken until these parameters stabilized, which is interpreted to indicate aquifer water entering the casing The sample was carefully collected with a clean bailer and poured into the appropriate laboratory prepared container with minimum cavitation Each water sample was labeled, logged onto a chain-of-custody form, and placed in a chilled ice chest Upon completion of well sampling, the well was closed and locked and the sampler moved to the next sampling point

Subsurface Conditions

Three exploratory soil borings were advanced on-site at the locations shown on Figure 1 The pavements are underlain by silty clay to depths of about 12- to 14 feet This clay is in turn underlain by sandy clay and clayey sand to depths of about 20-feet These sandy strata may contain thin fine sand and clay interbeds several inches thick and compose the aquifer The boreholes were terminated at a depth of 21 5-feet into a clay strata which is assumed to be continuous aquitard under the site

Groundwater was encountered in each borehole at depths of roughly 12-feet and is interpreted to be unconfined to weakly confined in this area Slow entry was observed in some boreholes The irrigation canal just north of the site was filled with water and was flowing to the east The groundwater elevation data indicate an southwesterly direction of flow The low gradient was calculated at 0 014

Chemical Analysis and Results

Nine soil and six groundwater samples were analyzed at Priority Environmental Laboratories, Inc in Milpitas, CA, a State certified analytical laboratories Samples were tested for the following, Total Petroleum hydrocarbons as Gasoline (TPHG), as Aviation Fuel (TPHA), as Kerosene (TPHK), Benzene (B), Toluene (T), Ethylbenzene (E), Xylene (X), Methyl-tertial-buytl-ether (MBTE) and Total Lead using EPA Methods 5030, 8015, 8020, 602 and 7420 The results are attached (see Appendix D) and listed below in Tables 1 and 2

TABLE 1 SOIL CHEMICAL DATA

Sample No	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Lead
	mg/kg			ug/kg					mg/kg
MW-1-2	ND	ND	ND	ND	ND	ND	ND	ND	9 0
MW-2-2	ND	ND	ND	ND	ND	ND	ND	ND	5 2
MW-3-2	ND	1 1	ND	ND	ND	ND	ND	ND	4 5
Soil Stockpile	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2 GROUNDWATER CHEMICAL DATA

Sample No	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Lead
	ug/l								mg/kg
MW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	ND	ND	340	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Drum Water	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not Detected
mg/kg - milligram per kilogram
ug/kg - microgram per kilogram
ug/l - microgram per liter

Discussion

The dissolved contaminants appeared to have migrated in a northeasterly direction from the former tank pit area from previous study (Wright 1996) This field evidence indicated that the migration in the shallow aquifer had occurred along or just below the capillary fringe for a limited distance The reconnaissance borings of 1996 clearly showed an easterly contaminant movement It is surmised that seepage from the canal currently influences flow

The groundwater monitoring well data shows that only MW-2 revealed dissolved TPHA at 340 ppb These concentrations indicate highly degraded volatile components in the gasoline product This indicates that the residual contaminants are not mobile The concentration differences between these studies are attributed to the drilling action which tends to free absorbed contaminants However since the monitoring wells are located at points further from the reconnaissance borings, the migration and quantity of dissolved contaminants appears minimal

Concentrations of BTEX were not detected in any well water sample, indicating that natural biodegradation process have operated on this fuel, and the fuel is highly degraded A relatively flat gradient, together with the clayey sand aquifer strata, appear to have limited migration of the plume

Conclusions and Recommendations

Three groundwater monitoring wells were used to further define the extent of petroleum contaminants in the vicinity of a former underground storage tank location Previous exploratory soil borings and reconnaissance groundwater sampling show that highly degraded TPHG and BTEX occurs downgradient of the former tank and dispenser area (Wright, 1996) Contaminant distribution is indicative of a contaminant plume to the east Groundwater flow is currently southwesterly, and is attributed to seepage from the nearby canal influence Local regional groundwater is anticipated to flow easterly given previous work and contaminant dispersal when the canalis empty

Cleanup actions of further soil excavation, and soil and groundwater extraction and treatment do not appear to be cost effective for this site's degraded contaminant composition and distribution and pending State guidance Given the degraded BTEX volatile component chemistry of the dissolved plume, Wright feels that natural biologic action will continue to decompose the gasoline However, site groundwater monitoring is warranted

We also recommend that monitoring for biologic parameters be added to the monitoring program to estimate biologic activity (i e , dissolved oxygen, pH, ferrous iron, sulfate and nitrate, Buscheck and O'Reilly, 1995) This will establish a baseline to estimate the biologic activity inferred from the data collected Periodic monitoring is proposed quarterly for the next two quarters, with a review of data to ascertain the feasibility of site closure

Limitations

This report has been prepared for the specifically for the Haley Flying Services Site at 21000 Paradise, Tracy, CA and was done according to the State and local agency suggested guidance documents for these investigations The interpretations, conclusions and recommendations made herein are based on the data and analysis for the soil and water samples collected on-site and should be reviewed in the context of the whole report and previous site work Please note that reports of contamination must be submitted to the agencies in a timely manner Wright Environmental Services, Inc is not responsible for errors in laboratory analysis and reporting, or for information withheld during the course of the study, and no warranty or guarantee is expressed or implied therein

If you have any questions please call

Sincerely,
Wright Environmental Services, Inc

John Affonso
Project manager

Christopher M Palmer
C E G 1262, HG 246

Attachments:

Figure 1 Groundwater Monitoring Well Locations and Groundwater Contour Map
Exploratory Boring Logs and Well construction Details
Well development Logs and Well Sampling Sheets
Chemical Analytical Reports

References

Buscheck, T and O'Reilly, K , March, 1995, Protocol for Monitoring Intrinsic Bioremediation in Groundwater Chevron Research and Technology Company Health, Environment and Safety Group, 20 pg

Wright Environmental Services, Inc letter dated October 3, 1995 entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project No 4111 5 pg with attachments

Wright Environmental Services, Inc report dated July 26, 1996 entitled, "Reconnaissance Site Investigation, Haley Property 21000 Paradise Road, Tracy, CA," Project No 4111, 7 pg with attachments

Limitations

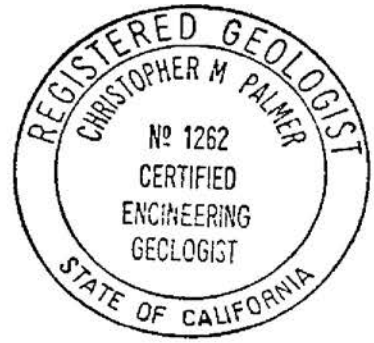
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cc:
Steve Sesson
& PHS-EHD
Elizabeth Thaye
@ RWQCB

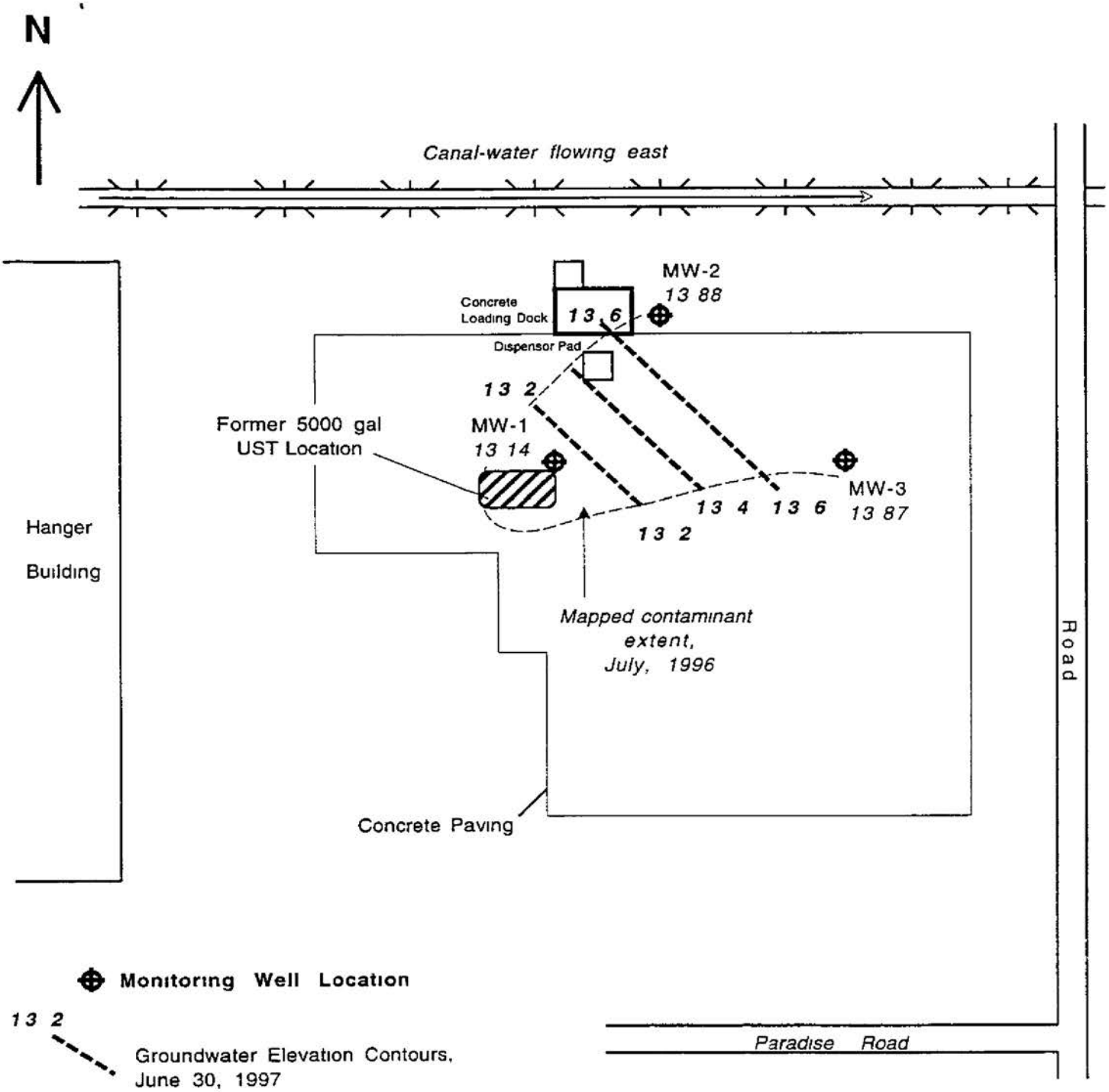
TABLE 1 RECONNAISSANCE BORING SOIL CHEMICAL DATA (1996)

Sample No	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Total Lead
	--------mg/kg------			----------ug/kg----------					--mg/kg--
PB-1-2	ND	ND	ND	ND	ND	ND	ND	ND	43
PB-2-3	ND	ND	ND	ND	ND	ND	ND	ND	25
PB-2-4	ND	ND	ND	ND	ND	ND	ND	ND	47
PB-3-2	ND	ND	ND	ND	ND	ND	ND	ND	23
PB-3-3	150	400	550	300	98	180	330	ND	22
PB-3-2	ND	ND	ND	ND	ND	ND	ND	ND	25
PB-4-2	ND	ND	ND	ND	ND	ND	ND	ND	21
PB-5-2	ND	ND	ND	ND	ND	ND	ND	ND	40
PB-6-2	ND	ND	ND	ND	ND	ND	ND	ND	37
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2 RECONNAISSANCE BORING GROUNDWATER CHEMICAL DATA (1996)

Sample No	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Total Lead
	----------ug/l----------								--mg/l--
PB-1	ND	ND	ND	ND	ND	ND	ND	ND	ND
PB-2	370	400	770	38	39	22	58	ND	ND
PB-3	600	690	1300	28	25	44	69	ND	ND
PB-4	87	200	290	ND	ND	05	28	ND	ND
PB-5	ND	ND	ND	ND	ND	ND	ND	ND	ND
PB-6	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not Detected mg/kg - milligram per kilogram
ug/kg - microgram per kilogram ug/l - microgram per liter
Note Aviation fuel has components of gasoline and kerosene with a mixed hydrocarbon range from C6 to C17, the laboratory has broken these components out in the reports



Groundwater Monitoring Well Locations and Groundwater Contour Map

Haley Flying Services
21000 Paradise Road
Tracy, CA

Project No 4111
Scale 1" = 30'
Date June, 1997

Figure 1

Wright Environmental Services
Tracy, CA

Wright Environmental Services, Inc., Tracy, CA

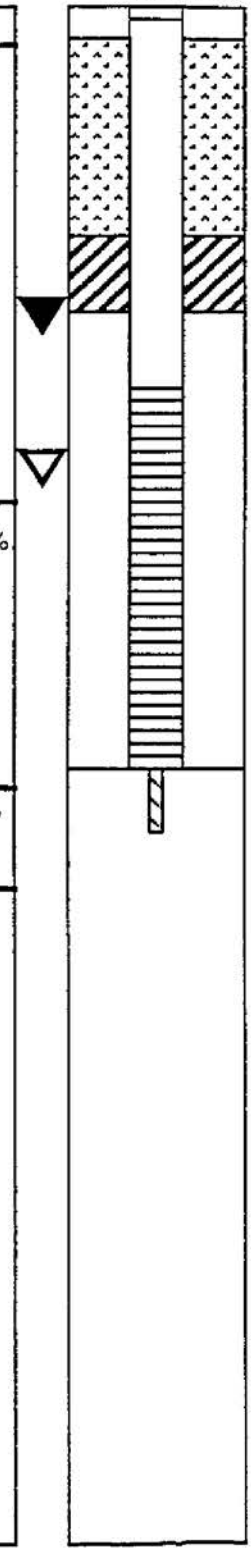
Exploratory Boring Log

Project No 4111 **Boring/Well No** MW-1
Client Haley Flying Services **Date Drilled** May 24, 1997
Location Pescadero at Paradise, Tracy, CA **Logger** CMP
Drilling Method 8" OD Hollowstem Auger
Permit PHS-EHD #012546
Water Levels 1st Enc 12 5'± @10 07 am
Static 8 5' @1 10 pm

Well Installed 2" dia Sch 40 PVC
Total Depth 21 5' Casing Depth 20'
Screen Length and Size 10' of 0 020"
Top of Sand Pack 8' Sand Size 2/12
Top Bentonite 6' Cement Grout Seal 6' to 1'
Surface vault box, Casing Elev 22 39' MSL

Sample No	OV	Blow Count	Sample	Depth (ft)	Lithology Log
					Concrete and Subbase
					CL - Silty CLAY, dark grayish brown 10YR4/2, moderate plasticity, 30% fine sand dissem in clay matrix, minor caliche, soft, damp
				5	
MW 1 1	-	4			Same as above, soft, damp
				10	
MW 1 2	-	22			Same as above, sand 25%, very faint bedding, very stiff, damp
					SC - Clayey SAND, yellowish brown 10YR5/6, fine sand 80-85%, silt-clay up to 15%, faint bedding, medium dense, saturated, water enters borehole slowly
				15	
MW-1 3	-	20			Same as above, 2" thick interbeds of medium sand in clay, sand saturated, clay moist
				20	
MW 1-4	-	27			CL - Sandy CLAY, brown 7 5YR4/2, low plasticity, sand to 45%, minor caliche, contains 1' thick sand interbeds very moist to saturated, clay low plasticity, very stiff, damp to moist
					Bottom of Boring = 21 5 feet

Borehole Completion



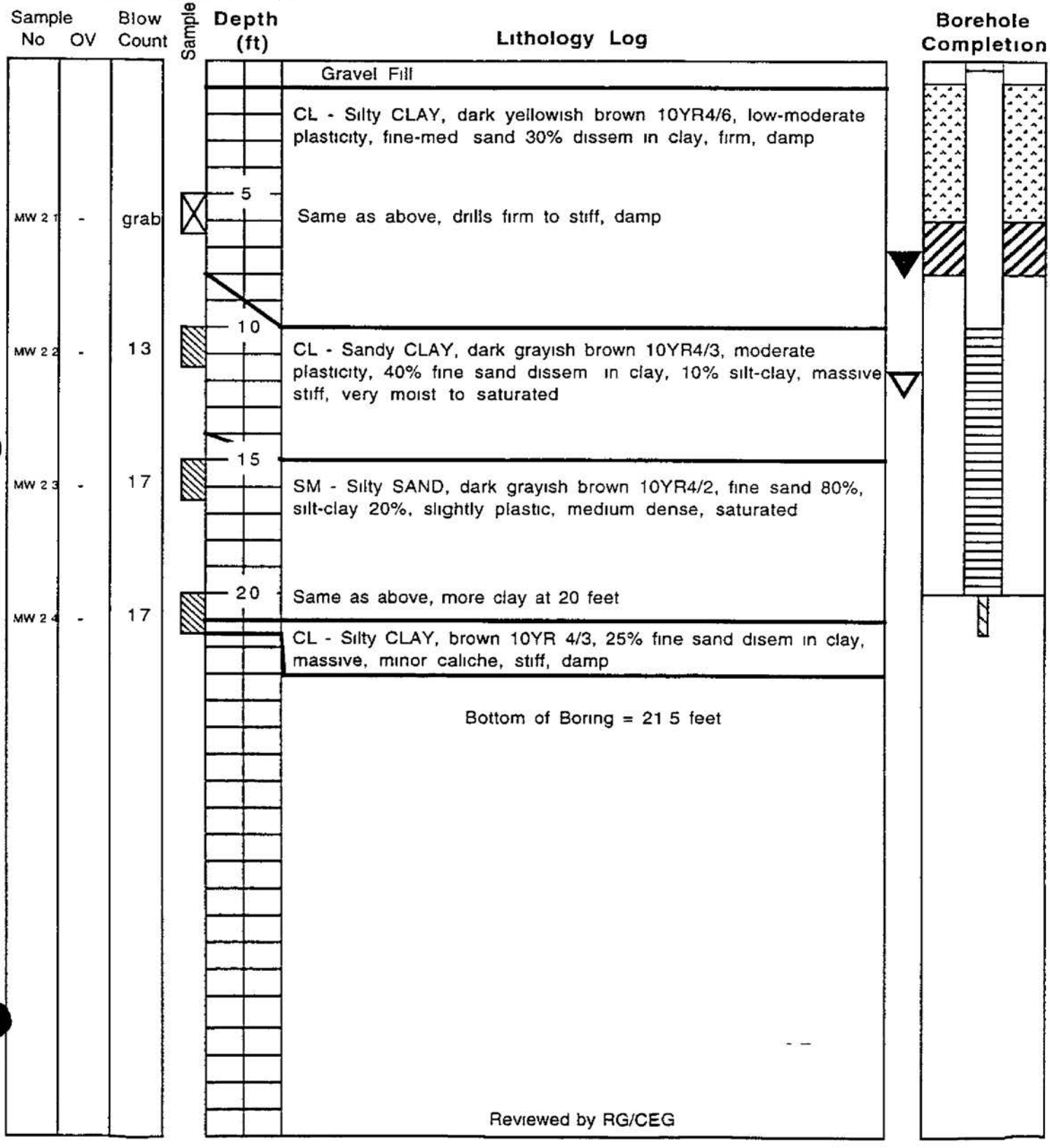
Reviewed by RG/CEG

Wright Environmental Services, Inc., Tracy, CA

Exploratory Boring Log

Project No 4111 **Boring/Well No** MW-2
Client Haley Flying Services **Date Drilled** May 24, 1997
Location Pescadero at Paradise, Tracy, CA **Logger** CMP
Drilling Method 8" OD Hollowstem Auger
Permit PHS-EHD #012546
Water Levels 1st Enc 12 5' @ 8 45 am
Static 7 9' @ 1"11 pm

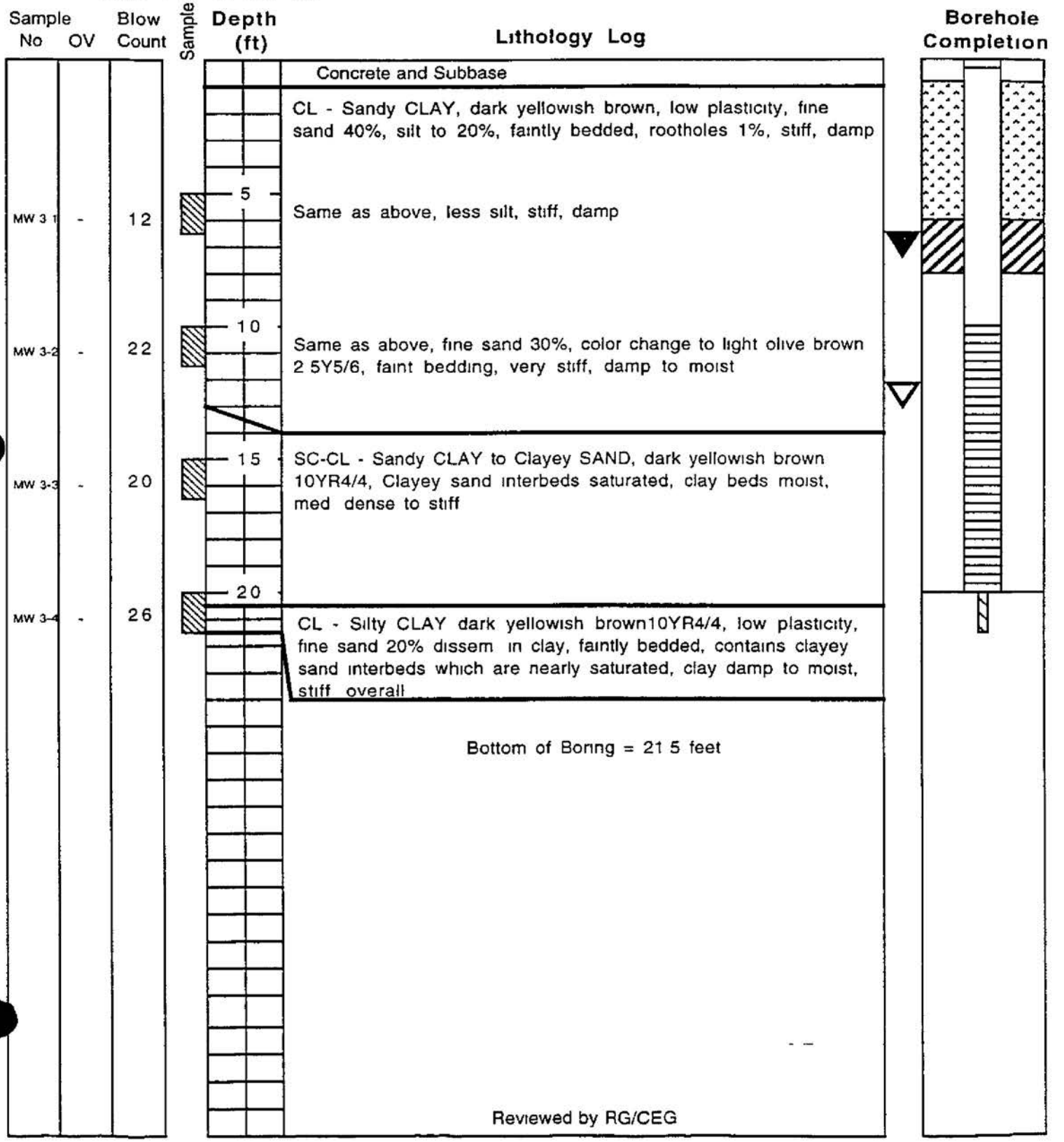
Well Installed 2" dia Sch 40 PVC
Total Depth 21 5' Casing Depth 20'
Screen Length and Size 10' of 0 020"
Top of Sand Pack 8' Sand Size 2/12
Top Bentonite 6' Cement Grout Seal 6' to 1'
Surface vault box, Casing Elev 22 02 MSL



Wright Environmental Services, Inc., Tracy, CA — *Exploratory Boring Log*

Project No 4111 **Boring/Well No** MW-3
Client Haley Flying Services **Date Drilled** May 24, 1997
Location Pescadero at Paradise, Tracy, CA **Logger** CMP
Drilling Method 8" OD Hollowstem Auger
Permit PHS-EHD #012546
Water Levels 1st Enc 13'± @ 11 35 am
Static 7 10' @ 1 21 pm

Well Installed 2" dia Sch 40 PVC
Total Depth 21 5' Casing Depth 20'
Screen Length and Size 10' of 0 020"
Top of Sand Pack 8' Sand Size 2/12
Top Bentonite 6' Cement Grout Seal 6' to 1'
Surface vault box, Casing Elev 21 76 MSL



Reviewed by RG/CEG

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 07, 1997 PEL # 9707004

WRIGHT ENVIRONMENTAL SERVICES

Attn: John Affonso

Re: Three water samples for Gasoline/BTEX with MTBE and TEPH analyses.

Project name: Haley Flying Services
Project location: 21000 Paradise rd. - Tracy, CA.

Date sampled: June 30, 1997 Date submitted: July 01, 1997
Date extracted: July 01-03, 1997 Date analyzed: July 01-03, 1997

RESULTS:

SAMPLE I.D.	Aviation fuel (ug/L)	Kerosene (ug/L)	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	MTBE (ug/L)
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	340	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	---	86.4%	93.7%	92.9%	88.4%	94.3%	---
Detection limit	50	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	3510/ 8015	3510/ 8015	5030/ 8015	602	602	602	602	602

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA 95035 Tel. 408-946-9636 Fax 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

July 07, 1997 PEL # 9707004

WRIGHT ENVIRONMENTAL SERVICES, INC.

Attn: John Affonso

Re: Three water samples for total Lead analysis.

Project name: Haley Flying Serive
Project location: 21000 Paradise Rd., - Tracy, CA.

Date sampled: Jun 30, 1997 Date submitted: Jul-01, 1997
Date extracted: Jul 01-07, 1997 Date analyzed: Jul 01-07, 1997

RESULTS:

SAMPLE I.D.	Lead (mg/L)
MW-1	N.D.
MW-2	N.D.
MW-3	N.D.
Blank	N.D.
Detection limit	0.05
Method of Analysis	7420

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA 95035 Tel 408-946-9636 Fax 408-946-9663

BLAINE TECH SERVICES INC

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY 970630-63

CLIENT Wright Environmental Inc

SITE Hall Flying Service
11000 Paradise Rd.
Tracy, CA.

LAB Priority DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

☐ EPA ☐ RWQCB REGION ____
☐ LIA
☐ OTHER

SPECIAL INSTRUCTIONS Invoice & Report to Wright Environmental Inc. Attn: John Affonso

CONDUCT ANALYSIS TO DETECT

SAMPLE I D	DATE	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL	C = COMPOSITE ALL CONTAINERS	Gas, Btex, MTBE	Aviation Fuel	Kerosene	Total Lead (Pb)	ADD L INFORMATION	STATUS	CONDITION	LAB SAMPLE #
MW-1	6/30/97	W	5		X	X	X	X				
MW-2		W	5		X	X	X	X				
MW-3		W	5		X	X	X	X				

PEL # 9707004
INV # 27794

SAMPLING COMPLETED	DATE	TIME
	6/30/97	15:30

SAMPLING PERFORMED BY Morgan Gillies

RESULTS NEEDED NO LATER THAN "AS Contracted"

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	7/1/97	1230		7/1/97	1230
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #

WELL GAUGING DATA

Project # 970630-63 Date 6/30/97 Client Wright Envir.

Site Haley Flying Service, 21000 Paradise Rd., Tracy, CA

Well I.D	Well Size (in.)	Sheen/ Odor	Depth to Immiscible Liquid (feet)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Survey Point: TOB or TOC
MW-1	2					8.65	~~19.51~~	TOC
MW-2	2					8.14	17.60	"
MW-3	2					7.89	~~19.43~~	"

WELL MONITORING DATA SHEET

Project #: 970630-G3	Client: Wright Envir.
Sampler MG	Start Date: 6/30/97
Well I.D. MW-1	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth. Before ~~19.57~~ ~~18.18~~ After	Depth to Water: Before 8.65 After 9.13
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1.7 (1 Case Volume) x 3 (Specified Volumes) = 3.6 gallons

Purging: ~~Bailer~~
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other ____

Sampling: ~~Bailer~~
Disposable Bailer
Extraction Port
Other ____

TIME	TEMP (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1337	71.2	7.0	3200	>200	1.7	
1339	70.6	7.1	3300	>200	3.4	
1341	70.4	7.2	3300	>200	5.1	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 5.1

Sampling Time: 1345 Sampling Date: 6/30/97

Sample I.D.: MW-1 Laboratory: Priority

Analyzed for: (TPH-G BTEX) TPH-D OTHER: MTBE, Aviation Fuel/Kerosene Total Pb

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:

WELL MONITORING DATA SHEET

Project #: 970630-G3	Client: Wright Envir.
Sampler: MG	Start Date: 6/30/97
Well I.D.: MW-2	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 17.60 After	Depth to Water: Before 8.14 After 8.60
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1 47
2"	0 16	8"	2 61
3"	0 37	10"	4 08
4"	0 65	12"	5 87
5"	1 02	16"	10 43

1.4	x	3	=	4.2
1 Case Volume		Specified Volumes		gallons

Purging: X Bailer
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other_____

Sampling: X Bailer
Disposable Bailer
Extraction Port
Other_____

TIME	TEMP (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1407	66.6	7.6	1400	>200	1.5	
1409	66.0	7.4	1200	>200	3	
1411	65.8	7.4	1100	>200	4.5	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated 4.5

Sampling Time: 1416 Sampling Date: 6/30/97

Sample I.D.: MW-2 Laboratory: Priority

Analyzed for: (TPH-G BTEX) TPH-D OTHER: MTBE, Aviation Fuel/Kerosene Total Pb
(Circle)

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:
(Circle)

WELL MONITORING DATA SHEET

Project #: 970630-63	Client: Wright Envir.
Sampler: MG	Start Date: 6/30/97
Well I.D.: MW-3	Well Diameter: (circle one) ② 3 4 6 ___
Total Well Depth: Before [redacted] After 19.42	Depth to Water: Before 7.89 After 8.41
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade Other.	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1.8 (1 Case Volume) x 3 (Specified Volumes) = 5.4 gallons

Purging: ~~Bailer~~
Disposable Bailer
Middleburg
Electric Submersible
Extraction Purp
Other_____

Sampling: ~~Bailer~~
Disposable Bailer
Extraction Port
Other_____

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1442	66.6	7.3	1100	7200	2	
1444	66.0	7.2	1200	>200	4	
1446	65.8	7.2	1200	>200	6	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 6

Sampling Time: 1450 Sampling Date: 6/30/97

Sample I.D.: MW-3 Laboratory: Priority

Analyzed for: (TPH-G BTEX) TPH-D OTHER: MTBE, Aviation Fuel/Kerosene Total Pb

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:

Wright
Environmental
Services, Inc.

July 26, 1996
Project No. 4111

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re: Reconnaissance Site Investigation, Haley Flying Services
21000 Paradise Road, Tracy, CA

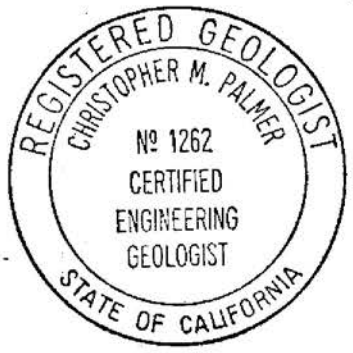
Dear Ms. Haley,

Wright Environmental Services, Inc. (WRIGHT) has prepared this Reconnaissance Site Investigation for the above referenced site. The work is in response to a request from the San Joaquin County Public Health Services (PHS-EHD) for site monitoring as well as additional site investigation.

Sincerely,
Wright Environmental Services, Inc.

John Lynch
President

Christopher M. Palmer
C. E. G. 1262; HG 246



attachments

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

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Figure 1. Site Map, Boring Locations and Contaminant Extent

Appendices

Appendix A.	Wright Sampling Protocols
Appendix B.	Exploratory Boring Logs and Boring Permits
Appendix C.	Chemical Analytical Reports and Chains-of-Custody

Introduction

This report presents the results of the reconnaissance site investigation required by the County of San Joaquin County Public Health Services Environmental Health Division (PHS-EHD) for the site as discussed in the Wright work plan dated October 3, 1995. The information contained herein is for initial site assessment and would be used in future site interim remedial cleanup as needed. The site had underground storage tanks removed and soil and groundwater contamination revealed by initial site studies by other consultants for this site (see References). The work presented herein was reviewed and approved by PHS-EHD representatives, and slightly modified in the field by a PHS-EHD representative.

Background

Two underground storage tanks (one 1000 gallon gasoline and one 5000 gallon aviation gasoline) were removed on May 11, 1990 by Crisp Tank Testing of Stockton, CA. The tanks were removed under approved permits of the PHS-EHD. Soil samples under the tanks revealed that contaminants were not detected under the regular gasoline tank. Soil samples collected under the aviation gasoline tank showed 610 parts per million (ppm) Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene at 6,500 parts per billion (ppb), Toluene at 62,240 ppb, Ethylbenzene at 41,450 ppb and Xylenes at 169,250 ppb. A groundwater sample from the 5000 gallon tank pit revealed TPHG was not detected, Benzene at 3.9 ppb, Toluene at 18.4 ppb, Ethylbenzene at 7.5 ppb and Xylenes at 31.9 ppb. Ethylene dibromide and organic lead were not detected in the groundwater sample.

Field Methods - Exploratory Soil Borings

Six exploratory borings were drilled at the locations shown on Figure 1. Drilling permits were secured from the PHS-EHD prior to doing the field work. Boreholes were drilled with truck mounted GeoProbe(tm) drilling equipment. All drilling equipment and sampling tools were cleaned prior to arriving, and before leaving the site. The push tools were advanced to the desired sampling depth interval, and a continuous acetate liner was driven. The sampler was then retrieved and dissembled, and the soil samples retained for chemical analysis were cut from the soil filled acetate liner, sealed with foil and plastic endcaps, labeled, logged onto chain-of-custody forms and placed in a chilled ice chest.

The boreholes were logged using the Unified Soil Classification System under the supervision of a registered geologist. Additional lithologic information was collected to describe the subsurface geology. The samples were continuously collected at intervals of obvious contamination and at stratigraphic features of interest. Depth of static groundwater levels in boreholes were measured to the nearest one-one hundredth of one foot to the existing grade. Upon completion of the borehole drilled and collection of information, the boreholes were backfilled with grout, placed from the bottom to top of the borehole under approval of the PHS-EHD.

Groundwater Sampling

Each exploratory boring was sampled. The ground water samples collected from the boreholes was used for a rapid reconnaissance of site groundwater contamination. The boreholes were sampled using the Wright Sampling Protocol, a brief summary of which follows: Each borehole was advanced about 4-feet into the aquifer. The water entering the borehole was sampled using a clean bailer, and carefully poured into the appropriate laboratory prepared container with minimum cavitation. Depth to groundwater measurements was made to the nearest one-one hundredth of one foot at the surface grade, and also checked for the presence of separate phase product. Each water sample was labeled, logged onto a chain-of-custody form, and placed in a chilled ice chest. Upon completion of the borehole sampling, the borehole was sealed as noted above.

Subsurface Conditions

Six exploratory soil borings were advanced on-site at the locations shown on Figure 1. PB-1 through PB-6 were drilled for site assessment for possible vadose zone contamination in the former tank pit area and dispenser. The site is underlain by clayey soils which contain silt and sand to depths of roughly 6- to 10-feet. These sediments are in turn underlain by sandy and clayey sediments to the maximum depth explored of 15-feet. The sediments appear to grade laterally with each other and lateral and vertical changes occur over the site. Concrete rubble and fill sediments were observed in the former aviation gas underground storage tank pit, and were underlain by native soils. Upon completion of sampling groundwater all borings were sealed with cement grout using a tremie line.

Groundwater was encountered in each borehole at depths of roughly 8- to 11-feet and is interpreted to be unconfined in the area. Slow entry was observed in some boreholes. The boreholes were terminated into a clay strata which is assumed to be continuous under the site. The irrigation canal just north of the site was filled with water and was flowing to the east. It is surmised that recharge occurs through the unlined canal bottom when the canal is filled. While regional groundwater flow in this area is interpreted to be northerly, recharge from the canal may locally influence shallow subsurface flow.

Chemical Analysis and Results

Nine soil and six groundwater samples were analyzed at Priority Environmental Laboratories, Inc. in Milpitas, CA, a State certified analytical laboratories. Samples were tested for the following; Total Petroleum hydrocarbons as Gasoline (TPHG), as Aviation Fuel (TPHA), as Kerosene (TPHK), Benzene (B), Toluene (T), Ethylbenzene (E), Xylene (X), Methyl-tertial-buytl-ether (MBTE) and Total Lead using EPA Methods 5030, 8015, 8020, 602 and 7420. The results are attached (see Appendix D) and listed below in Tables 1 and 2.

TABLE 1. SOIL CHEMICAL DATA

July 96

Sample No.	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Total Lead
	mg/kg			ug/kg					--mg/kg--
DL	1	1	1	5	5	5	5	5	
PB-1-2	ND	ND	ND	ND	ND	ND	ND	ND	4.3
PB-2-3	ND	ND	ND	ND	ND	ND	ND	ND	2.5
PB-2-4	ND	ND	ND	ND	ND	ND	ND	ND	4.7
PB-3-2	ND	ND	ND	ND	ND	ND	ND	ND	2.3
PB-3-3	150	400	550	300	98	180	330	ND	2.2 — 10'
PB-3-2	ND	ND	ND	ND	ND	ND	ND	ND	2.5
PB-4-2	ND	ND	ND	ND	ND	ND	ND	ND	2.1
PB-5-2	ND	ND	ND	ND	ND	ND	ND	ND	4.0
PB-6-2	ND	ND	ND	ND	ND	ND	ND	ND	3.7
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2. GROUNDWATER CHEMICAL DATA

Sample No.	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Total Lead
	ug/l								--mg/l--
DL	50	50	50	.3	.3	.3	.3		
PB-1	ND	ND	ND	ND	ND	ND	ND	ND	ND
PB-2	370	400	770	3.8	3.9	2.2	5.8	ND	ND
PB-3	600	690	1300	2.8	2.5	4.4	6.9	ND	ND
PB-4	87	200	290	ND	ND	0.5	2.8	ND	ND
PB-5	ND	ND	ND	ND	ND	ND	ND	ND	ND
PB-6	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not Detected mg/kg - milligram per kilogram
ug/kg - microgram per kilogram ug/l - microgram per liter
Note: Aviation fuel has components of gasoline and kerosene with a mixed hydrocarbon range from C6 to C17; the laboratory has broken these components out in the reports.

Discussion

The dissolved contaminants appear to have migrated in a northeasterly direction from the former tank pit area, with some movement toward PB-4 (see Figures 1). Field evidence indicates that the migration in the shallow aquifer has occurred along or just below the capillary fringe. Contaminants were present in vadose zone soils at PB-2 and PB-3 directly under the former tank or dispensing product lines. On the basis of previous sampling and data herein, the clayey soil under the tank and dispenser appeared to have absorbed some fuel. The most elevated TPH fuels and BTEX concentrations occurred at PB-2 and PB-3, roughly in the center of the site at the former tank pit and dispenser respectively. This would support a relatively slow dissolved plume easterly movement. Dissolved plume movement may also be influenced by canal leakage just to the north, where recharge under the canal may cause an easterly deflection in motion.

These concentrations indicate highly degraded volatile components in the gasoline product, with concentrations declining to the east (see Figure 1). The low concentrations of BTEX suggest that natural biodegradation process have operated on this leakage. A relatively flat gradient, together with the clayey sand aquifer strata, appear to have limited migration of the plume. However, the easterly extent of the plume was not observed in this study.

Conclusions and Recommendations

Soil exploratory borings were used to further define the extent of petroleum contaminants in the vicinity of a former underground storage tank location. Exploratory soil borings and reconnaissance groundwater sampling show that highly degraded TPHG and BTEX occurs downgradient of the former tank and dispenser area, with the highest concentrations at PB-2, and PB-3. Contaminant distribution is indicative of a slowly moving dissolved plume to the east. Cleanup actions of further soil excavation, and soil and groundwater extraction and treatment do not appear to be cost effective for this site's degraded contaminant composition and distribution and pending State guidance. Given the degraded BTEX volatile component chemistry of the dissolved plume, Wright feels that natural biologic action will continue to decompose the gasoline. However, site groundwater monitoring is warranted.

Wright recommends that three groundwater monitoring wells be placed upgradient and downgradient of the former tank location at the locations on Figure 1. These wells would be monitored at quarterly intervals to meet the current requirements of the PHS-EHD and evolving State guidance for underground tank petroleum releases. The data collected in this periodic monitoring program can be used to track hydrocarbons and their degradation in groundwater.

We also recommend that monitoring for biologic parameters be added to the monitoring program to estimate biologic activity (i. e., dissolved oxygen, pH, ferrous iron, sulfate and nitrate; Buscheck and O'Reilly, 1995). This will establish a baseline to support the biologic activity inferred from the data collected and gauge selected future biologic monitoring parameters for the site monitoring program. Depending upon the results of the oxygen content of water, Wright may add an oxygen carrier to aid in-situ degradation of the fuel, with the approval of PHS-EHD. Wright will prepare a monitoring well installation and monitoring workplan for PHS-EHD review prior to starting this work.

Limitations

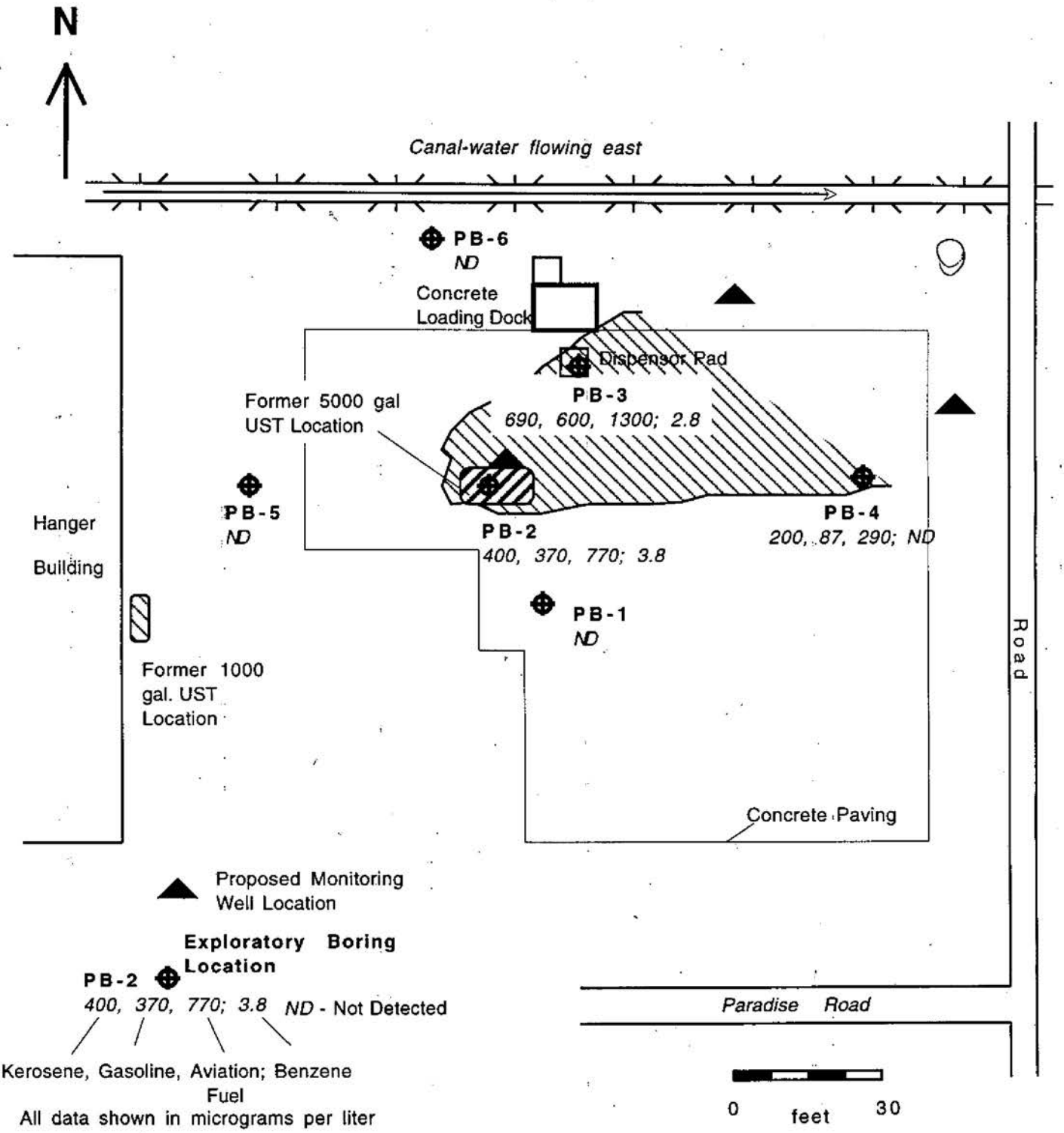
This report has been prepared for the specifically for the Haley Flying Services Site at 21000 Paradise, Tracy, CA and was done according to the State and local agency suggested guidance documents for these investigations. The interpretations, conclusions and recommendations made herein are based on the data and analysis for the soil and water samples collected on-site and should be reviewed in the context of the whole report and previous site work. Please note that

reports of contamination must be submitted to the agencies in a timely manner. Wright Environmental Services, Inc. is not responsible for errors in laboratory analysis and reporting, or for information withheld during the course of the study, and no warranty or guarantee is expressed or implied therein.

References

Buscheck, T. and O'Reilly, K., March, 1995, Protocol for Monitoring Intricsic Bioremediation in Groundwater: Chevron Research and Technology Company Health, Environment and Safety Group, 20 pg.

Wright Environmental Services, Inc. letter dated October 3, 1995 entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project. No. 4111, 5 pg. with attachments.



Site Map, Boring Locations and Groundwater Chemical Data

Haley Flying Serivces
21000 Paradise Road
Tracy, CA

Project No. 4111
Scale: 1" = 30'
Date: July, 1996

Figure 1

Wright Environmental Services
Tracy, CA

GEOSCIENCE PROTOCOLS

DRILLING, SEALING, WELL CONSTRUCTION AND SAMPLING PROTOCOLS

Wright Environmental Services, Inc.
4220 Commercial Drive Suite 5
Tracy, CA 95376

Revised May, 1996

Wright Environmental Services, Inc.

EXPLORATORY DRILLING, SOIL SAMPLING, WELL CONSTRUCTION AND WELL SAMPLING PROTOCOLS

Exploratory Boring Drilling and Sealing

Exploratory boring, soil sampling, well construction, and borehole sealing procedures follow current guidance recommended by the USEPA, California Regional Water Quality Control Board, and modified as required by local city, health agency or water district agencies. Drilling is performed under approved permits and boreholes are sealed upon completion.

Soil/Sediment Drilling Sampling Procedures

1. Drive (or hydraulically push) soil sampling will commence at a depth of 5 feet below surface grade. The samples will be taken at 5-foot increments and at intervals of geologic interest or obvious or suspected contamination to the total borehole depth. Additional sampling and/or continuous coring may be done at the discretion of the supervising geologist. All logging will be done using the Unified Soil Classification System, together with pertinent geologic observations (bedding, fractures, fossils, mineralogy etc.) as appropriate for the site geology delineation.

Continuous core (when collected) will be placed in core boxes for storage at the Client designated area. The core will be collected in a coring barrel, tube or other coring technology as used on the working drill rig. If small diameter (less that 2-inches) hydraulic push sampling method is used, the drilling contractor will provide an extruder to push the core out of the tube for logging. Other discrete portions of core may be retained in sampling tubes depending upon the required testing for the project.

2. All soil sampling tools (split spoons, cores, etc.) will be disassembled, steam-cleaned or cleaned in soapy (TSP) water, rinsed with clean tap water and finally rinsed with or distilled water, and air-dried prior to taking each sample. The cleaned tools will then be reassembled with similarly cleaned, dry brass sample liners and carefully lowered into the hollow stem augers for the collection of the next sample. The drill rig will arrive on-site clean, be decontaminated as needed during work at the discretion of the logging geologist and prior to leaving the site.

3. When sampling exploratory trenches, stockpile soils or during soil excavation, the soil sample will be collected by the following procedure; a clean brass liner will be pushed into the stockpile or excavation sidewall, or soil in the excavator bucket. About two inches of soil will be brushed away whereupon the liner will be pushed into the soil. The liner is then removed, sealed, labeled and logged onto chain-of-custody forms and packed in a chilled ice chest.

4. Split spoon soil samples in the brass liners in the sampling tool (depending on sample recovery) will be retained for chemical or physical testing. The samples will be labeled and sealed in the field in their original liners. Sample liners ends will be sealed with aluminum foil or Teflon®, capped with clean cap plugs, and labeled and logged onto chain of custody forms.

All samples retained for chemical analysis will be stored on ice in a clean, covered cooler-box/ice chest for transport to the Laboratory (see chain-of custody below).

5. The remaining soil sample will be extruded from the other rings in the field and lithologically logged using the USCS and collecting field evidence of contaminants and geologic information. Sampler shoe cuttings logging, blow counts, drill rig response and bit penetration rate and sample recovery may also be logged. A lithology exploratory boring log will be made of the materials encountered and sample depth for each boring. The log will include field descriptions of the soil lithologic variations, moisture conditions, geologic data, and any unusual characteristics which may indicate the presence of chemical contamination. Where soil samples are collected from excavations, the USCS soil classification system will be used to classify the soil sample.

Contaminated drill cuttings and the soils samples not retained for chemical analysis will be placed in 55-gallon drums or on plastic sheets and covered pending chemical analysis and proper off-site disposal as needed. Fluids produced during drilling will be drummed to minimize surface contamination. Ultimate proper storage and disposal of contaminated materials is the responsibility of the Client or site owner.

Reconnaissance Soil Sampling Procedures

1. Soil sampling tools (split spoons, cores, etc.) will be disassembled, steam-cleaned or cleaned in soapy (TSP) water, rinsed with clean tap water and finally rinsed with or distilled water, and air-dried prior to taking each sample. The cleaned tools will then be reassembled with similarly cleaned, dry brass sample liners and carefully lowered into the hollow stem augers for the collection of the next sample. The drill rig will be decontaminated as needed and at the discretion of the logging geologist.

2. When sampling stockpile soils or during soil excavations, the soil sample will be collected by the following procedure; a clean brass liner will be pushed into the stockpile or excavation sidewall, or soil in the excavator bucket. About two inches of soil will be brushed away and the liner pushed into the soil, completely filling it. The liner may be advanced by slide hammer and spoon or directly hammering the ring into the soil. The liner is then removed, sealed, labeled and logged onto chain-of-custody forms and packed in a chilled ice chest.

3. The soil samples in the lowermost of brass liners in the sampling tool (if used) will be retained for chemical testing. The samples will be labeled and sealed in the field in their original liners. Sample liners ends will be sealed with Teflon® paper or aluminum foil, capped with clean cap plugs, and labeled and logged onto chain of custody forms. All samples retained for chemical analysis will be stored on ice in a clean, covered cooler-box/ice chest for transport to the Laboratory (see chain-of custody below).

Reconnaissance Groundwater Sampling Procedures

This procedure is used when reconnaissance groundwater sampling without permanent wells is desired. Sampling from open pits or excavations, HydroPunch®, GeoProbe® or temporarily cased open boreholes may be used.

1. Reconnaissance groundwater sample handling, and storage will follow suggested guidance documents of the Environmental Protection Agency and Regional Water Quality Control Board and local agency guidelines for site investigation.

2. Reconnaissance groundwater samples will be collected in the field in temporarily cased exploratory boreholes using clean Teflon® or disposal bailers. The samples will be collected from excavations or temporarily cased exploratory boreholes and poured into the properly prepared laboratory containers with minimum cavitation. All sample containers will be properly sealed with minimum headspace, labeled, and identified. Label information will include the date, sampler name, sampling time, and identification number, and the project name and number and chain-of custody.

If groundwater recharge is slow, sampling will begin within 24 hours following temporary well development, following the procedures detailed below for monitoring well sampling. Depth to water measurements will be made to the nearest 0.01 foot to existing grade (or surveyed datum if possible) for estimates of depth to water in pits/excavations, and triangulation in temporary boreholes. All borings/pits/excavations are also checked for presence of separate phase product. Following water sampling all temporary casing or sampling tools are removed and boreholes are sealed with cement grout from the bottom to top, or by the regulatory approved method of sealing.

2. The sample will be delivered to a State Certified Laboratory. Samples will be kept on ice and/or refrigerated continuously for shipment to the Laboratory under chain-of-custody. The sealed sample will only be opened by Laboratory personnel who will perform the chemical analysis. The samples will be analyzed according to the approved EPA Method and storage for that requested analysis.

Wright Environmental Services, Inc.

Monitoring Well Construction

1. The proper permits will be obtained from the appropriate agency or water district, scheduling a Well Inspector as required to be present to witness the installation of the annular seal. Soil borings will be drilled with a continuous-flight hollow-stem auger of nominal 8 inches outside diameter (to leave 2-inch annular space for well construction). All augers will be thoroughly steam-cleaned prior to arriving at the site. The augers will be steamed cleaned between borings at a location well away from the proposed borings or adequate clean auger will be available to complete all of the wells without reusing auger sections.

2. The borings will be advanced to the uppermost water bearing zone (or a depth of 45 feet if a saturated zone is not encountered and in absence of other exploration depth specifications). If a saturated zone is encountered, the boring will advance no further than 15 feet below first encountered groundwater or 5 feet into the underlying clay aquitard. If entered, a seal will be placed in the overdrilled portion of the aquitard.

3. During the drilling operations, 55-gallon drums will be on site to contain potentially contaminated soils, drilling muck and rinse water to minimize surface contamination.

4. Where borings are completed as groundwater monitoring wells, 2-inch ID schedule 40 PVC blank pipe will be used. Well screen selection will be 2 inch ID Schedule 40 PVC pipe with 0.020 inch machine slot (in absence of other specifications). Sections will be threaded and screwed flush together; glues will not be used. Screens will extend 3-5 feet above first encountered groundwater. The annulus of the perforated section will be packed with clean #3 or #4 Monterey Sand, Lonestar 2/12 Sand or equivalent, to a level about 2-feet above the screen interval (field experience has shown this monitoring well design has worked well in stratified alluvial and fine grained environments; if special well designs supersede this design, a specification will be attached).

Final well design will be adjusted in the field to site specific subsurface conditions observed in the borehole, and well screens or slots will be placed so as not to interconnect two possible aquifers or uncontaminated vadose zone strata. Screens will extend a nominal length (up to 5 feet) above first encountered unconfined groundwater for floating product detection where needed. A 1-2 foot thick bentonite seal will be placed on top of the sandpack. A cement grout annular seal which extends to the surface will be placed by tremie line from the bottom to top of the remaining annular space above the bentonite. Sealing can be modified as regulatory input requires.

6. The top of the well casing will be locked to prevent contamination and tampering. An above-grade or at-grade well completion will depend upon well location. At-grade completions require traffic rated boxed set in concrete or cement grout just above grade. Above-grade completion will require a 6-inch diameter locking, steel protective "stovepipe" casing and a Christy, or equivalent, traffic box and concrete pad and surface poles or barriers to mark the location.

Monitoring Well Development

1. Wells will be developed until the water is free of fine grained sediments and/or until field measurements of pH, and electrical conductivity have stabilized. Approximately 3 to 10 well volumes of water will be removed during development of the well. The actual number of volumes withdrawn for development is well dependent and based on the field judgment. Duration of development will be specific for each well and site aquifer conditions and continue until the water clears and sand content is minimal or ceases.

Measurements of aquifer parameters may be taken to observe for aquifer conditions. Notes of well development will be kept including quantity of water removed, turbidity, and sand yield and well recharge.

2. Only precleaned equipment will be inserted into the well during development, and will be decontaminated by washing or steam cleaning after its use. Development water will be collected and stored in in drums.

Monitoring Well Sampling

1. Depth to groundwater will be measured to the nearest 0.01 foot, and the well checked for presence of separate phase product. If present, the apparent thickness of the product will be measured. The well will not be sampled if separate phase product is present.

2. The standing well volume calculated, and usually between 3 to 10 well volumes will be purged from the well prior to sampling depending on well performance and yield (USEPA (1985) sampling guidance indicates that the number of purge volumes are related to aquifer strata and specific for each well).

Measurements of aquifer parameters (conductivity, temperature and the pH) of the water will be taken until parameters have stabilized to indicate that aquifer water is entering the well over at least two purge volumes. The sampler will keep field notes for each well sampled. That field log will record sampling measurements and observations. Aquifer parameters which will be measured are; pH, temperature and electrical conductivity. Aquifer water is assumed to be entering the well when these parameters are measured within a 10% range of the previous measurements. The sample will be collected when the well recovers to within 80% of the original depth to water measurement.

3. The groundwater samples may be collected using a Teflon® or disposable bailer or sampling pump discharge. Sampling gear will be thoroughly steam-cleaned or cleaned with soapy (TSP) water, rinsed with with deionized or distilled water prior to the collection of each sample. When bailers are used, a separate clean bailer will be used to sample each individual well.

4. Water samples retained for chemical analysis will be placed in clean, 40 ml VOA glass vials or clean amber glass one-liter bottles or other laboratory prepared sample containers and caps as appropriate for water sampling purpose and analytical test method parameters. Samples will be collected with minimum headspace, and inverted to check for air bubbles. Samples will then be placed in an ice chest on crushed ice, blue ice, or refrigerated at 4 degrees Centigrade.

5. Checks on sampler field and decontamination procedures will be performed as needed during the project for sampler decontamination procedures and laboratory quality assurance programs. Sampling blanks (pump blank) of distilled water will be poured through the sampling bailer and placed in clean sample collection bottles or vials. Trip blanks will be sealed by the laboratory and carried by the sampler. One water sample blank will be taken for each set of water samples collected from each set of wells. The number of blanks may be one per sampling event or 10% depending on the number of wells sampled for the given site. Specific checks and blanks, and collection of duplicates or split samples will be revised for project specific needs.

6. All sampling equipment will be precleaned prior to arriving on-site, decontaminated following each sampling event, prior to use the next monitoring well and prior to leaving the site.

Sample Records and Chain-of-Custody

1. Sample records for each sample will contain information on sample type and source including; project number, sampler name, sampling date and time, location, laboratory name, sampling method, and any significant conditions that may affect the sampling.

2. A signature Chain-of-custody and transference documentation will be maintained at all times. A copy of the Laboratory sample results and the completed Chain-of-custody will be provided with the technical reporting.

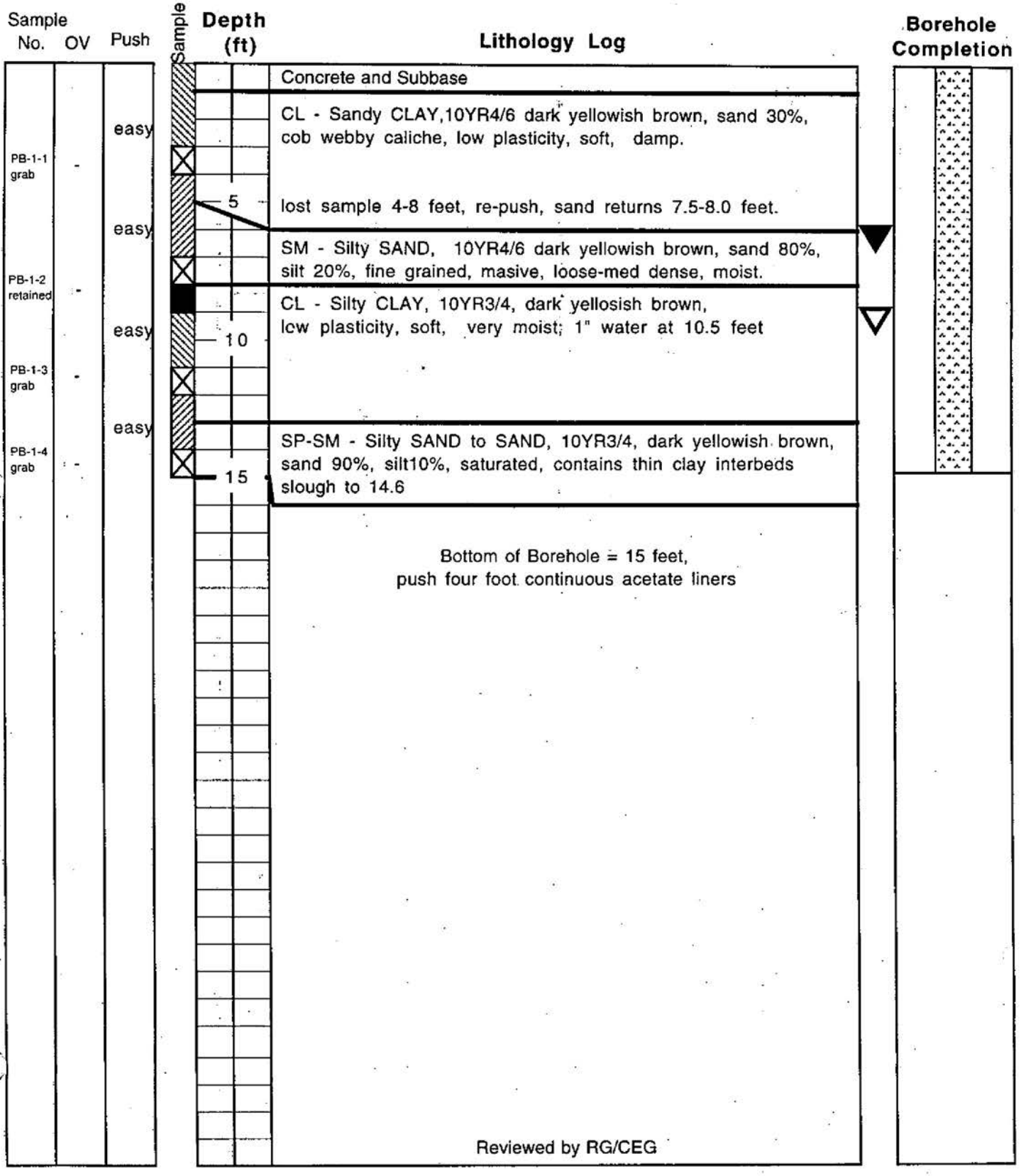
Quality Control and Quality Assurance Objectives

The sampling and chemical laboratory analysis procedures employed for groundwater sampling and monitoring follow quality assurance and quality control (QA/QC) outlined in current Federal, State and local agencies guidance documents. Quality assurance objectives have been established to develop and implement procedures for obtaining and evaluating water quality and field data in an accurate, precise and complete manner. In this way, sampling procedures and field measurements provide information that is comparable and representative of actual field conditions.

Wright Environmental Services, Tracy, CA ***Exploratory Boring Log***

Project No. 4111 **Boring/Well No.** PB-1
Client: Haley **Date Drilled:** June 19, 1996
Location: 21000 Paradise Rd Tracy, CA **Logger:** CMP
Drilling Method: 3" OD GeoProbe Hydraulic Push
Permit: CSJPHD 009344
Water Levels: 1st Enc: 10'? Static: 6.12' @ 9:17am

Well Installed: No
Total Depth: 15'
Cement Grout Seal: treime 15' to surface



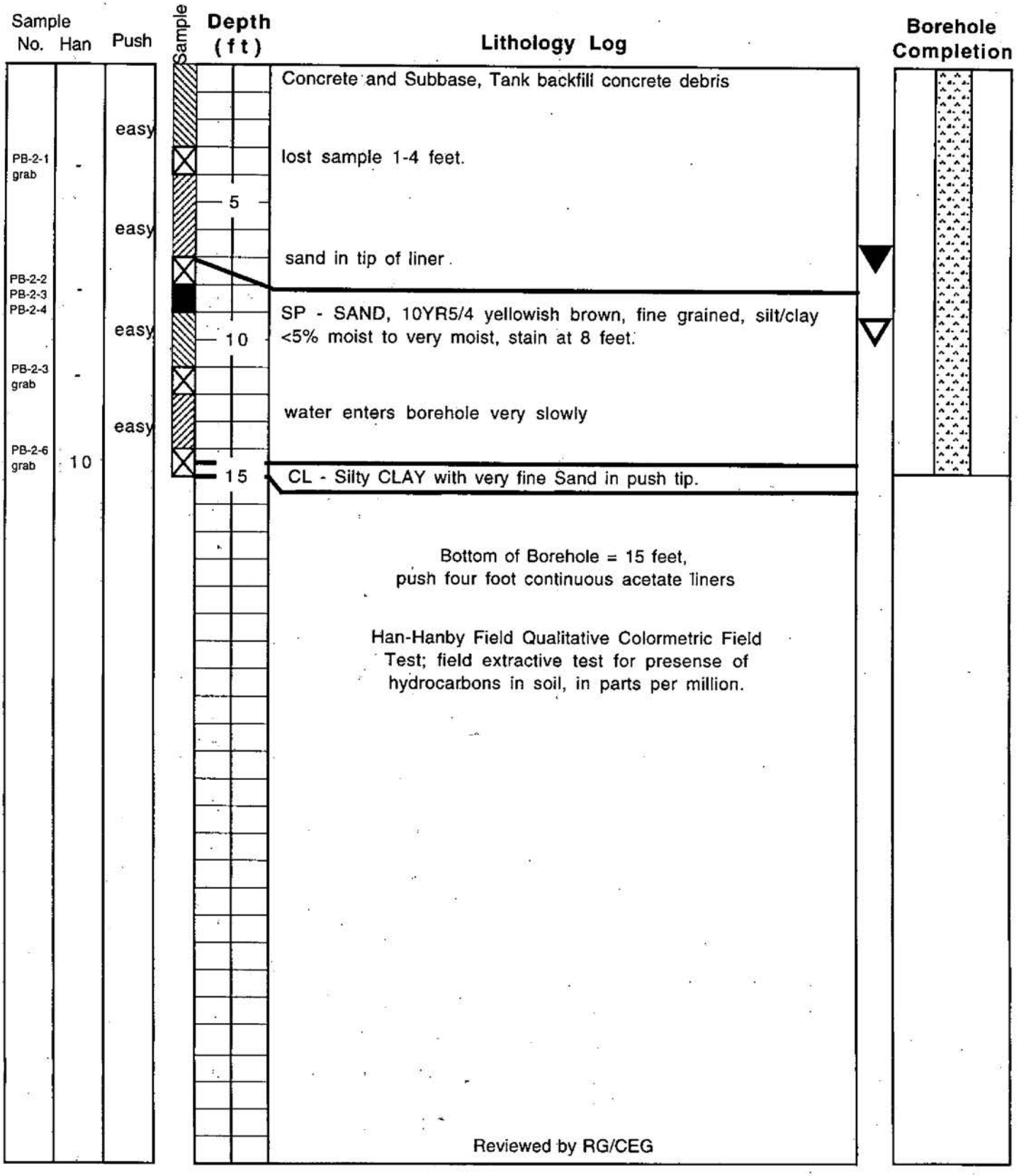
Reviewed by RG/CEG

Wright Environmental Services, Tracy, CA

Exploratory Boring Log

Project No. 4111 **Boring/Well No.** PB-2
Client: Haley **Date Drilled:** June 19, 1996
Location: 21000 Paradise Rd Tracy, CA **Logger:** CMP
Drilling Method: 3" OD GeoProbe Hydraulic Push
Permit: CSJPHD 009344
Water Levels: 1st Enc: 10'? Static: 7.00' @ 10:10am

Well Installed: No
Total Depth: 15'
Cement Grout Seal: treime 15' to surface



Bottom of Borehole = 15 feet,
push four foot continuous acetate liners

Han-Hanby Field Qualitative Colormetric Field Test; field extractive test for presense of hydrocarbons in soil, in parts per million.

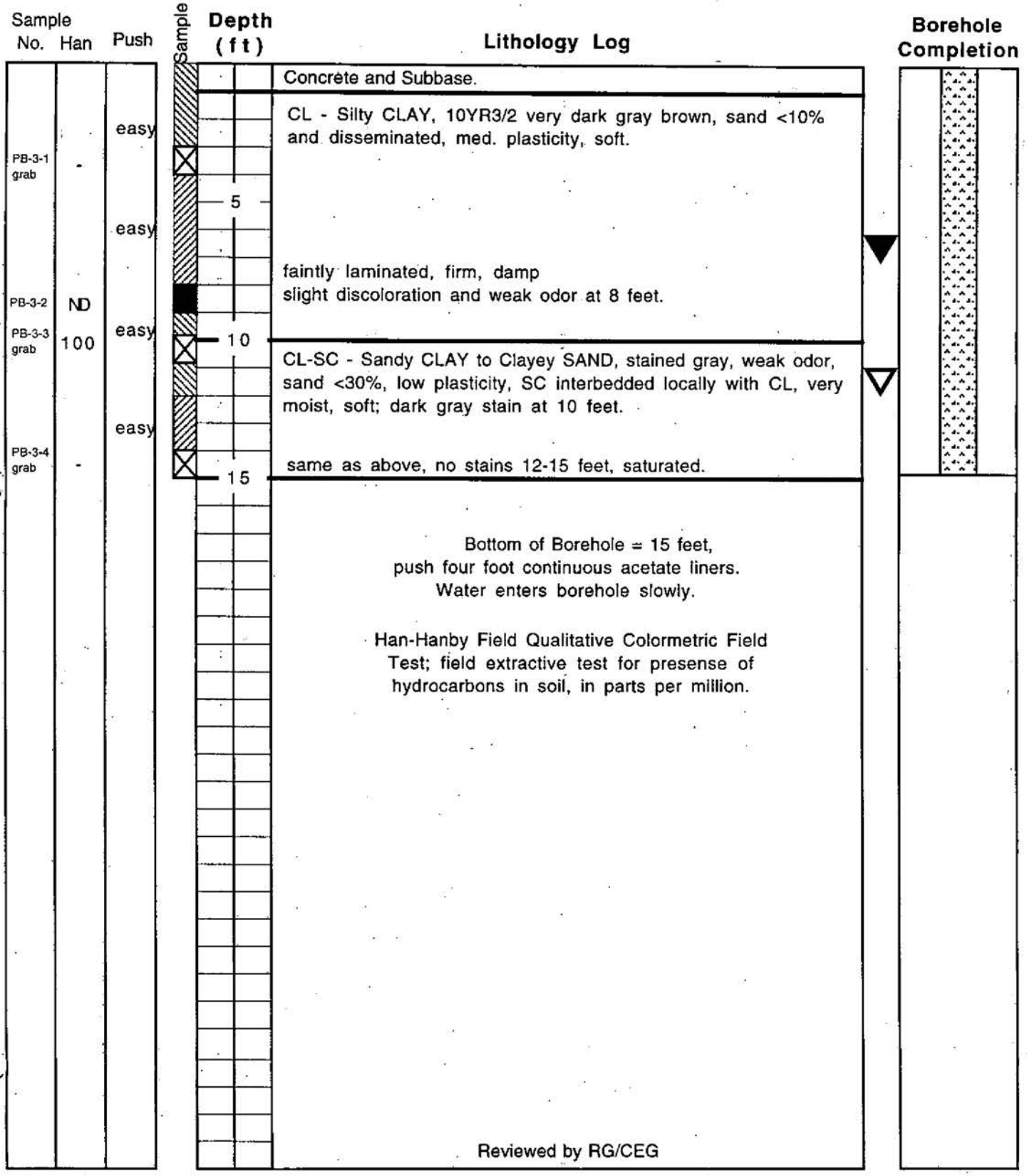
Reviewed by RG/CEG

Wright Environmental Services, Tracy, CA

Exploratory Boring Log

Project No. 4111 **Boring/Well No.** PB-3
Client: Haley **Date Drilled:** June 19, 1996
Location: 21000 Paradise Rd Tracy, CA **Logger:** CMP
Drilling Method: 3" OD GeoProbe Hydraulic Push
Permit: CSJPHD 009344
Water Levels: 1st Enc: 12'? Static: 6.59' @ 11:40am

Well Installed: No
Total Depth: 15'
Cement Grout Seal: treime 15' to surface



Bottom of Borehole = 15 feet,
push four foot continuous acetate liners.
Water enters borehole slowly.

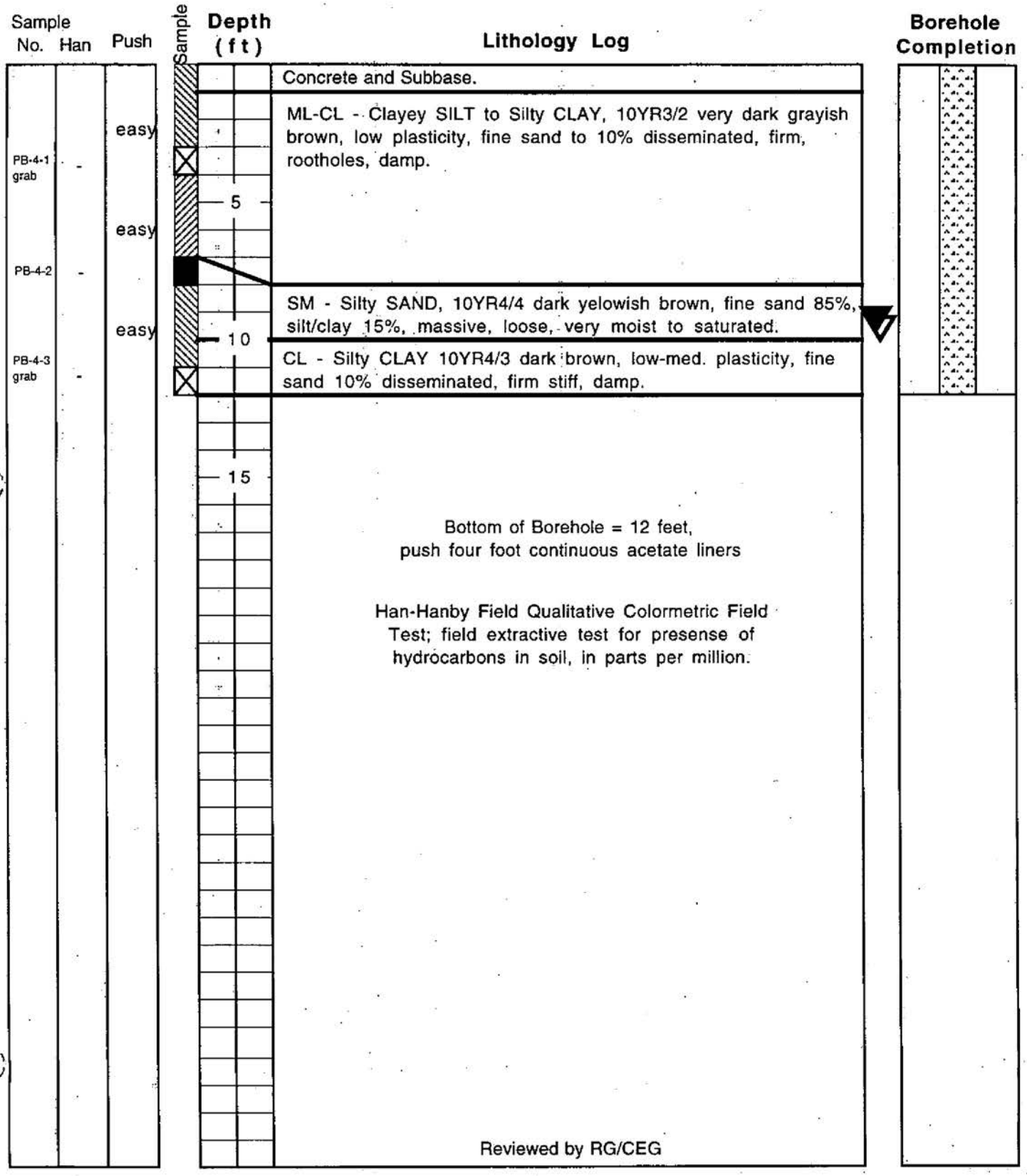
Han-Hanby Field Qualitative Colormetric Field Test; field extractive test for presense of hydrocarbons in soil, in parts per million.

Reviewed by RG/CEG

Wright Environmental Services, Tracy, CA ***Exploratory Boring Log***

Project No. 4111 **Boring/Well No.** PB-4
Client: Haley **Date Drilled:** June 19, 1996
Location: 21000 Paradise Rd Tracy, CA **Logger:** CMP
Drilling Method: 3" OD GeoProbe Hydraulic Push
Permit: CSJPHD 009344
Water Levels: 1st Enc: 10'? Static: 9.70' rising @ 11:40am

Well Installed: No
Total Depth: 15'
Cement Grout Seal: treime 15' to surface



Bottom of Borehole = 12 feet,
push four foot continuous acetate liners

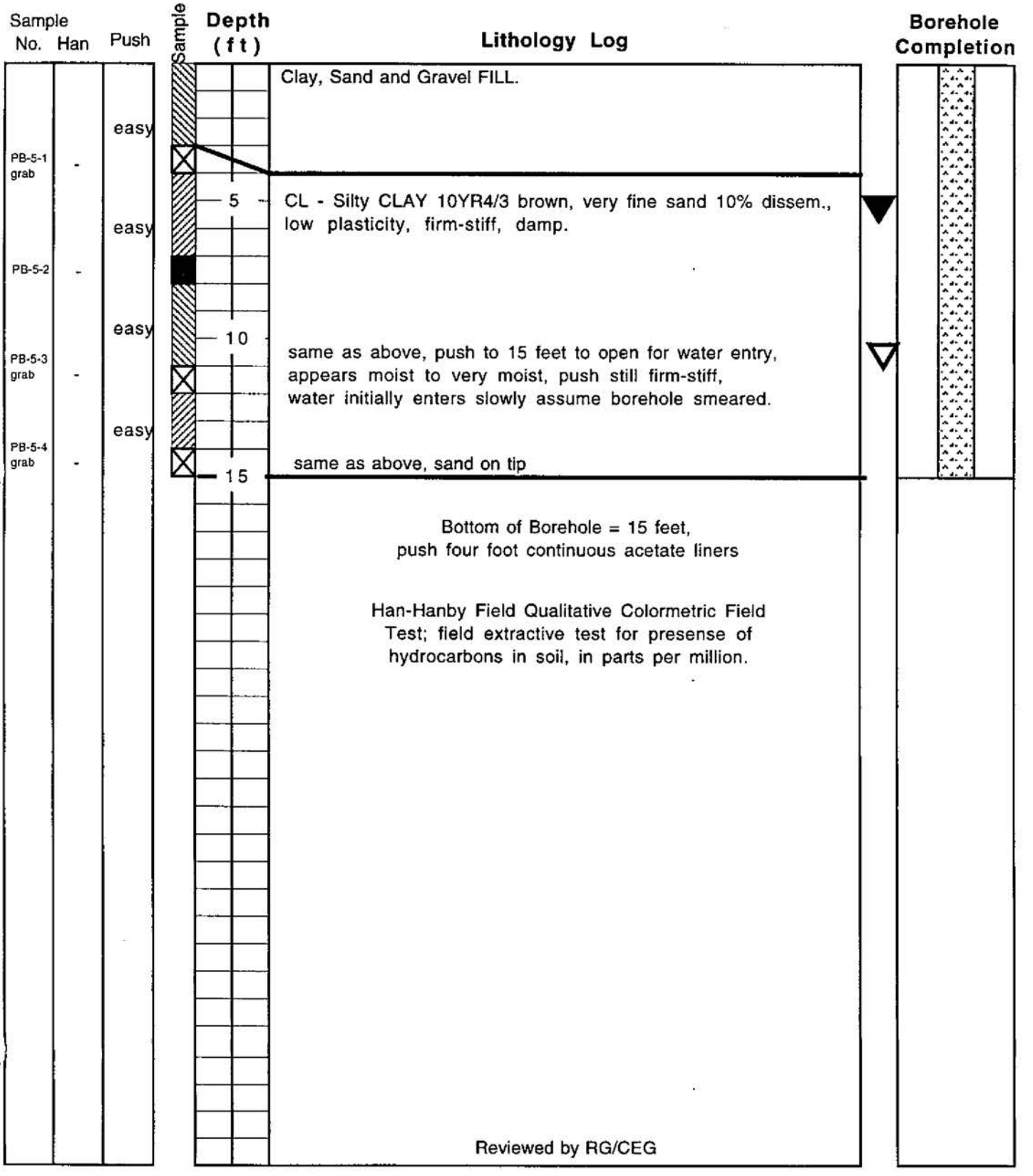
Han-Hanby Field Qualitative Colormetric Field Test; field extractive test for presense of hydrocarbons in soil, in parts per million.

Reviewed by RG/CEG

Wright Environmental Services, Tracy, CA ***Exploratory Boring Log***

Project No. 4111 **Boring/Well No.** PB-5
Client: Haley **Date Drilled:** June 19, 1996
Location: 21000 Paradise Rd Tracy, CA **Logger:** CMP
Drilling Method: 3" OD GeoProbe Hydraulic Push
Permit: CSJPHD 009344
Water Levels: 1st Enc: 11'? Static: 6.00' @ 1:36pm

Well Installed: No
Total Depth: 15'
Cement Grout Seal: treime 15' to surface



APPLICATION FOR WELL/PUMP PERMIT
SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
P O BOX 388, 445 N. SAN JOAQUIN ST., STOCKTON, CA 95201-388
(209) 468-3420

NON-REFUNDABLE PERMIT EXPIRES 1 YEAR FROM DATE ISSUED

(Complete in Triplicate)

APPLICATION IS HERE BY MADE TO THE SAN JOAQUIN COUNTY FOR A PERMIT TO CONSTRUCT AND/OR INSTALL THE WORK DESCRIBED. THIS APPLICATION IS MADE IN COMPLIANCE WITH SAN JOAQUIN COUNTY DEVELOPMENT TITLE, CHAPTER 9-1115.3 AND THE STANDARDS OF SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES, ENVIRONMENTAL HEALTH DIVISION.

JOB ADDRESS/OR APN# 21000 PARADISE ROAD CITY TRACY, CA PARCEL SIZE/APN#

OWNER'S NAME DOROTHY WALEY ADDRESS 1311 MADISON AVE. TRACY, CA PHONE (209) 835-4725

CONTRACTOR WRIGHT ENVIRONMENTAL SVCS, INC. ADDRESS 4220 COMMERCE DR. #5 TRACY, CA 95376 LIC# 651501 PHONE #(209) 833-0758

SUB CONTRACTOR KUILAWG WELL DRILLING ADDRESS 1109 LANDINI CONCORD, CA 94520 LIC# 482390 PHONE #(510) 685-4613

TYPE OF WELL/PUMP: ☐ NEW WELL ☐ REPLACEMENT WELL ☐ MONITORING WELL # ☐ OTHER
☐ INSTALLATION ☐ WELL SYSTEM REPAIR ☐ CROSS-CONNECT REPAIR ☐ VAPOR EXTRACTION WELL #
☐ New ☐ Repair H.P. DEPTH PUMP SET FT. FIRST WATER LEVEL
(TYPE OF PUMP) ☐ OUT-OF-SERVICE WELL ☐ GEOPHYSICAL WELL # ☒ SOIL BORING

☐ DESTRUCTION:

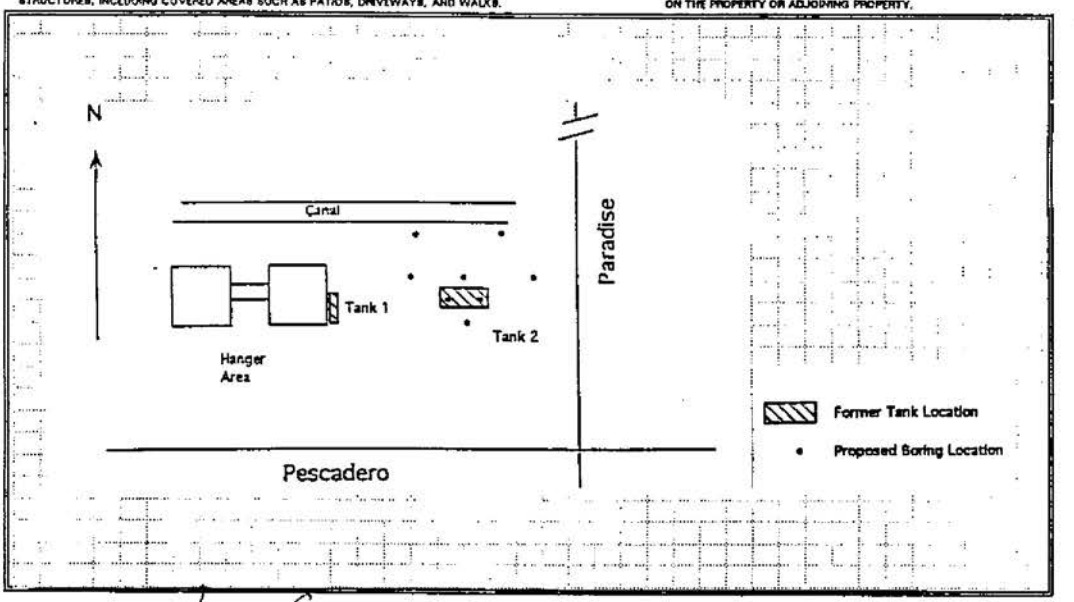
INTENDED USE	TYPE OF WELL	CONSTRUCTION SPECIFICATIONS		
☐ INDUSTRIAL	☐ OPEN BOTTOM	DIA. OF WELL EXCAVATION	DIA. OF CONDUCTOR CASING	A
☐ DOMESTIC/PRIVATE	☐ GRAVEL PACK/SIZE	TYPE OF CASING/STEEL/PVC	DIA. OF WELL CASING	D
☐ PUBLIC/MUNICIPAL	☐ DRIVEN	DEPTH OF GROUT SEAL	SPECIFICATION	O
☐ IRRIGATION/AG	☐ OTHER	GROUT SEAL INSTALLED BY	GROUT BRAND NAME	A
☐ MONITORING		GROUT SEAL PUMPED: ☒ Yes ☐ No	CONCRETE PEDESTAL BY DRILLER: ☐ Yes ☐ No	F
APPROX. DEPTH 10 FEET		LOCKING CHESTER BOX/STOVE PIPE		S
PROPOSED CONSTRUCTION/DRILLING METHOD: MUD ROTARY AIR ROTARY AUGER CABLE OTHER DIRECT PUSH				S

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS OF THE SAN JOAQUIN COUNTY. HOME OWNER OR LICENSED AGENT'S SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL NOT EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." CONTRACTOR'S HIRING OR SUB-CONTRACTING SIGNATURE CERTIFIES THE FOLLOWING: " I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." THE APPLICANT MUST CALL 24 HOURS IN ADVANCE FOR ALL REQUIRED INSPECTIONS AT (209) 468-3420. COMPLETE DRAWING AT LOWER AREA PROVIDED.

Signed [signature] Title PROJECT MANAGER Date 5-17-96

PLOT PLAN (Draw to Scale) Scale 1" = 133'

1. NAMES OF STREETS OR ROADS NEAREST TO OR BOUNDING THE PROPERTY.
2. OUTLINE OF THE PROPERTY, GIVING DIMENSIONS AND NORTH DIRECTION.
3. DIMENSIONED OUTLINES AND LOCATION OF ALL EXISTING AND PROPOSED STRUCTURES, INCLUDING COVERED AREAS SUCH AS PATIOS, DRIVEWAYS, AND WALKS.
4. LOCATION OF HOUSE SEWAGE DISPOSAL SYSTEM OR PROPOSED EXPANSION OF SEWAGE DISPOSAL SYSTEMS.
5. LOCATION OF WELLS WITHIN RADIUS OF ONE HUNDRED FIFTY FT. ON THE PROPERTY OR ADJOINING PROPERTY.



DEPARTMENT USE ONLY

Application Accepted By Shawn Sanson Date 5/24/96 Area

Group Inspection By Date Pump Inspection By Date

Destruction Inspection By Date

Comments:

ACCOUNTING ONLY:	AID#	FAC#

FE CODES	FEE INFO	AMOUNT REMITTED	CHECK/CASH	RECEIVED BY	DATE	PERMIT/SERVICE REQUEST NUMBER	INVOICE
3501	WM	89	1865	0451	5/24/96	009344	

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

4111

June 24, 1996 PEL # 9606040

WRIGHT ENVIRONMENTAL SERVICES, INC. Attn: John Lynch

Re: Six water and nine soil samples for Gasoline/BTEX with MTBE analysis.

Project name:Haley Flying Service Project location:21000 Paradise Rd.Tracy

Date sampled: Jun 19, 1996 Date submitted: Jun 20, 1996
Date extracted: Jun 20-24, 1996 Date analyzed: Jun 20-24, 1996

RESULTS:

SAMPLE I.D.	Kerosene (ug/L)	Gasoline (ug/L)	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Aviation Fuel * (ug/L)
PB-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-2	400	370	N.D.	3.8	3.9	2.2	5.8	770
PB-3	690	600	N.D.	2.8	2.5	4.4	6.9	1300
PB-4	200	87	N.D.	N.D.	N.D.	0.5	2.8	290
PB-5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-6	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Detection Limit	50	50	0.3	0.3	0.3	0.3	0.3	50
Method of Analysis	5030/ 8015	5030/ 8015	602	602	602	602	602	5030/ 8015

SAMPLE I.D.	Kerosene (mg/Kg)	Gasoline (mg/Kg)	MTBE (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylene (ug/Kg)	Aviation Fuel * (mg/Kg)
PB-1-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-2-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-2-4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-3-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-3-3	400	150	N.D.	300	98	180	330	550
PB-3-4	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-4-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-5-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PB-6-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	92.5%	---	99.0%	106.5%	101.4%	108.8%	---
Detection limit	1.0	1.0	5.0	5.0	5.0	5.0	5.0	1.0
Method of Analysis	5030/ 8015	5030 / 8015	8020	8020	8020	8020	8020	5030/ 8015

*Aviation fuel is quantified as a total of gasoline and kerosene.
*Gasoline is a mixed hydrocarbon with range from C4 to C12. Kerosene is a mixed hydrocarbon with range from C11 to C17. Aviation fuel is a mixed hydrocarbon with range from C6 to C17

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-[illegible]

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0016339 Site Location: 21000 PARADISE RD Account ID: _____

Received by: EE0000008 BRIGGS Received Date: 8/8/2001
Assigned To: EE0000008 BRIGGS Assigned Date: 8/9/01

Program/Element Code: 2546 - GENERATOR RESPONSE/CLEAN UP

Complainant: [redacted]
Address:

Nature of complaint:

DIESEL / WASTE OIL SPILL AT TRUCKING CO. GREATER THAN >110 GALLONS. LIQUID SPILLED ON CEMENT SLAB (CRACKED) AND OLD ASPHALT.

Complaint Mode A

Complaint Mode Codes: A-Agency Referral B-Bd of Supervisors/City Council E-Code Enforcement M-Mail/Correspondence O-Other EH Unit C-Counter P-Phone

PROPERTY INFORMATION

Property Name: _____

Site Location: 21000 PARADISE
TRACY, CA

Phone: _____

District _____
APN _____

Date Abated _____
Inspector _____

PROPERTY OWNER INFORMATION

Responsible Party or Property Owner: RAJBAR CHHINA
RP/DBA: CHHINA TRUCKING
RP Address: [redacted]
Billing Address:: [redacted]
Phone: [redacted]

Location Code _____

FILE COPY

Send Referral to: _____
Referral Address: _____

completed

Referral Letter Sent by: _____
Date: _____

Complaint Status Code: 01 See ER file

01 - Field Abated
02 - Office Abated
03 - NAI Sent
04 - Notice To Abate Issued
05 - Enforcement Action Initiated
06 - EHD Permit Facility - See Linked Premise File
07 - Referred To Other Agency
08 - Invalid / Unable To Verify
09 - Foodborne Illness
11 - Multiple Complaints - See Active Case #
12 - Enforcement Case - Transferred To LIQUID WASTE File
13 - Enforcement Case - Transferred To SOLID WASTE File
14 - Enforcement Case - Transferred To ER File
10 - Substandard Property - See HOUSING ABATEMENT File
15 - Active Housing Case - New Complaint See Active Case #
16 - Letter Sent To Tenant
17 - 15-Day Letter Sent
50 - Lead Hazard Evaluation Required (1)
52 - Lead Hazard Abatement in Progress (3)
53 - Lead Hazard Visual Inspect Satisfactory (4)
51 - Lead Hazard Work Plan Submitted (2)
54 - Lead Hazard Dust Evaluation Satisfactory (5)
55 - Lead Hazard Monitoring Schedule (6)
56 - Lead Hazard Abatement Complete (7)
57 - Lead Hazard Property Vacant W/Soil Contamination
58 - Lead Hazard Case - See Active File For This Site

ENTERED 8/23

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0016355 Site Location: 21000 PARADISE RD *Account ID:* AR0005723

Received by: EE0000008 BRIGGS *Received Date:* 8/9/2001
Assigned To: EE0002482 SAVIG *Assigned Date:* 8/9/01

Program/Element Code: 2380 - ADDITIONAL EXISTING UST

Complainant:
Address: [redacted]

Nature of complaint:

TWO MORE GASOLINE TANKS ARE ON THIS SITE, AS PER CAROL OZ SITE CHRONOLOGY. NEEDS FOLLOW UP. NO LONGER AN AG BUSINESS.

Complaint Mode O

Complaint Mode Codes: A-Agency Referral; B-Bd of Supervisors/City Council; E-Code Enforcement; M-Mail/Correspondence; O-Other EH Unit; C-Counter; P-Phone

FACILITY INFORMATION

Facility: FA0005265 - HALEY'S FLYING SERVICE

Site Location: 21000 PARADISE RD
TRACY, CA 95376

Mailing Address: 1311 N MADISON
TRACY, CA 95376

Phone: 1st: 209-836-0213

OWNER INFORMATION

Owner: OW0004121 - HALEY, DOROTHY

RP/DBA: HALEY'S FLYING SERVICE

RP Address: [redacted]

Billing Address:: [redacted]

Phone: [redacted]

District 005 - BEDFORD, LYNN *Location Code* 03 - TRACY

APN _____

Date Abated 8/23/02 Per Envisions
Inspector 9903

Send Referral to: _____

Referral Address: _____

_____

Referral Letter Sent by: _____

Date: _____

Complaint Status Code: 01

(01) - Field Abated
02 - Office Abated
03 - NAI Sent
04 - Notice To Abate Issued
05 - Enforcement Action Initiated
06 - EHD Permit Facility - See Linked Premise File
07 - Referred To Other Agency
08 - Invalid / Unable To Verify
09 - Foodborne Illness
11 - Multiple Complaints - See Active Case #
12 - Enforcement Case - Transferred To LIQUID WASTE File
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56 - Lead Hazard Abatement Complete (7)
57 - Lead Hazard Property Vacant W/Soil Contamination
58 - Lead Hazard Case - See Active File For This Site

COMPLAINT ID: CO0016355
Assigned To: EE0002482 - SAVIG

Site Location: 21000 PARADISE RD

INVESTIGATION REPORT

Detail all progress report (s) chronologically. List dates, times, types of notices, names address and phone numbers of people involved. Describe conditions and actions taken. Attach all pertinent paperwork to this report.

Date: 5/16/09
Inspector: 0001

Found old complaint. Doug Wilson abated on 8/23/2002. No information in UST file or closed LOP file regarding the discovery of 2 additional tanks at the site. Sent to imaging.

Date:
Inspector:

Date:
Inspector:

Date:
Inspector:



Date:
Inspector:

Complaint Reviewed by: Date:

Updated by: Date: 5/17/09

0104.rpt

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0016355 Site Location: 21000 PARADISE RD *Account ID:* AR0005723

Received by: EE0000008 BRIGGS *Received Date:* 8/9/2001
Assigned To: EE0002482 SAVIG *Assigned Date:* 8/9/01

Program/Element Code: 2380 - ADDITIONAL EXISTING UST

Complainant: [redacted]
Address:

Nature of complaint:

TWO MORE GASOLINE TANKS ARE ON THIS SITE, AS PER CAROL OZ SITE CHRONOLOGY. NEEDS FOLLOW UP. NO LONGER AN AG BUSINESS.

Complaint Mode O

Complaint Mode Codes: A-Agency Referral; B-Bd of Supervisors/City Council; E-Code Enforcement; M-Mail/Correspondence; O-Other EH Unit; C-Counter; P-Phone

FACILITY INFORMATION

Facility: FA0005265 - HALEY'S FLYING SERVICE

Site Location: 21000 PARADISE RD
TRACY, CA 95376

Mailing Address: 1311 N MADISON
TRACY, CA 95376

Phone: 1st: 209-836-0213

OWNER INFORMATION

Owner: OW0004121 - HALEY, DOROTHY

RP/DBA: HALEY'S FLYING SERVICE

RP Address: [redacted]

Billing Address:: [redacted]

Phone:

District 005 - BEDFORD, LYNN *Location Code* 03 - TRACY

APN _____

Date Abated _____

Inspector _____

Send Referral to: _____

Referral Address: _____

_____

FILE COPY

completed

Referral Letter Sent by: _____

Date: _____

Complaint Status Code: 01 See File

01 - Field Abated
02 - Office Abated
03 - NAI Sent
04 - Notice To Abate Issued
05 - Enforcement Action Initiated
06 - EHD Permit Facility - See Linked Premise File
07 - Referred To Other Agency
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51 - Lead Hazard Work Plan Submitted (2)
54 - Lead Hazard Dust Evaluation Satisfactory (5)
55 - Lead Hazard Monitoring Schedule (6)
56 - Lead Hazard Abatement Complete (7)
57 - Lead Hazard Property Vacant W/Soil Contamination
58 - Lead Hazard Case - See Active File For This Site

ENTERED 8/23

Complaint Investigation Form

Report #: 5104

COMPLAINT ID: CO0016356 Site Location: 21000 PARADISE RD

Account ID: AR0005723

Received by: EE0000008 BRIGGS
Assigned To: EE0007380 SHIH

Received Date: 8/9/2001
Assigned Date: 8/9/01

Program/Element Code: 4200 - LIQUID WASTE PROGRAM

Complainant: [redacted]
Address:

Nature of complaint:

IN FRONT OF BUILDING AT 21000 PARADISE RD, THERE IS A SEPTIC TANK WITH SURFACING SEWAGE. THERE MAY BE A SECOND SEPTIC TANK IN FRONT OF THE CHHINA TRUCKING CO. (BUILDING TO WEST)

Complaint Mode O

Complaint Mode Codes: A-Agency Referral; B-Bd of Supervisors/City Council; E-Code Enforcement; M-Mail/Correspondence; O-Other EH Unit; C-Counter; P-Phone

FACILITY INFORMATION

Facility: FA0005265 - HALEY'S FLYING SERVICE

Site Location: 21000 PARADISE RD
TRACY, CA 95376

Mailing Address: 1311 N MADISON
TRACY, CA 95376

Phone: 1st: 209-836-0213

OWNER INFORMATION

Owner: OW0004121 - HALEY, DOROTHY

RP/DBA: HALEY'S FLYING SERVICE

RP Address: [redacted]

Billing Address:: [redacted]

Phone:

District 005 - BEDFORD, LYNN

Location Code 03 - TRACY

APN _____

Date Abated S. Shih

Inspector 8/21/2002

completed

FILE COPY

Send Referral to: _____

Referral Address: _____

ENTERED 9/12/02

Referral Letter Sent by: _____

Date: _____

Complaint Status Code: 08

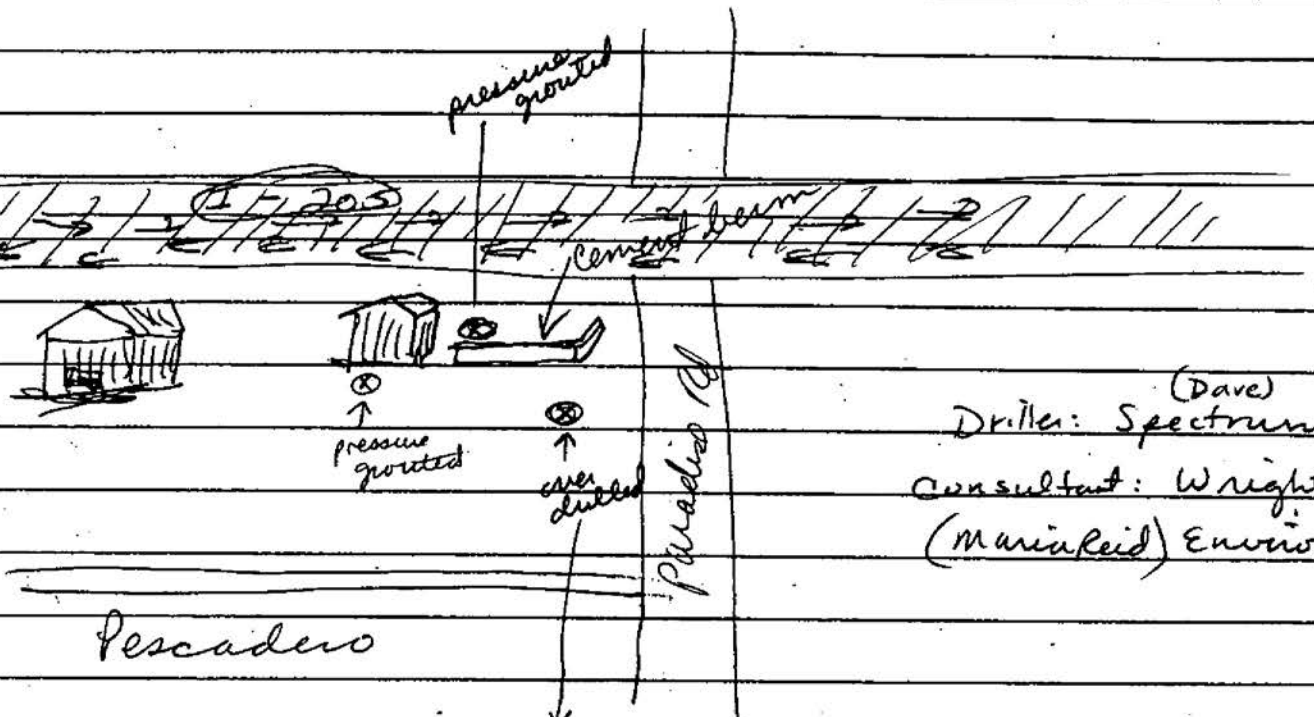
01 - Field Abated
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55 - Lead Hazard Monitoring Schedule (6)
56 - Lead Hazard Abatement Complete (7)
57 - Lead Hazard Property Vacant W/Soil Contamination
58 - Lead Hazard Case - See Active File For This Site

CONTINUATION – OFFICIAL INSPECTION REPORT

PAGE: ____ OF ____
DATE: 12/17/98
PROGRAM:
SITE COMPUTER#

SITE NAME: Haleys Flying Service

SITE ADDRESS: 21000 Paradise, Tracy



Driller: Spectrum (Dave)

Consultant: Wright (Maria Reid) Environ.

(8 bags Type I/II Cement to 35 gal water) overdrilled + grouted

5 bags / 30 gal for pressure well grout

ALL mws on site destroyed!

INSPECTOR Carol B

APPLICATION FOR WELL/PUMP PERMIT
SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
304 EAST WEBER AVENUE, STOCKTON, CA 95202
(209) 468-3420

NON-REFUNDABLE PERMIT EXPIRES 1 YEAR FROM DATE ISSUED

(Complete in Triplicate)

APPLICATION IS HERE BY MADE TO THE SAN JOAQUIN COUNTY FOR A PERMIT TO CONSTRUCT AND/OR INSTALL THE WORK DESCRIBED. THIS APPLICATION IS MADE IN COMPLIANCE WITH SAN JOAQUIN COUNTY DEVELOPMENT TITLE, CHAPTER 9-1115.3 AND THE STANDARDS OF SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES, ENVIRONMENTAL HEALTH DIVISION.

JOB ADDRESS/OR APN# 21000 Paradise Road CITY Tracy, Ca PARCEL SIZE/APN# _____

OWNER'S NAME Dorothy Haley ADDRESS 1311 Madison Ave, Tracy, Ca PHONE # 209-835-4725

CONTRACTOR Wright Environmental Services, Inc ADDRESS 67 E. 10th St. LIC# 651501 PHONE # 209-833-0758

SUB CONTRACTOR Spectrum Exploration ADDRESS 2355 Wigwam LIC# 512268 PHONE # 209/6558712

TYPE OF WELL/PUMP: ☐ NEW WELL ☐ REPLACEMENT WELL ☐ MONITORING WELL # 1, 2, 3 ☐ OTHER _____
☐ INSTALLATION ☐ WELL SYSTEM REPAIR ☐ CROSS CONNECT REPAIR ☐ VAPOR EXTRACTION WELL # _____
☐ New ☐ Repair H.P. _____ DEPTH PUMP SET _____ FT. FIRST WATER LEVEL _____
(TYPE OF PUMP) ☒ OUT-OF-SERVICE WELL ☐ GEOTHYRICAL WELL # _____ ☐ SOIL BORING _____

☒ DESTRUCTION: pressure grout Well, overdrill MW 2+3 Close well

INTENDED USE	TYPE OF WELL	CONSTRUCTION SPECIFICATIONS	
☐ INDUSTRIAL	☐ OPEN BOTTOM	DIA. OF WELL EXCAVATION _____	DIA. OF CONDUCTOR CASING _____
☐ DOMESTIC/PRIVATE	☐ GRAVEL PACK/SIZE _____	TYPE OF CASING/STEEL/PVC _____	DIA. OF WELL CASING _____
☐ PUBLIC/MUNICIPAL	☐ DRIVEN	DEPTH OF GROUT SEAL _____	SPECIFICATION _____
☐ IRRIGATION/AG	☐ OTHER	GROUT SEAL INSTALLED BY _____	GROUT BRAND NAME _____
☒ MONITORING		GROUT SEAL PUMPED: ☐ Yes ☐ No	CONCRETE PEDESTAL BY DRILLER: ☐ Yes ☐ No
APPROX. DEPTH _____		LOCKING CHESTER BOX/STOVE PIPE _____	

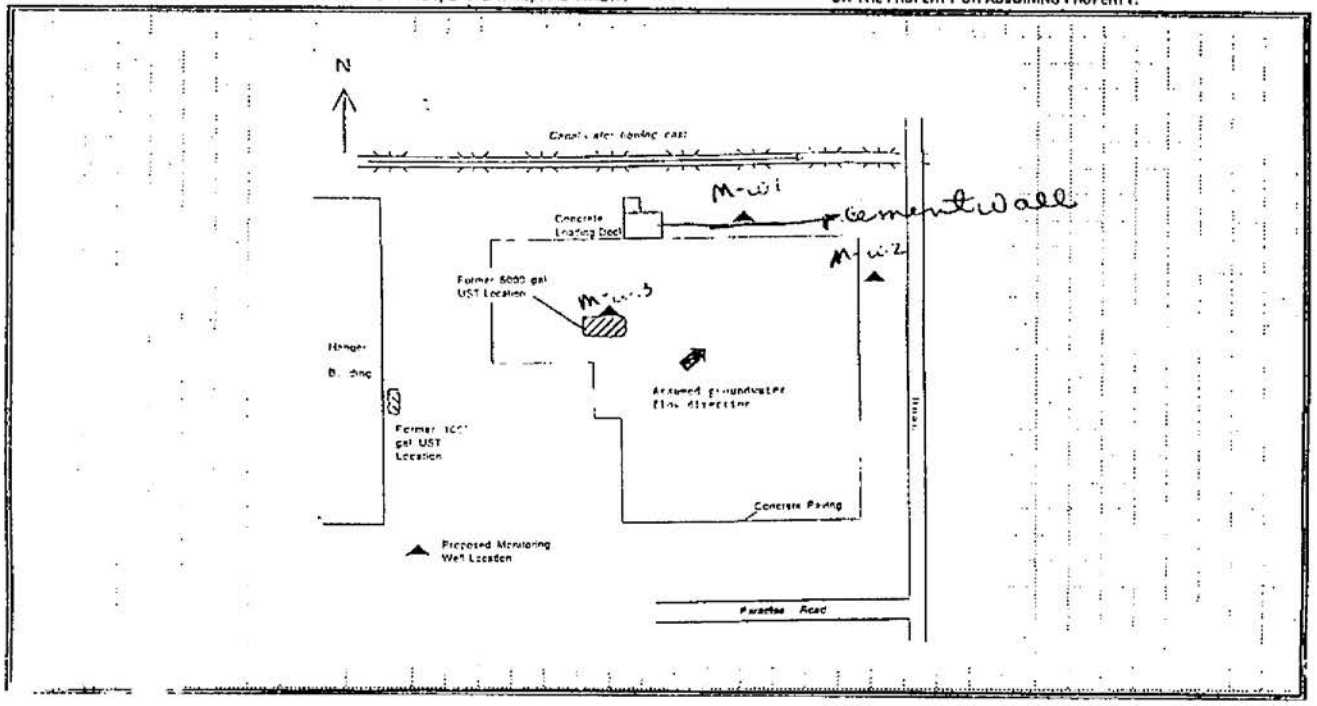
PROPOSED CONSTRUCTION/DRILLING METHOD: MUD ROTARY _____ AIR ROTARY _____ AUGER _____ CABLE _____ OTHER _____

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS OF THE SAN JOAQUIN COUNTY. HOME OWNER OR LICENSED AGENT'S SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL NOT EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." CONTRACTOR'S HIRING OR SUB-CONTRACTING SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." THE APPLICANT MUST CALL 24 HOURS IN ADVANCE FOR ALL REQUIRED INSPECTIONS AT (209) 468-3423. COMPLETE DRAWING AT LOWER AREA PROVIDED.

Signed X John Huynh Title President Date 12-10-98

PLOT PLAN (Draw to Scale) Scale _____ " to _____

1. NAMES OF STREETS OR ROADS NEAREST TO OR BOUNDING THE PROPERTY.
2. OUTLINE OF THE PROPERTY, GIVING DIMENSIONS AND NORTH DIRECTION.
3. DIMENSIONED OUTLINES AND LOCATION OF ALL EXISTING AND PROPOSED STRUCTURES, INCLUDING COVERED AREAS SUCH AS PATIOS, DRIVEWAYS, AND WALKS.
4. LOCATION OF HOUSE SEWAGE DISPOSAL SYSTEM OR PROPOSED EXPANSION OF SEWAGE DISPOSAL SYSTEMS.
5. LOCATION OF WELLS WITHIN RADIUS OF ONE HUNDRED FIFTY FT. ON THE PROPERTY OR ADJOINING PROPERTY.



DEPARTMENT USE ONLY

Application Approved By Carol B Date 12/10/98 App. 0756

Grout Inspection By _____ Date _____ Pump Inspection By _____ Date _____

Destruction Inspection By Carol B Date _____

Comments: pressure grouting MW1, overdrilling MW2+3 see Lof file for more info
Trenching Granted to MW1

ACCOUNTING ONLY: APN# _____ FAC# _____ 017849 Permit Service

FF CODE	FEE PAID	AMOUNT ASSESSED	CHECK/CASH	RECEIVED BY	DATE	PERMIT/SERVICE REQUEST NUMBER	INVOICE
3502	60	60	2601				

SPECTRUM
An employee owned company

RE[illegible] 0 8 1998

RE[illegible] APR 0 8 1998

April 3, 1998

San Joaquin County
Environmental Health Department
P.O. Box 2009
Stockton, CA 95205

Subject: **DRILLING PERMIT APPLICATION**

Please allow the following individual to sign boring/well permits on my behalf all Drilling Projects.

John Lynch
Wright Environmental
67 East 10th Street
Tracy, CA 95376

Thank you for your consideration in this matter. If you have any questions, please call me at (209) 465-8712.

Sincerely,
SPECTRUM EXPLORATION, INC.

B. Tempel

Brenda Tempel
Administrative Assistant

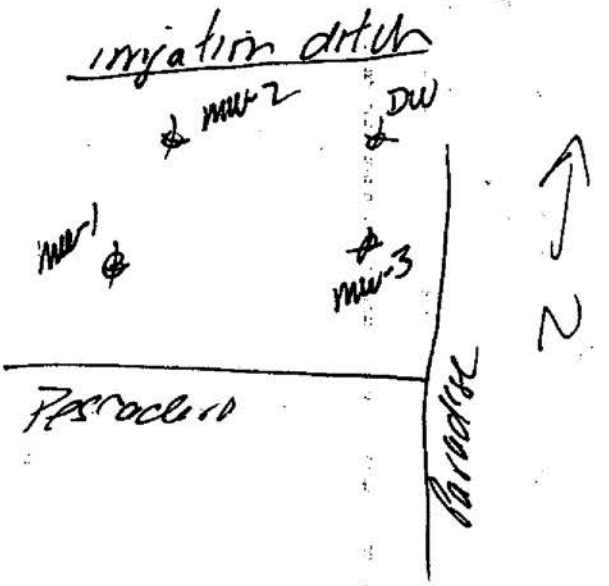
Spectrum Exploration, Inc.
2365 Wigwam Drive
Stockton, California
95205
209.465.8712 tel
209.465.8773 fax

Lic. 512268

Haley Flying Service
21000 Peralta Rise

8/25/97

Blaine Tech



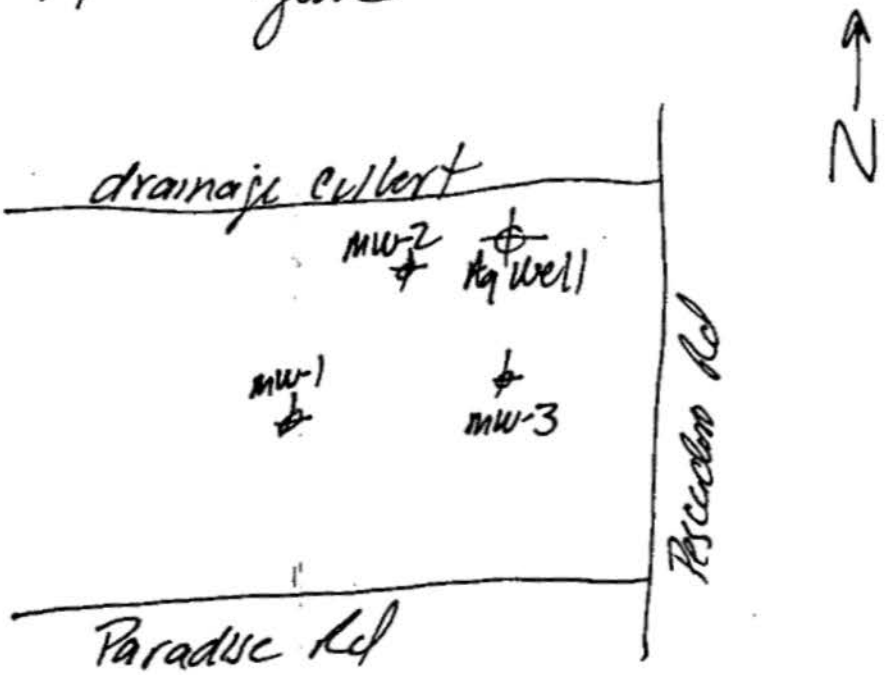
Irrigation ditch is full of H2O today
VOAs are mixed preserved & unpreserved will be ID.'d on COC

well	DTW	Comments
1	7.34	Taking samples for 8260 No odors
2	7.07	
3	6.71	

6/30/97

Haley Flying Service
21000 Paradise, Tracy

Blaine Technology - Morgan



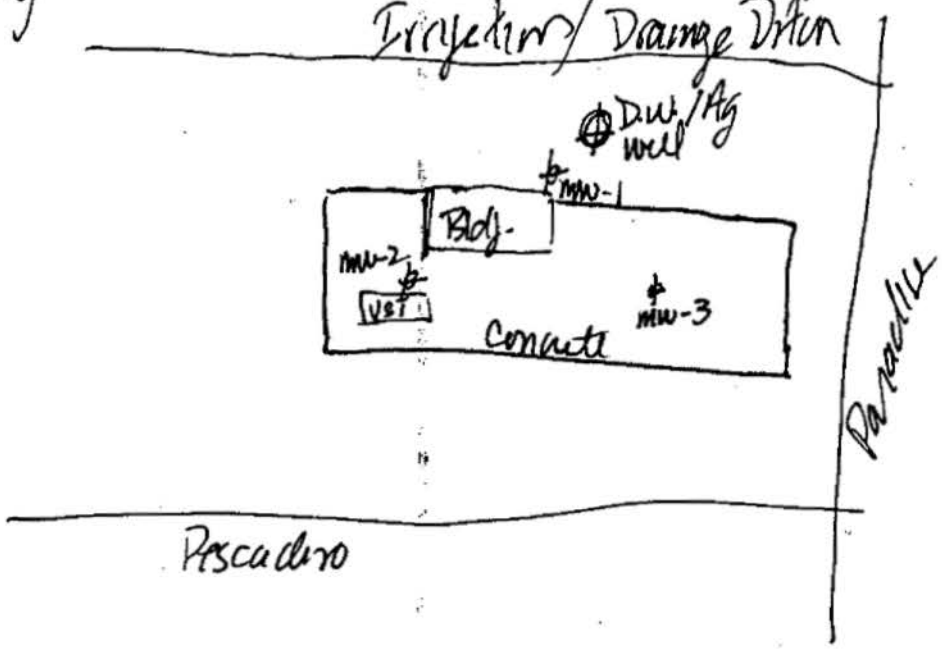
well	DTW	Comments
3	7.89	no odor - silty
1	8.65	no odor - silty
2	8.14	no odor - silty

Shawn Sisson

5/29/97

Haleys Flying Service
21000 Paradise

Chris Palmer - Wright Env.
Kuilhaus Drilling



MW-1 - No odors or contamination detected

12.5'
14-20 Aquifer

TD 20
screen 10-20
Sand 8
Unit 6

MW-2 12 Same construction no contamination detected

MW-3 12 Same construction no contamination detected

Edwin Sasser

APPLICATION FOR WELL/PUMP PERMIT
SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
P.O. BOX 388, 304 EAST WEBER AVENUE, STOCKTON, CA 95201-388
(209) 468-3420

PAYMENT RECEIVED
MAY 15 1997
SAN JOAQUIN COUNTY
PUBLIC HEALTH SERVICES
ENVIRONMENTAL DIVISION

NON-REFUNDABLE PERMIT EXPIRES 1 YEAR FROM DATE ISSUED
(Complete in Triplicate)

APPLICATION IS HERE BY MADE TO THE SAN JOAQUIN COUNTY FOR A PERMIT TO CONSTRUCT AND/OR INSTALL THE WORK DESCRIBED. THIS APPLICATION IS MADE IN COMPLIANCE WITH SAN JOAQUIN COUNTY DEVELOPMENT TITLE, CHAPTER 9-1115.3 AND THE STANDARDS OF SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES, ENVIRONMENTAL HEALTH DIVISION.

JOB ADDRESS/OR APN# 21000 Paradise Road CITY Tracy, CA PARCEL SIZE/APN#
OWNER'S NAME Dorothy Haley ADDRESS 1311 Madison Ave. - Tracy, CA PHONE # (209) 835-4725
CONTRACTOR Wright Environmental Svcs, Inc. ADDRESS 4220 Commercial Dr. #3 LIC# 651501 PHONE # (209) 833-0758
SUB CONTRACTOR Kvilhaug Well Drilling + Pump ADDRESS 1109 Landini Lane Concord 94520 LIC# 482390 PHONE # 510 685 6613

TYPE OF WELL/PUMP: ☒ NEW WELL ☐ REPLACEMENT WELL ☒ MONITORING WELL # 3 ☐ OTHER
☐ INSTALLATION ☐ WELL SYSTEM REPAIR ☐ CROSS-CONNECT REPAIR ☐ VAPOR EXTRACTION WELL #
(TYPE OF PUMP) ☐ New ☐ Repair H.P. DEPTH PUMP SET FT. FIRST WATER LEVEL
☐ OUT-OF-SERVICE WELL ☐ GEOPHYSICAL WELL # ☐ SOIL BORING
☐ DESTRUCTION:

INTENDED USE	TYPE OF WELL	CONSTRUCTION SPECIFICATIONS	
☐ INDUSTRIAL	☐ OPEN BOTTOM	DIA. OF WELL EXCAVATION 8"	DIA. OF CONDUCTOR CASING
☐ DOMESTIC/PRIVATE	☐ GRAVEL PACK/SIZE	TYPE OF CASING/STEEL/PVC Sch 40 PVC	DIA. OF WELL CASING 2 IN.
☐ PUBLIC/MUNICIPAL	☐ DRIVEN	DEPTH OF GROUT SEAL	SPECIFICATION
☐ IRRIGATION/AG	☐ OTHER	GROUT SEAL INSTALLED BY Contractor	GROUT BRAND NAME
☒ MONITORING		GROUT SEAL PUMPED: ☒ Yes ☐ No	CONCRETE PEDESTAL BY DRILLER: ☐ Yes ☐ No
APPROX. DEPTH 25 FT.		LOCKING CHESTER BOX/STOVE PIPE	

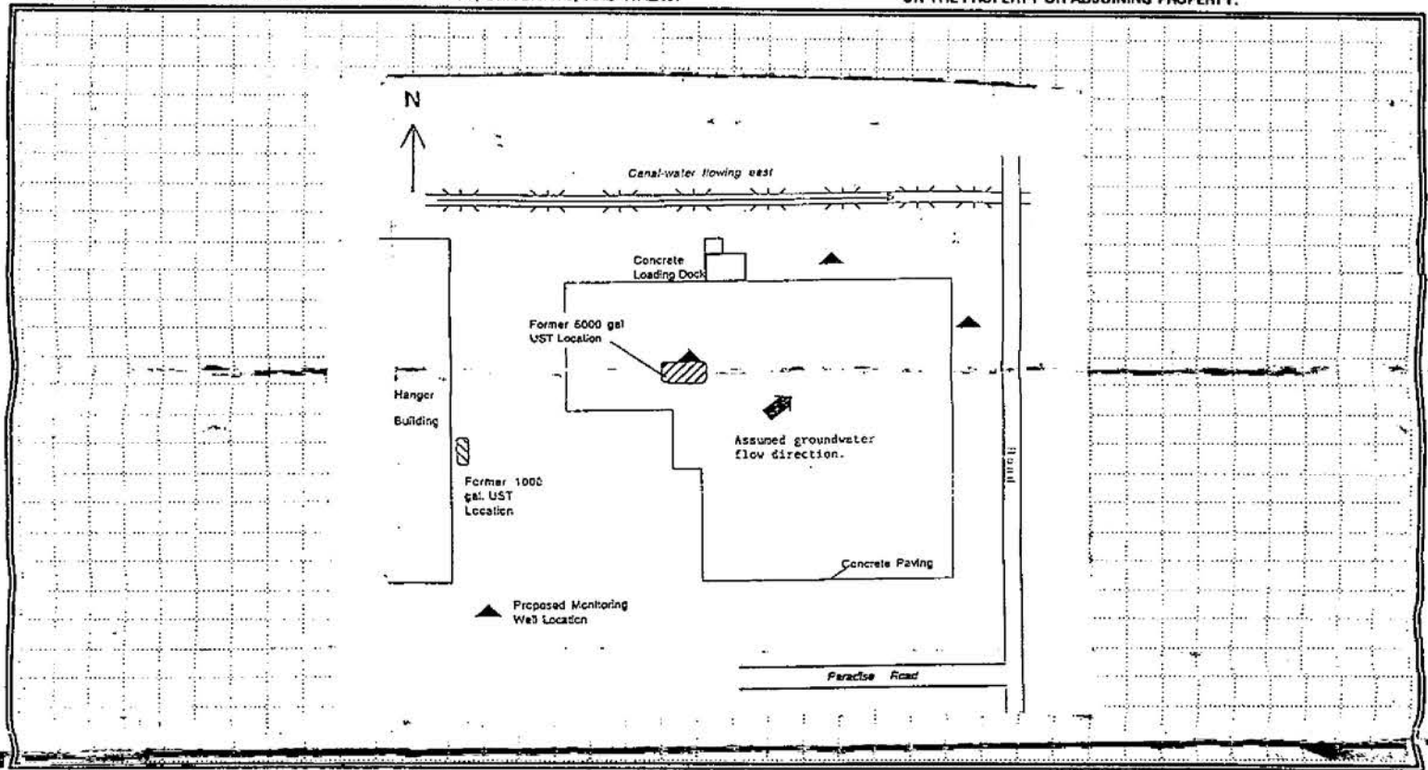
PROPOSED CONSTRUCTION/DRILLING METHOD: MUD ROTARY AIR ROTARY AUGER X CABLE OTHER

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS OF THE SAN JOAQUIN COUNTY. HOME OWNER OR LICENSED AGENT'S SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL NOT EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." CONTRACTOR'S HIRING OR SUB-CONTRACTING SIGNATURE CERTIFIES THE FOLLOWING: " I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." THE APPLICANT MUST CALL 24 HOURS IN ADVANCE FOR ALL REQUIRED INSPECTIONS AT (209) 468-3423. COMPLETE DRAWING AT LOWER AREA PROVIDED.

Signed X [signature] Title PROJECT MANAGER Date 5-13-97

PLOT PLAN (Draw to Scale) Scale 1" to 60'

1. NAMES OF STREETS OR ROADS NEAREST TO OR BOUNDING THE PROPERTY.
2. OUTLINE OF THE PROPERTY, GIVING DIMENSIONS AND NORTH DIRECTION.
3. DIMENSIONED OUTLINES AND LOCATION OF ALL EXISTING AND PROPOSED STRUCTURES, INCLUDING COVERED AREAS SUCH AS PATIOS, DRIVEWAYS, AND WALKS.
4. LOCATION OF HOUSE SEWAGE DISPOSAL SYSTEM OR PROPOSED EXPANSION OF SEWAGE DISPOSAL SYSTEMS.
5. LOCATION OF WELLS WITHIN RADIUS OF ONE HUNDRED FIFTY FT. ON THE PROPERTY OR ADJOINING PROPERTY.



DEPARTMENT USE ONLY

Application Accepted By [signature] Date 5/15/97 Area
Grout Inspection By Date Pump Inspection By Date
Destruction Inspection By Date
Comments:

ACCOUNTING ONLY:	AID#	FAC#

PE CODES	FEE INFO	AMOUNT REMITTED	CHECK#/CASH	RECEIVED BY	DATE	PERMIT/SERVICE REQUEST NUMBER	INVOICE
3801		88	2077	OUST	5/19/97	012546	

APPLICATION FOR WELL/PUMP PERMIT
SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
P.O. BOX 388, 304 EAST WEBER AVENUE, STOCKTON, CA 95201-388
(209) 468-3420

NON-REFUNDABLE PERMIT EXPIRES 1 YEAR FROM DATE ISSUED

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JOB ADDRESS/OR APN# 21000 PARADISE ROAD CITY TRACY, CA PARCEL SIZE/APN#

OWNER'S NAME DOROTHY WALEY ADDRESS 1311 MADISON AVE. - TRACY, CA PHONE (209) 835-4725

CONTRACTOR WRIGHT ENVIRONMENTAL SVCS, INC. ADDRESS 4220 Commercial Dr. #5 LIC# 651501 PHONE (209) 833-0758

SUB CONTRACTOR Kvilhaug Well Drilling + Pump ADDRESS 109 Landini Lane Linnerod 94520 LIC# 442390 PHONE # 510 634-6643

TYPE OF WELL/PUMP: ☒ NEW WELL ☐ REPLACEMENT WELL ☒ MONITORING WELL # 3 ☐ OTHER

☐ INSTALLATION ☐ WELL SYSTEM REPAIR ☐ CROSS-CONNECT REPAIR ☐ VAPOR EXTRACTION WELL #

☐ New ☐ Repair H.P. DEPTH PUMP SET FT. FIRST WATER LEVEL

(TYPE OF PUMP)

☐ OUT-OF-SERVICE WELL ☐ GEOPHYSICAL WELL # ☐ SOIL BORING

☐ DESTRUCTION:

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☐ DOMESTIC/PRIVATE	☐ GRAVEL PACK/SIZE	TYPE OF CASING/STEEL/PVC Sch 40 PVC	DIA. OF WELL CASING 2 IN.
☐ PUBLIC/MUNICIPAL	☐ DRIVEN	DEPTH OF GROUT SEAL	SPECIFICATION
☐ IRRIGATION/AG	☐ OTHER	GROUT SEAL INSTALLED BY CONTRACTOR	GROUT BRAND NAME
☒ MONITORING		GROUT SEAL PUMPED: ☒ Yes ☐ No	CONCRETE PEDESTAL BY DRILLER: ☐ Yes ☐ No
APPROX. DEPTH 25 FT.		LOCKING CHESTER BOX/STOVE PIPE	

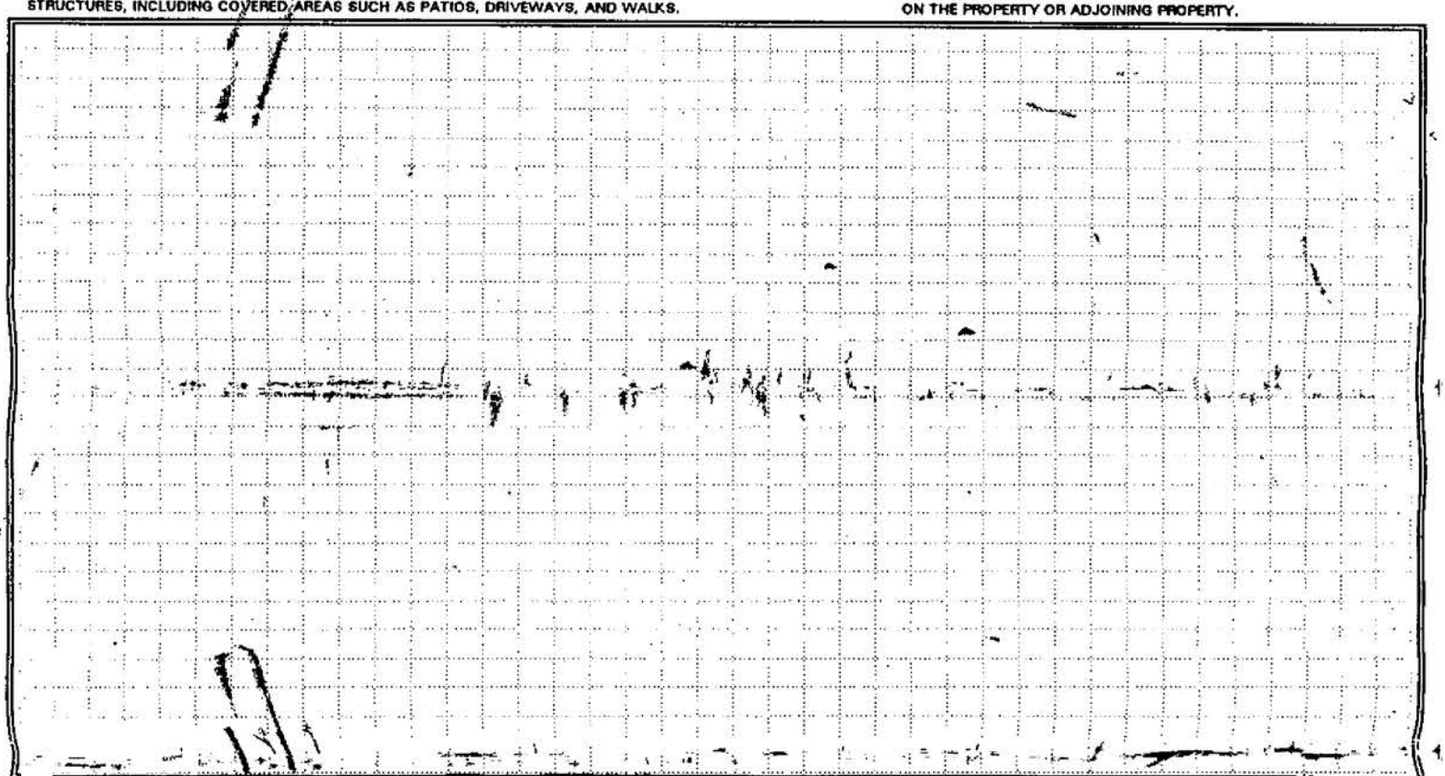
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DEPARTMENT USE ONLY

Application Accepted By Date 5/15/97 Area

Grout Inspection By Date Pump Inspection By Date

Destruction Inspection By Date

Comments:

ACCOUNTING ONLY:	AID#	FAC#

PE CODES	FEE INFO	AMOUNT REMITTED	CHECK#/CASH	RECEIVED BY	DATE	PERMIT/SERVICE REQUEST NUMBER	INVOICE
3501		55	2077	0151	5/14/97	012546	

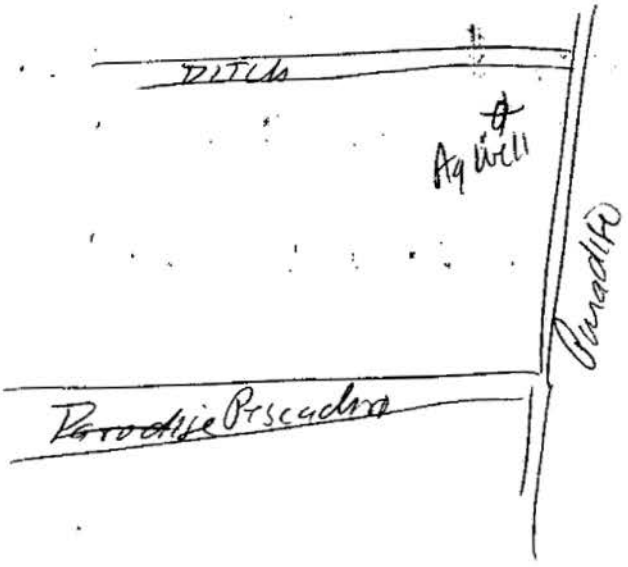
10/18/96

Haley Flying Service
21000 Paradise Rd, Tracy

DTW . 13.3'
TD 103' Ag well

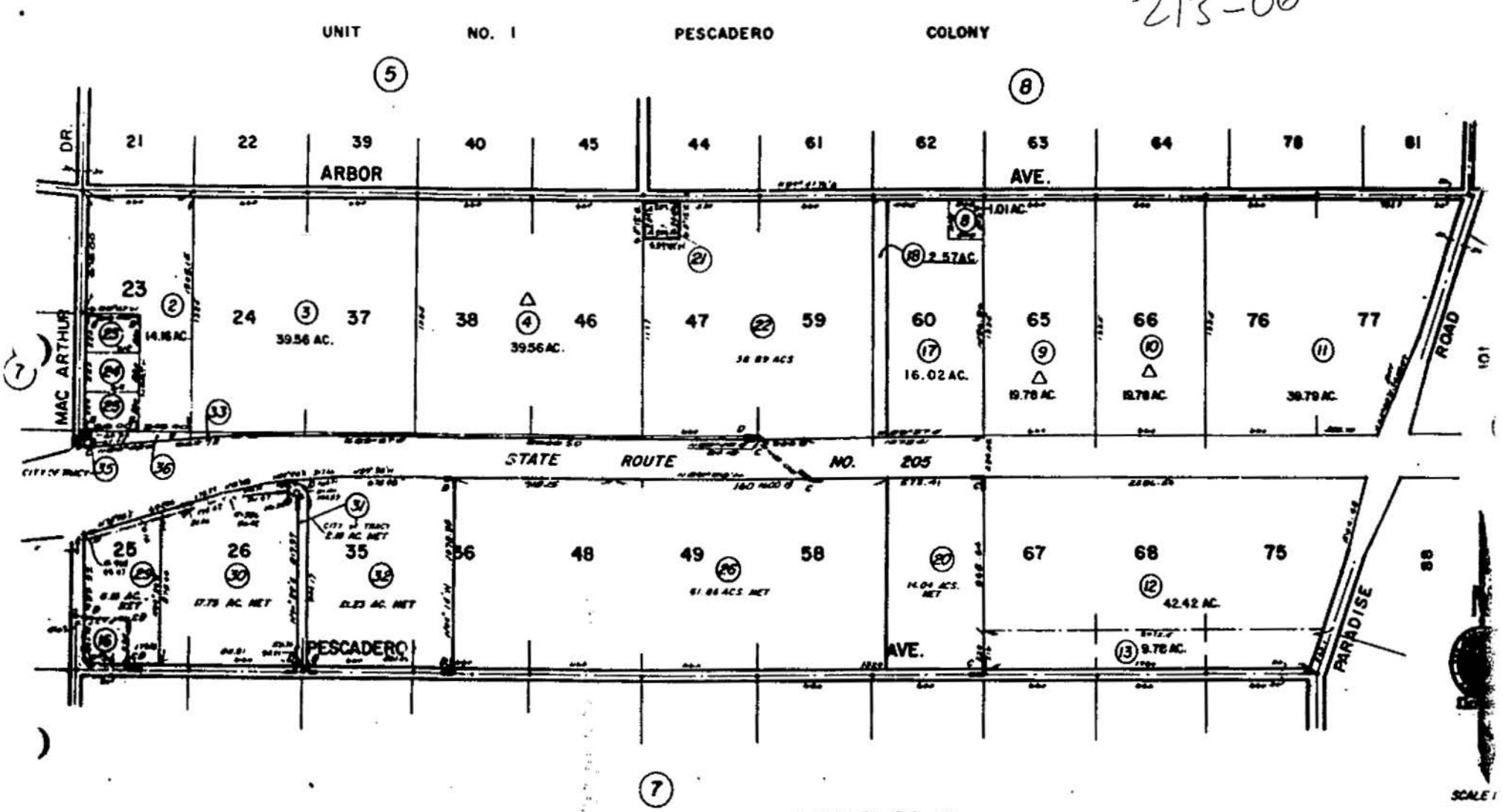
Grab sample by Gross John

TPH-g, BTEX, MTBE
Sampled from well head
VOA preserved 2 drops HCL



Sharon Sasser

213-06

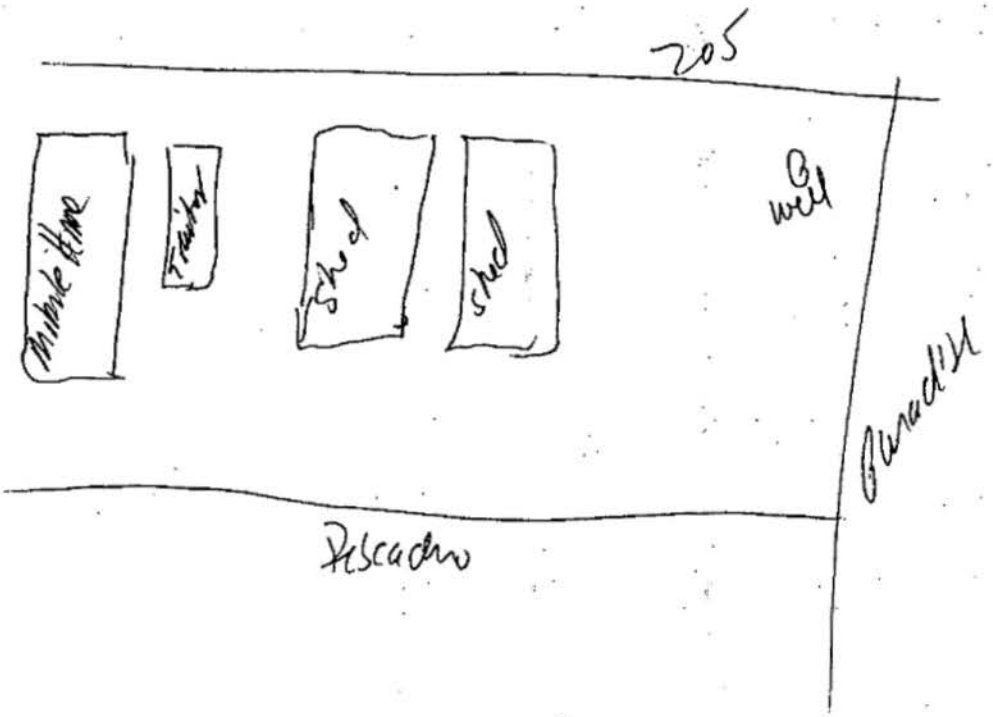


A - P. M. Bk. 13 Pg. 17
B - R. S. Bk. 23 Pg. 109
C - R. S. Bk. 31 Pg. 20
D - P. M. Bk. 17 Pg. 107

4/26/95

21000 Paradise
Haley Flying Service

10:30-11:00



Property is Vacant
Big Black old Labrador - bit the car
Property for Lease

Sharon Sachs

324

AREA ~~427~~ UNDERGROUND STORAGE TANK DATE 3-28-88

DBA HALEY'S FLYING SERVICE PHONE 836-0213

ADDRESS 21000 PARADISE Rd, CITY TRACY

OPERATOR Gary DelCARLO 835-2872 PHONE 948-9345

OWNER Dorothy Haley PHONE 835-4725

ADDRESS 1311 [redacted] MADISON, TRACY 95376

BILLING ADDRESS P.O BOX 1049 ; Tracy 95378-1049

CONTACT Gary DelCARLO PHONE 948-9345

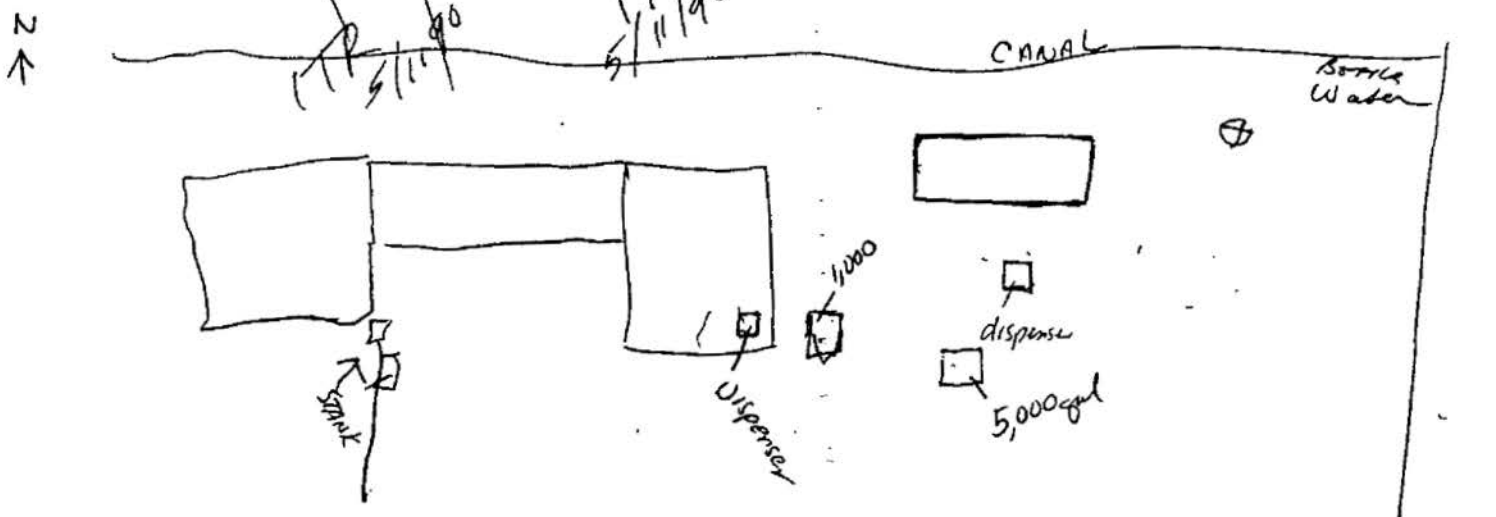
ADDRESS P.O BOX 1049, Tracy 95376

APN _____ LOT SIZE _____ SHORT TERM _____ APCD PERMIT _____

WATER PURVEYOR _____ SANITARY DISTRICT _____

FACILITY TYPE _____ SEPTIC _____ WELL _____

TYPE 1 2 3 4 5	TYPE 1 2 3 4 5	TYPE 1 2 3 4 5	TYPE 1 2 3 4 5
TANK # 1	TANK # 2	TANK #	TANK #
STATE ID	STATE ID	STATE ID	STATE ID
PRODUCT Regular	PRODUCT Aviation Fuel	PRODUCT	PRODUCT
SIZE 1,000 gal	SIZE 5,000	SIZE	SIZE
PIPING	PIPING	PIPING	PIPING
MONITOR	MONITOR	MONITOR	MONITOR



Acres

AGRICULTURAL FLYING • SPRAYING • SEEDING
FERTILIZING • SNOW • POLLEN

Haley Flying Service

P. O. BOX 1049
TRACY, CALIFORNIA 95376

GARY DEL CARLO
OWNER

PHONE
BUS: 209/836-0213
948-9345
RES: 209/835-0549

PHS-EHD - UNDERGROUND TANK CLOSURE/ABANDONMENT INSPECTION 3 OF 4
(SHADED AREA TO BE FILLED IN FOR THE FIRST TANK ONLY)

GENERAL

SITE NAME: Haley's Flying Service	ADDRESS: 21000 Paradise	CITY: Tracy, CA 95376
OWNER NAME: ~~Crisp Tank Const.~~ Dorthy Haley	OWNER PHONE #: 209-835-4725	
CONTRACTOR: Crisp Constr. Co	CON. PHONE#: 209-931-1828	
SJLHD PERMIT #:	EPA #: CAD000027193	FIRE PERMIT #: 90-0139

___ REMOVAL ___ CLOSURE IN PLACE ___ TEMPORARY CLOSURE

INSPECTOR: WR Snavely | DATE: 5-11-90 | TANK #: 39 - 1992 - 01

TANK/PIPING FIELD INSPECTION

RINSE

RINSED (Y/N)	METHOD: Triple Rinse	RINSE AMOUNT: 50gal
RINSATE DISPOSAL SITE		
MANIFEST # _____	-OR- OTHER _____	

VAPOR

VAPORS PURGED (Y/N)	METHOD: DRY Ice	AMOUNT USED: 20 Lbs
L.E.L. READING AT REMOVAL (MUST BE < 20%)		
COMMENTS		

CONST

TANK MATERIAL (STEEL, FIBERGLASS, OTHER)	TANK SIZE: 1000gal
TANK CONDITION (GOOD, POOR, HOLES)	
PIPE MATERIAL (STEEL, FIBERGLASS, OTHER)	# FEET: 0' Meter on TANK
PIPING CONDITION (GOOD, POOR, HOLES)	

SAMPLING

TANK

DEPTH	SOIL TYPE	OBSERVATION	SAMPLE #
10'	Brown clay	No odor.	W
10'	Brown clay	No odor	E

EXCAVATION SIZE: 8 X 18 X 10 | YDS OF SOIL:

PIPE

DEPTH	SOIL TYPE	OBSERVATION	SAMPLE #
N/A			

TRENCH DIMENSION ___ X ___ X ___ | YDS OF SOIL

H2O

DEPTH TO G.W.: 10 + FT | SAMPLING METHOD

OF HOURS SINCE DEWATERING: No ground water encountered

O

OTHER SAMPLE:

LABORATORY: FGL | SAMPLERS NAME: MARK BROCK

CLOSURE IN PLACE | MIXTURE: | VOLUME:

EH 23043 (10/89) DRAW SITE MAP ON REVERSE

PHS-EHD – UNDERGROUND TANK CLOSURE/ABANDONMENT INSPECTION
(SHADED AREA TO BE FILLED IN FOR THE FIRST TANK ONLY)

GENERAL

SITE NAME: HALEYS FLYING SERVICE	ADDRESS: 21000 PARADISE	CITY: TRACY CA 95376	
OWNER NAME: Dorthy Haley		OWNER PHONE #: 209-835-4725	
CONTRACTOR: CRIST Const Co		CON. PHONE#: 209-931-1828	
SJLHD PERMIT #	EPA # CAD 027193	FIRE PERMIT #: 90-0139	

X REMOVAL ___ CLOSURE IN PLACE ___ TEMPORARY CLOSURE

INSPECTOR: WR Snavely | DATE: 5-11-90 | TANK #: 39 - 1992 - 02

TANK / PIPING FIELD INSPECTION

RINSE

RINSED (Y/N) /	METHOD: Triple Rinse	RINSE AMOUNT: 250 gal
RINSATE DISPOSAL SITE		
MANIFEST # _____	-OR- OTHER _____	

VAPOR

VAPORS PURGED (Y/N)	METHOD: DRY Ice	AMOUNT USED: 130 Lbs
L.E.L. READING AT REMOVAL (MUST BE (20%)		
COMMENTS		

CONST

TANK MATERIAL (STEEL, FIBERGLASS, OTHER)	TANK SIZE: 5000 gal
TANK CONDITION (GOOD, POOR, HOLES)	
PIPE MATERIAL (STEEL, FIBERGLASS, OTHER)	# FEET: 9'
PIPING CONDITION (GOOD, POOR, HOLES)	

SAMPLING

TANK

DEPTH	SOIL TYPE	OBSERVATION	SAMPLE #
9'	Grey clay	Petroleum odors.	2W
9'	Brown clay	No odor.	2E

EXCAVATION SIZE: 9 x 29 x 10 | YDS OF SOIL: 48 yds

PIPE

DEPTH	SOIL TYPE	OBSERVATION	SAMPLE #
NA		Meter close to excavation.	

TRENCH DIMENSION ___ x ___ x ___ | YDS OF SOIL: 40 mL VOA Bottles

H2O

DEPTH TO G.W.: 10'+ FT | SAMPLING METHOD

OF HOURS SINCE DEWATERING: Water sample

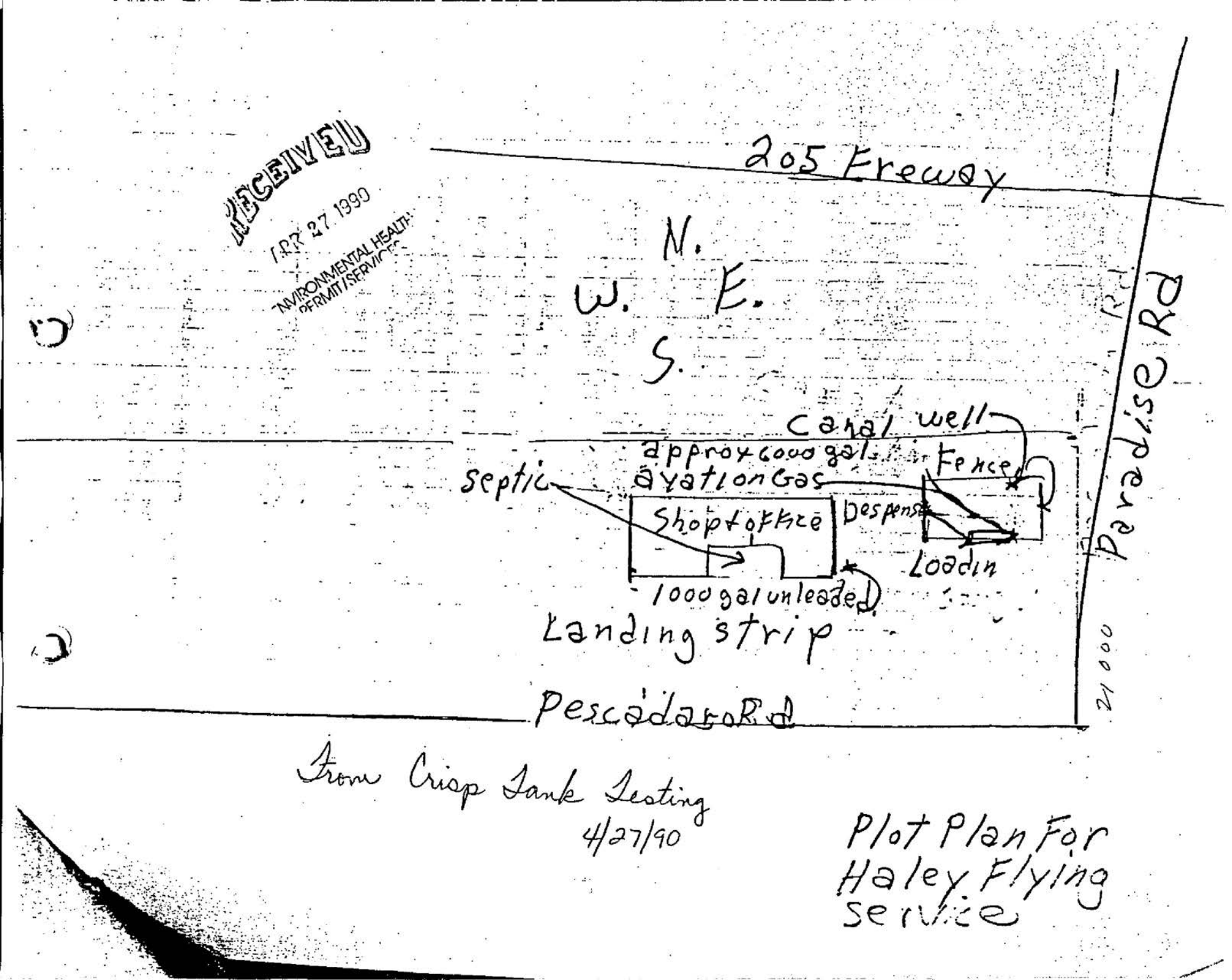
O

OTHER SAMPLE:

LABORATORY: FGL | SAMPLERS NAME: MARK BROCK

CLOSURE IN PLACE | MIXTURE: | VOLUME:

EH 23043 (10/89) DRAW SITE MAP ON REVERSE



From Crisp Tank Testing
4/27/90

Plot Plan For
Haley Flying
Service

UNDERGROUND TANK PROGRAM OFFICIAL INSPECTION REPORT
SAN JOAQUIN HEALTH DISTRICT

1601 E. HAZELTON AVE.
STOCKTON, CA 95205
PHONE NO. 468-3423

COUNTY NAME

COUNTY # 39

SITE NAME: Haleys Flying Service INSPECTION DATE: 5-11-90

SITE ADDRESS: 21000 Paradise Rd CITY/STATE/ZIP Tracy, CA 95376

CHANGES SITE/OWNER/PERMIT? YES NO
FORM A AND/OR B SUBMITTED?

TYPE OF INSPECTION: TANK Removal

SITE COMPUTER #: 1992

	TANK 1	TANK 2	TANK	TANK
COMPUTER NUMBER	Reg			
PER #	1000 gal	5000 gal		
EXP. DATE				

OPERATIONAL TANK	TANK CONTENTS MAJOR	TANK CONTENTS MINOR
PERMIT TO OPERATE	1	2
CHANGE IN CONDITIONS TO OPERATE	3	4
APPROVED CONSTRUCTION	5	6
WRITTEN MONITORING PROCEDURES	7	8
APPROVED MONITORING SYSTEM	9	10
MONITORING SYSTEM	11	12
APPROVED MONITOR FREQUENCY	13	14
MONITORING RECORDS MAINTAINED	15	16
ACCESS CASING SECURED	17	18
PIPING	19	20
INVENTORY RECONCILIATION	21	22
TANK GAUGING	23	24
APPROVED RESPONSE PLAN	25	26
UNAUTHORIZED RELEASE OCCURRENCE	27	28
SAMPLING	29	30
APPROVED TANK REPAIRS	31	32
UNAUTHORIZED RELEASES REPORTED	33	34
SAFETY HAZARD	35	36
CONDITIONS ABATED	37	

TEMPORARY TANK CLOSURE		
REMOVAL OF RESIDUAL	38	39
FLAMMABLE VAPORS REMOVED	40	
ACCESS LOCATIONS SEALED	41	42
POWER DISCONNECTED		43
OWNER/OPERATOR MONITORING	44	45

PERMANENT TANK CLOSURE		
REMOVAL OF RESIDUAL MATERIALS	46	47
PIPING	48	49
FLAMMABLE VAPORS REMOVED	50	
UNAUTHORIZED RELEASE	51	52
SAMPLING	53	54
IMPROPER ABANDONMENT	55	56

SYSTEM STATUS (MUST MARK ONE)

MAJOR VIOL. 57 ☐ MINOR VIOL. 58 ☐ NO VIOL. 59 ☒

THE MARKED ITEMS REPRESENT VIOLATIONS AND MUST BE CORRECTED AS FOLLOWS: 2 UGTs removed.

OFFICE:

INSP: WR Snavely

TITLE: REHS

RECEIVED BY:

PHONE:

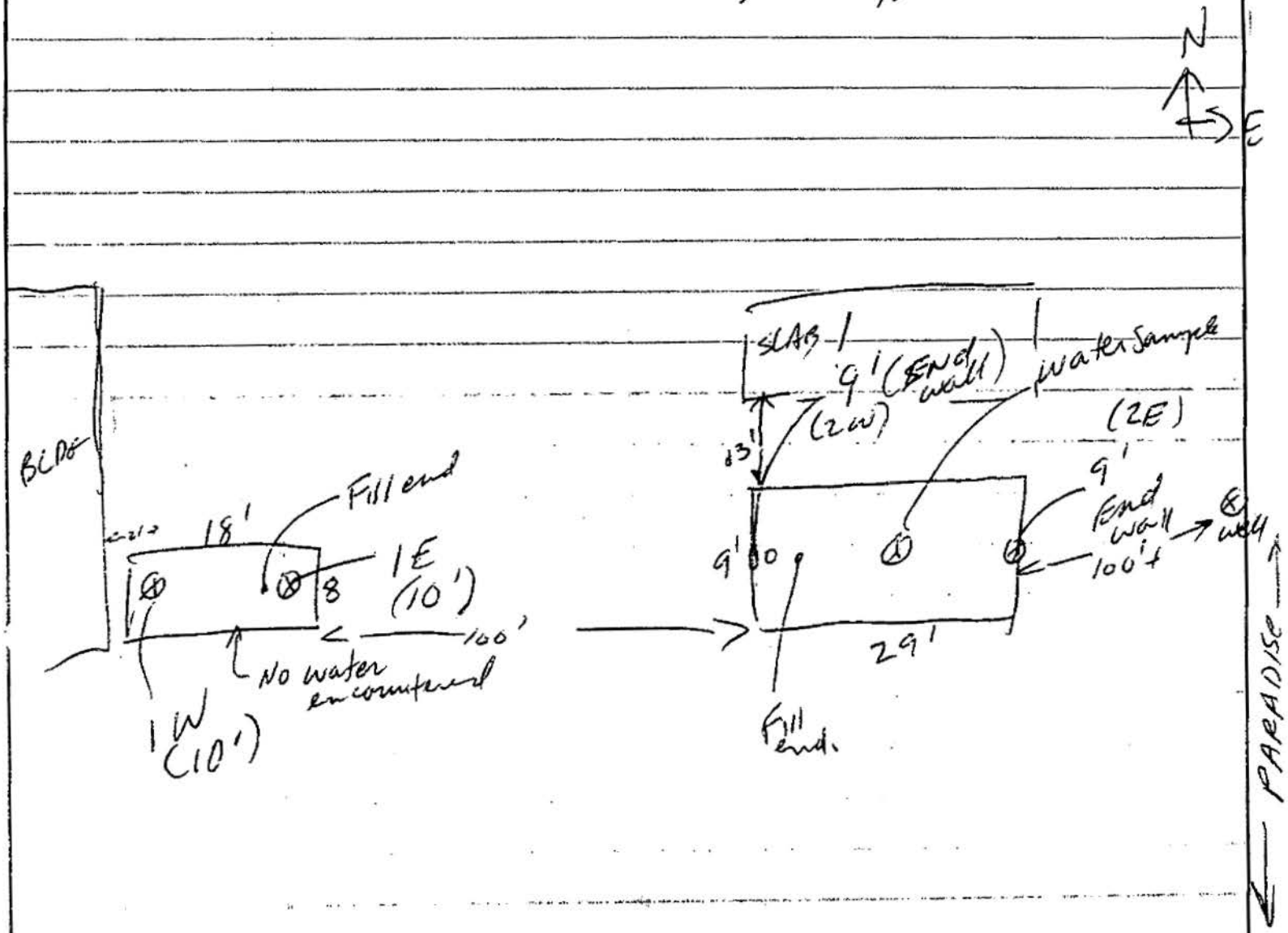
RECK:

CONTINUATION OFFICIAL INSPECTION REPORT

PAGE: 2 OF 4
DATE: 5-11-90
PROGRAM: 0657
SITE COMPUTER#: 1992

SITE NAME: Haley · Flying Service

SITE ADDRESS: 21000 · Paradise Rd, Tracy, CA 95376



INSPECTOR: M R Gravely

RECEIVED BY:

ORIGINAL

HUT-4 5/38

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

June 5, 1990

Lab No.: 30951-1
Acct #: 03-3579
Crisp Tank Testing
2004 Piccoli Rd.
Stockton, CA 95205

RECEIVED
JUN 14 1990
ENVIRONMENTAL HEALTH

Sample Description: 1000 gallon tank: 1W
Sampled by: Mark Brock employed by F.G.L.
Date Sampled: May 11, 1990
Date Received: MAy 11, 1990

RE: UNDERGROUND STORAGE TANK ANALYSIS - SOIL

Tests Required	Test Results	Reporting Unit	DLR
Benzene (8020)	N.D.	ug/kg	5
Toluene (8020)	N.D.	ug/kg	10
Ethylbenzene (8020)	N.D.	ug/kg	10
Xylene (8020)	N.D.	ug/kg	10
EDB (8010)	N.D.	ug/kg	10
Organic Lead	N.D.	mg/kg	10
TPH (8015 Gasoline)	N.D.	mg/kg	10

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb
mg/kg = ppm

If you have any questions please call.

Very truly yours,
FGL ENVIRONMENTAL, INC.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272, SANTA PAULA, CALIFORNIA 93060-0272
(805) 525-3824 – (805) 659-0910
FAX (805) 525-4172

BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD, STOCKTON, CALIFORNIA 95205
(209) 942-0181
FAX (209) 942-0423

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

June 5, 1990

Lab No.: 30951-2
Acct #: 03-3579
Crisp Tank Testing
2004 Piccoli Rd.
Stockton, CA 95205

Sample Description: 1000 gallon tank: 1E
Sampled by: Mark Brock employed by F.G.L.
Date Sampled: May 11, 1990
Date Received: MAy 11, 1990

RE: UNDERGROUND STORAGE TANK ANALYSIS - SOIL

Tests Required	Test Results	Reporting Unit	DLR
Benzene (8020)	N.D.	ug/kg	5
Toluene (8020)	N.D.	ug/kg	10
Ethylbenzene (8020)	N.D.	ug/kg	10
Xylene (8020)	N.D.	ug/kg	10
EDB (8010)	N.D.	ug/kg	10
Organic Lead	N.D.	mg/kg	10
TPH (8015 Gasoline)	N.D.	mg/kg	10

.05 ppm
.01 ppm
>10ppm

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb
mg/kg = ppm

If you have any questions please call.

Very truly yours,
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John F. Quinn

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 – (805) 659-0910 FAX (805) 525-4172

BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX (209) 942-0423

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

June 5, 1990

Lab No.: 30951-3
Acct #: 03-3579
Crisp Tank Testing
2004 Piccoli Rd.
Stockton, CA 95205

Sample Description: Water in Hole: 5,000 gallon tank
Sampled By: Mark Brock employed by F.G.L.
Date Sampled: May 11, 1990
Date Received: May 11, 1990

RE: UNDERGROUND STORAGE TANK ANALYSIS - WATER

Tests Required	Test Results	Reporting Unit	DLR
Benzene (8020)	3.9	ug/L	5
Toluene (8020)	18.4	ug/L	10
Ethylbenzene (8020)	7.5	ug/L	10
Xylene (8020)	31.9	ug/L	10
Organic Lead (7420)	N.D.	mg/L	10
EDB (8010)	N.D.	ug/L	10
TPH (8015-Gasoline)	N.D.	mg/L	10

ND = Not detected ato or above the concentration of the detection limit.

ug/L = ppb
mg/L = ppm

If you have any questions please call.

Very truly yours,
FGL ENVIRONMENTAL, INC.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 -- (805) 659-0910
FAX (805) 525-4172

BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181
FAX (209) 942-0423

FGL ENVIRONMENTAL
ANALYTICAL CHEMISTS

June 5, 1990

Lab No.: 30951-4
Acct #: 03-3579
Crisp Tank Testing
2004 Piccoli Rd.
Stockton, CA 95205

Sample Description: 5000 gallon tank: 2E
Sampled by: Mark Brock employed by F.G.L.
Date Sampled: May 11, 1990
Date Received: MAy 11, 1990

RE: UNDERGROUND STORAGE TANK ANALYSIS - SOIL

Tests Required	Test Results	Reporting Unit	DLR
Benzene (8020)	N.D.	ug/kg	5
Toluene (8020)	N.D.	ug/kg	10
Ethylbenzene (8020)	N.D.	ug/kg	10
Xylene (8020)	N.D.	ug/kg	10
EDB (8010)	N.D.	ug/kg	10
Organic Lead	N.D.	mg/kg	10
TPH (8015 Gasoline)	N.D.	mg/kg	10

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb
mg/kg = ppm

If you have any questions please call.

Very truly yours,
FGL ENVIRONMENTAL, INC.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272, SANTA PAULA, CALIFORNIA 93060-0272, (805) 525-3824 -- (805) 659-0910, FAX (805) 525-4172
BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD, STOCKTON, CALIFORNIA 95205, (209) 942-0181, FAX (209) 942-0423

FGL ENVIRONMENTAL

ANALYTICAL CHEMISTS

June 5, 1990

Lab No.: 30951-5
Acct #: 03-3579
Crisp Tank Testing
2004 Piccoli Rd.
Stockton, CA 95205

Sample Description: 5000 gallon tank: 2W
Sampled by: Mark Brock employed by F.G.L.
Date Sampled: May 11, 1990
Date Received: MAy 11, 1990

RE: UNDERGROUND STORAGE TANK ANALYSIS - SOIL

Tests Required	Test Results	Reporting Unit	DLR	
Benzene (8020)	6500	ug/kg	5	ppb
Toluene (8020)	62240	ug/kg	10	
Ethylbenzene (8020)	41450	ug/kg	10	
Xylene (8020)	169250	ug/kg	10	
EDB (8010)	N.D.	ug/kg	10	
Organic Lead	29.5 J	mg/kg	10	
TPH (8015 Gasoline)	610.6	mg/kg	10	ppm

ND = Not detected at or above the concentration of the detection limit.

ug/kg = ppb
mg/kg = ppm

If you have any questions please call.

Very truly yours,
FGL ENVIRONMENTAL, INC.

John F. Quinn, Ph.D.
Laboratory Director

Tie Kang Huang
Chemist

JFQ: sjb

MAIN OFFICE & LABORATORY – 853 CORPORATION STREET – P.O. BOX 272 SANTA PAULA, CALIFORNIA 93060-0272 (805) 525-3824 – (805) 659-0910 FAX (805) 525-4172

BRANCH OFFICE & LABORATORY – 2500 STAGECOACH ROAD STOCKTON, CALIFORNIA 95205 (209) 942-0181 FAX

21000 Madison Rd (Rear)

EXEMPT

5/11/90 #2 JRS

COC ok

#2 SK

meter closest to ecca

poor condition

SO. no piping samples

9' samples west odors

waters sample attached

E no odors

#01 1K

meter on tank

10' 1W

1E

no odors no g.w. encountered

Waters	5k #2	@ water-sand 2W	2E	regular gasoline 1K #1	1E	1W
3.9 ppb	B	6.5 ppm	<.005	<.005	"	"
18.4 ppb	T	62.240 ppm	<.001	<001	"	"
7.5 ppb	E	41.4 ppm	<001	"	"	"
31.9 ppb	X	169.250 ppm	<.001	"	"	"
<100 ppm	TPH-g	610 ppm	<.001	"	"	"
< 10 ppb	EDB	< .01 ppm	<001	"	"	"
< 0 ppm	0 Lead	29 ppm	<.001	"	"	"

DATE RECEIVED
RECEIVED
SEP 2 9 2006
ENVIRONMENT HEALTH
PERMIT/SERVICES

EHD LOG NUMBER
25720

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DEPARTMENT

304 East Weber Avenue, 3rd Floor, Stockton, CA 95202-2708
Telephone: (209) 468-3420 Fax: (209) 464-0138 Web: www.sjgov.org/ehd

PUBLIC RECORDS RELEASE APPLICATION

APPLICANT: Nick Kent-Basham BUSINESS/AGENCY: Wallace - Kuhl & Assoc.
ADDRESS: 3410 W. Hammer Lane, Suite F Stockton, CA
PHONE (1): (209) 234-7722 PHONE (2): (916) 997-7136 FACSIMILE: (209) 234-7727

TENTATIVE* APPOINTMENT DATE: _____ Time: _____
(Please allow 10 business days from date of application submittal - *Tentative only - must be confirmed)

☒ CHECK BOX TO EXPEDITE REQUEST - $93.00 FEE (CASH OR CHECK ONLY) - REQUEST PROCESSED IN 3 BUSINESS DAYS

SIGNATURE OF APPLICANT [signature] DATE 9/29/06

UNIT DISTRIBUTION ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 ☐ Unit 4 ☐ Unit 5 ☐ Unit 6 ☐ Other (electronic/lists/maps)

FILE ADDRESS

	Street #	Street Name	City	EHD USE ONLY
1.	21000	PARADISE	Tracy	3528 3950
2.	1401	MACARTHUR	Tracy	2960
3.	574	GRANT LINE	Tracy	3526
4.	724	GRANT LINE RD E.	Tracy	3528
5.	5157	BUS LOOP 205 W	Tracy	3526
6.	23901	CHRISMAN RD S.	Tracy	3528
7.	7[illegible]	W 11th ST.	Tracy	3528
8.	7500	11TH	Tracy	3526
9.	7777	11TH ST W	Tracy	3528
10.	7675	W ELEVENTH ST	Tracy	3526

3 4 9/13

Specific Date Range of Information Requested: From _____

ENVIRONMENTAL HEALTH DEPARTMENT

- ☒ UNDERGROUND TANK (UST) CLEANUP SITE (LOP)
- ☒ OTHER CLEANUP SITE (NON-LOP)
- ☒ UNDERGROUND TANK (MONITORING/REMOVAL)
- ☒ HAZARDOUS WASTE GENERATOR
- ☐ TIERED PERMITTED FACILITY
- ☐ TATTOO/BODY PIERCING
- ☐ MEDICAL WASTE FACILITY
- ☐ HOUSING ABATEMENT
- ☐ FOOD FACILITY
- ☐ DOG KENNEL
- ☐ CHICKEN RANCH
- ☐ MOTEL/HOTEL
- ☐ POOL/SPA
- ☐ OTHER (PLEASE SPECIFY) _____
- ☐ SOLID WASTE FACILITY/VEHICLE
- ☐ WASTE TIRE
- ☐ DAIRY
- ☐ WASTEWATER TREATMENT PLANT
- ☐ PUMPER TRUCK/YARD/CHEM TOILETS
- ☐ LAND USE APPLICATION SITES

WELL AND SEPTIC PERMIT RECORDS ARE AVAILABLE FOR REVIEW - MONDAY-FRIDAY 8:00 AM-5:00PM - EXCLUDING HOLIDAYS.

1. List up to ten addresses in the space above. Select the type(s) of files from the list above by checking the appropriate box(es). At least one file type MUST be selected. Fax to (209) 464-0138 or mail to the address indicated above. Address ranges will not be accepted – for additional assistance with file addresses, contact the EHD. Applications received after 3:00 pm will be processed the next business day.
2. The EHD will notify the applicant if any EHD files exist. An appointment for review will be confirmed approximately ten (10) days after receipt of application. The files will be held for a maximum of five business days for review. Appointments should be scheduled accordingly.
3. A file that is actively being worked on by EHD staff may not be immediately available for review. A new application may be submitted when the file is available.
4. Any file not returned in the same condition as released will be reorganized by EHD staff at the expense of the applicant. Future file reviews by the same applicant may require a $93.00 deposit prior to review.

EHD 46-32-096
6-05

98-228

EH OO 14 (REV 5/94)

SAN JOAQUIN COUNTY
PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
PUBLIC RECORDS RELEASE APPLICATION

APPLICANT Leonard Crisp PHONE NO _____
ADDRESS _____
AGENCY NAME _____ PHONE NO _____
ADDRESS _____

FILE ADDRESS	LEAD AGENCY	DATE
21000 Paradise Rd	3526 Cozy	
5401 E. Harney Rd		
8880 W. Linne. Rd		
5 West Highlands	3528 BA.	
3776 Granline		
35275 ~~Granline~~ South Hwy 33		
3000 ~~S. D.~~ Tracy Blvd.		

THIS NOTICE IS SUBJECT TO THE REQUIREMENTS IDENTIFIED IN THE PUBLIC HEALTH SERVICES/ENVIRONMENTAL HEALTH DIVISION (EHD) POLICY #94-007, ORDINANCE CODE OF SAN JOAQUIN COUNTY, EHD FEES AND SERVICE CHARGE RESOLUTIONS, STATE WATER CODE, GOVERNMENT CODE AND THE EVIDENCE CODE.

1. A MAXIMUM OF TEN (10) PREMISE ADDRESSES PER REQUEST.

2. PUBLIC FILES/RECORDS REVIEW IS BY APPOINTMENT ONLY. APPOINTMENTS ARE ARRANGED BY CALLING (209)468-0340. OFFICE HOURS FOR APPOINTMENTS ARE SCHEDULED MONDAY THRU FRIDAY EXCLUDING HOLIDAYS, 8:00 AM TO 12:00 NOON AND 1:00 PM TO 4:30 PM.

3. A PUBLIC RECORDS RELEASE APPLICATION (PRRA) IS REQUIRED.

4. PUBLIC FILES/RECORDS NOT RETURNED IN THE SAME CONDITION AS RECEIVED WILL BE CORRECTED BY THE EHD STAFF AT THE EXPENSE OF THE APPLICANT. THIS ADDITIONAL SERVICE WILL BE BILLED TO THE APPLICANT FOR PAYMENT. (SEE EHD POLICY 94-007)

5. ORIGINAL PUBLIC FILES/RECORDS SHALL NOT BE REMOVED FROM THE EHD PREMISES.

SIGNATURE OF APPLICANT _____ DATE _____

SIGNATURE OF RELEASING OFFICIAL _____ DATE _____

No PHS/EHD RECORDS/FILES ARE IDENTIFIED:
DATE: REVIEWED BY: NOTIFICATION DATE:

PHS/EHD RECORDS/FILES EXIST ON THE ADDRESS(ES) NOTED. YOU WILL BE NOTIFIED WHEN RECORDS/FILES ARE AVAILABLE FOR REVIEW:
DATE: REVIEWED BY: NOTIFICATION DATE:

Wright Environmental Services, Inc.

Construction ◆ Engineering ◆ Remediation

December 10, 1998

Public Health Services
San Joaquin County
Ms. Carol Oz
304 East Weber Ave.
Third Floor
Stockton, CA 95202

SUBJECT: Haley Flying Service

Dear Ms. Oz:

Per my conversation with you today, attached is the permit for Haley Flying Service.

This is also a notification that MW-1 has no excess for the drillers to do their job. They recommended to pressure grout MW-1. There is a cement wall that prevents access to MW-1 with drilling.

Once I have an approved permit, I will go ahead and reschedule the drilling and confirm your presence at the site.

If you have any questions, please call me.

Sincerely yours,

Maria Reid
Office Manager

enclosure

67 E. 10th Street ◆ Tracy, CA 95376
209.833.0758 ◆ Fax 209.832.5152
wright@inreach.com *Lic. #651501* *A-B HazMat*
websit http://home.inreach.com/wright

California Regional Water Quality Control Board
Central Valley Region

Peter M. Rooney
Secretary for Environmental Protection

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5/home.html
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

Ed J. Schnabel
Chair

ENVIRONMENTAL HEALTH SERVICE
98 OCT 19 PM 12:46

16 October 1998

Ms. Margaret Lagorio
San Joaquin County Environmental Health Division
304 E. Weber Avenue, Third Floor
Stockton, CA 95201-0388

NO FURTHER ACTION REQUIRED CONCURRENCE, UNDERGROUND STORAGE TANKS, SAN JOAQUIN COUNTY

This letter confirms the completion of site the investigation and remedial action for the following underground storage tank facility located in San Joaquin County.

Facility	Street Address	City
Haley Flying Service	21000 Paradise Road	Tracy

Based on the available information in our files and with the provision that the information provided to this agency is accurate and representative of site conditions, no further action related to the underground storage tank release is required for the above facility.

If you have any questions, please call Mark List at (916) 255-3132.

J. Lawrence Pearson

J. LAWRENCE PEARSON, P.E.
Chief, Site Cleanup Section

Enclosures

cc: Ms. Sandy Gill, State Water Resources Control Board, UST Cleanup Fund, Sacramento

California Regional Water Quality Control Board
Central Valley Region

Peter M. Rooney
Secretary for Environmental Protection

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5/home.html
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

Ed J. Schnabel
Chair

TO: Gordon L. Boggs
UST Program Manager

FROM: Mark R. List
Engineering Geologist

DATE: 15 October 1998

SIGNATURE: Mark List

SUBJECT: ***FILE REVIEW FOR CLOSURE CONCURRENCE, HALEY FLYING SERVICE, 21000 PARADISE ROAD, TRACY, SAN JOAQUIN COUNTY***

At the request of the San Joaquin County Environmental Health Division (SJCEHD), a file review was completed to determine if Regional Board staff agree with the SJCEHD determination of no further action required at this site. This information was obtained during my review of the Regional Board casefile, the SJCEHD casefile, and discussions with Ms. Carol Oz of SJCEHD.

Background:

On 11 May 1990 two, (a 1,000-gallon regular gasoline and a 5,000-gallon aviation fuel), underground storage tanks (USTs), were removed from the site. The SJCEHD field inspector noted petroleum odors at the Aviation fuel tank location. Soil sample analytical results from the aviation fuel tank excavation revealed elevated concentrations of TPHg, benzene and xylenes.

On 19 June 1996, a Hydropunch® boring program was initiated, with soil and groundwater samples collected from six probe borings. The results of the Hydropunch sampling revealed elevated concentrations of TPHgasoline (TPHg), TPHkerosene (TPHk), TPHaviation fuel (TPHa), and all BTEX constituents in soil from one of the six borings at 10 feet below ground surface (bgs). Groundwater samples collected from three of the six borings also contained elevated concentrations of the same constituents. SJCEHD required that the impact to groundwater below the site be evaluated.

Three groundwater monitoring wells were installed on 29 May 1997 to evaluate groundwater quality. The depth to groundwater in each well is approximately 7 feet bgs. The wells are screened from 20 to 10 feet bgs. The static water level in each well has been above the top of the well screen during each groundwater monitoring/sampling event.

The initial groundwater sampling results revealed 340 µg/L (ppb) TPHa in MW-2. No other constituents were detected above the laboratory reporting limits. On 18 December 1997, TPHk was the only contaminant detected in groundwater samples collected from MW-1 at 170 µg/L and MW-2 at 210 µg/L. The water sample from MW-3 did not contain any petroleum constituents above the laboratory reporting limits.

TABLE 1 - CHECKLIST OF REQUIRED DATA
FOR NO FURTHER ACTION REQUESTS AT UNDERGROUND TANK SITES

Site Name and Location: **Haley Flying Service, 21000 Paradise Road, Tracy, San Joaquin Co.**

Y	1. Distance to production wells for municipal, domestic, agriculture, industry and other uses within 2000 feet of the site;	***There is 1-Ag well and ditch on-site. Well was sampled on 26 October 1996 and results were ND. Unknown where screened.***
Y	2. Site maps, to scale, of area impacted showing locations of former and existing tank systems, excavation contours and sample locations, boring and monitoring well elevation contours, gradients, and nearby surface waters, buildings, streets, and subsurface utilities;	***Scaled site maps with the UST loc and MWs in casefile.***
Y	3. Figures depicting lithology (cross section), treatment system diagrams;	***Borings logs were provided. Silty Clay to 12.5' bgs, sand to 20.5' bgs and clay to TD of the soil borings. Varies w/boring.***
N	4. Stockpiled soil remaining on-site or off-site disposal (quantity);	
Y	5. Monitoring wells remaining on-site, fate;	***3 monitoring wells on-site, to be properly decommissioned.***
Y	6. Tabulated results of all groundwater elevations and depths to water;	***DTW was approx 7' bgs. The historic low was 12.6' bgs. GW flow(grad), NNE (0.002) to NW (0.0062).***
Y	7. Tabulated results of all sampling and analyses: Y Detection limits for confirmation sampling Y Lead analyses	***This information was provided to SJCEHD. See SJCEHD casefile for detection limits and lab QA/QC. Low concentrations of E,X remain in soil. Low concentrations of TPHa and TPHk remain in water. concentrations appear to be limited to the UST Ex and in well network.***
N	8. Concentration contours of contaminants found and those remaining in soil and groundwater, and both on-site and off-site: Y Lateral and — Y Vertical extent of soil contamination Y Lateral and — Y Vertical extent of groundwater contamination	***Soil contamination is defined in the vertical and lateral directions by soil borings and excavation sampling. The three MWs and soil probe borings define the groundwater impact.***
NA	9. Zone of influence calculated and assumptions used for subsurface remediation system and the zone of capture attained for the soil and groundwater remediation system;	
Y	10. Reports / information — Y Unauthorized Release Form — Y QMRs (Dates) ***7/97, 11/97 and 2/98*** Y Well and boring logs — N PAR — N FRP — N Other (report name)	
Y	11. Best Available Technology (BAT) used or an explanation for not using BAT;	***SJCEHD determined contaminant concentrations in soil/water to be low risk.***
NA	12. Reasons why background was/is unattainable using BAT;	
N	13. Mass balance calculation of substance treated versus that remaining;	
NA	14. Assumptions, parameters, calculations and model used in risk assessments, and fate and transport modeling;	
Y	15. Rationale why conditions remaining at site will not adversely impact water quality, health, or other beneficial uses; and	***No benzene or MTBE confirmed in groundwater monitoring wells. TPH-aviation fuel and TPH-kerosene are the only contaminants in water at low concentrations***
NA	16. WET or TCLP results	

By: MRL
Date: 10/15/98

Comments: All indications by SJCEHD are that the contamination at the site is located in the immediate area of the former UST excavation. The primary contaminant are TPHa and TPHk in water. This does appear to be a low risk site. Concurrence with the SJCEHD decision of no further action required appears warranted.

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Karen Furst, M.D., M.P.H., Health Officer
304 East Weber Avenue, Third Floor • Stockton, CA 95202
209/468-3420

FILE COPY

EXECUTIVE OFFICER
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3098

JUL 17 1998

RE: HALEY FLYING SERVICE
21000 PARADISE RD
TRACY CA 95376

SITE CODE: 1992

Our agency has determined that the site investigation and remedial action of contamination resulting from an unauthorized release from the underground storage tank(s) formerly and/or currently located at the above referenced site has been completed.

Enclosed is a "Case Closure Summary" and chronology for this site. According to our Local Oversight Program contract with the State Water Resources Control Board the "Case Closure Summary" is to be forwarded to you. If our agency has not received written correspondence from you, detailing problems with closure of this site, within 30 days of your receipt of this letter, our agency will mail the responsible party a "Case Closure Letter" ("No Further Action Letter").

If you have any questions, please contact Carol Oz, Senior REHS, at (209) 468-3440.

Donna Heran, REHS, Director
Environmental Health Division

Margaret Lagorio

Margaret Lagorio, Supervising REHS
LOP/Site Mitigation Unit

ML:lb

Enclosure

cc: CVRWQCB - Mark List
Responsible Party:
cc: Dorothy Haley
1311 Madison
Tracy, CA 95376

(RB30Day/97 CC Changed 09/30/97)

Z 224 364 422

ATTN MARK LIST
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD
UNDERGROUND STORAGE TANK
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3(

JUL 17 1998

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

21000 Paradise Rd Tracy
30 Day Clz Corrected

PS Form 3800, April 1995

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

21000 Paradise Rd Tracy
30 Day Clz Corrected

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

JUL 17 1998

ATTN MARK LIST
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD
UNDERGROUND STORAGE TANK UNI
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3098

4a. Article Number
Z 224 364 422

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
JUL 23 1998

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X

Is your RETUR

Thank you for using Return Receipt Service.

PS Form 3811, December 1994 102595-97-B-0179 Domestic Return Receipt

Z 224 364 421

ATTN EXECUTIVE OFFICER
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BORAD
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3098

JUL 17 1998

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

21000 Paradise Rd Tracy
30 Day Clz Corrected

PS Form 3800, April 1995

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
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- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
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21000 Paradise Rd Tracy
30 Day Clz Corrected

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

JUL 17 1998

ATTN EXECUTIVE OFFICER
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BORAD
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3098

4a. Article Number
Z 224 364 421

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

PS Form 3811, December 1994 102595-97-B-0179 Domestic Return Receipt

Case Closure Summary
Leaking Underground Fuel Storage Tank Program

I. **Agency Information** Date: 06/30/97

Agency Name: San Joaquin County Environmental Health	Address: 304 E. Weber Ave.
City/State/Zip: Stockton CA 95202	Phone: (209) 468-3440
Responsible Staff Person: Carol Oz	Title: Senior REHS

II. **Case Information**

Site Facility Name: Haley Flying Service		
Site Facility Address: 21000 Paradise Rd.		
RB LUSTIS Case No: **NA** Local/LOP Case No: 1992 Sweeps No: **NA** URF Filing Date: **5/28/91**		
Responsible Parties	Addresses	Phone Numbers
Dorothy Haley	**1311 Madison, Tracy, CA 95376**	**209-835-4725**

Tank #	Size (gallons)	Contents	Closed In-Place/Removed	Date
(1) 39-1992-01	**1000 GAL**	**REGULAR**	**REMOVED**	**5/11/90**
(2) 39-1992-02	**5000 GAL**	**Aviation Fuel**	**REMOVED**	**5/11/90**

III. Release and Site Characterization Information

Cause and Type of Release: **UNKNOWN**		
Site Characterization Complete? **YES** June 2, 1998		
Monitoring Wells Installed? **YES**	Number: 3	Proper Screen Interval? **YES**
High GW Depth(bgs): 6.71 feet	Low Depth: 12.63 feet	Gradient: NW, .0062 to **NorthNE, .002**
Most Sensitive Current Use: **BENEFICIAL USE**	Are Drinking Water Wells Affected? **NO**	
Aquifer Name: **San Joaquin River Basin** Is Surface Water Affected? **NO** Nearest Surface Water: **Irrigation ditch on site, Paradise slough 1 mile north, Old River R. North of slough**		
Off-site Beneficial Use Impacts (Address/Locations): Agricultural zone Report(s) on file with: **NA**		
Treatment and Disposal of Affected Material Purge rinsate stored in 55 gal. Drums on site		

Material: Purge rinsate	Amount (Units) Tank rinsate-300gal	Action(Treatment or Disposal w/Destination): Refineries services	Date: 5/10/90
Tank(s)	**(1) 5,000 gal aviation fuel tank and (1) 1,000gal regular gasoline tank**	**Tanks taken to Cal-Coast MFG, 424 S. Tegnor Rd., Turlock, CA**	**5/11/90**
Piping	**None associated**		
Free Product	**NONE**	**NONE**	
Groundwater	**NONE**	**PURGE WATER ONLY, DRUMMED (BARRELS, SEE BELOW)**	
Barrels		**PETROLEUM RECYCLING CALIFORNIA**	**7/21/97**

III Release and Site Characterization Information (continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup									
Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After	Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After
TPH (Gas)	0.610	ND	600	ND	Ethylbenene	41.4	ND	180	0.002
Benzene	6.50	ND	3.8	ND	Xylene	169	ND	330	0.013
Toluene	98	ND	3.9	ND	Kerosene	NA	NA	.17	.2<
Comments:									

IV. Closure

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **YES**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **YES**
Does corrective action protect public health for current land use? **YES**
Site management requirements: **NONE**
Should corrective action be reviewed if land use changes? YES
Monitoring/Vapor wells decommissioned: **3 MWs ~~not~~ decommissioned** 12/17/98
List enforcement actions taken: **NOR May 10, 1995**
List enforcement actions rescinded: **NONE**

V. Local Agency Representative Data

Name: Donna Heran	Title: Director of Environmental Health
Signature: Margaret Lagorio, Supervising ~~HMS~~	Date: 7/17/98

VI. Central Valley Regional Water Quality Control Board (RB) Notification

Date Submitted to RB: 7/23/98	Response Date: ~~N/A~~ 10/19/98
RB Staff: Mark List Title:	Response: ~~None~~ Concurrence

VII. Additional Comments, Data, etc.

This document and the related CASE CLOSURE LETTER, Shall be retained by the lead agency as part of the official site file.

CHRONOLOGY
HALEY'S FLYING SERVICE
21000 PARADISE RD.
TRACY, CA 95376

LOP SITE CODE: 1992 PROGRAM ELEMENT: 3526

February 5, 1986- EHD received payment for 4 underground tanks at this site.

March 29, 1988-Owner was notified that the UGTs are exempt to EHD regulation due to business involved with agricultural

June 6, 1989- A 1,000 gal regular UGT and a 5,000 gal aviation fuel tank were recorded by Jamie Favilla as being on site.

April 27, 1990 - Closure plan approved by EHD

May 11, 1990-Two UGTs removed this date (one 1,000 gal. Regular tank and one 5,000 gal. Aviation fuel tank), William Snavely inspector, noted petroleum odors at tank #2 location.

June 5, 1990- Soil sample results from tank #2, 5,000 gallon aviation fuel tank evidence ; Benzene=6500ppb, TPHG=610ppm, Xylene=169,250 ppb; TPH-G=610 ppm

June 27, 1990-Prop 65 and UAR filed this date.

April 21, 1991-RP search conducted by LOP staff, PHS/EHD

May 10, 1995- Site entered LOP

November 9, 1995- PHS/EHD sent comment letter to owner requiring Corrective Action Plan.

June 19, 1996- Steve Sasson, REHS observed hydro-punch investigation and soil sampling Soil sample results evidenced soil contanination at 10 feet at 150 ppm TPHG, 400ppm TPHK, 550ppm TPHA, 300 ppb Benzene, 98 ppb Toluene, 180 ppb, Ethyl Benzene, 330 ppb Xylene. Ground water samples evidenced contamination of 600 mg/l TPHG, 690 mg/l TPHK, 1300 mg/l TPHA, 2.8 mg/l Benzene, 2.5 mg/l Toluene, 4.4 mg/l Ethyl Benzene, 6.9 mg/l Xylene.

October 18, 1996- Agricultural well on site sampled, observed by Steve Sasson, REHS

October 26, 1996-Agricultural well water sample results are Non detectable

May 29, 1997- Steve Sasson, REHS, observed Monitor well 1, 2, 3, installations this date.

July 30, 1997-Initial quarterly groundwater monitoring evidenced 340 ppb TPHA in MW 2. Non detectable results for all previous contaminants.

August 25, 1997-MW's 1, 2, 3, nondetectable sample results for VOC's and BTEX, TPH-G.

December 18, 1997-Quarterly monitoring evidences kerosene at 170 ppb in MW 1, 210 ppb in MW 2 and non detectable contaminants otherwise in MW's 1, 2, 3.

March 2, 1998-PHS/EHD sent comment letter requiring quality control quality assurance laboratory records for analytical sample results; review of quarterly sampling and site investigation

April 1, 1998- PHS/EHD received all required lab documentation; began closure summary preparation for site. Contaminant concentrations are non detectable or limited (as in the case of Kerosene at 170 ppb) at this site. Contaminants are shallow, low in concentration and appear to be contained. Site appears to be low risk.

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Karen Furst, M.D., M.P.H., Health Officer
304 East Weber Avenue, Third Floor • Stockton, CA 95202
209/468-3420

file

COPY

MAR 0 2 1998

MS DOROTHY HALEY
1311 MADISON AVE
TRACY, CA

RE: HALEY FLYING SERVICE, 2100 PARADISE RD, TRACY, CA 95376
SITE CODE: 1992

San Joaquin County Public Health Services Environmental Health Division (PHS/EHD) has reviewed the Groundwater Monitoring Well Installation and Initial Sampling Report (July 30, 1997) and the Quarterly Groundwater Sampling Report (November 6, 1997) prepared by Wright Environmental Services, Inc., for the above referenced site. According to all analytical results shown in the tables of the reports, this site appears to have limited contamination.

Supporting laboratory data (quality assurance/quality control, chain of custody and sample results) were not included in the July 30, 1997 report. Also the quality assurance/quality control laboratory data was not included in the November 6, 1997 report. Submit this information immediately to PHS/EHD

If the laboratory data supports the information in the tables of the reports, PHS/EHD will consider requesting concurrence from the Central Valley Regional Water Quality Control Board for "No Further Action" at this site.

Please contact Carol Oz, Senior REHS, at (209)468-3440 if you have questions.

Donna Heran, REHS, Director
Environmental Health Division

Carol Oz

Carol Oz, Senior REHS
Site Mitigation Unit

Margaret Lagorio

Margaret Lagorio, REHS
Supervisor

cc: SWRCB, Underground Tank Section-Mel Jacobo
cc: CVRWQCB, Central Valley Region-Pat Anderson
cc: Wright Environmental Services, Inc.-Chris Palmer

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer
304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

SEP 0 9 1996

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the July 26, 1996 Reconnaissance Site Investigation prepared by Wright Environmental Services, Inc. for the above referenced site.

The results of the investigation reveal the presence of a petroleum hydrocarbon plume with the aviation gas fuel tank as the source. Wright Environmental was unable to determine the eastern extent of the plume during this phase of the investigation. The recommendation in the report is to install three monitoring wells in a triangular formation. PHS/EHD concurs with this recommendation.

PHS/EHD recommends that a water sample, obtained from the on site agricultural supply well, be analyzed for all contaminants of concern including MTBE, prior to the installation of the three monitoring wells. PHS/EHD recommends that the location of this well be depicted on all future site maps.

PHS/EHD recommends that a workplan describing the installation of three monitoring wells, and a method to gather data to determine the feasibility of natural attenuation as a remedial alternative, be submitted to this agency by October 31, 1996. After PHS/EHD approval, the workplan should be submitted to the State Water Resources Control Board (SWRCB) Cleanup Fund staff for reimbursement pre-approval.

For additional information please contact Steven Sasson at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Margaret Lagorio, REHS
Supervisor

SS

c: SWRCB, Underground Storage Tank Section - Mel Jacobo
c: CVRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Chris Palmer

STATE OF CALIFORNIA

OFFICE MEMO
STD 100 (REV 10/87)
87 46331

DATE 6/22/95

TO Steve Sasson
S.J. Co. - Env. Health

ROOM/STA. NO

FROM: Don Mandel

PHONE NUMBER (916) 255-3667 ATSS ☐

ROOM/STA. NO.

SUBJECT: Haley Flying Service.

RECEIVED
JUN 26 1995
ENVIRONMENTAL HEALTH
PERMIT SERVICES

Steve,

Attached are copies of our PA and EPA's review of our PA. I also included some field notes & photos.

I talked to Gary Del Carlo, who is President of Haley's today and he said either the State or County did extensive sampling in early 1988 as a result of a complaint. He said the samples were all clean but we have no record in our files of any sampling.

Put your thoughts to work. Submit a **MERIT AWARD SUGGESTION.**

RECEIVED
JUN 26 1995
ENVIRONMENTAL HEALTH
PERMIT/SERVICES

PRELIMINARY ASSESSMENT

Haley Flying Service
21000 S. Paradise Road
Tracy, CA 95376

ASPIS # 39-07-0037

Prepared by: California Department of Health Services
Toxic Substances Control Division
Northern California Section

Scott A. Flint
Hazardous Materials Specialist

Date: February 1988

SITE DESCRIPTION

The Haley Flying Service Inc. Site (site) is located approximately two miles northeast of the City of Tracy, in San Joaquin County, California [Map 1] (1). The current site address is 21000 S. Paradise Road, Tracy, CA 95367. The site occupies a 9.78 acre parcel (APN #213-06-13) in projected Section 14, T2S, R5E MDB&M [Map 2] (2). The zoning designation for the parcel is general agriculture with a 40 acre minimum parcel size (GA-40) (3).

The site contains a trailer house, two large storage buildings and one small storage shed, a fenced container storage area and concrete sump, runway, and a concrete wash down pad [Map 3] (4). The use of the trailer house is unknown. The western most storage building appears to be abandoned. The second large building is used to store materials and loading equipment. Various bags and barrels were observed inside, through an open doorway. Directly adjacent (east) of the active storage building is a fenced container storage area. Various containers and pallets were stacked here. At the north end of this area, within the fence, is a small concrete sump. The small storage building is located on the north eastern end of the property next to the wash down pad. The shed sits elevated on a concrete dock. Herbicide containers (55 and 5 gallon) were present on the dock. Plane fueling facilities are also located here. The concrete wash down pad, well and a large tank are located outside the eastern fence line. The runway is oriented east to west, on the south side of the buildings, and parallels Pescadero Road. The site is partially paved, including the runway. The site is secured by a chainlink fence on the north side and short portions of fencing between buildings on the south side (4).

The site is the location of an active, registered pesticide control/aerial applicator business (3). Tax roll information from the San Joaquin County Assessor's Office indicates that the property owner is Haley, Jean E. (in trust), 1311 Madison, Tracy, CA 95376 (2).

APPARENT PROBLEM

This site has reportedly been used as a base for aerial application for over 20 years (5). On January 13, 1981 a fire was reported in an on-site warehouse which stored pesticides. Chlordane and parathion reportedly burned. Water from fire fighting operations, contaminated with Guthion, Lannate, malathion and thimate, flooded the parking lot (6).

The California Department of Health Services (DHS) issued an Emergency Hazardous Waste Permit (EHWP #1-0483) for the transport and disposal of the contaminated water. The cleanup of the area immediately around the hanger was reportedly accomplished by IT

Corporation on February 3, 1981 (6). No details on the cleanup operation were available in DHS, Central Valley Regional Water Quality Control Board (CVRWQCB) or County Health files.

A DHS field visit on February 3, 1981 noted that the burnt hangar had holes in the roof, and that broken and torn bags of insecticide were all over the floor of the building. Additional cleanup at the site would require demolition of the building and disposal of tin and concrete contaminated with pesticide residues. After repeated delays, the cleanup was reportedly completed by January 28, 1982 (6). No additional details on the cleanup operation were available in DHS, CVRWQCB, or County Health files.

A DHS Drive-By on September 20, 1982 noted the presence of a crusted yellow-white substance in a low-lying spot near the wash down pad (7). A subsequent DHS Drive-By on December 29, 1987, noted spillage of an orange-yellow powder in the same vicinity (4).

The CVRWQCB has indicated that the rinse water disposal facilities in use at the site do not comply with Subchapter 15, Title 23 of the California Administrative Code (CAC). Although the current system appears to be effective in handling rinse water, it is unknown whether or not capacity problems exist (5).

No on-site inspections have been made at the site by DHS since 1982.

HRS FACTORS

OBSERVED/POTENTIAL RELEASE

No analytical data is currently available to document an observed release at the site.

A potential release to soils and groundwater may have occurred, due to runoff from the fire fighting operation in 1981; from the spillages observed in 1982 and 1987; and from past or present pesticide rinse water disposal practices.

DIRECT CONTACT/FIRE AND EXPLOSION

The risk of direct contact exposure to on-site wastes is slight. The pesticide container storage area and waste water sump are fenced and access is restricted. There is unrestricted access to areas near the wash down pad where spillage has been observed (4).

The cause of the 1981 fire at the site is unknown. The pesticides stored at the site are normally stable compounds and are not considered fire or explosion hazards.

WASTE TYPE/QUANTITY

Wastes at the site may include soils contaminated with the pesticides Guthion, Lannate, malathion, thimate, parathion and chlordane (6). From the description of observed spillages it is likely that they involve sulfur products for dry application. In 1985, it was reported that 40% of Haley's business activity was dry application (5). HRS Toxicity/Persistence scores are available for the following substances which may be contaminating on-site soils (8).

Substance	Toxicity	Persistence	Matrix Score
chlordane	3	3	18
parathion	3	0	9

The additional pesticides, Guthion, Lannate, malathion and thimate are highly toxic but are not considered to be highly persistent.

A DHS survey questionnaire received from Haley in 1982 indicated that they produced between 800 pounds to 4 tons of waste pesticide containers. The containers were reportedly hauled off-site by Bonz, Inc. (Modesto) and Delta Containers of Stockton for disposal. The disposal location was not reported (9). No other waste quantity information is currently available.

GROUNDWATER

Geohydrological Investigations for Defense Depot Tracy were completed by Radian Corporation in August 1986 (10). Defense Depot Tracy is located approximately 3.5 miles south of the site. This data is the basis for the regional groundwater information presented here.

The Tracy area is located on an alluvial plain. Soil descriptions indicate that silty clay and clayey silty sand are predominant in the area.

The primary water bearing strata in the area is the Tulare Formation. The formation generally consists of unconsolidated, poorly sorted lenticular deposits of clay, silt, sand and gravel. Beds and lenses of clay are interfingered with silt and sand throughout the region. The Tulare Formation is separated into an upper, unconfined aquifer and a lower, confined aquifer by Corcoran Clay. The Corcoran Clay consists of geographically extensive deposit of red to light brown clay, with interbedding layers of sand and silt.

Groundwater in the upper aquifer occurs under primarily unconfined conditions. Localized areas of semi-confined and confined conditions exist, due to variations in regional stratigraphy. On a regional basis, the unconfined aquifer lies

between 15 and 250 feet below ground surface. Mapping of groundwater surface elevations in the unconfined aquifer for spring 1987 indicate that the general direction of movement near the site is to the north and northeast (11). Groundwater quality in the unconfined aquifer is variable. Some areas are reportedly too saline for most beneficial uses and other areas support private domestic and irrigation uses. Information from the Department of Water Resources (DWR) well logs indicate that shallow wells near the site are drawing water from the upper aquifer for private domestic use (12).

Well logs were collected for 14 wells within a one-mile radius of the site. Twelve of the wells were listed for private domestic use. The uses of the other wells were not listed. No estimate of the exact number of people served by groundwater was available.

The log for an on-site well indicates that alternating layers of sand and clay are present beneath the site to a depth of 83 feet. Substantial layers of sand and gravel occur between 83 and 120 feet. Additional well logs indicate that subsurface strata include alternating layers of clay and sand to a depth of approximately 200 feet, with a major clay body occurring from 200 to 275 feet.

The local wells have an average completion depth of 110 feet and screen depths ranging from 53 to 126 feet. Twelve of the wells were reported as gravel packed at depths ranging from 0 to 126 feet. The logs indicate that depth to groundwater has varied from 10 to 21 feet, depending on the time and location that specific wells were drilled.

In summary, the limited hydrogeologic information presented above indicates that the depth to the aquifer of concern beneath the site is approximately 10 feet. The aquifer is unconfined to a depth of approximately 200 to 250 feet. The geologic composition and the lenticular, interbedding nature of the deposits in the aquifer suggest extensive interconnection and an overall moderate rate of permeability in the unsaturated zone. Well construction specifications indicate that local wells are drawing shallow water from the aquifer for private domestic use. The aquifer beneath the site is vulnerable to contamination and in this rural area, alternate drinking water supplies are not readily available.

Precipitation data for Tracy was not immediately available. Data for the Stockton area, located approximately 15 miles to the northeast, has been substituted. The record mean precipitation as reported by NOAA for Stockton, CA (record years 1957-1986) is 14.18 inches (13). Annual evaporation (lake equivalent) as reported by DWR for Stockton Mowry Bridge station (record years 1955-1963), is 46.7 inches (14). The net annual precipitation is -32.52 inches.

Seasonally, the months of December, January and February receive the greatest rainfall. The record mean precipitation for this period is 2.44 inches. Mean evaporation for this period is 0.66 inches. The net precipitation is 1.75 inches (13,14).

SURFACE WATER

The nearest surface water is Tom Paine Slough which lies approximately 0.6 miles northeast of the site at its closest downgradient point. Slope from the facility to the slough is <1% (approximately 20 ft/mile). Excessive runoff from the site could potentially reach the slough.

The maximum 24 hour rainfall for Stockton, CA was 3.01 inches, recorded in January 1967 (13).

OTHER FACTORS

Land Use and Demographics

Land use zoning within one-mile of the site is general agricultural (GA-40). There are scattered residences associated with the ranches and farms in this area. The County General Plan indicates that the primary land use will continue to be agricultural. A majority of the parcels are Williamson Act lands, with changes in land use limited by Federal legislation (3).

The projection of a three mile radius around the site encompasses portions of San Joaquin County Census Tracts 52.01. 52.02, 53.03, 53.04 and 54. As calculated from San Joaquin County 1980 traffic zone data, the population within three miles of the site is approximately 17,861 (15).

Underground Tanks

County Health files indicate that two underground fuel storage tanks exist at the site. A 5,000 gallon tank holds aviation fuel and a 1,000 gallon tank holds regular gasoline (16). No information was available on the construction or integrity of the tanks.

CONCLUSIONS/RECOMMENDATIONS

This site has reportedly been used as a base for aerial application for over 20 years. On January 13, 1981 a fire was reported in an on-site warehouse which stored pesticides. Chlordane and parathion reportedly burned. Water from fire fighting operations, contaminated with Guthion, Lannate, malathion and thimate, flooded the parking lot. A DHS field visit on February 3, 1981 noted that the burnt hangar had holes

in the roof, and that broken and torn bags of insecticide were all over the floor of the building. Additional cleanup at the site would require demolition of the building and disposal of tin and concrete contaminated with pesticide residues. After repeated delays, the cleanup was reportedly completed by January 28, 1982. No additional details on the cleanup operation were available in DHS, CVRWQCB, or County Health files. In addition, only limited information is available about either past or present hazardous material storage or the types, quantities and disposal practices associated with hazardous wastes produced at the site.

Groundwater in the upper, unconfined aquifer near the site is used for private domestic supply. Groundwater is found at relatively shallow depths in this aquifer and any residual sub-surface soil contamination or surface contamination from on-going operations at the site could potentially threaten local groundwater quality.

Current information and analysis of the hazard ranking factors indicate that the site will not score for inclusion on the National Priorities List (NPL). However, based on the limited knowledge of past and present hazardous materials handling and waste disposal practices, the site cannot be considered free of contamination without further investigation.

EPA RECOMMENDATION

Recommendation at the Federal level is no further action under CERCLA, as the site will not score on the NPL without additional information.

DHS RECOMMENDATION

Recommendation at the State level is a medium priority site investigation (SI). The SI should be directed to address the following points and determine if a release to the environment has occurred.

1. Gather additional information regarding hazardous materials and/or waste storage, handling and disposal practices through interview and examination of Haley Flying Service business files.

2. Gather additional information on the post fire cleanup reported at the site by discussion with the owners and by review of IT Corporation reports and analytical data.

3. Gather additional information on the local hydrogeology and groundwater use near the site to evaluate possible threats to groundwater from potential soil contamination.

P.A. REFERENCES

1. Union Island, CA Quadrangle, 7.5 minute. U.S. Geological Survey (USGS). 1978.

2. Assessor's Parcel Map #213-06 and tax roll information. County of San Joaquin.

3. Notes to file from file search and discussion with San Joaquin County Agencies. January 11, 1988.

4. Site Drive-By Record S. Flint and K. Hughes. DHS, Toxic Substances Control Division. December 29, 1987.

5. CVRWQCB Memorandum. San Joaquin County Pesticide and Fertilizer Rinsewater Disposal Sites. May 13, 1985.

6. Hazardous Waste Surveillance and Enforcement Report, Haley's Flying Service. DHS, January 14, 1981 thru January 28, 1982.

7. San Joaquin County Drive-By Record, Haley's Flying Service. DHS, Abandoned Site Program, September 20 1982.

8. Uncontrolled Hazardous Waste Site Ranking System - A User's Manual. The MITRE Corporation. August 1982.

9. Site Survey Questionnaire, Haley Flying Service, Inc. Submitted August 16, 1982.

10. Geohydrological Investigations, Final Engineering Report, Defense Depot Tracy. Radian Corporation, August 1986.

11. San Joaquin County Flood Control & Water Conservation District, Semi-Annual Groundwater Report. Spring 1987.

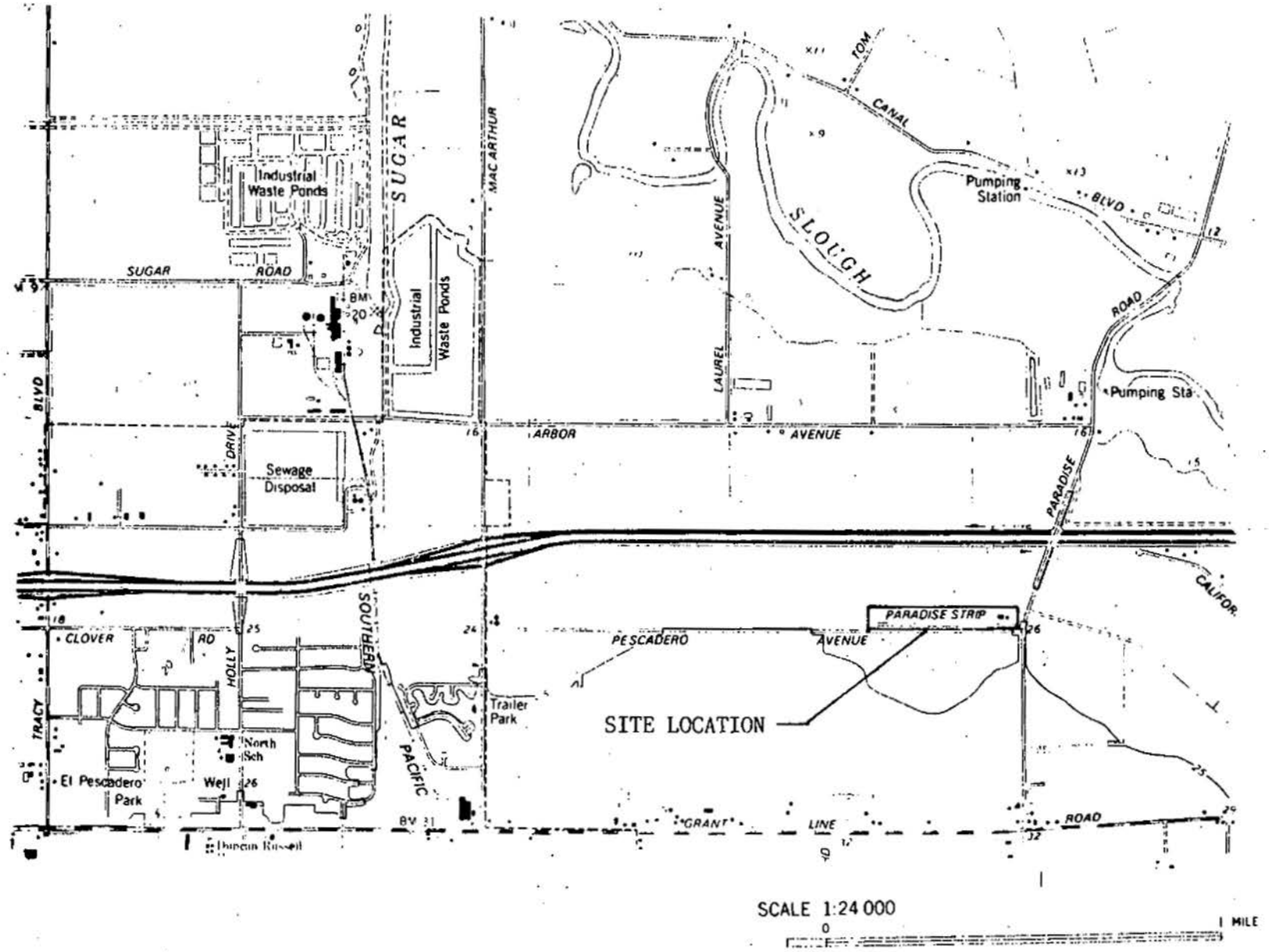
12. DWR Water Well Drillers Report. Confidential.

13. Local Climatological Data-Annual Summary with Comparative Data, Stockton, California. NOAA 1986.

14. Evaporation from Water Surfaces in California. DWR Bulletin 73-79. November 1979.

15. Traffic Zone Data and Maps for San Joaquin County-1980. San Joaquin County Council of Governments.

16. Underground Tank File for Haley Flying Service. San Joaquin County Environmental Health Division.

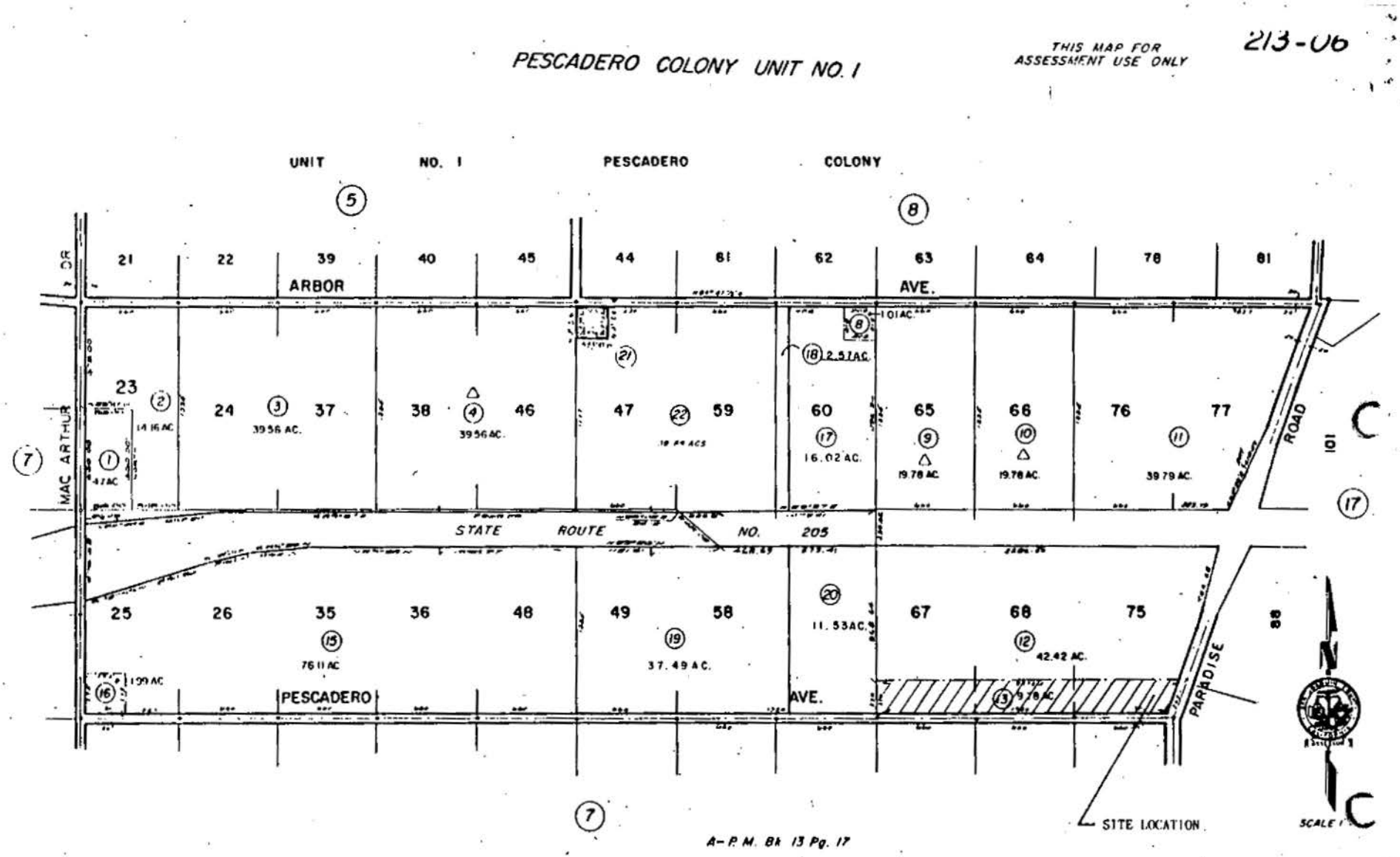


Map 1. Haley Flying Service
Tracy, San Joaquin County

proj. Section 14, T2S, R5E, MDB&M
Latitude: 37° 45' 43" N
Longitude: 121° 23' 45" W

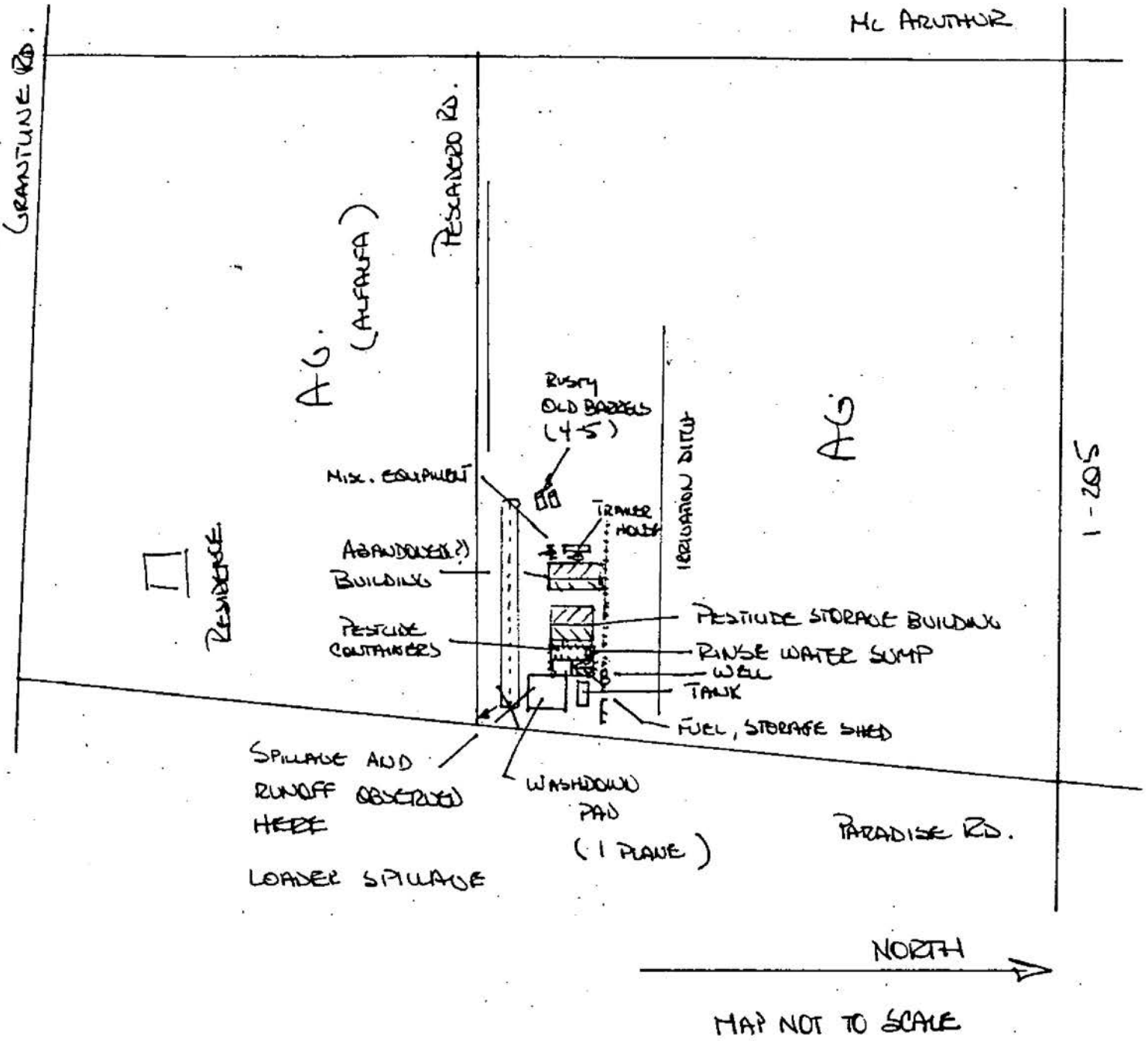
N

UNION ISLAND, CALIF.
SW/4 STOCKTON 15' QUADRANGLE
N3745—W12122.5/7.5
1978
AMS 1759 IV SW--SERIES V895



Map 2. Haley Flying Service
Tracy, San Joaquin County

APN: #213-06-13



Map 3. Haley Flying Service
Tracy, San Joaquin County

Map from DHS Site Drive-By and perimeter survey.
MAP NOT TO SCALE.

160 Spear Street, Suite 1380
San Francisco, California
94105-1535

415/957-0110

ICF TECHNOLOGY INCORPORATED
MEMORANDUM

TO: Paul La Courreye, U.S. Environmental Protection Agency (EPA)

FROM: Rick Dreessen, ICF Technology, Incorporated

DATE: September 7, 1988

SUBJECT: Review of the Preliminary Assessment of Haley Flying Service, prepared by Scott A. Flint of the California Department of Health Services, dated February 1988.

EPA ID#: CAD046005484

THROUGH: Tom Beer, Ecology and Environment, Incorporated J.W.B

COPY: FIT Master File
Don Plain, California Department of Health Services, Sacramento

Summary

The preliminary assessment adequately addresses information necessary for the completion of this section. The 9.78 acre Haley Flying Service Incorporated Site is located approximately two miles northeast of the City of Tracy, in San Joaquin County, California. The site address is 21000 S. Paradise Road, Tracy, California 95367. The site contains a trailer house, two large storage buildings, one small storage shed, a fenced container storage area, a concrete sump, one runway, a hangar, and a concrete wash down pad. The site is partially paved, and is secured by a chainlink fence.

The site is the location of an active, registered pesticide control/aerial applicator business. Products stored on site include leaded gasoline, aviation fuel, and the pesticides Guthion, Lannate, malathion, thimate, parathion, and chlordane. This site has been used as a base for aerial application for over 20 years. On January 13, 1981, a fire occurred in an on-site warehouse which stored pesticides. Water from fire fighting operations, contaminated with Guthion, Lannate, malathion and thimate, flooded the parking lot. The California Department of Health Services (DOHS) issued an Emergency Hazardous Waste Permit for the transport and disposal of the contaminated water. The cleanup of the area immediately around the hanger was reportedly accomplished by IT Corporation on February 3, 1981.

A DOHS field visit on February 3, 1981 noted that the burnt hangar had holes in the roof, and that torn bags of insecticide were all over the floor of the building. Additional cleanup at the site required demolition of the building and disposal of

A/C

tin and concrete contaminated with pesticide residues. After repeated delays, the cleanup was reportedly completed by January 28, 1982.

DOHS drive-bys conducted on September 20, 1982 and December 29, 1987 noted the presence of a crusted yellow-white substance in a low-lying spot near the wash down pad. According to the prelimianry assessment the observed spillages involved sulfur products for the dry application of pesticides. Forty percent of Haley's business activity in 1985 was dry application. In addition, the California Regional Water Quality Control Board, Central Valley Region has indicated that the rinse water disposal facilities (concrete sump and collection system) in use at the site did not comply with Subchapter 15, Title 23 of the California Administrative Code. Although the current system appears to be effective in handling rinse water, it is unknown whether or not capacity problems exist.

RCRA Status

The site is listed in the Resource Conservation and Recovery Act database as a generator of hazardous waste. This information was not addressed in the preliminary assessment.

HRS Factors

The preliminary assessment did not adequately address the information necessary to complete this section. HRS factors for ground-water and surface water were supplemented by FIT. The air route was not addressed.

Hydrogeologic information indicates that the depth to the aquifer of concern beneath the site is approximately ten feet. The aquifer is unconfined to a depth of approximately 200 to 250 feet. There are 12 domestic wells within one mile of the site which draw water from the aquifer for private domestic use. Alternate drinking water supplies are not readily available. There are no City of Tracy municipal drinking water wells within three miles of the site.

No analytical data is currently available to document an observed release at this site. The potential for release to ground water appears to be high due to possible inadequacies in the waste disposal system, past spillage to soil, shallow water table (< 10 feet), and the high permeability of the overlying unsaturated zone. The nearest surface water is Tom Paine Slough which lies approximately 0.6 miles northeast of the site at its closest point. The one year, 24-hour rainfall is 3.0 inches and the slope of the facility is less than one percent. A potentail release to surface water appears to be minimal.

Recommendations/Justifications

1. EPA

The Department of Health Services preliminary assessment recommended no further action be taken at this site under CERCLA. FIT concurs with this recommendation. The site is not eligible for inclusion on the NPL because of low potential ground-water and surface water target populations.

AGENCY CONTACT RECORD

Site Name: HALEY FLYING SERVICE Preparer Name: SCOTT FLINT

Facility File Number: 39-07-0037

AGENCY	CONTACT	DATE	RESPONSE
SAN JOAQUIN CO. ENVIRONMENTAL HEALTH 1601 E. HAZELTON STOCKTON, CA 95201 (209) 468-3432	DONNA HERAN SENIOR R.S.	12-30-87 1-11-88	COUNTY HAS HAZARDOUS WASTE FILES AND/OR U.G. TANK FILES ON SOME OF THE SITES OK TO VIEW. BREA AG FRESNO CAMP HAZ. WASTE FILE. BREA AG. STOCKTON ? HALEY FLYING SERVICE U.G TANK FILES.
SAN JOAQUIN CO. ASSESSOR (209) 944-3401	INFO. DESK	12-30-87	PARCEL MAPS AND TAX INFO AVAILABLE ON MICROFICHE.
CENTRAL VALLEY RWQCB 3443 ROUTIER RD SACTO, CA 95827-3098	GARY REGATS JOHN HENKE (916) 361-5703	1-6-88	OK TO VIEW AVAILABLE FILE INFO. SMALL FILE ON HALEY FLYING SERVICE
DEPT OF WATER RESOURCES 3251 S STREET SACTO. CA. 95816	BETTY SWATSENBARG 322-7171	1-6-88	WELL LOGS AVAILABLE OK TO COPY.

AGENCY CONTACT RECORD

Site Name: HALEY FLYING SERVICE Preparer Name: SCOTT FLINT

Facility File Number: 39-07-0037

AGENCY	CONTACT	DATE	RESPONSE
SAN JOAQUIN CO. DEPT OF AGRICULTURE 1868 E HAZELTON AVE. STOCKTON CA 95201	RAY WAHOWEY DEPUTY AGRICULTURAL COMMISSIONER 468-3300 (209)	1-11-88	WILL CHECK RECORDS FOR ANY BREA AG RECORDS. WILL CHECK FOR INFO ON FIRE AT HALEY FLYING SERVICE IN 1981
SAN JOAQUIN CO. FLOOD CONTROL AND WATER CONSERVATION DISTRICT	INFO. DESK	1-11-88	SOME - ANNUAL GROUNDWATER REPORTS AVAILABLE SPRING 1987.
SAN JOAQUIN CO. PUBLIC WORKS BUILDING & PLANNING 1810 E. HAZELTON AVE STOCKTON CA 95205	JIM VAN BUREN	1-11-88	CHECK PARCEL ZONING AND GENERAL PLAN - LAND USE.

ABANDONED SITE PROGRAM DRIVE-BY RECORD

Site Name: HALEY FLYING SERVICE INC.

Site Location: 21000 S. PARADISE RD. (CORNER OF PESCADERO)
TRACY, CA. 95376

Facility File Number: ASAS # 39-07-0037

1. Status: a. Active (H) b. Different company _____
Inactive ( )

2. Setting: a. Urban ( ) b. Residential ( ) c. Near:
Suburban ( ) Commercial ( ) RR tracks ( )
Rural ( ) Industrial ( ) Drainage (H)
Agricultural (H) _____ Freeway (H)

d. Paved ( ) e. Unrestricted access ( )
Partial pave (H) Restricted access PARTIALLY - SOME AREAS FENCED
Unpaved ( )

3. Waste Containment a. Pond (H) Trash can ( ) b. Stored on: Ground (H) IN BUILDING
Pit ( ) Dumpster ( ) Paving ( )
Ditch ( ) Bag/Sack (H) Pallet (H)
Pail/Can ( ) Piled ( ) 2ndary contain. ( )
Drum/Bbl (H) Scattered ( )
Tanks ( )

4. Waste Description (Quantities, labeling) a. Inert ( ) Solid (H) b. Color YELLOW - ORANGE
Garbage ( ) Sludge ( )
Indstrl ( ) Liquid ( ) SPILLAGE FROM LOADER

5. Misc. a. Site observability GOOD b. Odors SLIGHT PESTICIDE ODOR
c. Vegetation NONE d. Topography FLAT - GRADED

6. Land Use (Surrounding area): SURROUNDED BY AG LANDS.
SINGLE FAMILY RESIDENCES - SCATTERED.

7. Distance to surface water (including intermittent streams): _____

IRRIGATION DITCH 10-20 FT. NORTH ; SLOUGH < 0.5 mi N.

8. Distance to food processing/packaging or agricultural production:

AG PRODUCTION < 100 FT.

9. Proximity of day care centers, hospitals, nursing homes, schools or other "sensitive" populations:

NONE IN IMMEDIATE VICINITY

10. Estimate the number of people living and/or working in the immediate vicinity of the site.

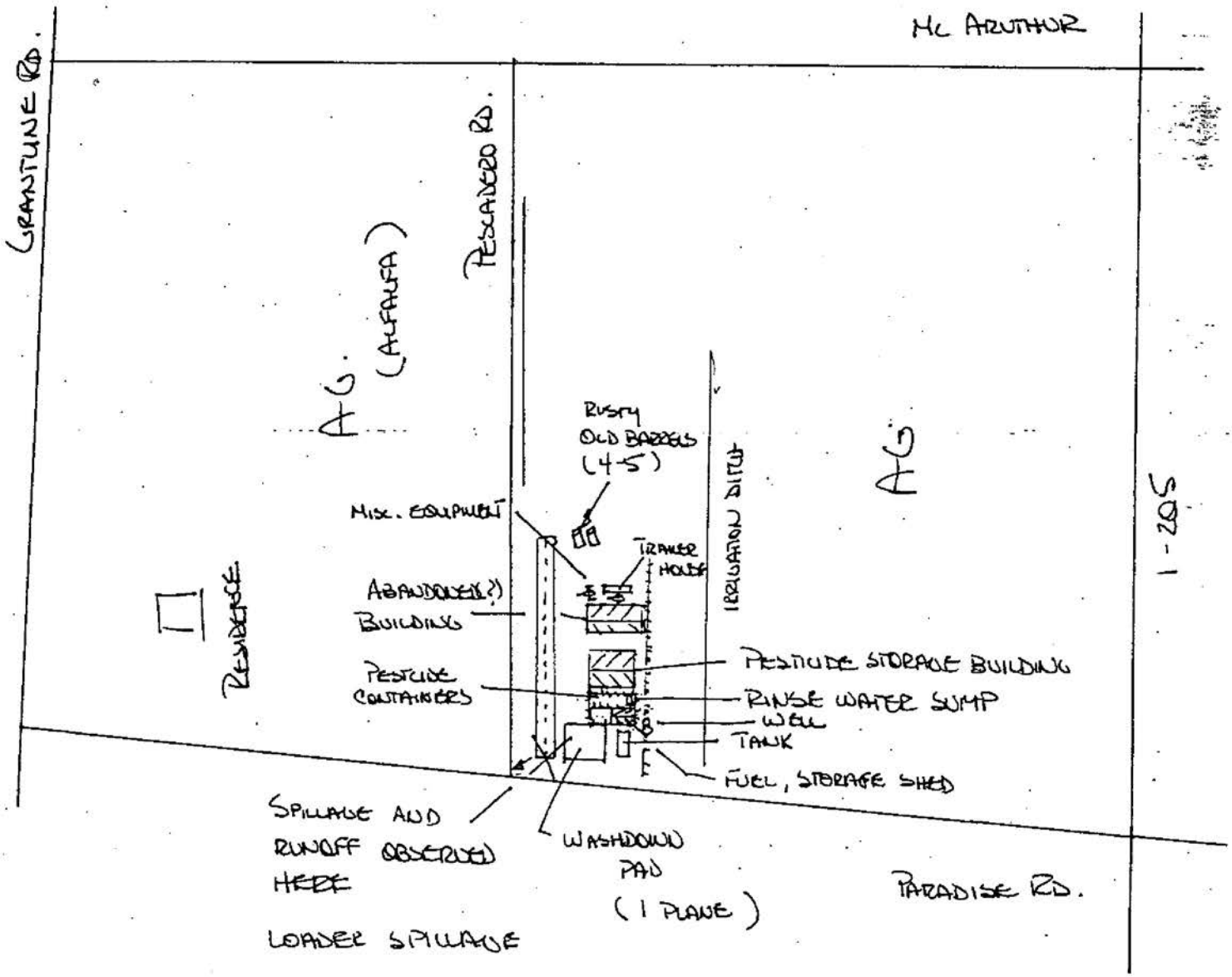
≈ 110 EMPLOYEES (5 CARS)

11. Proximity to sensitive environment/ecosystem? (list) _____

STATUS OF SLOUGH UNKNOWN -

12. Map & Comments — Present a graphic site description. Draw, describe, and comment on the following: buildings, paving, storage (raw materials, products, and/or wastes), security, vacant areas, and housekeeping practices. Identify streets, landmarks, and directions. Label other pertinent data.

SITE LOCATED ON CORNER OF PARADISE AND PESCADERO RDS. 2 LARGE, 1 SMALL STORAGE BUILDING, TRAILER HOUSE. WESTERN MOST BUILDING NEAR (TRAILER HOUSE) APPEARS ABANDONED. OTHER BUILDING USED FOR STORAGE, BAGS AND BARRELS OBSERVED INSIDE + LOADER. FENCED CONTAINER STORAGE ADJACENT TO ACTIVE BUILDING. SMALL STORAGE BUILDING NEAR WASHDOWN PAD. HERBICIDE CONTAINERS (55 GAL) ON DOCK. PLANE FUELING AREA. CEMENT WASHDOWN PAD CRACKED, NOT FENCED (E END). SPILLAGE OF ORANGE-YELLOW SOLID WAS OBSERVED AT E END OF RUNWAY. DRAINING TO A LOW SPOT SE CORNER OF RUNWAY. 4-5 OLD BARRELS OBSERVED ALONG NW RUNWAY FLANK, NO VEG. ALONG RUNWAY. SITE PARTIALLY PAVED - LOW SECURITY FENCE. SMALL CONCRETE SUMP AND A WELL ON-SITE.

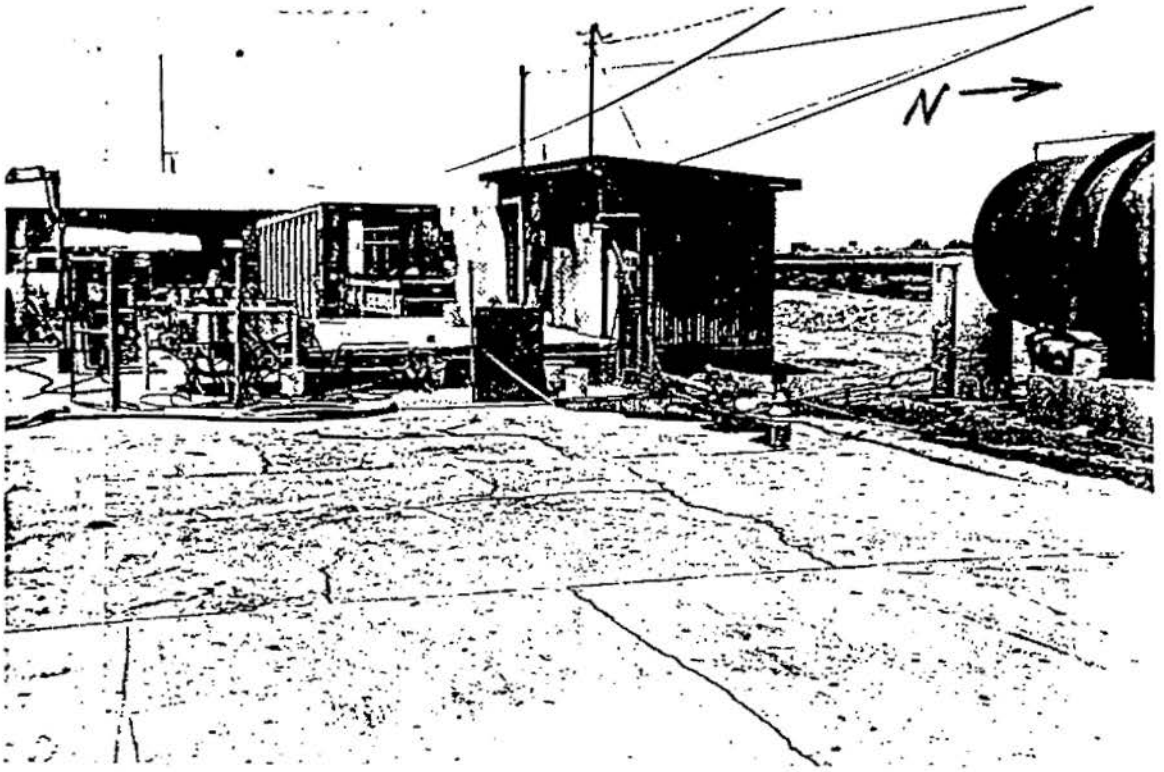


Name: Scott D. [illegible]

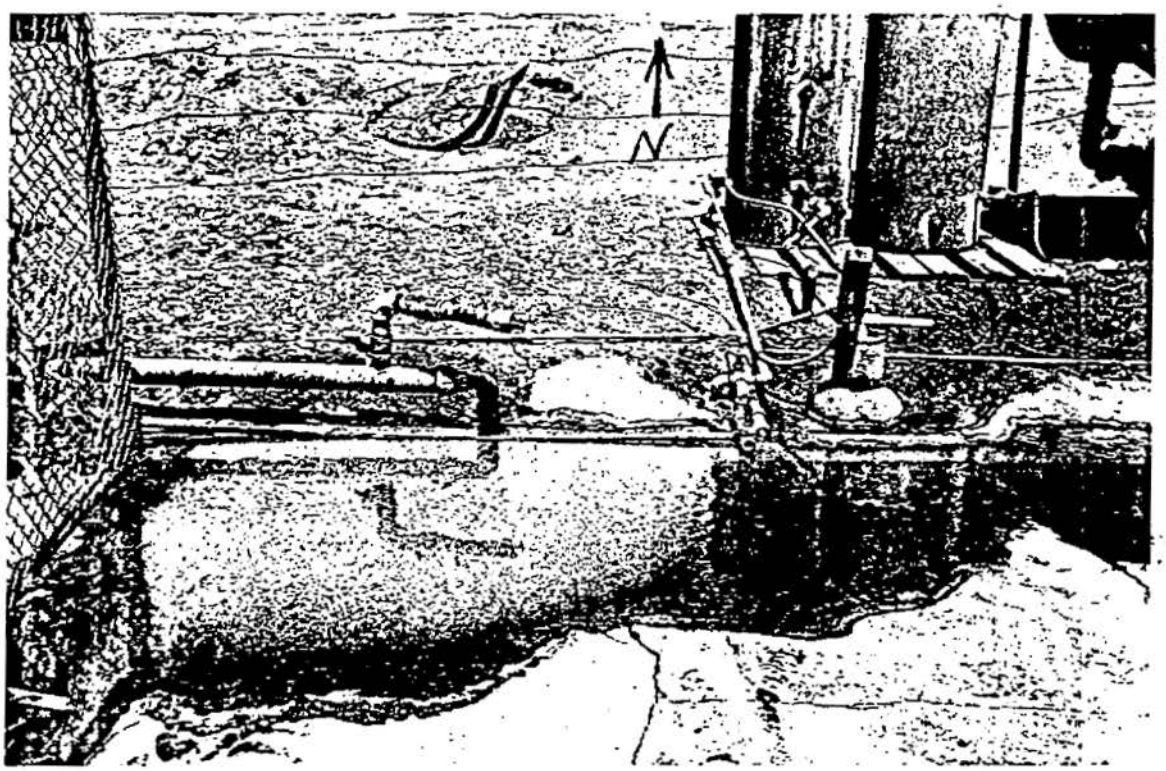
Date: 12-29-87

Haley Flying Service, Tracy, San Joaquin County

JLM
4 June 1987



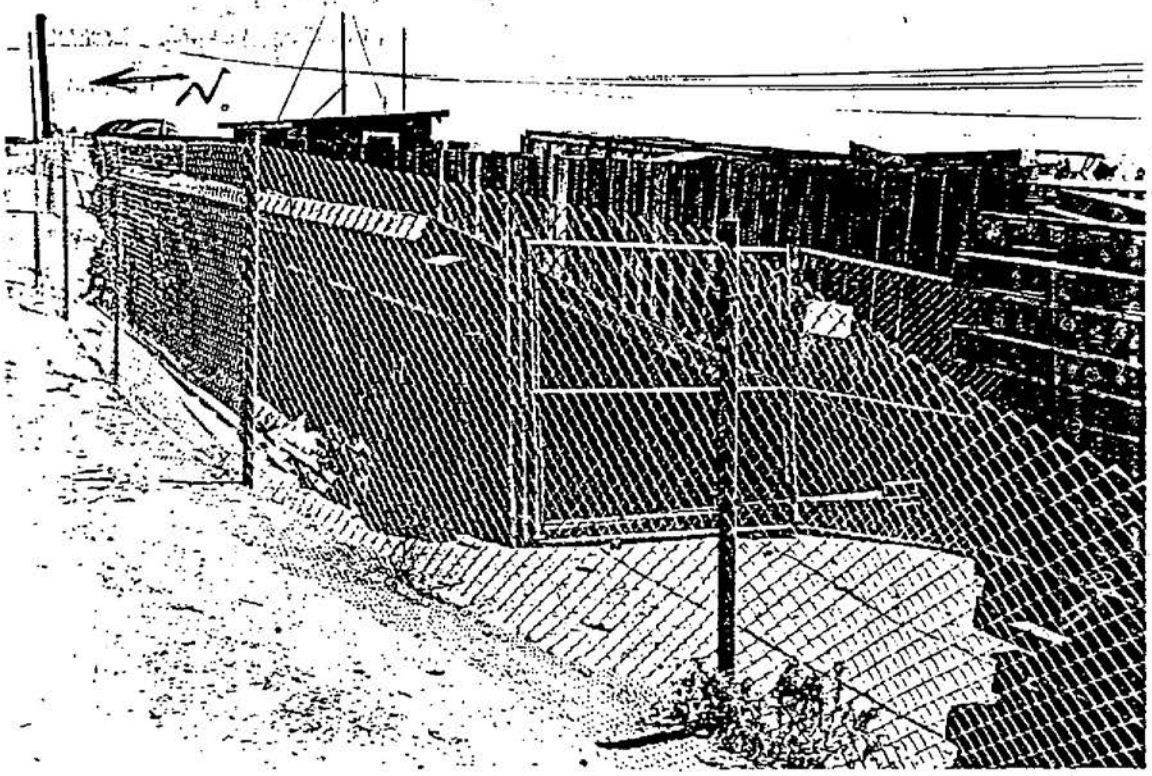
← Application equipment (aircraft) are washed on a cracked concrete slab which drains to a sump in the northwest corner.



← Sump in the northwest corner has a pump which discharges to above ground steel pipe

1/2

Haley Flying Service



← Discharge from sump is to in-ground concrete tank located northwest of washpad. Tank is covered and there used to be a system to enhance evaporation by pumping rinse water onto cover by solar evaporation.



← Concrete sump had adequate freeboard at time of inspection. Unknown if capacity problems exist and, if so, how they are resolved.

FIELD PHOTOGRAPHY LOG SHEET

DATE 12-29-87

TIME 1:30 A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

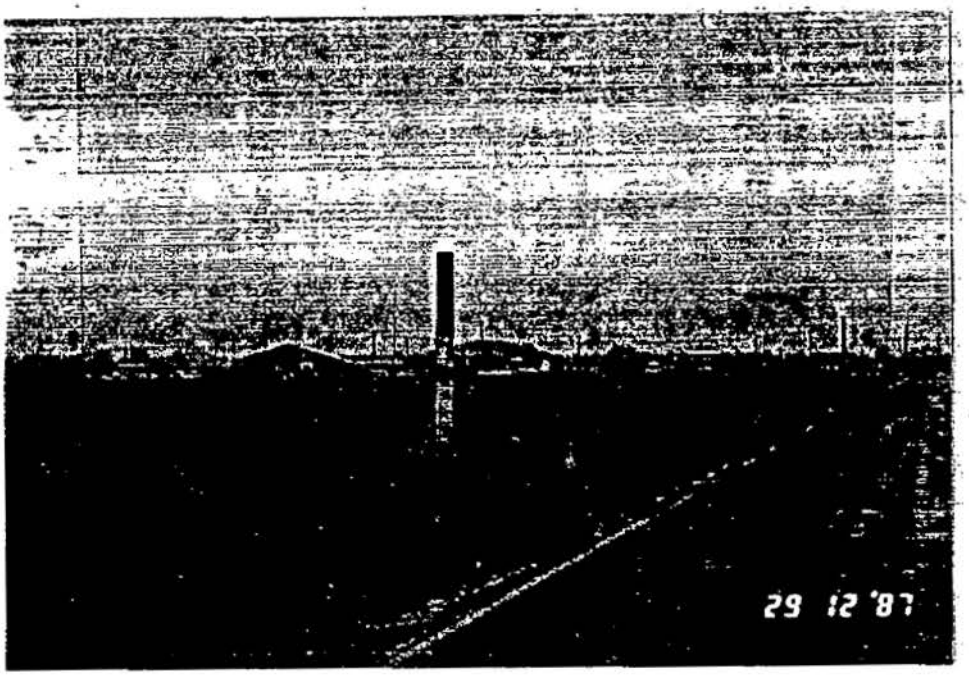
WEATHER overcast-lt. rain

SITE Haley Flying Service
Tracy CA

PHOTOGRAPHED BY:

S. Flint

SAMPLE ID# (if applicable)
NA



DESCRIPTION: Overview of site, looking from south to north.

DATE _____

TIME _____ A.M. (P.M.)

DIRECTION: N NNE NE ENE
E ESE SE SSE
S SSW SW WSW
W WNW NW NNW

WEATHER _____

SITE _____

PHOTOGRAPHED BY:

SAMPLE ID# (if applicable)

DESCRIPTION: _____

SAN JOAQUIN COUNTY

DRIVE-BY RECORD

Site Name Haleys Flying Service

Address 21000 S. Paradise Rd
Tracy CA 95376

Date Conducted 9-20-82

Staff Person Responsible A. Schmit

OBSERVATIONS: Haleys airstrip is NE of Tracy, just south of I-205, in a rural area. The airstrip runs along the north side of Pescadero Rd. and has dirt easement on both sides. There was standing water in puddles between the runway & Pescadero Rd; however, it had rained a few days previously, so this may have been rainwater runoff. There is a chain-link enclosure at the west end of the runway, containing what appear to be discarded pesticide containers. North of the runway 4 planes are parked. At the east end of the runway, along Paradise Rd., is a sloped concrete area with a plane parked on it. In a low spot at the bottom of the slope there is a crusted yellow-white substance. There is also another large puddle near the sloped concrete, with a length of hose lying on the ground next to it. It looks as though this may be used as a washdown area. There's another chain link enclosure near this containing various-sized drums of pesticide. Follow-up is needed re: possible disposal of washwater.

Photos taken? yes film info 3 shots

Entered in DRIVE-BY LOG: 9-22-82 (date) 354 (#).

COMPANY NAME AND LOCATION Jeff Flying Service (21000 S. Paradise Ave) P.O. Box 1049/ 21000 S. Paradise Rd. Tracy CA 95376

Staff person doing research _____

FOLLOW-UP INFORMATION SHEET

(I) Records Search

Agency	Contact	Date contacted (phone/visit)	Outcome
HWMB Enf.	'Incidents' file	3-18-82	Pesticide-contaminated wash water & soil from a warehouse fire 1-13-81 was not cleaned up till late '81 (HWMB inspection 1-28-82) - see attached
RWQCB	Bob Fujii	4-5-82	UIC questionaire sent but not received
Div. of Aeronautics	private airstrip listing	—	There are 5 aircraft based at the strip - have 300 operations/yr
CDFA	PCO & Ag Pilot listings		Facility is a licensed PCO and spray pilot.
Co. contact	SEC	11-12-82	Mr. Del Carlo will call back. Called for Q follow-up.
"	Gary Del Carlo	11-12-82	No rinsewater @ site. All mixing is done in field or in closed systems.

II) Site Activities

☐ Abandoned waste ☐ Inactive wastes ☐ Active site/regulated

☐ OTHER- specify _____

III) Facitlity contacts

Facility name if different from above Paradise Airstrip phone/visit

IV) Recommendation

☐ no problem based on background information

☑ possible problem, send questionaire

date mailed MAY 17 1982 date returned to project 8/16/82

remail ~~JUL 13 1982~~ JUL 26 1982 (Q form missing from 7-13-82 mailing)

☐ other recommendations?

specify _____

Memorandum

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD • CENTRAL VALLEY REGION

3201 S Street Sacramento, California 95816 Phone: 445-0270

TO: Dennis Westcot
Chief, Agricultural Unit

FROM: Louis Pratt
Land & Water Res. Assoc.

DATE: 13 May 1985

SIGNATURE: Louis Pratt

SUBJECT: SAN JOAQUIN COUNTY PESTICIDE AND FERTILIZER RINSE WATER DISPOSAL SITES

During March and April 1985 a survey of San Joaquin County Pesticide and fertilizer rinse water disposal sites was conducted. San Joaquin County Ag Commissioner Erwin Eby and his staff assisted in the survey. To expedite the survey, the following types of operations were eliminated from the survey:

1. Individuals who hold an operators license but are not involved in pesticide application.

2. Individuals or firms involved in structural, residential, or industrial pest control.

3. Small on-farm applicators using ground equipment.

4. Dealers or retailers who sell packaged pesticides or baglot fertilizer and do not generate rinse water.

In San Joaquin County there are numerous custom applicators using one to three ground rigs. A few of these operators were contacted. In general the sprayer tanks are field rinsed or not rinsed at all. Exteriors of the sprayers are washed infrequently or not at all; rinse water from the sprayer exteriors is generally discharged to the ground where it percolates or evaporates. These operators as well as the many unlicensed on-farm operators are subject to the same regulations as larger operators. For the most part, these operators pose little potential threat to water quality. However, information provided by the County Ag Commissioner's staff indicates that there are a few of these operations that should receive a site evaluation. With cooperation of the County Ag Commissioner's staff these operations could be assessed on an individual basis and appropriate action taken.

The following sites were inspected:

1. Ag Flight — Lodi
2. Alexander Custom Spraying — Stockton

said that the aircraft spray tank is field rinsed and the exterior of the plane is washed at the site with the rinse water going onto the ground.

Recommendations: Soils at this site should be checked for pesticide residues. If unacceptable levels are found, action should be taken to bring the site into compliance with State and Federal regulations.

Jim Davis Inc.

Inspection revealed a wash pad with a slotted grate below which lies a concrete sump. Employee Dave Taylor explained that fertilizer spreaders are washed on the pad. He said that the rinse water is pumped out and applied to fields. He said that no pesticides are applied through company equipment.

Recommendation: No action should be necessary at this time.

Delta Farm Service

Dan Flack explained that Delta Farm Service has been at this site for eight years. He said that packaged pesticides and liquid fertilizers are sold, but no pesticides or fertilizer are applied by the company, and no fertilizer is stored at the site.

Recommendation: No action should be necessary at this time.

Haley Flying Service

Employee Dennis Delanina explained that this site has been used for aerial application for over 20 years. He said that about 40% of current activity is dry application. He said that spray tanks are field rinsed and aircraft exteriors are washed on a concrete pad which drains into a concrete lined evaporation sump. Inspection revealed an inclined roof over the sump. Dennis explained that rinse water can be pumped onto the roof to accelerate evaporation. There was not enough water in the sump to completely cover the bottom at the time of inspection.

Recommendations: Although this disposal system appears to be effective in handling rinse water, it does not comply with Subchapter 15. Soils and rinse water at this site should be sampled. If unacceptable levels of pesticides are found, action should be taken to bring the site into compliance with State and Federal regulations.

Post-it® Fax Note 7671 | Date 4/15 | # of pages ▶ 3
To Steve Sesson | From Martin Clark
Co./Dept. | Co.
Phone # | Phone #
Fax # (209) 464-0138 | Fax #

CalEPA

State Water Resources Control Board

Division of Clean Water Programs

Mailing Address:
P.O. Box 944212
Sacramento, CA
94244-2120

2014 T Street,
Suite 130
Sacramento, CA
95814
(916) 227-4374
FAX (916) 227-4530

World Wide Web:
http://www.swrcb.ca.gov/~cwphome/fundhome.htm

Pete Wilson
Governor

April 11, 1997

Ms. Dorothy E. Haley
1311 Madison Avenue
Tracy, CA 95376

Dear Ms. Haley:

PRE-APPROVAL OF CORRECTIVE ACTION COSTS, Claim No. 10776, Paradise Airstrip, 21000 Paradise Road, Tracy, CA

I have reviewed your request, received on March 21, 1997, for pre-approval of corrective action costs; I will place these documents in your file for future reference. I have included a copy of the "Cost Pre-Approval Request" form; please use this form in the future for requesting pre-approval of corrective action costs.

With the following provisions, the total cost pre-approved as eligible for reimbursement for completing the October 30, 1996, Wright Environmental Services workplan, requested by the San Joaquin County Environmental Health Department (County) in their September 6, 1996 letter, is **$17,405**; see the table below for a breakdown of the costs. The actual costs of conducting the work as proposed by Wright Environmental Services in their October 30, 1996 estimate are, based on my review of your package, in excess of Underground Storage Tank Cleanup Fund staff experience with similar costs for the activities described.

*Be aware that this pre-approval does not constitute a decision on reimbursement: all **reasonable and necessary** corrective action costs for work **directed and approved by the County** will be eligible for reimbursement per the terms of your Letter of Commitment at costs consistent with those pre-approved in this letter.*

All future costs for corrective action must be approved in writing by Fund staff.

- Costs associated with the preparation and implementation of the proposed workplan are included in the pre-approval under the task of Installing the Monitoring Wells. Costs for preparing budgets and estimates are part of procuring potential work and are included in the overhead costs accounted for in the loaded billable rates charged by consultant personnel.
- The actual costs and scope of work performed must be consistent with this pre-approval for it to remain valid.
- The work products must be acceptable to the County and the Regional Water Quality Control Board.
- It is my opinion that it is unnecessary to obtain three bids for this scope of work; the Fund's three bid requirement is waived for this scope of work.

- If a different scope of work becomes necessary, then you must request pre-approval of costs for the new scope of work.
- Although I have referred to the Wright Environmental Services proposal in my pre-approval, please be aware that you will be entering into a private contract: the State of California cannot compel you to sign any specific contract. This letter **pre-approves the costs** for conducting the work requested by the County and is contingent on County approval Wright Environmental Services workplan.

COST PRE-APPROVAL BREAKDOWN		
Task	**Amount Pre-Approved**	**Comments**
Install Monitoring Wells - Labor	$2,500	Includes Workplan, permits, scheduling, permits review, setup, well development, and sampling.
Install Monitoring Wells - Materials and Direct Costs	$4,700	Includes drilling costs of 90 lineal feet @ $36.80, 9 samples @$63.25; permits, site survey and water disposal included in balance.
Install Monitoring Wells - Equipment	$105	Well sounder and Crew Vehicle
Quarterly Monitoring - Labor	$4,000	Four quarters of monitoring. Each quarter includes monitoring report, developing, purging and sampling.
Quarterly Monitoring - Materials and Direct Costs	$5,680	Four quarters of monitoring. Each quarter includes 9 samples for TPH @$63.25, other sample prices and sampling supplies as listed in the 10/31/96 estimate.
Quarterly Monitoring - Equipment	$420	Four quarters of monitoring. Each quarter includes well sounder and crew vehicle
State Fund Preparation	$0	See comments below.
TOTAL PRE-APPROVED	**$17,405**	

I also want to remind you that the Fund's regulations require that you obtain at least three bids, or a bid waiver from Fund staff, from qualified firms for all necessary corrective action work. The legislation governing the Fund requires that the Fund assist you in procuring contractor and

Wright Environmental Services, Inc.

October 31, 1996
Project No. 4111

Public Health Services
San Joaquin County
Environmental Health Division
Mr. Steven Sasson, Senior REHS
304 E. Weber Ave., Third Floor
P.O. Box 388, Stockton, CA 95201-0388

RECEIVED
NOV 0 4 1996
ENVIRONMENTAL HEALTH
PERMIT / SERVICES

Attn: Mr. Steven Sasson

Subject: Agricultural Well Sampling Results
21000 Paradise Road, Tracy
Claim Number 010776

Site Code: 1992

Dear Mr. Sasson:

On October 18, 1996, and under the direction of the Public Health Services San Joaquin County Environmental Health Division (PHS-EHD), Wright Environmental Services, Inc. (Wright) collected a "grab sample" of groundwater from the on site agricultural well at the above referenced property. The sample was collected in two glass liter containers, and two glass forty milliliter containers for transportation under a chain-of-custody to a state-certified laboratory for analysis. The sample was analyzed for total petroleum hydrocarbons as aviation fuel (TPH-A), total petroleum hydrocarbons as gasoline (TPH-G), total petroleum hydrocarbons as kerosene (TPH-K), by EPA method 8015M, for Benzene, Toluene, Ethylbenzene and total Xylenes (BTEX), by EPA test method 602 and for Methyl-tertial-buytl-ether (MBTE) by the LUFT method. Please be advised that the workplan for additional assessment that you requested by October 31, 1996, is in the final review stage by Wright, and must be pre-approved by Ms. Dorothy Haley. It should be forwarded to you next week.

Sincerely,
Wright Environmental Services, Inc.

Michael S. Grossjan
Environmental Specialist

Attachments: Laboratory Analytical Report
Chain of Custody Form

cc: Dorothy Haley
Christopher M. Palmer, CEG 1262, HG 246

Haley\Agwell.ltr, 10/29/96

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

October 26, 1996 PEL # 9610043

WRIGHT ENVIRONMENTAL SERVICES, INC.

Attn: Michael Grossjan

Re: One water sample for Gasoline/BTEX with MTBE and TEPH analyses.

Project name: Haley / Paradise Rd.
Project location: 21000 Paradise Rd., - Tracy, CA.

Date sampled: Oct 18, 1996 Date submitted: Oct 22, 1996
Date extracted: Oct 22-26, 1996 Date analyzed: Oct 22-26, 1996

RESULTS:

SAMPLE I.D.	Aviation Gasoline Fuel (ug/L)	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Kerosene (ug/L)
AG Well S-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	83.9%	---	84.7%	112.6%	83.5%	87.7%	---
Detection limit	50	50	0.5	0.5	0.5	0.5	0.5	50
Method of Analysis	3510/ 8015	5030 / 8015	602	602	602	602	602	3510 / 8015

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

P.02
408+946+9663
OCT-28-96 MON 02:10 PM PRIORITY LABS

CHAIN OF CUSTODY RECORD
REQUEST FOR ANALYSIS

Wright Environmental Services, Inc.
(209) 833-0758
Fax (209) 832-5152
4220 Commercial Dr., #5
Tracy, CA 95376

CLIENT NAME: MS. DOROTHY HALEY
ADDRESS: 21000 PARADISE RD
TRACY, CA
PHONE NO. _____ FAX NO. _____
PROJECT NAME: HALEY/PARADISE RD
SEND REPORT TO: MICHAEL GROSSJAN

DATE: 10-18-96
PAGE 1 OF 1

SAMPLER NAME/SIGNATURE

TURN AROUND TIME
NORMAL ☒
RUSH ☐

SAMPLE NUMBER	SAMPLING DATE/TIME		PRESER-VATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION WATER	SOIL	OTHER	ANALYSES REQUIRED: 418.1	8010/601	BTEX 8020/602	8080/608	8240/624	8270/625	CAM Metals	MTBE	TPH as AVIATION FUEL	TPHGasoline	TPH Kerosene
AG WELL S-1	10-18-96	10:05	ICE	2 GLASS VOAS AND 2 GLASS 1 LITER JARS	X					X					X	X	X	X

PEL # 9610043
INV # 27368

COMMENTS: REQUIRES 2 LITERS & 2 VOAS VOLUME
TPHA, ~~[illegible]~~, ~~[illegible]~~
MTBE & ~~TPH~~/BTEX

PER PHS-EHD AGREEMENT - AG WELL NEED ONLY BE ANALYZED FOR TPH-A, BTEX & MTBE. (STEVE JASSO) C8015M FOR AVIATION FUEL, 602 & 8021 METHOD

Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
Company: WRIGHT ENV. SERVICES, INC.	Time: 11:05	Company: W.E.S.	Time: 11:05	Company: WES	Time: 10 55	Company:	Time: 10 55

ENVIRONMENTAL HEALTH
PERMIT SERVICE

96 OCT 21 PM 12: 18

Wright
Environmental
Services, Inc.

October 18, 1996

Public Health Services
San Joaquin County
Environmental Health Division
Mr. Steven Sasson, Senior REHS
304 E. Weber Ave., Third Floor
P.O. Box 388, Stockton, CA 95201-0388

Attn: Mr. Steven Sasson

Subject: Water Sampling Memorandum of Understanding
2100 Paradise Road, Tracy
Claim Number 010776

Dear: Mr. Sasson

As directed by your letter, dated September 9, 1996, Wright Environmental Services, Inc. (Wright), collected a water sample from the on site agricultural well located at the above referenced site. This sample was to be analyzed for all contaminants of concern including Methyl tri-butyl ethylene (MTBE) as indicated in the same letter. Based on a telephone conversation of October 17, 1996, and conversation with you on site on October 18, 1996, the agricultural well sample will be analyzed for Total Petroleum Hydrocarbons as Aviation fuel (TPH-A), Benzene, Toluene, Ethyl-benzene and total Xylenes (BTEX), and MTBE. Because the tank of concern was an aviation fuel tank, it is your opinion that it is not necessary to analyze for Total Petroleum Hydrocarbons as Kerosene (TPH-K), Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as TPH-G and total lead.

No response is necessary unless additional laboratory analyses will be required. Please call our Tracy office at (209) 833-750, or send a facsimile to (209) 832-5152.

Sincerely,
Wright Environmental Services, Inc.

Michael Grossjan
Environmental Specialist

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 •. Fax (209) 832-5152

SITE # 2554

M AND M AUTOMOTIVE
LARRY MCLEAN/RICHARD MOE
60 TENTH ST E
TRACY, CA 95376

#18529
10-8-96

Site Location:

M AND M AUTOMOTIVE
60 TENTH ST E
TRACY, CA
95376

Total previously billed:	$ 1,555.87
Payment(s) received as of 05/30/96	$ 1,555.87
**New Charges - Billing Period:01/01/96 through 06/30/96	$ 1,057.74
FUND: F	Total amount due: $ 1,057.74

State Health and Safety Code Sections 25297.1 and 25360 and Title 42 of the United States Code Section 6991b(h)(6) require recovery of costs associated with the local oversight program. When your site was put in the local oversight program, you received a letter explaining that the State Water Resources Control Board (State Board) would bill you for public costs of cleanup oversight.

This bill includes site specific and program management charges. Site specific charges directly relate to your site. Examples are sampling for soil and ground water contamination, site inspections, and reviewing reports and workplans. A description of activity codes follows the itemized charges. Program management includes other costs associated with program operation. Such costs may include: space rental, office services and supplies, purchase of sampling equipment, training and the salary and benefits of support personnel (i.e., clerical staff, accountant, program supervisor). Program management charges are calculated at not more than 50 percent of site specific charges. The exact rate is shown on the last page of your bill. If you received an invoice for a previous billing period, those charges are shown as "Total Previously Billed". Any payments you made on the previous billing are shown as "Payment Received". The total of any unpaid previous balance plus new charges is shown as "Total Amount Due".

** See itemized list of new charges on next page(s). **FOR INFORMATION CALL: LORI CASIAS** **(916) 227-4325**

PAYMENT IS DUE IN 30 DAYS--PLEASE NOTE--Recent legislation eliminated cost recovery. There will be no cost recovery for oversight services performed on or after January 1, 1997. **This change does not forgive any past due amounts or any invoices covering services provided through December 31, 1996.**

Wright
Environmental
Services, Inc.

ENVIRONMENTAL HEALTH
PERMIT SERVICE
96 OCT 28 PM 1:13

October 23, 1996
Project No. 4111

Public Health Services
San Joaquin County
Environmental Health Division
Mr. Steven Sasson, Senior REHS
304 E. Weber Ave., Third Floor
P.O. Box 388, Stockton, CA 95201-0388

Attn: Mr. Steven Sasson

Subject: Addendum to Water Sampling
Memorandum of Understanding
2100 Paradise Road, Tracy
Claim Number 010776

Site Code: 1992

Dear: Mr. Sasson

As directed by your letter dated September 9, 1996, Wright Environmental Services, Inc. (WRIGHT), collected a water sample from the on site agricultural well located at the above referenced site. This sample was to be analyzed for all contaminants of concern including Methyl-tert-butyl-ethylene (MTBE) as indicated in the same letter.

Based on a telephone conversation of October 17, 1996, and conversation with you on site on October 18, 1996, the agricultural well sample was to be analyzed for Total Petroleum Hydrocarbons as Aviation Fuel (TPH-A), Benzene, Toluene, Ethyl-benzene and total Xylenes (BTEX), and MTBE only.

Based on the telephone conversation with you on October 21, 1996, the sample will also be analyzed for Total Petroleum Hydrocarbons as Kerosene (TPH-K), and Total Petroleum Hydrocarbons as Gasoline (TPH-G).

No response is necessary unless additional laboratory analyses will be required. Please call our Tracy office at (209) 833-7508, or send a facsimile to (209) 832-5152.

Sincerely,
Wright Environmental Services, Inc.

Michael Grossjan
Environmental Specialist

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

4111

Wright Environmental Services, Inc.

October 18, 1996

Public Health Services
San Joaquin County
Environmental Health Division
Mr. Steven Sasson, Senior REHS
304 E. Weber Ave., Third Floor
P.O. Box 388, Stockton, CA 95201-0388

Attn: Mr. Steven Sasson

Subject: Water Sampling Memorandum of Understanding
2100 Paradise Road, Tracy
Claim Number 010776

SITE CODE 1992

Dear: Mr. Sasson

As directed by your letter, dated September 9, 1996, Wright Environmental Services, Inc. (Wright), collected a water sample from the on site agricultural well located at the above referenced site. This sample was to be analyzed for all contaminants of concern including Methyl tri-butyl ethylene (MTBE) as indicated in the same letter. Based on a telephone conversation of October 17, 1996, and conversation with you on site on October 18, 1996, the agricultural well sample will be analyzed for Total Petroleum Hydrocarbons as Aviation fuel (TPH-A), Benzene, Toluene, Ethyl-benzene and total Xylenes (BTEX), and MTBE. Because the tank of concern was an aviation fuel tank, it is your opinion that it is not necessary to analyze for Total Petroleum Hydrocarbons as Kerosene (TPH-K), Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as TPH-G and total lead.

No response is necessary unless additional laboratory analyses will be required. Please call our Tracy office at (209) 833-750, or send a facsimile to (209) 832-5152.

Sincerely,
Wright Environmental Services, Inc.

Michael Grossjan
Environmental Specialist

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

Wright Environmental Services, Inc.

October 18, 1996

Public Health Services
San Joaquin County
Environmental Health Division
Mr. Steven Sasson, Senior REHS
304 E. Weber Ave., Third Floor
P.O. Box 388, Stockton, CA 95201-0388

Attn: Mr. Steven Sasson

Subject: Water Sampling Memorandum of Understanding
2100 Paradise Road, Tracy
Claim Number 010776

Dear: Mr. Sasson

As directed by your letter, dated September 9, 1996, Wright Environmental Services, Inc. (Wright), collected a water sample from the on site agricultural well located at the above referenced site. This sample was to be analyzed for all contaminants of concern including Methyl tri-butyl ethylene (MTBE) as indicated in the same letter. Based on a telephone conversation of October 17, 1996, and conversation with you on site on October 18, 1996, the agricultural well sample will be analyzed for Total Petroleum Hydrocarbons as Aviation fuel (TPH-A), Benzene, Toluene, Ethyl-benzene and total Xylenes (BTEX), and MTBE. Because the tank of concern was an aviation fuel tank, it is your opinion that it is not necessary to analyze for Total Petroleum Hydrocarbons as Kerosene (TPH-K), Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as TPH-G and total lead.

No response is necessary unless additional laboratory analyses will be required. Please call our Tracy office at (209) 833-750, or send a facsimile to (209) 832-5152.

Sincerely,
Wright Environmental Services, Inc.

Michael Grossjan
Environmental Specialist

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer
304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

SEP 0 9 1996

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the July 26, 1996 Reconnaissance Site Investigation prepared by Wright Environmental Services, Inc. for the above referenced site.

The results of the investigation reveal the presence of a petroleum hydrocarbon plume with the aviation gas fuel tank as the source. Wright Environmental was unable to determine the eastern extent of the plume during this phase of the investigation. The recommendation in the report is to install three monitoring wells in a triangular formation. PHS/EHD concurs with this recommendation.

PHS/EHD recommends that a water sample, obtained from the on site agricultural supply well, be analyzed for all contaminants of concern including MTBE, prior to the installation of the three monitoring wells. PHS/EHD recommends that the location of this well be depicted on all future site maps.

PHS/EHD recommends that a workplan describing the installation of three monitoring wells, and a method to gather data to determine the feasibility of natural attenuation as a remedial alternative, be submitted to this agency by October 31, 1996. After PHS/EHD approval, the workplan should be submitted to the State Water Resources Control Board (SWRCB) Cleanup Fund staff for reimbursement pre-approval.

For additional information please contact Steven Sasson at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Margaret Lagorio, REHS
Supervisor

SS

c: SWRCB, Underground Storage Tank Section - Mel Jacobo
c: CVRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Chris Palmer

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY

ENVIRONMENTAL HEALTH DIVISION

Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer

304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388

209/468-3420

COPY

MAILED MAR 1 4 1996

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the January 15, 1996 Proposal for Soil and Groundwater Investigation Workplan for Interim Site Remediation, prepared by Wright Environmental Services, Inc. for the above referenced site.

In the workplan Wright Environmental proposes to define the extent of soil and groundwater contamination discovered during the July 11, 1990, 5,000 gallon aviation underground storage tank (UST) removal. The proposal is for eight pushpoint borings to be advanced in and around the former tank excavation in upgradient and downgradient positions. Two soil samples and one groundwater sample will be obtained from each boring. Eight soil and eight groundwater samples will be submitted for analysis. The laboratory analysis will consist of total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, xylenes and tetraethyl lead. After the samples are obtained they will be placed in an ice chest for transport to a state certified laboratory. The pushpoints will be properly sealed with a cement grout. The surmised extent of the contamination, conclusions, recommendations and all the raw data will be compiled into a report and submitted to this agency. A Feasibility Study and a Corrective Action Plan will then be prepared to determine the most cost effective method of remediating the site.

PHS/EHD has the following comments regarding the workplan:

1) PHS/EHD policy states that organic lead has not demonstrated mobility outside of the hydrocarbon plume. Testing for organic lead is not required by PHS/EHD when determining the extent of the hydrocarbon contamination.

2) The workplan does not include analysis for methyl tertiary butyl ether (MTBE). PHS/EHD requires analysis for MTBE at all sites where tanks were operated from 1980 to the present time. This site meets that criteria. Soil and groundwater samples submitted for analysis shall be analyzed for MTBE.

3) PHS/EHD recommends that the pushpoint locations be determined based upon field conditions. Initial pushpoints should be placed within 10 feet of the original sample location and should be sampled for soil and groundwater contamination. Once the extent of the soil contamination has been determined additional pushpoints should be sampled for groundwater only.

4) Soil samples obtained during the UST removal were obtained from a depth of 9 feet. Soil samples collected during this investigation shall be obtained from a minimum depth of 9 feet.

5) The pushpoints shall be abandoned with a cement slurry from bottom to within 3 feet of the surface and applied using the tremie method. The diameter of the pushpoint should be large enough to facilitate the use of a tremie or the pushpoint down hole rod itself may be used as the tremie.

6) Samples shall be placed in an ice chest chilled to 4 degrees centigrade to maintain the integrity of the samples while in transit to the state certified laboratory.

7) Gradient has not been established for this site. However regional gradient in the Tracy area is in a north easterly direction. Gradient at this site may be affected by the presence of a canal on the northern property boundary or other local influences.

8) The workplan does not mention installation of monitoring wells. Installation of monitoring wells is required at all sites where contamination has been discovered within 5 feet of groundwater. The presence of groundwater in the excavation at the time of the tank removal demonstrates that monitoring wells are required at this site. Monitoring well locations may be determined pending the results of this investigation.

9) The site plan present in the PHS/EHD files indicates the presence of a drinking water well within 100 feet east of the aviation fuel tank. PHS/EHD recommends that a water sample be obtained from this well and analyzed for all constituents of concern.

10) A drilling permit application filed by a C-57 licensed contractor or authorized representative shall be approved by this agency prior to on site drilling activities.

11) Drilling should be scheduled with the PHS/EHD representative a minimum of 24 hours prior to drilling.

If you have any questions please contact Steven Sasson at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Margaret Lagorio, REHS
Lead Senior

SS

c: SWRCB, Underground Storage Tank Section - Annabel Mackey
c: CVRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Lester Messina

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer
304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

COPY

ANNABEL MACKEY
STATE WATER RESOURCES CONTROL BOARD
UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM
P O BOX 944212
SACRAMENTO CA 94244-2120

MAILED NOV 2 0 1995

RE: Haley Flying Service
21000 Paradise Rd.
Tracy, CA

SITE CODE: 1992

The underground storage tanks (UST's) that were formerly located on the above referenced site were exempt from permit until 1990. In the 1985 Health and Safety Code Section 25281 (copy enclosed), it stated that a UST did not include a tank which was used for aviation or motor vehicle fuel which was located within one mile of a farm and used by a licensed pest control operator. The UST's at the above referenced site fit this exclusion.

In the 1990 Health and Safety Code Section 25281 (copy enclosed), this exclusion was no longer made and the UST's at this site were required to be permitted. At this time the owner decided to remove the UST's so the only permit issued by our agency was the closure permit (copy enclosed). The tanks were removed in May 1990.

If you have any questions contact Margaret Lagorio at (209) 468-3449.

Donna Heran, REHS, Director
Environmental Health Division

Margaret Lagorio

Margaret Lagorio, Lead Senior REHS
Site Mitigation Unit

Diane M. Hinson, REHS
Supervisor

ML

c: Dorothy Haley
1311 Madison Ave.
Tracy, CA 95376

Enc.

(n) "Release" means any spilling, leaking, emitting, discharging, escaping, leaching, or disposing from an underground storage tank into or on the waters of the state, the land, or the subsurface soils.

(o) "Secondary containment" means the level of containment external to, and separate from, the primary containment.

(p) "Single-walled" means construction with walls made of only one thickness of material. For the purpose of this chapter, laminated, coated, or clad materials are considered single-walled.

(q) "Special inspector" means a professional engineer, registered pursuant to Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code, who is qualified to attest, at a minimum, to structural soundness, seismic safety, the compatibility of construction materials with contents, cathodic protection, and the mechanical compatibility of the structural elements of underground storage tanks.

(r) "Storage" or "store" means the containment, handling, or treatment of hazardous substances, either on a temporary basis or for a period of years. "Storage" or "store" does not mean the storage of hazardous wastes in an underground storage tank if the person operating the tank has been issued a hazardous waste facilities permit by the department pursuant to Section 25200 or granted interim status under Section 25200.5.

(s) "SWEEPS" means the Statewide Environmental Evaluation and Planning System administered by the California Association of Environmental Health Administrators.

(t) "Tank" means a stationary device designed to contain an accumulation of hazardous substances which is constructed primarily of nonearthen materials (e.g. wood, concrete, steel, plastic) which provides structural support.

(u) "Tank integrity test" means a test method capable of detecting an unauthorized release from an underground storage tank consistent with the minimum standards adopted by the board.

(v) "Tank tester" means an individual who performs tank integrity tests on underground storage tanks.

(w) "Unauthorized release" means any release of any hazardous substance which does not conform to this chapter, unless this release is authorized by the board or a regional board pursuant to Division 7 (commencing with Section 13000) of the Water Code.

(x) "Underground storage tank" means any one or combination of tanks, including pipes connected thereto, which is used for the storage of hazardous substances and which is substantially or totally beneath the surface of the ground. "Underground storage tank" does not include any of the following:

(1) A tank with a capacity of 1,100 gallons or less which is located on a farm and which stores motor vehicle fuel used primarily for agricultural purposes and not for resale.

(2) A tank which is located on a farm or at the residence of a person, which has a capacity of 1,100 gallons or less, and which stores home heating oil for consumptive use on the premises where stored.

(3) Structures such as sumps, separators, storm drains, catch basins, oil field gathering lines, refinery pipelines, lagoons, evaporation ponds, well cellars, separation sumps, lined and unlined pits, sumps and lagoons. Sumps which are a part of a monitoring system required under Section 25291 or 25292 and sumps or other structures defined as underground storage tanks under the federal act are not exempted by this section. Structures identified in this paragraph may be regulated by the board and any regional board pursuant to the Porter-Cologne Water Quality Control Act (Division 7 (commencing with Section 13000) of the Water Code) to ensure that they do not pose a threat to water quality.

(y) "Underground tank system" or "tank system" means an underground storage tank, connected piping, ancillary equipment, and containment system, if any.

25281.5. (a) Notwithstanding subdivision (k) of Section 25281, for purposes of this chapter "pipe" means all parts of any pipeline or system of pipelines, used in connection with the storage of hazardous substances, including, but not limited to, valves and other appurtenances connected to the pipe, pumping units, fabricated assemblies associated with pumping units, and metering and delivery stations and fabricated assemblies therein, but does not include any of the following:

(1) An interstate pipeline subject to 49 Code of Federal Regulations, Part 195.

(2) An intrastate pipeline subject to Chapter 5.5 (commencing with Section 51010) of Part 1 of Division 1 of Title 5 of the Government Code.

H+S Code 1990

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25280. (a) The Legislature finds and declares as follows:

(1) Substances hazardous to the public health and safety and to the environment are stored prior to use or disposal in thousands of underground locations in the state.

(2) Underground tanks used for the storage of hazardous substances and wastes are potential sources of contamination of the ground and underlying aquifers, and may pose other dangers to public health and the environment.

(3) In several known cases, underground storage has resulted in undetected and uncontrolled releases of hazardous substances into the ground. These releases have contaminated public drinking water supplies and created a potential threat to the public health and to the waters of the state.

(4) The Legislature has previously enacted laws regulating the management of hazardous wastes, including statutes providing the means to clean up releases of hazardous substances into the environment when the public health, domestic livestock, wildlife, and the environment are endangered. Current laws do not specifically govern the construction, maintenance, testing, and use of underground tanks used for the storage of hazardous substances, or the short-term storage of hazardous wastes prior to disposal, for the purposes of protecting the public health and the environment.

(5) The protection of the public from releases of hazardous substances is an issue of statewide concern.

(b) The Legislature therefore declares that it is in the public interest to establish a continuing program for the purpose of preventing contamination from, and improper storage of, hazardous substances stored underground. It is the intent of the Legislature, in enacting this chapter, to establish orderly procedures that will ensure that newly constructed underground storage tanks meet appropriate standards and that existing tanks be properly maintained, inspected, and tested so that the health, property, and resources of the people of the state will be protected.

25281. For purposes of this chapter, the following definitions apply:

(a) "Board" means the State Water Resources Control Board. "Regional board" means a California Regional Water Quality Control Board.

(b) "Department" means the State Department of Health Services.

(c) "Facility" means any one, or combination of, underground storage tanks used by a single business entity at a single location or site.

(d) "Hazardous substance" means all of the following liquid and solid substances, unless the department, in consultation with the board, determines that the substance could not adversely affect the quality of the waters of the state:

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer
304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

COPY

MAILED NOV 09 1995

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the October 3, 1995 "Workplan for Interim Site Remediation" prepared by Wright Environmental Services, Inc. for the above referenced site.

Prior to installation of any form of treatment at this site a Corrective Action Plan shall be submitted to this department for approval and concurrence. As stated in Article 11, Chapter 16, Division 3, Title 23 of the California Code of Regulations (the Corrective Action Requirements) a Corrective Action Plan (CAP) shall be submitted to the regulatory agency for review and concurrence when the soil and water investigation phase is complete. The Corrective Action Plan shall include an assessment of the distribution of the contamination present at the site, a feasibility study to evaluate alternatives for mitigating the actual or potential adverse effects of the unauthorized release, and propose at least two alternatives to achieve cleanup levels for waters with current or potential beneficial uses for which numerical objectives have been designated.

In order to complete the CAP an assessment report of the distribution of the contamination present is required. In the May 10, 1995 letter from PHS/EHD you were directed to begin the investigation to determine the impact to soil and groundwater from the unauthorized release of petroleum hydrocarbons detected during the removal of the 5000 gallon aviation fuel tank on May 11, 1990. The assessment data is necessary to determine the extent of the soil contamination and the size of the groundwater plume. A workplan for the assessment shall be submitted to this agency by November 30, 1995.

During the assessment, and after the assessment is complete, information should be obtained to complete a feasibility study, to evaluate the efficacy of various treatment methodologies. The feasibility study should evaluate each technology with respect to reaching required cleanup goals, the length of time required to reach those goals, and the relative costs to reach those goals.

If you have any questions please contact Steven Sasson, REHS, at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Diane M. Hinson, REHS
Supervisor

SS

c: SWRCB, Underground Storage Tank Section - Lori Casias
c: CRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Lester Messina

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY

ENVIRONMENTAL HEALTH DIVISION

Ernest M. Fujimoto, M.D., M.P.H., Acting Health Officer

445 N. San Joaquin Street • P.O. Box 388 • Stockton, CA 95201-0388

(209) 468-3420

GARY DE CARLO
HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

MAR 0 7 1994

CCFY

RE: 21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has recently reviewed the analytical results of the soil and/or water samples taken from beneath the underground storage tank(s) that were/was removed from this site on May 11, 1990.

The presence of contaminants at your facility exceed the allowable limits of leaching potential as recommended by the LUFT Manual [1]. The former underground storage tank(s) (UST) cannot be recommended for final closure without further investigation to determine the full extent of the soil and/or groundwater problem.

PHS/EHD is providing you notification that an "Underground Storage Tank Unauthorized Release (Leak)/Contaminated Site Report" has been filed pursuant to Section 25295 of the Health and Safety Code (HSC). The appropriate disclosure of a hazardous waste discharge pursuant to Section 25180.7 of the Health and Safety Code has been made, and the site has been placed on the list of contaminated sites in San Joaquin County which is maintained by PHS/EHD.

PHS/EHD has been designated by the State of California Water Resources Control Board (SWRCB) as the local agency overseeing the investigation of leaking USTs. Pursuant to Section 25299.37 (HSC), "dischargers" must take corrective action in response to the unauthorized release.

Please be advised that PHS/EHD will be utilizing the SWRCB "Prioritization System for Leaking Underground Storage Tank Sites" ranking list in order to prioritize all the contaminated sites. The "Prioritization System" has established criteria to distinguish between High Priority Sites, Moderate Priority Sites, and Low Priority Sites. Site specific conditions which influence the placement within the ranking system are, for example, depth to groundwater, proximity to a drinking water source (municipal or domestic well), the extent of soil contamination, and the site's clean up funding availability.

Based upon the priority ranking, you will be directed to begin the required investigation. However, given the conditions for the prioritization, wherever possible PHS/EHD will work with you to coincide enforcement directives in conjunction with secured clean up funding. If you have any questions, contact the PHS/EHD Site Mitigation Unit for further information at (209) 468-3450.

If your tank removal was recent and you are not planning any remedial activities within 90 days, the tank excavation should be closed. It has been our experience that open tank excavations allow for rapid downward migration of contaminants. Contact the appropriate building department for specific requirements that may be necessary prior to filling with pea gravel and/or

compacting the tank excavation with clean fill soil. Before receiving a PHS/EHD corrective action directive and in order to receive the SWRCB Clean up Fund Letter of Committment, you must make application to the State of California Water Resources Control Board's (SWRCB) "Petroleum Underground Storage Tank Cleanup Fund" (Fund). An application package for the Fund has been provided.

The Fund was created pursuant to Chapter 6.75 of the California Health and Safety Code to help eligible owners and operators of petroleum underground storage tanks to:

1. Meet federal requirements to demonstrate financial responsibility;

2. Obtain reimbursement for costs of the cleanup of unauthorized releases of petroleum from USTs; and

3. Obtain reimbursement for damages awarded to third parties who are injured by petroleum releases.

The maximum amount available from the Fund is $990,000 per occurrence. Claimants are responsible for the first $10,000 of eligible costs. **Applications must be submitted to the SWRCB Clean Up Fund by March 31, 1994 to undergo eligibility ranking for funding in the 1994-95 state fiscal budget year.** All subsurface investigations and remedial actions must be performed under a workplan approved by PHS/EHD.

The Fund does not cover the costs incurred for the removal, repair, retrofit, or installation of USTs. Should you wish to obtain a low interest loan for the upgrade of your tank system, please contact the State of California Trade and Commerce Agency, UST Loan Program, regarding their loan requirements, at (916) 445-6733.

If you have any questions, please do not hesitate to contact Linda Turkatte, Senior REHS, of my staff at (209) 468-3441.

Ernest M. Fujimoto, M.D., M.P.H.
Acting Health Officer

Linda A. Turkatte

for Diane M. Hinson, Supervising R.E.H.S.
Environmental Health Division

DMH/lt

Enclosures

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[1] "Leaking Underground Fuel Tank Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure", State of California Leaking Underground Fuel Tank Task Force, October, 1989.

The following is a listing of community development departments within San Joaquin County. Contact the department located within your area:

San Joaquin County Community Development Department
Building Division: 209/468-3123

City of Stockton Community Development Department
Building Division: 209/937-8561

City of Lodi Community Development Department
Building Division: 209/333-6714

City of Tracy Building Inspection Division
209/836-2750

City of Lathrop Building Inspection Department
209/858-5595

City of Manteca Building Inspection Department
209/239-9511

City of Escalon
209/838-3556

City of Ripon
209/599-2108

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25280. (a) The Legislature finds and declares as follows:

(1) Substances hazardous to the public health and safety and to the environment are stored prior to use or disposal in thousands of underground locations in the state.

(2) Underground tanks used for the storage of hazardous substances and wastes are potential sources of contamination of the ground and underlying aquifers, and may pose other dangers to public health and the environment.

(3) In several known cases, underground storage has resulted in undetected and uncontrolled releases of hazardous substances into the ground. These releases have contaminated public drinking water supplies and created a potential threat to the public health and to the waters of the state.

(4) The Legislature has previously enacted laws regulating the management of hazardous wastes, including statutes providing the means to clean up releases of hazardous substances into the environment when the public health, domestic livestock, wildlife, and the environment are endangered. Current laws do not specifically govern the construction, maintenance, testing, and use of underground tanks used for the storage of hazardous substances, or the short-term storage of hazardous wastes prior to disposal, for the purposes of protecting the public health and the environment.

(5) The protection of the public from releases of hazardous substances is an issue of statewide concern.

(b) The Legislature therefore declares that it is in the public interest to establish a continuing program for the purpose of preventing contamination from, and improper storage of, hazardous substances stored underground. It is the intent of the Legislature, in enacting this chapter, to establish orderly procedures that will ensure that newly constructed underground storage tanks meet appropriate standards and that existing tanks be properly maintained, inspected, and tested so that the health, property, and resources of the people of the state will be protected.

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(a) "Board" means the State Water Resources Control Board. "Regional board" means a California Regional Water Quality Control Board.

(b) "Department" means the State Department of Health Services.

(c) "Facility" means any one, or combination of, underground storage tanks used by a single business entity at a single location or site.

(d) "Hazardous substance" means all of the following liquid and solid substances, unless the department, in consultation with the board, determines that the substance could not adversely affect the quality of the waters of the state:

H&S Code 1985

(1) Substances on the list prepared by the Director of Industrial Relations pursuant to Section 6382 of the Labor Code.

(2) Hazardous substances, as defined in Section 25316.

(3) Any substance or material which is classified by the National Fire Protection Association (NFPA) as a flammable liquid, a class II combustible liquid, or a class III-A combustible liquid.

(e) "Local agency" means the department, office, or other agency of a county or city designated pursuant to Section 25283.

(f) "Operator" means the operator of an underground storage tank.

(g) "Owner" means the owner of an underground storage tank.

(h) "Person" means an individual, trust, firm, joint stock company, corporation, including a government corporation, partnership, or association. "Person" also includes any city, county, district, the state, any department or agency thereof, or the United States, to the extent authorized by federal law.

(i) "Pipe" means any pipeline or system of pipelines which is used in connection with the storage of hazardous substances and which are not intended to transport hazardous substances in interstate or intrastate commerce or to transfer hazardous materials in bulk to or from a marine vessel.

(j) "Primary containment" means the first level of containment, such as the portion of a tank which comes into immediate contact on its inner surface with the hazardous substance being contained.

(k) "Product-tight" means impervious to the substance which is contained, or is to be contained, so as to prevent the seepage of the substance from the primary containment. To be product-tight, the tank shall not be subject to physical or chemical deterioration by the substance which it contains over the useful life of the tank.

(*l*) "Secondary containment" means the level of containment external to, and separate from, the primary containment.

(m) "Single-walled" means construction with walls made of only one thickness of material. For the purpose of this chapter, laminated, coated, or clad materials are considered single-walled.

(n) "Special inspector" means a professional engineer, registered pursuant to Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code, who is qualified to attest, at a minimum, to structural soundness, seismic safety, the compatibility of construction materials with contents, cathodic protection, and the mechanical compatibility of the structural elements of underground storage tanks.

(o) "Storage" or "store" means the containment, handling, or treatment of hazardous substances, either on a temporary basis or for a period of years. "Storage" or "store" does not mean the storage of hazardous wastes in an underground storage tank if the person operating the tank has been issued a hazardous waste facilities permit by the department pursuant to Section 25200 or granted interim status under Section 25200.5.

(p) "Tank" means a stationary device designed to contain an accumulation of hazardous substances which is constructed primarily of nonearthen materials (e.g. wood, concrete, steel, plastic) which

(q) "Unauthorized release" means any release or emission of any hazardous substance which does not conform to this chapter, unless this release is authorized by the board pursuant to Division 7 (commencing with Section 13000) of the Water Code.

(r) "Underground storage tank" means any one or combination of tanks, including pipes connected thereto, which is used for the storage of hazardous substances and which is substantially or totally beneath the surface of the ground. "Underground storage tank" does not include any of the following:

(1) A tank used for the storage of hazardous substances used for the control of external parasites of cattle and subject to the supervision of the county agricultural commissioner if the county agricultural commissioner determines, by inspection prior to use, that the tank provides a level of protection equivalent to that required by Section 25291, if the tank was installed after June 30, 1984, or protection equivalent to that provided by Section 25292, if the tank was installed on or before June 30, 1984.

(2) A tank which is located on a farm and stores motor vehicle fuel which is used only to propel vehicles used primarily for agricultural purposes.

(3) A tank which holds 1,100 gallons or less, is located at a residence of a person, and stores home heating fuel used exclusively for personal and nonincome producing purposes.

(4) A tank which is used for aviation or motor vehicle fuel, which tank is located within one mile of a farm and used by a licensed pest control operator, as defined in Section 11705 of the Food and Agricultural Code, who is primarily involved in agricultural pest control activities.

(5) Structures such as sumps, separators, storm drains, catch basins, oil field gathering lines, refinery pipelines, lagoons, evaporation ponds, well cellars, separation sumps, lined and unlined pits, sumps and lagoons. Sumps which are a part of a monitoring system required under Section 25291 or 25292 are not exempted by this section. Structures identified in this paragraph may be regulated by the board pursuant to the Porter-Cologne Water Quality Control Act (Division 7 (commencing with Section 13000) of the Water Code) to ensure that they do not pose a threat to water quality.

25282. (a) The department shall compile a comprehensive master list of hazardous substances. The master list shall be made available to the public and mailed to each local agency no later than June 30, 1984, notwithstanding any other provision of law, including Chapter 3.5 (commencing with Section 11340) of Part 1 of Division 3 of Title 2 of the Government Code. Local agencies and owners or operators of underground storage tanks shall use the master list or, when adopted, the revised list adopted pursuant to subdivision (b), to determine which underground storage tanks require permits pursuant to this chapter. Hazardous substances included on the list may be denominated by scientific, common, trade, or brand names.

APPLICATION FOR PERMIT
UNDERGROUND TANK
CLOSURE OR ABANDONMENT

SAN JOAQUIN LOCAL HEALTH DISTRICT
1601 E HAZELTON AVE., STOCKTON, CA
Telephone (209) 468-3428

RECEIVED
APR 13 1990
ENVIRONMENTAL HEALTH
PERMIT SERVICES

APPLICATION FOR PERMANENT/TEMPORARY CLOSURE OR ABANDONMENT IN PLACE OF UNDERGROUND HAZARDOUS SUBSTANCES STORAGE FACILITY
THIS PERMIT EXPIRES 90 DAYS FROM THE APPROVAL DATE. DO NOT WRITE IN ANY SHADED AREAS. INDICATE PERMIT TYPE BELOW:

X REMOVAL ___ TEMPORARY CLOSURE ___ ABANDONMENT IN PLACE

FACILITY

EPA SITE # CAC000271937* | PROJECT CONTACT & TELEPHONE # (209) 835-4725

FACILITY NAME Haley Flying Service | PHONE # (209) 835-4725

ADDRESS 21000 Paradise, Tracy, CA. 95376

CROSS STREET Pescadero Road

OWNER/OPERATOR Dorothy Haley | PHONE # (209) 835-4725

CONTRACTOR

CONTRACTOR NAME Crisp Construction Co. | PHONE # (209) 931-1828

CONTRACTOR ADDRESS P.O.Box 1044, Visalia, CA. | CA LIC # on file | CLASS on file

INSURER on file | WORK.COMP.# on file

CONTRACTOR

FIRE DISTRICT Tracy Rural Fire | PERMIT #/INSPTR

LABORATORY NAME FGL Environmental | PHONE # (209) 942-0181

SAMPLING FIRM* | SAMPLING METHOD brass tubes

TANK

TANK ID #	TANK SIZE	CHEMICALS STORED CURRENTLY	CHEMICALS STORED PREVIOUSLY
39- 1992-1 gas	1,000	NONE	
39- 1992-2 Avgas	5,000	NONE	
39-			
39-			
39-			

LIST ADDITIONAL TANK INFORMATION AS NEEDED ON SEPARATE FORM

PLAN

___ APPROVED ✓ APPROVED WITH CONDITIONS (SEE ATTACHMENT WITH CONDITIONS) ___ DISAPPROVED

PLAN REVIEWERS NAME W R Anawalt DATE 4-27-90

APPLICANT MUST PERFORM ALL WORK IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS OF THE SAN JOAQUIN LOCAL HEALTH DISTRICT. OWNER OR LICENSED AGENT'S SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL NOT EMPLOY ANY PERSON IN SUCH MANNER AS TO BECOME SUBJECT TO WORKER'S COMPENSATION LAWS OF CALIFORNIA." CONTRACTOR'S HIRING OR SUBCONTRACTING SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL EMPLOY PERSONS SUBJECT TO WORKER'S COMPENSATION LAWS OF CALIFORNIA.

CALL FOR INSPECTIONS AT LEAST 48 HOURS IN ADVANCE

SIGNED Leonard E Crisp DATE 4/19/90

OFFICE USE ONLY--EH 23 046 12/88

SWREPS #	COMP #	LOC CODE	DIST CODE	AMOUNT DUE	AMOUNT RCVD	CK#/CASH	RCVD BY	DATE RCVD	PERMIT #

4168-3433

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS
2014 T STREET, SUITE 130
P.O. BOX 944212
SACRAMENTO, CALIFORNIA 94244-2120
(916) 227-4334
(916) 227-4530 (FAX)

RECEIVED
DEC 8 1995

November 30, 1995

Dorothy E. Haley
1311 Madison Avenue
Tracy CA 95376

UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM, NOTICE OF CLAIM ACCEPTANCE: CLAIM NUMBER 010776; FOR SITE ADDRESS: 21000 Paradise Road, Tracy CA 95376

Your claim has been conditionally accepted for placement on the Priority List in the priority class claimed (Priority Class B). The Priority List is updated on a monthly basis. This project should be added to the next monthly update. The formal Priority List is published annually.

Staff will review, verify, and process applications based on the priority and rank within the priority class. During the detailed review, staff may request additional information to verify eligibility. Once review of the application is complete and the claim is determined to be valid, a Letter of Commitment will be issued obligating funds toward the cleanup. If the detailed review determines that your claim is unacceptable or ineligible, you will be notified of our intent to remove your claim from the Priority List.

If you have any questions, please contact me at (916) 227-4334.

Sincerely,

Annabel L. Mackey

Annabel L. Mackey, Claims Reviewer
Underground Storage Tank Cleanup Fund

cc: Ms. Diana Hinson
San Joaquin County EHD
P.O. Box 2009
Stockton, CA 95201

Mr. Gordon Boggs
California Regional Water Quality
Control Board, Central Valley Region
3443 Routier Road
Sacramento, CA 95827-3098

AUG 11
SASSON

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Karen Furst, M.D., M.P.H., Health Officer
304 East Weber Avenue, Third Floor • Stockton, CA 95202
209/468-3420

FILE COPY

DOROTHY HALEY
1311 MADISON
TRACY CA 95376

DEC 2 8 1998

RE: HALEY FLYING SERVICE
21000 PARDISE RD
TRACY CA 95376

SITE CODE: 1992

Dear Dorothy Haley,

This letter confirms the completion of a site investigation and remedial action for the underground storage tank(s) formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Laurie A. Colella

Donna Heran, REHS, Director
Environmental Health Division

cc: SWRCB, Cleanup Fund - Dave Deaner
CVRWQCB - Mark List
Other Responsible Party:
NONE

(RAC/NFA - 01/06/97 - CC Changed 05/98)

Case Closure Summary
Leaking Underground Fuel Storage Tank Program

I. **Agency Information** Date: 06/30/97

Agency Name: San Joaquin County Environmental Health	Address: 304 E. Weber Ave.
City/State/Zip: Stockton CA 95202	Phone: (209) 468-3440
Responsible Staff Person: Carol Oz	Title: Senior REHS

II. **Case Information**

Site Facility Name: Haley Flying Service
Site Facility Address: 21000 Paradise Rd.
RB LUSTIS Case No: NA Local/LOP Case No: 1992 Sweeps No: NA URF Filing Date: 5/28/91

Responsible Parties	Addresses	Phone Numbers
Dorothy Haley	1311 Madison, Tracy, CA 95376	209-835-4725

Tank #	Size (gallons)	Contents	Closed In-Place/Removed	Date
(1) 39-1992-01	1000 GAL	REGULAR	REMOVED	5/11/90
(2) 39-1992-02	5000 GAL	Aviation Fuel	REMOVED	5/11/90

III. **Release and Site Characterization Information**

Cause and Type of Release: UNKNOWN		
Site Characterization Complete? YES June 2, 1998		
Monitoring Wells Installed? YES	Number: 3	Proper Screen Interval? YES
High GW Depth(bgs): 6.71 feet	Low Depth: 12.53 feet	Gradient: NW, .0062 to NorthNE, .002
Most Sensitive Current Use: BENEFICIAL USE	Are Drinking Water Wells Affected? NO	
Aquifer Name: San Joaquin River Basin	Is Surface Water Affected? NO	Nearest Surface Water: Irrigation ditch on site, Paradise slough 1 mile north, Old River R. North of slough
Off-site Beneficial Use Impacts (Address/Locations): Agricultural zone	Report(s) on file with: NA	
Treatment and Disposal of Affected Material Purge rinsate stored in 55 gal. Drums on site		

Material: Purge rinsate	Amount (Units) Tank rinsate-300gal	Action(Treatment or Disposal w/Destination): Refineries services	Date: 5/10/90
Tank(s)	(1) 5,000 gal aviation fuel tank and (1) 1,000gal regular gasoline tank	Tanks taken to Cal-Coast MFG, 424 S. Tegnor Rd., Turlock, CA	5/11/90
Piping	None associated		
Free Product	NONE	NONE	
Groundwater	NONE	PURGE WATER ONLY, DRUMMED (BARRELS, SEE BELOW)	
Barrels		PETROLEUM RECYCLING CALIFORNIA	7/21/97

III Release and Site Characterization Information (continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup									
Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After	Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After
TPH (Gas)	0.610	ND	600	ND	Ethylbenene	41.4	NC	180	0.002
Benzene	6.60	NO	3.3	NO	Xylene	169	NO	330	0.013
Toluene	98	NO	3.3	NO	Kerosene	NA	NA	.17	.2<
Comments:									

IV Closure

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? YES
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? YES
Does corrective action protect public health for current land use? YES
Site management requirements: NONE
Should corrective action be reviewed if land use changes? YES
Monitoring/Vapor wells decommissioned: 3 MWs decommissioned
List enforcement actions taken: NOR May 10, 1995
List enforcement actions rescinded: NONE

V. Local Agency Representative Data

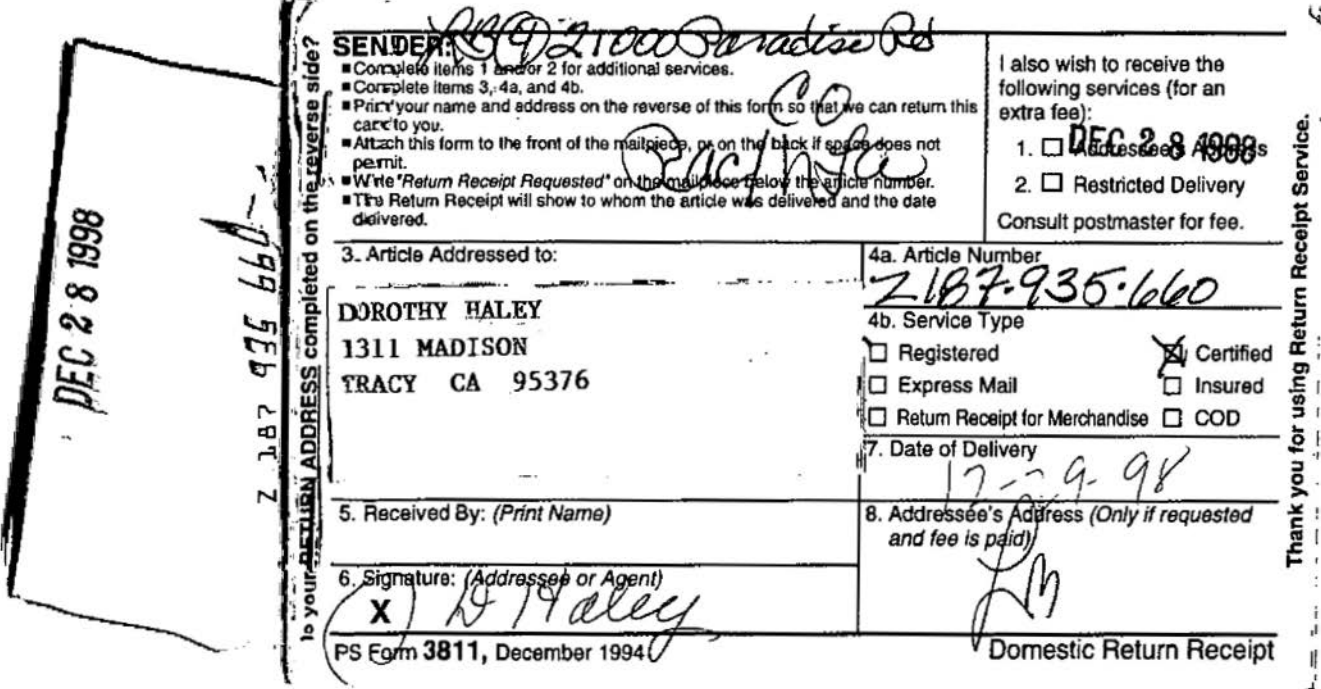
Name: Donna Heran	Title: Director of Environmental Health
Signature: Laurie A. Cotulla	Date: 12/28/98

VI. Central Valley Regional Water Quality Control Board (RB) Notification

Date Submitted to RB: 7/17/98	Response Date: 10/16/98
RB Staff: Mark List Title: Engineering Geologist	Response: Concurrence

VII. Additional Comments, Data, etc.

This document and the related CASE CLOSURE LETTER, shall be retained by the lead agency as part of the official site file.



SENDER: 2992 Paradise Rd Ste C Tracy CA 95376

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

DEC 28 1998

3. Article Addressed to:

DOROTHY HALEY
1311 MADISON
TRACY CA 95376

4a. Article Number: Z 187 935 660

4b. Service Type

☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery: 12-9-98

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)

X D Haley

PS Form 3811, December 1994 Domestic Return Receipt

Thank you for using Return Receipt Service.

DEC 28 1998

Z 187 935 660

Cal/EPA

State Water Resources Control Board

Division of Clean Water Programs

Mailing Address:
P.O. Box 944212
Sacramento, CA
94244-2120

2014 T Street,
Suite 130
Sacramento, CA
95814
(916) 227-4307
FAX (916) 227-4530

World Wide Web:
http://www.swrcb.ca.gov/~cwphome/fundhome.htm

Pete Wilson
Governor

March 25, 1997

DOROTHY E HALEY
1311 MADISON AVE
TRACY, CA 95376

UNDERGROUND STORAGE TANK CLEANUP FUND, CLAIM NO. 010776, FOR SITE ADDRESS: 21000 PARADISE RD, TRACY

The State Water Resources Control Board (State Board) is able to issue, pursuant to applicable regulations, the enclosed Letter of Commitment (LOC) in an amount not to exceed **$35,000**. This LOC is based upon our review of the corrective action costs you reported to have incurred to date. The LOC may be modified by the State Board.

It is very important that you read the terms and conditions in the LOC. The State Board will take steps to withdraw this LOC after 90 calendar days from the date of this letter unless you proceed with due diligence with your cleanup effort.

NOTE: You must also submit your first reimbursement request for the costs that you reported to have incurred within 90 calendar days from the date of this letter or submit a **written** explanation as to the status of the cleanup and **when** a reimbursement request can be expected. Failure to submit a request or an approved explanation may result in the removal of committed funds. Claims filed with the Underground Storage Tank Cleanup Fund far exceed the funding available and it is important that you make use of the funding that has been committed to your cleanup in a timely manner.

You are reminded that you must comply with all regulatory agency time schedules and requirements and you must obtain three bids for any required corrective action. Only corrective action costs *required* by the regulatory agency to protect human health, safety and the environment can be claimed for reimbursement. **Unless waived in writing, you are required to obtain *preapproval of costs* for all future corrective action work (form enclosed).** If you have any questions on obtaining preapproval of your costs or the three bid requirement, please call Christopher Stevens, our engineer assigned to claims in your Region, at (916) 227-4519. Failure to obtain preapproval of your future costs may result in the costs not being reimbursed.

The following documents needed to submit your reimbursement request are enclosed:

- "Reimbursement Request Instructions" package. **Retain this package for future reimbursement requests**. These instructions must be followed when seeking reimbursement for corrective action costs incurred after January 1, 1988. Included in the instruction package are samples of completed reimbursement request forms and spreadsheets.
- "Bid Summary Sheet" to list information on bids received which **must be completed and returned**.
- "Certification of Non-Recovery From Other Sources" which **must be returned before any reimbursements can be made.**
- "Reimbursement Request" forms which you **must use to request reimbursement of costs incurred.**
- "Spreadsheet" forms which you **must use in conjunction with your reimbursement request.**
- "Claimant Data Record" (Std. Form 204) which **must be completed and returned with your first reimbursement request.**

We continuously review the status of all active claims. If you do not submit a reimbursement request or fail to proceed with due diligence with the cleanup, we will take steps to withdraw your LOC.

If you have any questions regarding the enclosed documents, please contact Annabel L. Mackey at (916) 227-4334.

Sincerely,

Dave Deaner, Manager
UST Cleanup Fund Program

Enclosures

cc: Mr. Gordon Boggs
RWQCB, Reg. 5 - Sacramento
3443 Routier Road
Sacramento, CA 95827-3098

Ms. Margaret Lagorio
San Joaquin County EHD
P.O. Box 2009
Stockton, CA 95201

Recycled Paper

Our mission is to preserve and enhance the quality of California's water resources, and ensure their proper allocation and efficient use for the benefit of present and future generations.

Chief, Division Administrative Services

R:3/24/94

CLAIMANT SIGNATURE:

STATE USE ONLY: APPROVAL FOR PAYMENTS

$ _____	LESS:	$ _____	=	$ _____	
Approved for Payment to Date		*Previous Payments*		*Amount Due*	
_____		_____		_____	
Reviewed By:		*Title:*		*Date:*	
_____		_____		_____	
Approved By:		*Title:*		*Date:*	

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, *Governor*

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS
2014 T STREET, SUITE 130
P.O. BOX 944212
SACRAMENTO, CALIFORNIA 94244-2120
(916) 227-4334
(916) 227-4530 (FAX)

ENVIRONMENTAL HEALTH
PERMIT SERVICE

95 DEC -5 PM 12:50

November 30, 1995

Dorothy E. Haley
1311 Madison Avenue
Tracy CA 95376

UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM, NOTICE OF CLAIM ACCEPTANCE: CLAIM NUMBER 010776, FOR SITE ADDRESS: 21000 Paradise Road, Tracy CA 95376

Your claim has been conditionally accepted for placement on the Priority List in the priority class claimed (Priority Class B). The Priority List is updated on a monthly basis. This project should be added to the next monthly update. The formal Priority List is published annually.

Staff will review, verify, and process applications based on the priority and rank within the priority class. During the detailed review, staff may request additional information to verify eligibility. Once review of the application is complete and the claim is determined to be valid, a Letter of Commitment will be issued obligating funds toward the cleanup. If the detailed review determines that your claim is unacceptable or ineligible, you will be notified of our intent to remove your claim from the Priority List.

If you have any questions, please contact me at (916) 227-4334.

Sincerely,

Annabel L. Mackey

Annabel L. Mackey, Claims Reviewer
Underground Storage Tank Cleanup Fund

cc: Ms. Diane Hinson
San Joaquin County EHD
P.O. Box 2009
Stockton, CA 95201

Mr. Gordon Boggs
California Regional Water Quality
Control Board, Central Valley Region
3443 Routier Road
Sacramento, CA 95827-3098

LETTER OF COMMITMENT FOR REIMBURSEMENT OF COSTS

CLAIM NO: **010776**

AMENDMENT NO: **0**

CLAIMANT: **DOROTHY E HALEY**

BALANCE FORWARD: **$0**

CO-PAYEE: **NONE**

THIS AMOUNT: **$35,000**

JOINT CLAIMANT: **NONE**

NEW BALANCE: **$35,000**

CLAIMANT ADDRESS: **1311 MADISON AVE**
TRACY, CA 95376

TAX ID/SSA NO: **565-48-5808**

Subject to availability of funds, the State Water Resources Control Board (SWRCB) agrees to reimburse **DOROTHY E HALEY** (Claimant) for eligible corrective action costs at **PARADISE AIRSTRIP 21000 PARADISE RD, TRACY, CA 95376** (Site). The commitment reflected by this Letter is subject to all of the following terms and conditions:

1. Reimbursement shall not exceed $35,000 unless this amount is subsequently modified in writing by an amended Letter of Commitment.

2. The obligation to pay any sum under this Letter of Commitment is contingent upon availability of funds. In the event that sufficient funds are not available for reasons beyond the reasonable control of the SWRCB, the SWRCB shall not be obligated to make any disbursements hereunder. If any disbursements otherwise due under this Letter of Commitment are deferred because of unavailability of funds, such disbursements will promptly be made when sufficient funds do become available. Nothing herein shall be construed to provide the Claimant with a right of priority for disbursement over any other claimant who has a similar Letter of Commitment.

3. All costs for which reimbursement is sought must be eligible for reimbursement and the Claimant must be the person entitled to reimbursement thereof.

4. Claimant must at all times be in compliance with all applicable state laws, rules and regulations and with all terms, conditions, and commitments contained in the Claimant's Application and any supporting documents or in any payment requests submitted by the Claimant.

5. No disbursement under this Letter of Commitment will be made except upon receipt of acceptable Standard Form Payment Requests duly executed by or on behalf of the Claimant. All Payment Requests must be executed by the Claimant or a duly authorized representative who has been approved by the Division of Clean Water Programs.

6. Any and all disbursements payable under this Letter of Commitment may be withheld if the Claimant is not in compliance with the provisions of Paragraph 5 above.

7. Neither this Letter of Commitment nor any right thereunder is assignable by the Claimant without the written consent of the SWRCB. In the event of any such assignment, the rights of the assignee shall be subject to all terms and conditions set forth in this Letter of Commitment and the SWRCB's consent.

8. This Letter of Commitment may be withdrawn at any time by the SWRCB if completion of corrective action is not performed with reasonable diligence.

IN WITNESS WHEREOF, this Letter of Commitment has been issued by the SWRCB this 17th day of March, 1997.

STATE WATER RESOURCES CONTROL BOARD

By: Doug Wilson
Manager, Underground Storage Tank Cleanup Fund Program

By: Susan Hoo
for Chief, Division Administrative Services

STATE USE:
CALSTARS CODING:
0550 - 569.02 - 30530

$ _____

R:3/24/94

REIMBURSEMENT REQUEST - UNDERGROUND STORAGE TANK CLEANUP FUND

CLAIM NO: 010776 **REGION:** 5 **REIMBURSEMENT NO:**

CLAIMANT: DOROTHY E HALEY
CO-PAYEE: NONE
JOINT CLAIMANT: NONE

CLAIMANT ADDRESS: 1311 MADISON AVE
TRACY, CA 95376

CONTAMINATED SITE: PARADISE AIRSTRIP
ADDRESS: 21000 PARADISE RD
TRACY, CA 95376

LETTER OF COMMITMENT $35,000 **AMENDMENT NO:** 0

PROJECT COSTS INCURRED TO DATE

(This Section to be completed by claimant)

		APPROVED FOR PAYMENT (TO DATE) (State Use Only)
1. CORRECTIVE ACTION COSTS (Costs entered here must be cumulative, Total-to-date, NOT INCREMENTAL.)	$	$
2. THIRD PARTY JUDGEMENT	$	$
3. ADJUSTMENT	$ ( )	$
4. DEDUCTIBLE (Subtract)	$ (5,000)	$ (5,000)
TOTAL (Lines 1, 2, 3 & 4)	$	$

CERTIFICATION:
I have read and agree with the "Conditions of Payments" (Exhibit I), listed on the reverse side of this document.
NOTE: This request CANNOT BE PROCESSED unless the "Conditions of Payments" are included on the reverse side when submitted.

The costs claimed have been incurred and have been paid or will be paid within thirty (30) days of receipt of the funds requested hereby. If such costs have not been paid within 30 days, funds received under this request will be returned to the State Water Resources Control Board.

CLAIMANT SIGNATURE: **DATE:**

STATE USE ONLY: APPROVAL FOR PAYMENTS

$_____ LESS: $_____ = $_____

Approved for Payment to Date | Previous Payments | Amount Due

Reviewed By: | Title: | Date:

Approved By: | Title: | Date:

Steve

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M.D., M.P.H., Acting Health Officer
445 N. San Joaquin Street • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

COPY

DOROTHY HALEY TRUSTEE
1311 MADISON AVE
TRACY CA 95376

MAY 10 1995

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

The attached "Notice of Reimbursement" is official notification that your site has been assigned to the San Joaquin County Public Health Services, Environmental Health Division's (PHS/EHD) Local UST Oversight Program for oversight of assessment and cleanup activities at contaminated underground tank sites.

PHS/EHD sent a letter to David De Carlo, owner of Haley Flying Service, dated March 7, 1994 regarding the State Water Resources Control Board (SWRCB) "Prioritization System for Leaking Underground Storage Tank Sites". The system created a ranking list to prioritize all the contaminated sites in San Joaquin County. The letter stated that based upon the priority ranking you will be directed to begin the required investigation. A copy of that letter has been enclosed for your reference.

At this time PHS/EHD is directing you, the property owner, to begin the investigation to determine the impact to soil and groundwater from the unauthorized release of petroleum hydrocarbons detected during the removal of the 5000 gallon aviation fuel tank on May 11, 1990.

Fees for review activities and inspections associated with contaminated site assessment activities will not be billed by this office. The State Water Resource Control Board (SWRCB) will invoice you directly for activities performed under the auspices of the Local UST Oversight Program. The goal of the site evaluation performed by PHS/EHD is to certify closures of underground tank leakage sites. **Closure certification occurs only after mitigation activities are completed.**

In addition, the "Regional Board Staff Recommendations For Initial Evaluation and Investigation of Underground Tanks" and "Appendix A" reporting format and the LUFT Manual shall be utilized as guidance documents in the preparation of work plans and/or reports.

Enclosed please find a list of consultants to contact for proposals for further investigation.

A workplan for this investigation should be submitted to PHS/EHD by May 31, 1995

If you have any questions or there are any corrections in the responsible party information, contact Steven Sasson, REHS at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Diane M. Hinson, REHS
Supervisor

SS

Enc.

c: SWRCB, Underground Storage Tank Section - Lori Casias
c: CRWQCB, Central Valley Region - Elizabeth Thayer

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS
UST LOCAL OVERSIGHT PROGRAM

NOTICE OF REQUIREMENT TO REIMBURSE

SITE CODE: 1992 DATE FIRST REPORTED: 05/11/90
SITE NAME: HALEY FLYING SERVICE SUBSTANCE: 01
ADDRESS: 21000 PARADISE RD PETROLEUM: Y
CITY: TRACY CA ZIP: 95376

The following information has been provided to:

RESPONSIBLE PARTY: HALEY FLYING SERVICE
CONTACT: DOROTHY HALEY
ADDRESS: 1311 MADISON AVE
CITY: TRACY STATE: CA ZIP: 95376

The federal Petroleum Leaking Underground Storage Tank Trust Fund (Federal Trust Fund) provides funding to pay the local and state agency administrative and oversight costs associated with the cleanup of releases from underground storage tanks. The Legislature has authorized funds to pay the local and state agency administrative and oversite costs associated with the cleanup of releases from underground storage tanks. The direct and indirect costs of overseeing removal or remedial action at the above site are funded, in whole or in part, from the Federal Trust Fund. The above individual(s) or entity(ies) have been identified as the party or parties responsible for investigation and cleanup of the above site. YOU ARE HEREBY NOTIFIED that pursuant to Title 42 of the United States Code, Section 6991b(h)(6) and Sections 25297.1 and 25360 of the California Health and Safety Code, the above Responsible Party or Parties must reimburse the State Water Resources Control Board not more than 150 percent of the total amount of site specific oversight costs actually incurred while overseeing the cleanup of the above underground storage tank site, and the above Responsible Party or Parties shall make full payment of such costs within 30 days of receipt of a detailed invoice from the State Water Resources Control Board.

CONTRACT PROJECT DIRECTOR:

_____ (209) 468-3450 DATE: 5-9-95
Signature Telephone Number

Add: X Reason: ADD NEW SITE

Delete: _____ Reason: _____

Change: _____ Reason: _____

Is your RETURN ADDRESS completed on the reverse side?

P 293 132 203

SENDER: 1342 1000 Paradise Rd Ste 206 (SS)

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address MAY 13 1994
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

DOROTHY HALEY TRUSTEE
1311 MADISON AVE
TRACY CA 95376

4a. Article Number P 293 132 203

4b. Service Type
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery 5-11-94

5. Signature (Addressee) D Haley

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form **3811**, December 1991 ☆U.S. GPO: 1993—352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

MODIFY CONTAMINATED MFR SITE DATA Site Code: 1992	UPDATE: 12/28/98	PRIORITY Name CAQT Code 1A5

UGT: Y	LOP : Y	H W: N	Site Mitig: N	PWS: N	Priv Well: Y	Env Assess: N
Solid Waste: N	H20 Q: N	EPI: N	Land Use: N	Othr Agency Rept: N	Emerg Resp: N	
Entered LOP: 03/08/95	SJ/PHS Contact: OZ			LEAD AGY: LOP		
NOR sent: 05/10/95	Loc Code: 99	Dist: 5		Prog/Element: 3528		
Fund Source: F	Fed Exempt: N	WDR Y/N: N		NPDES Y/N: N		

Site Specific Quarterly Report Information

1 8006619	2	3	4	5
Site Code: 1992				Petroleum: Y
Site Name: HALEY FLYING SERVICE				Date Reported: 05/11/90
Address: 21000 PARADISE DR				Date Confirmed: 06/05/90
City: TRACY	CA	Zip: 95376		Multiple RP's: N

Site Status

Case Type: G	Emergency Response:	Contract Status: 5

	Underway	Completed
RP Search: S	04/21/95	04/26/95
Preliminary Assessment: C	04/26/95	07/26/96
Remedial Investigation: U	07/26/96	
Remedial Action:		
Post-Remedial Action Monitoring:		

Status Changes

1 03/08/95
2 05/10/95
3 04/26/95
4
5 07/26/96
7
8
9

Enforcement Action Taken: Y Type: 1 Date: 05/10/95
LUFT Consideration: 3 H S C A R W G
Excavation Started: Case Closed: Y Date: 12/28/98
Remedial Action Taken:

SITE AND FILE STATUS

Water Depth: 10 Gradient:NE	Wells Nearby	Type
Last Sample Date:00/00/00	500' ---> Y 1000' ---> N 2000' ---> N	IR ---> Y DOM ---> N PUB ---> N
Flag Date:00/00/00		

Contaminated MFR

▸FPT: N	▸Soil: Y	▸GW: Y	
Failed PT: 00/00/00	Soil Con:06/05/90	GW Con:06/26/90	DW Con: N
Prior Failed PT: N	No Action: N	MW Destroyed?: False	
Consultant: WRIGHT ENVIRONMENTAL SERVICES		Phone: 209 833-0758	
UAR #: 90-U64 => 06/26/90		Prop65 #: 90-147 => 06/26/90	
Street #: 21000	Street Name: PARADISE	APN #: 213-060-13	

Responsible Party

Company Name: DOROTHY HALEY	Phone: 209 835 4725
Contact Name:	Phone:
Address: 1311 MADISON	
City: TRACY	State: CA ZIP: 95376

MODIFY CONTAMINATED MFR SITE DATA
Site Code: 1992

UPDATE: 10/29/96

PRIORITY Name CAQT Code 1A5

UGT: Y	LOP : Y	H W: N	Site Mitig: N	PWS: N	Priv Well: Y	Env Assess: N
Solid Waste: N	H20 Q: N	EPI: N	Land Use: N	Othr Agency Rept: N	Emerg Resp: N	
Entered LOP: 03/08/95	SJ/PHS Contact: SASSON	LEAD AGY: LOP				
NOR sent: 05/10/95	Loc Code: 99	Dist: 5	Prog/Element: 3526			
Fund Source: F	Fed Exempt: N	WDR Y/N: N	NPDES Y/N: N			

Site Specific Quarterly Report Information

1 01	2	3	4	5
Site Code: 1992				Petroleum: Y
Site Name: HALEY FLYING SERVICE				Date Reported: 05/11/90
Address: 21000 PARADISE DR				Date Confirmed: 06/05/90
City: TRACY	CA	Zip: 95376		Multiple RP's: N

Site Status

Case Type: G | Emergency Response: | Contract Status: 5

		Underway	Completed
RP Search:	S	04/21/95	04/26/95
Preliminary Assessment:	C	04/26/95	07/26/96
Remedial Investigation:	U	07/26/96	
Remedial Action:			
Post-Remedial Action Monitoring:			

Status Changes

1	03/08/95
2	05/10/95
3	04/26/95
4	
5	07/26/96
7	
8	
9	

Enforcement Action Taken: Y Type: 1 Date: 05/10/95
LUFT Consideration: 3 H S C A R W G
Excavation Started: Case Closed: Date:
Remedial Action Taken:

SITE AND FILE STATUS

Water Depth: 10 Gradient:NE	Wells Nearby	Type
Last Sample Date:00/00/00	500' ---> Y	IR ---> Y
Flag Date:00/00/00	1000' ---> N	DOM ---> N
	2000' ---> N	PUB ---> N

Contaminated MFR

▸FPT: N	▸Soil: Y	▸GW: Y	
Failed PT: 00/00/00	Soil Con:06/05/90	GW Con:06/26/90	DW Con: N
Prior Failed PT: N	No Action: N	MW Destroyed?: False	
Consultant: WRIGHT ENVIRONMENTAL SERVICES		Phone: 209 833-0758	
UAR #: 90-U64 => 06/26/90		Prop65 #: 90-147 => 06/26/90	
Street #: 21000	Street Name: PARADISE	APN #: 213-060-13	

Responsible Party

Company Name: DOROTHY HALEY	Phone: 209 835 4725
Contact Name:	Phone:
Address: 1311 MADISON	
City: TRACY	State: CA ZIP: 95376

PHS/SAN JOAQUIN COUNTY - ENVIRONMENTAL HEALTH DIVISION

LOP MFR SIDE A - ADDITION:_____ EDIT:_____

UPDATE	3/8/95	BY	MZ	REVIEWED BY		DATE ENTERED		BY	

ENTERED LOP		SJ/PHS CONTACT	SASSON Inforrera	DISK#	CAQT	PRIORITY	
NOR SENT		LOC CODE	99	SUPR DIST	005	PROG/ELEM		WDR	Y / N	NPDES	Y / N

SITE SPECIFIC QUARTERLY REPORT INFORMATION

CONTRACTOR #	39000	SUBSTANCE #1	01	#2		#3		#4		#5	

SITE CODE	1992	SOURCE OF FUNDS	S / F	FED EXEMPT	Y / N	PETROLEUM	Y / N
SITE NAME	Haley Flying Service					DATE REPORTED	5/11/90
ADDRESS	21000 Paradise Rd					DATE CONFIRMED	6/15/90
CITY	Tracy	CA	ZIP	95376		MULTIPLE RP's	Y / N

SITE STATUS

CASE TYPE	CONTRACT STATUS	STATUS CHANGE DATE	EMERGENCY RESPONSE
U S G D	1 2 3 4 5 6 7 8		

RP SEARCH	S I N R	DATE UNDERWAY		COMPLETED	
PRELIMINARY ASSESSMENT	U C	DATE UNDERWAY		COMPLETED	
REMEDIAL INVESTIGATION	U C	DATE UNDERWAY		COMPLETED	
REMEDIAL ACTION	U I C	DATE UNDERWAY		COMPLETED	
POST REM ACT MONITORING	Y N U C	DATE UNDERWAY		COMPLETED	
ENFORCEMENT ACT TAKEN	Y N	ENFORCEMENT TYPE	1 2 3 4 5 6	DATE ACTION TAKEN	
LUFT CONSIDERATION	1 2 3 H S C A R W G O				/ /
EXCAVATION STARTED	/ /	CASE CLOSED	Y R C L	DATE CLOSED	/ /
REMEDIAL ACTION TAKEN	CD CB ED ET FP GT IT RS HU NA VS VE NT OT UK				

SITE AND FILE STATUS

DEPTH TO WATER	10	GRADIENT		WELLS NEARBY	>500 FT		>1000 FT		>2000 FT		TYPE	IR	DOM	PUB

LAST SAMPLING DATE		FLAG DATE		UAR #		PROP65 #	

CONTAMINATED SITE MFR - Addition:_____ Edit:_____ DATE / /

UGT FILE		FAILED PT	/ /	SOIL CONT	/ /	GW CONT	/ /	DW CONT	Y / N

CONSULT CONTACT		RWQCB CONTACT		DTSC CONTACT	

STREET #		SITE STREET		APN #	

PROPERTY OWNER(S) AND ADDITIONAL RP'S NOTED ON SIDE B	Y / N	

9/27/90

PHS/SAN JOAQUIN COUNTY - ENVIRONMENTAL HEALTH DIVISION
CONTAMINATED SITE MGR - INPUT FORM

UPDATE	6/26/90	BY	WRHawley	REVIEWED BY	DW	DATE ENTERED	8/22/90	BY	

9/26/90

ADDITION: ✓ EDIT: _____

SWEEPS #	1992	COMPUTER #	NBHALEY1	DIST #	324	LOC CODE	99
UGT FILE	X	H W FILE		LAND USE FILE		PWS FILE		PILOT PROG	

FAILED PT	/ /	SOIL CONT	/ /	GW CONT	6/26/90	DW CONT	
PETROLEUM	(Y) / N	ENTERED PILOT	/ /	PROG/ELEMENT	2380		

SITE NAME	HALEY FLYING SERVICE				
ADDRESS	21000 PARADISE RD			PHONE	209-836-0213
CITY	TRACY	STATE	CA	ZIP	95376
CONTACT NAME	DOROTHY HALEY	CROSS STREET	GRANT LINE		

PROPERTY OWNER

NAME	DOROTHY HALEY			PHONE	209-835-4725
MAILING/STREET ADDRESS	1311 MADISON				
CITY	TRACY	STATE	CA	ZIP	95376
CONTACT NAME	DOROTHY HALEY			PHONE	209-835-4725

RESPONSIBLE PARTY (If different from Property Owner)

COMPANY NAME	Same as Prop. Owner	PHONE	
CONTACT NAME		PHONE	
ADDRESS			
CITY		STATE	ZIP

CONSULTANT		PHONE	
SJ/EH CONTACT			
RWQCB CONTACT			
DHS CONTACT			
OTHER CONTACT			

UAR #	90-404	DATE	6/26/90	PROP 65 #	90-147	DATE	6/26/90
STREET #	21000	SITE STREET	Paradise			PRIORITY	

EH 23 070 (7/89) 89-19(IV)7/89 CNTMFR

90-U64

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☑ NO — HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☐ NO

REPORT DATE 06 26 90 — CASE #

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.
SIGNED: William R Snavely — DATE: 6-26-90

REPORTED BY

NAME OF INDIVIDUAL FILING REPORT: William R. Snavely — PHONE: (209) 468-3420 — SIGNATURE: William R Snavely

REPRESENTING ☐ OWNER/OPERATOR ☐ REGIONAL BOARD ☑ LOCAL AGENCY ☐ OTHER ____ — COMPANY OR AGENCY NAME: San Joaquin Co. Public Health Services

ADDRESS: P. O. Box 2009 (STREET) — CITY: Stockton — STATE: CA — ZIP: 95201

RESPONSIBLE PARTY

NAME: Dorothy Haley ☐ UNKNOWN — CONTACT PERSON: Dorothy Haley — PHONE: (209) 835-4725

ADDRESS: 1311 Madison (STREET) — CITY: Tracy, CA — STATE — ZIP: 95376

SITE LOCATION

FACILITY NAME (IF APPLICABLE): Haley Flying Service — OPERATOR: Gary Del Carlo — PHONE: (209) 948-9345

ADDRESS: 21000 Paradise Rd (STREET) — CITY: Tracy — COUNTY: CA — ZIP: 95376

CROSS STREET: Grant Line

TYPE OF AREA ☐ COMMERCIAL ☐ INDUSTRIAL ☐ RURAL ☐ RESIDENTIAL ☐ OTHER ____

TYPE OF BUSINESS ☐ RETAIL FUEL STATION ☐ FARM ☐ OTHER ____

IMPLEMENTING AGENCIES

LOCAL AGENCY: San Joaquin Co. Public Health — AGENCY NAME: Services — CONTACT PERSON — PHONE: (209) 468-3420

REGIONAL BOARD: CVRWQCB — PHONE: (916) 361-5600

SUBSTANCES INVOLVED

(1) NAME: Petroleum hydrocarbons — QUANTITY LOST (GALLONS) ____ ☐ UNKNOWN

(2) ____ ☐ UNKNOWN

DISCOVERY/ABATEMENT

DATE DISCOVERED: 06 26 90 — HOW DISCOVERED ☐ INVENTORY CONTROL ☐ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☒ TANK REMOVAL ☐ OTHER ____

DATE DISCHARGE BEGAN ____ ☐ UNKNOWN

HAS DISCHARGE BEEN STOPPED? ☐ YES ☐ NO IF YES, DATE ____

METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY)
☐ REMOVE CONTENTS ☐ REPLACE TANK ☐ CLOSE TANK ☐ REPAIR TANK ☐ REPAIR PIPING ☐ CHANGE PROCEDURE ☐ OTHER ____

SOURCE/CAUSE

SOURCE OF DISCHARGE: ☐ TANK LEAK ☐ UNKNOWN ☐ PIPING LEAK ☐ OTHER

TANKS ONLY/CAPACITY: 5000 (1000) GAL — AGE ____ YRS ☑ UNKNOWN

MATERIAL: ☐ FIBERGLASS ☑ STEEL ☐ OTHER ____

CAUSE(S): ☐ OVERFILL ☐ RUPTURE/FAILURE ☐ CORROSION ☐ UNKNOWN ☐ SPILL ☐ OTHER ____

CASE TYPE

CHECK ONE ONLY
☐ UNDETERMINED ☐ SOIL ONLY ☑ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS

CHECK ONE ONLY
☐ SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) ☐ CLEANUP IN PROGRESS ☐ SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY)
☐ NO ACTION TAKEN ☐ POST CLEANUP MONITORING IN PROGRESS ☐ NO FUNDS AVAILABLE TO PROCEED ☐ EVALUATING CLEANUP ALTERNATIVES

REMEDIAL ACTION

CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT)
☐ CONTAINMENT BARRIER (CB) ☐ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ TREATMENT AT HOOKUP (HU) ☐ NO ACTION REQUIRED (NA) ☐ OTHER (OT) ____

COMMENTS

water and soil results reveal CONTAMINATION FROM Underground storage tank removed ON 5-11-90. Further site assessment WILL be required to determine the nature and extent OF contamination as required by the appropriate agency.

HSC 05 (4/87)

File

SAN JOAQUIN COUNTY
NOTIFICATION OF HAZARDOUS WASTE DISCHARGE
HEALTH & SAFETY CODE 25180.7

A. EMERGENCY LEVEL: (I) II III (Circle One) PHS-EH LOG # 90-147

B. SOURCE OF INFORMATION (OWNER)
Original Source: DOROTHY HALEY Telephone: (209) 835-4725
Reporting Agency Name: _____
Agency Contact: Doug Wilson Telephone: (209) 468-3420
Address: P.O. Box 2009, STOCKTON, CA 95209

C. LOCATION AND DATE OF DISCHARGE
Location: 21000 PARADISE Rd / TRACY, CA 95376
(Best Physical Description) (City or County)
Date of Discharge: UNKNOWN
Date Notified: 6-26-90 Time: 10 AM

D. RESPONSIBLE PERSON/BUSINESS
Name of Business HALEY FLYING SERVICE
Contact Person: DOROTHY HALEY Telephone: (209) 835-4725
Physical Address: 1311 Madison, TRACY, CA 95376

E. DESCRIPTION
Type Release: Unauthorized
Volume: UNKnown
Chemicals: Petroleum hydrocarbons

F. ACTION TAKEN
Water and soil results reveal Contamination from Underground Storage tank removed on 5-11-90. FURther site assessment will be required to determine the nature and extent of contamination as required by the appropriate agency.

EH 22 03 (Rev. 7/89)

ENVIRONMENTAL HEALTH
PERMIT SERVICE
96 OCT 23 PM 4:44

Wright
Environmental
Services, Inc.

October 23, 1996
Project No. 4111

Public Health Services
San Joaquin County
Environmental Health Division
Mr. Steven Sasson, Senior REHS
304 E. Weber Ave., Third Floor
P.O. Box 388, Stockton, CA 95201-0388

Attn: Mr. Steven Sasson

Subject: Addendum to Water Sampling Memorandum of Understanding
2100 Paradise Road, Tracy
Claim Number 010776

Site Code: 1992

Dear: Mr. Sasson

As directed by your letter dated September 9, 1996, Wright Environmental Services, Inc. (WRIGHT), collected a water sample from the on site agricultural well located at the above referenced site. This sample was to be analyzed for all contaminants of concern including Methyl-tert-butyl-ethylene (MTBE) as indicated in the same letter.

Based on a telephone conversation of October 17, 1996, and conversation with you on site on October 18, 1996, the agricultural well sample was to be analyzed for Total Petroleum Hydrocarbons as Aviation Fuel (TPH-A), Benzene, Toluene, Ethyl-benzene and total Xylenes (BTEX), and MTBE only.

Based on the telephone conversation with you on October 21, 1996, the sample will also be analyzed for Total Petroleum Hydrocarbons as Kerosene (TPH-K), and Total Petroleum Hydrocarbons as Gasoline (TPH-G).

No response is necessary unless additional laboratory analyses will be required. Please call our Tracy office at (209) 833-7508, or send a facsimile to (209) 832-5152.

Sincerely,
Wright Environmental Services, Inc.

Michael Grossjan
Environmental Specialist

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

APPLICATION FOR WELL/PUMP PERMIT
SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES
ENVIRONMENTAL HEALTH DIVISION
304 EAST WEBER AVENUE, STOCKTON, CA 95202
(209) 468-3420

NON-REFUNDABLE PERMIT EXPIRES 1 YEAR FROM DATE ISSUED

(Complete in Triplicate)

APPLICATION IS HERE BY MADE TO THE SAN JOAQUIN COUNTY FOR A PERMIT TO CONSTRUCT AND/OR INSTALL THE WORK DESCRIBED. THIS APPLICATION IS MADE IN COMPLIANCE WITH SAN JOAQUIN COUNTY DEVELOPMENT TITLE, CHAPTER 9-1115.3 AND THE STANDARDS OF SAN JOAQUIN COUNTY PUBLIC HEALTH SERVICES, ENVIRONMENTAL HEALTH DIVISION.

JOB ADDRESS/OR APN# 21000 Paradise Road CITY Tracy, Ca PARCEL SIZE/APN#

OWNER'S NAME Dorothy Haley ADDRESS 1311 Madison Ave, Tracy, Ca PHONE # 209-835-4725

CONTRACTOR Wright Environmental Services, Inc ADDRESS 67 E. 10th St. LIC# 625150 PHONE # 209-833-0758

SUB CONTRACTOR Spectrum Exploration ADDRESS 2355 Wigwam LIC# 512268 PHONE # 2094658712

TYPE OF WELL/PUMP:
- ☐ NEW WELL
- ☐ REPLACEMENT WELL
- ☐ MONITORING WELL # 1, 2, 3
- ☐ OTHER
- ☐ INSTALLATION
- ☐ WELL SYSTEM REPAIR
- ☐ CROSS-CONNECT REPAIR
- ☐ VAPOR EXTRACTION WELL #
- ☐ New ☐ Repair H.P. DEPTH PUMP SET FT. FIRST WATER LEVEL
- (TYPE OF PUMP)
- ☒ OUT-OF-SERVICE WELL
- ☐ GEOPHYSICAL WELL #
- ☐ SOIL BORING

☒ DESTRUCTION: pressure grout MW1, close well over drill MW 2+3

INTENDED USE	TYPE OF WELL	CONSTRUCTION SPECIFICATIONS	
☐ INDUSTRIAL	☐ OPEN BOTTOM	DIA. OF WELL EXCAVATION	DIA. OF CONDUCTOR CASING
☐ DOMESTIC/PRIVATE	☐ GRAVEL PACK/SIZE	TYPE OF CASING/STEEL/PVC	DIA. OF WELL CASING
☐ PUBLIC/MUNICIPAL	☐ DRIVEN	DEPTH OF GROUT SEAL	SPECIFICATION
☐ IRRIGATION/AG	☐ OTHER	GROUT SEAL INSTALLED BY	GROUT BRAND NAME
☒ MONITORING		GROUT SEAL PUMPED: ☐ Yes ☐ No	CONCRETE PEDESTAL BY DRILLER: ☐ Yes ☐ No
APPROX. DEPTH		LOCKING CHESTER BOX/STOVE PIPE	

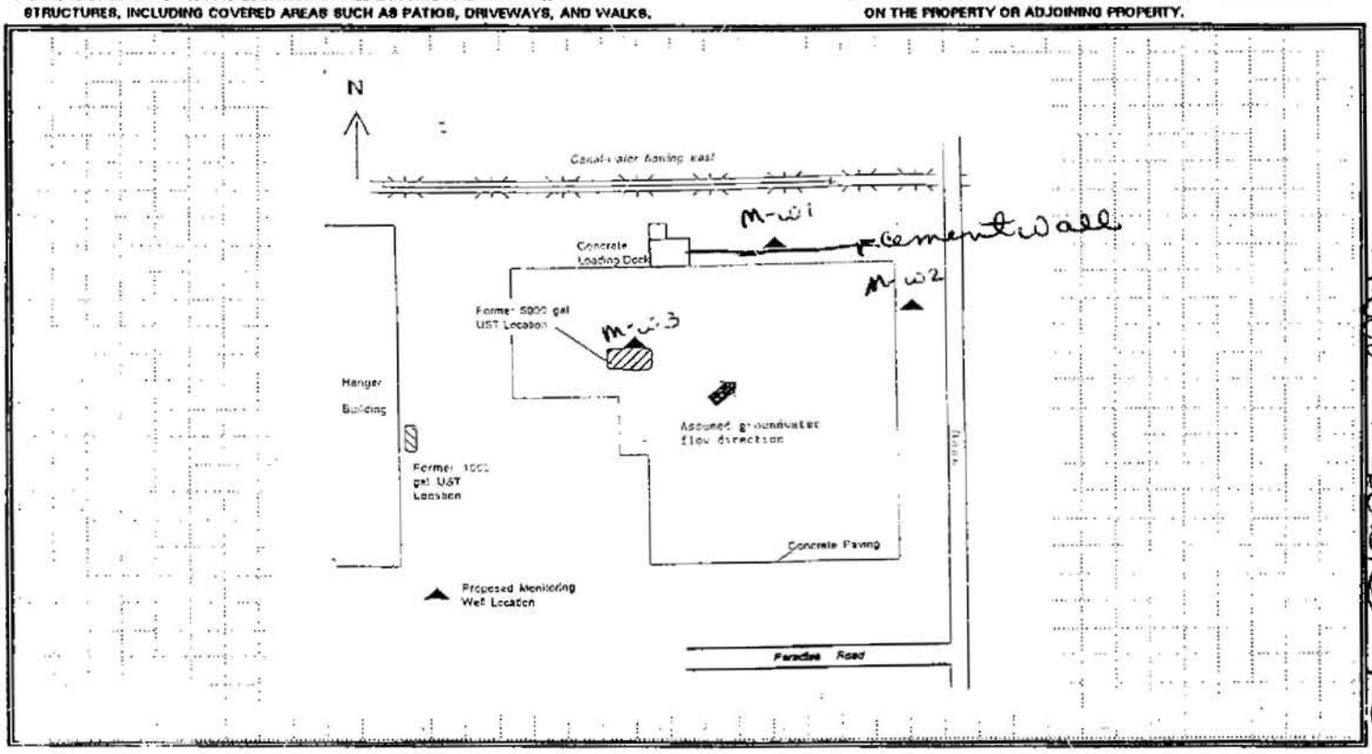
PROPOSED CONSTRUCTION/DRILLING METHOD: MUD ROTARY AIR ROTARY AUGER CABLE OTHER

I HEREBY CERTIFY THAT I HAVE PREPARED THIS APPLICATION AND THAT THE WORK WILL BE DONE IN ACCORDANCE WITH SAN JOAQUIN COUNTY ORDINANCES, STATE LAWS, AND RULES AND REGULATIONS OF THE SAN JOAQUIN COUNTY. HOME OWNER OR LICENSED AGENT'S SIGNATURE CERTIFIES THE FOLLOWING: "I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL NOT EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." CONTRACTOR'S HIRING OR SUB-CONTRACTING SIGNATURE CERTIFIES THE FOLLOWING: " I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL EMPLOY PERSONS SUBJECT TO WORKMAN'S COMPENSATION LAWS OF CALIFORNIA." THE APPLICANT MUST CALL 24 HOURS IN ADVANCE FOR ALL REQUIRED INSPECTIONS AT (209) 468-3423. COMPLETE DRAWING AT LOWER AREA PROVIDED.

Signed X John Smyth Title President Date 12-10-98

PLOT PLAN (Draw to Scale) Scale " to "

1. NAMES OF STREETS OR ROADS NEAREST TO OR BOUNDING THE PROPERTY.
2. OUTLINE OF THE PROPERTY, GIVING DIMENSIONS AND NORTH DIRECTION.
3. DIMENSIONED OUTLINES AND LOCATION OF ALL EXISTING AND PROPOSED STRUCTURES, INCLUDING COVERED AREAS SUCH AS PATIOS, DRIVEWAYS, AND WALKS.
4. LOCATION OF HOUSE SEWAGE DISPOSAL SYSTEM OR PROPOSED EXPANSION OF SEWAGE DISPOSAL SYSTEMS.
5. LOCATION OF WELLS WITHIN RADIUS OF ONE HUNDRED FIFTY FT. ON THE PROPERTY OR ADJOINING PROPERTY.



21000 Paradise Rd

DEPARTMENT USE ONLY

Application Accepted By Carol Bz Date 12/10/98 Area 0756

Grout Inspection By Date Pump Inspection By Date

Destruction Inspection By Carol Bz Date

Comments: pressure grouting MW1, overdrilling MW2+3 See Log file for more info
Thermite grouted # MW1

ACCOUNTING ONLY:	AID#	FAC#

PE CODE#	FEE INFO	AMOUNT REMITTED	CHECK/CASH	RECEIVED BY	DATE	PERMIT/SERVICE REQUEST NUMBER	INVOICE
3502	60-	60-	26011	Coz	12/10/98	017849	
						SR0017849	

Pub. Health Serv. - Enviro. 173 (1/97)

ENVIRONMENTAL HEALTH
PERMIT SERVICE
97 JAN 27 AM 11:15

Wright Environmental Services, Inc.

October 30, 1996
Project No. 4111

Public Health Services
San Joaquin County
Environmental Health Division
Mr. Steven Sasson, Senior REHS
304 E. Weber Ave., Third Floor
P.O. Box 388, Stockton, CA 95201-0388

ENVIRONMENTAL HEALTH DIVISION
304 E. Weber Ave. Third Floor
P. O. Box 388, Stockton CA 95201-0388
Approved ☒
Denied ☐
Conditions
obtain well permit
Date 1/30/97 by S. Sasson

FAX 209 832 5152

Attn: Mr. Steven Sasson

Subject: Workplan for Additional Assessment
21000 Paradise Road, Tracy
Claim Number 010776

Site Code: 1992

Dear Mr. Sasson:

Wright Environmental Services, Inc. (Wright) prepared this Workplan for Additional Assessment for the above referenced site. It was prepared in response to your letter, date stamped September 9, 1996, requesting additional site investigation as a representative of the San Joaquin County Public Health Services (PHS-EHD).

Sincerely,
Wright Environmental Services, Inc.

John Lynch
Progect Manager

Christopher M. Palmer
C. E. G. 1262; HG 246

Attachments: Figure 1
Attachment A - Wright Environmental Sampling Protocols

cc: Dorothy Haley

A:\Haley\Haley Wkplan, 10/30/96 (WP)

67 E. 10th St
~~4220 Commercial Dr. #5~~ • Tracy, California 95376 – 4001
Telephone (209) 833-0758 • Fax (209) 832-5152

Background

Two underground storage tanks were removed on May 11, 1990 by Crisp Tank Testing of Stockton, CA. The tanks were removed under approved PHS-EHD permits. Soil samples collected from beneath the gasoline tank revealed that contaminants were not detected. Soil samples collected under the aviation gasoline tank revealed moderate to high levels of Total Petroleum Hydrocarbons as Gasoline (TPH-G), Benzene, Toluene, Ethylbenzene and Xylenes (BTEX). A groundwater sample from the former aviation fuel tank pit revealed low levels of BTEX, but no detectable levels TPHG, Ethylene dibromide or organic lead.

At the request of the PHS-EHD, Wright performed a Reconnaissance Site Investigation, and presented the results in a letter report dated July 26, 1996. Soil exploratory borings were used to further define the extent of petroleum contaminants in the vicinity of a former aviation fuel underground storage tank location. Exploratory soil borings and reconnaissance groundwater sampling showed that highly degraded levels of TPH-G and BTEX occur in the apparent downgradient of the former aviation fuel tank and dispenser area.

TECHNICAL APPROACH

The eastern extent of groundwater contamination needs to be defined in the area of the former aviation gas fuel tank. In the July 26, 1996 letter mentioned above, Wright recommended the installation of three groundwater monitoring wells in a triangular array and monitoring to determine the eastern extent of the former aviation gas fuel tank groundwater contamination plume. These wells will be monitored at quarterly intervals to meet the current requirements of the PHS-EHD and evolving state guidance for underground tank petroleum releases. The data collected in this periodic monitoring program can be used to track hydrocarbons and their degradation in groundwater.

The scope of work will include preparation of this workplan; obtaining the appropriate permits from PHS-EHD; drilling three hollow-stem-auger (HSA) borings in a triangular array for conversion to groundwater wells; collecting soil samples at five foot intervals and areas of lithologic interest or obvious contamination; proper development, purging and sampling of the groundwater monitoring wells using a precleaned bailer. All field work will be performed using the attached protocols (Attachment A). Soil cuttings will be placed between plastic sheeting, and stored at the site awaiting laboratory results. Wells will be located at the approximate locations shown on the attached Figure 1. Up to three soil samples from the capillary fringe, and three groundwater samples will be logged onto a Chain-of-Custody and placed in a cooled ice-chest for transport to a state certified laboratory and analyzed for Total Petroleum Hydrocarbons as Aviation Fuel, (TPH-A), TPH-G, Total Petroleum Hydrocarbons as Kerosene, (TPH-K), Methyl-tertial-buytl-ether (MBTE), and BTEX by EPA methods 8015M for Aviation Fuel, 8015M for gasoline, 8015M for Kerosene, the LUFT method and 8020/602, respectively.

Wright recommends that monitoring for biologic parameters be added to the groundwater monitoring program to estimate biologic activity [i. e., dissolved oxygen, pH, ferrous iron, sulfate and nitrate and biologic screening (assumed pseudomonas genera analysis) Buscheck and O'Reilly, 1995]. This would establish a baseline to support the biologic activity inferred from the data collected and gauge selected future biologic monitoring parameters for the site monitoring program. Depending upon the results of the oxygen content of water, and with the approval of the PHS-EHD, Wright may add an oxygen carrier to aid in-situ biodegradation of contaminant plume.

The scope of work is comprised Three tasks, described below:

TASK ONE - INSTALL MONITORING WELLS:
This document constitutes the proposed workplan for the installation of three groundwater wells, a method for gathering data to determine the feasibility of natural attenuation as a remedial alternative, and quarterly monitoring of the wells. Locate underground utilities within the proposed work area to confirm that utilities will not be impacted during the investigation. Collect soil samples at five foot intervals from a maximum of three locations to an approximate depth of 25 feet. Soil samples will be analyzed for TPH-A, TPH-G, and TPH-K utilizing EPA method 8015M modified for Aviation Fuel, Gasoline, and Kerosene, respectively; and BTEX utilizing EPA method 8020. After proper installation, development, and purging, the monitoring wells will be sampled, and the samples transported following current regulatory suggested guidance to a state-approved laboratory for analysis. Groundwater samples will be analyzed using appropriate test methods for contaminants found during previous assessment work and for the biologic parameters (described above in the Technical Approach section). Following receipt of laboratory analytical results, a report of findings summarizing this work will be generated for submittal to the PHS-EHD. The report will describe the methods used and the results of task three including the exploration boring/well logs, lithologic cross-sections, scaled drawings, chemical analytical data, discussion and recommendations.

TASK TWO - QUARTERLY MONITORING:
Quarterly monitoring of the groundwater monitoring wells will probably be required by the PHS-EHD for at least four quarters, to establish site baseline conditions. This also gathers data for determining the indigenous biodegradation conditions for natural attenuation. Each monitoring event will include the collection of groundwater samples for laboratory analysis as described in Task Two, and will require the preparation of a quarterly monitoring report summarizing the results of each event for submittal to the PHS-EHD.

TASK THREE - STATE FUND DOCUMENT PREPARATION:
Wright will prepare this workplan and submit it to the PHS-EHD. After a PHS-EHD review of the workplan, Wright will finalize costs for the approved scope of work and prepare a pre-approval request for submittal to the State Water Resources Control Board (SWRCB) Cleanup Fund (FUND) staff. This task includes the costs associated with assisting Ms. Dorothy Haley with preparing budget costs for implementation of the above described work.

The estimated price for this work (Tasks One through Three) is summarized in Attachment A.

TASK FOUR: STATE FUND DOCUMENT PREPARATION
After receipt of your written approval, Wright will provide Task One work and prepare the workplan described in Task Two for submittal to the PHS-EHD. After a complete review of the workplan, Mr. Sasson will send a letter stating what changes, if any, are necessary for implementation of the described scope of work. Wright will make any necessary changes to the workplan to finalize costs for the approved scope of work and prepare a pre-approval request for submittal to the State Water Resources Control Board (SWRCB) Cleanup Fund (FUND) staff.

The estimated price for this work (Tasks One through Four) is summarized in Attachment A. Enclosed please find a work authorization form as Attachment B for your review and signature allowing us to continue to act as your consultant in this matter. Please retain one copy for your records, sign and return the other work authorization to our Tracy offices.

We look forward to working with you on this project. Should you have any questions, please contact John Lynch or myself at our Tracy office at (209) 833-0758.

Sincerely,
Wright Environmental Services, Inc.

Michael S. Grossjan
Geologist

John F. Lynch
President

Enclosures: Detailed Estimate (Attachment A)
Work Authorization Form (Attachment B)

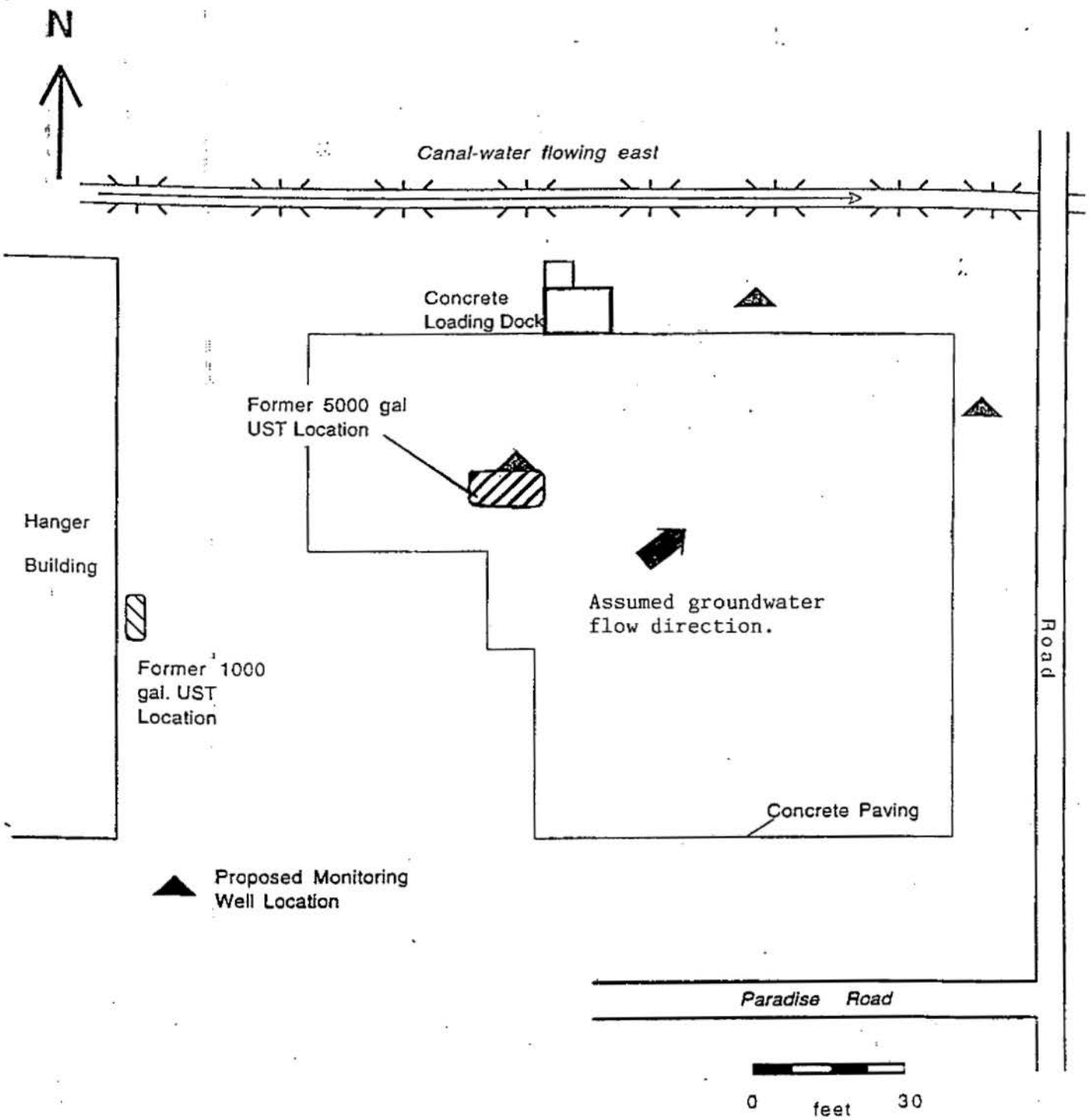
References

Buscheck, T. and O'Reilly, K., March, 1995, Protocol for Monitoring Intrinsic Bioremediation in Groundwater: Chevron Research and Technology Company Health, Environment and Safety Group, 20 pg.

Wright Environmental Services, Inc. letter, dated October 3, 1995, entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project. No. 4111, 5 pg. with attachments.

Wright Environmental Services, Inc. letter, dated July 26, 1996, entitled, "Reconnaissance Site Investigation, Haley Flying Services, 21000 Paradise Road, Tracy, CA," Project. No. 4111, 7 pg. with attachments.

PHS-EHD letter, date stamped September 9, 1996, Haley Flying Service, 21000 Paradise Road, Tracy, CA 95376, Site Code 1992, 1 pg.



Proposed Well Locations

Project No. 4111
Scale: 1" = 30'
Date: July, 1996

Haley Flying Services
21000 Paradise Road
Tracy, CA

Figure 1

Wright Environmental Services
Tracy, CA

Wright Environmental Services, Inc.

EXPLORATORY DRILLING, SOIL SAMPLING, WELL CONSTRUCTION AND WELL SAMPLING PROTOCOLS

Exploratory Boring Drilling and Sealing

Exploratory boring, soil sampling, well construction, and borehole sealing procedures follow current guidance recommended by the USEPA, California Regional Water Quality Control Board, and modified as required by local city, health agency or water district agencies. Drilling is performed under approved permits and boreholes are sealed upon completion.

Soil/Sediment Drilling Sampling Procedures

1. Drive (or hydraulically push) soil sampling will commence at a depth of 5 feet below surface grade. The samples will be taken at 5-foot increments and at intervals of geologic interest or obvious or suspected contamination to the total borehole depth. Additional sampling and/or continuous coring may be done at the discretion of the supervising geologist. All logging will be done using the Unified Soil Classification System, together with pertinent geologic observations (bedding, fractures, fossils, mineralogy etc.) as appropriate for the site geology delineation.

Continuous core (when collected) will be placed in core boxes for storage at the Client designated area. The core will be collected in a coring barrel, tube or other coring technology as used on the working drill rig. If small diameter (less that 2-inches) hydraulic push sampling method is used, the drilling contractor will provide an extruder to push the core out of the tube for logging. Other discrete portions of core may be retained in sampling tubes depending upon the required testing for the project.

2. All soil sampling tools (split spoons, cores, etc.) will be disassembled, steam-cleaned or cleaned in soapy (TSP) water, rinsed with clean tap water and finally rinsed with or distilled water, and air-dried prior to taking each sample. The cleaned tools will then be reassembled with similarly cleaned, dry brass sample liners and carefully lowered into the hollow stem augers for the collection of the next sample. The drill rig will arrive on-site clean, be decontaminated as needed during work at the discretion of the logging geologist and prior to leaving the site.

3. When sampling exploratory trenches, stockpile soils or during soil excavation, the soil sample will be collected by the following procedure; a clean brass liner will be pushed into the stockpile or excavation sidewall, or soil in the excavator bucket. About two inches of soil will be brushed away whereupon the liner will be pushed into the soil. The liner is then removed, sealed, labeled and logged onto chain-of-custody forms and packed in a chilled ice chest.

4. Split spoon soil samples in the brass liners in the sampling tool (depending on sample recovery) will be retained for chemical or physical testing. The samples will be labeled and sealed in the field in their original liners. Sample liners ends will be sealed with aluminum foil or Teflon®, capped with clean cap plugs, and labeled and logged onto chain of custody forms.

All samples retained for chemical analysis will be stored on ice in a clean, covered cooler-box/ice chest for transport to the Laboratory (see chain-of custody below).

5. The remaining soil sample will be extruded from the other rings in the field and lithologically logged using the USCS and collecting field evidence of contaminants and geologic information. Sampler shoe cuttings logging, blow counts, drill rig response and bit penetration rate and sample recovery may also be logged. A lithology exploratory boring log will be made of the materials encountered and sample depth for each boring. The log will include field descriptions of the soil lithologic variations, moisture conditions, geologic data, and any unusual characteristics which may indicate the presence of chemical contamination. Where soil samples are collected from excavations, the USCS soil classification system will be used to classify the soil sample.

Contaminated drill cuttings and the soils samples not retained for chemical analysis will be placed in 55-gallon drums or on plastic sheets and covered pending chemical analysis and proper off-site disposal as needed. Fluids produced during drilling will be drummed to minimize surface contamination. Ultimate proper storage and disposal of contaminated materials is the responsibility of the Client or site owner.

Reconnaissance Soil Sampling Procedures

1. Soil sampling tools (split spoons, cores, etc.) will be disassembled, steam-cleaned or cleaned in soapy (TSP) water, rinsed with clean tap water and finally rinsed with or distilled water, and air-dried prior to taking each sample. The cleaned tools will then be reassembled with similarly cleaned, dry brass sample liners and carefully lowered into the hollow stem augers for the collection of the next sample. The drill rig will be decontaminated as needed and at the discretion of the logging geologist.

2. When sampling stockpile soils or during soil excavations, the soil sample will be collected by the following procedure; a clean brass liner will be pushed into the stockpile or excavation sidewall, or soil in the excavator bucket. About two inches of soil will be brushed away and the liner pushed into the soil, completely filling it. The liner may be advanced by slide hammer and spoon or directly hammering the ring into the soil. The liner is then removed, sealed, labeled and logged onto chain-of-custody forms and packed in a chilled ice chest.

3. The soil samples in the lowermost of brass liners in the sampling tool (if used) will be retained for chemical testing. The samples will be labeled and sealed in the field in their original liners. Sample liners ends will be sealed with Teflon® paper or aluminum foil, capped with clean cap plugs, and labeled and logged onto chain of custody forms. All samples retained for chemical analysis will be stored on ice in a clean, covered cooler-box/ice chest for transport to the Laboratory (see chain-of custody below).

Reconnaissance Groundwater Sampling Procedures

This procedure is used when reconnaissance groundwater sampling without permanent wells is desired. Sampling from open pits or excavations, HydroPunch®, GeoProbe® or temporarily cased open boreholes may be used.

1. Reconnaissance groundwater sample handling, and storage will follow suggested guidance documents of the Environmental Protection Agency and Regional Water Quality Control Board and local agency guidelines for site investigation.

2. Reconnaissance groundwater samples will be collected in the field in temporarily cased exploratory boreholes using clean Teflon® or disposal bailers. The samples will be collected from excavations or temporarily cased exploratory boreholes and poured into the properly prepared laboratory containers with minimum cavitation. All sample containers will be properly sealed with minimum headspace, labeled, and identified. Label information will include the date, sampler name, sampling time, and identification number, and the project name and number and chain-of custody.

If groundwater recharge is slow, sampling will begin within 24 hours following temporary well development, following the procedures detailed below for monitoring well sampling. Depth to water measurements will be made to the nearest 0.01 foot to existing grade (or surveyed datum if possible) for estimates of depth to water in pits/excavations, and triangulation in temporary boreholes. All borings/pits/excavations are also checked for presence of separate phase product. Following water sampling all temporary casing or sampling tools are removed and boreholes are sealed with cement grout from the bottom to top, or by the regulatory approved method of sealing.

2. The sample will be delivered to a State Certified Laboratory. Samples will be kept on ice and/or refrigerated continuously for shipment to the Laboratory under chain-of-custody. The sealed sample will only be opened by Laboratory personnel who will perform the chemical analysis. The samples will be analyzed according to the approved EPA Method and storage for that requested analysis.

Wright Environmental Services, Inc.

Monitoring Well Construction

1. The proper permits will be obtained from the appropriate agency or water district, scheduling a Well Inspector as required to be present to witness the installation of the annular seal. Soil borings will be drilled with a continuous-flight hollow-stem auger of nominal 8 inches outside diameter (to leave 2-inch annular space for well construction). All augers will be thoroughly steam-cleaned prior to arriving at the site. The augers will be steamed cleaned between borings at a location well away from the proposed borings or adequate clean auger will be available to complete all of the wells without reusing auger sections.

2. The borings will be advanced to the uppermost water bearing zone (or a depth of 45 feet if a saturated zone is not encountered and in absence of other exploration depth specifications). If a saturated zone is encountered, the boring will advance no further than 15 feet below first encountered groundwater or 5 feet into the underlying clay aquitard. If entered, a seal will be placed in the overdrilled portion of the aquitard.

3. During the drilling operations, 55-gallon drums will be on site to contain potentially contaminated soils, drilling muck and rinse water to minimize surface contamination.

4. Where borings are completed as groundwater monitoring wells, 2-inch ID schedule 40 PVC blank pipe will be used. Well screen selection will be 2 inch ID Schedule 40 PVC pipe with 0.020 inch machine slot (in absence of other specifications). Sections will be threaded and screwed flush together; glues will not be used. Screens will extend 3-5 feet above first encountered groundwater. The annulus of the perforated section will be packed with clean #3 or #4 Monterey Sand, Lonestar 2/12 Sand or equivalent, to a level about 2-feet above the screen interval (field experience has shown this monitoring well design has worked well in stratified alluvial and fine grained environments; if special well designs supersede this design, a specification will be attached).

Final well design will be adjusted in the field to site specific subsurface conditions observed in the borehole, and well screens or slots will be placed so as not to interconnect two possible aquifers or uncontaminated vadose zone strata. Screens will extend a nominal length (up to 5 feet) above first encountered unconfined groundwater for floating product detection where needed. A 1-2 foot thick bentonite seal will be placed on top of the sandpack. A cement grout annular seal which extends to the surface will be placed by tremie line from the bottom to top of the remaining annular space above the bentonite. Sealing can be modified as regulatory input requires.

6. The top of the well casing will be locked to prevent contamination and tampering. An above-grade or at-grade well completion will depend upon well location. At-grade completions require traffic rated boxed set in concrete or cement grout just above grade. Above-grade completion will require a 6-inch diameter locking, steel protective "stovepipe" casing and a Christy, or equivalent, traffic box and concrete pad and surface poles or barriers to mark the location.

Wright Environmental Services, Inc.

Monitoring Well Development

1. Wells will be developed until the water is free of fine grained sediments and/or until field measurements of pH, and electrical conductivity have stabilized. Approximately 3 to 10 well volumes of water will be removed during development of the well. The actual number of volumes withdrawn for development is well dependent and based on the field judgment. Duration of development will be specific for each well and site aquifer conditions and continue until the water clears and sand content is minimal or ceases.

Measurements of aquifer parameters may be taken to observe for aquifer conditions. Notes of well development will be kept including quantity of water removed, turbidity, and sand yield and well recharge.

2. Only precleaned equipment will be inserted into the well during development, and will be decontaminated by washing or steam cleaning after its use. Development water will be collected and stored in in drums.

Monitoring Well Sampling

1. Depth to groundwater will be measured to the nearest 0.01 foot, and the well checked for presence of separate phase product. If present, the apparent thickness of the product will be measured. The well will not be sampled if separate phase product is present.

2. The standing well volume calculated, and usually between 3 to 10 well volumes will be purged from the well prior to sampling depending on well performance and yield (USEPA (1985) sampling guidance indicates that the number of purge volumes are related to aquifer strata and specific for each well).

Measurements of aquifer parameters (conductivity, temperature and the pH) of the water will be taken until parameters have stabilized to indicate that aquifer water is entering the well over at least two purge volumes. The sampler will keep field notes for each well sampled. That field log will record sampling measurements and observations. Aquifer parameters which will be measured are; pH, temperature and electrical conductivity. Aquifer water is assumed to be entering the well when these parameters are measured within a 10% range of the previous measurements. The sample will be collected when the well recovers to within 80% of the original depth to water measurement.

3. The groundwater samples may be collected using a Teflon® or disposable bailer or sampling pump discharge. Sampling gear will be thoroughly steam-cleaned or cleaned with soapy (TSP) water, rinsed with with deionized or distilled water prior to the collection of each sample. When bailers are used, a separate clean bailer will be used to sample each individual well.

4. Water samples retained for chemical analysis will be placed in clean, 40 ml VOA glass vials or clean amber glass one-liter bottles or other laboratory prepared sample containers and caps as appropriate for water sampling purpose and analytical test method parameters. Samples will be collected with minimum headspace, and inverted to check for air bubbles. Samples will then be placed in an ice chest on crushed ice, blue ice, or refrigerated at 4 degrees Centigrade.

5. Checks on sampler field and decontamination procedures will be performed as needed during the project for sampler decontamination procedures and laboratory quality assurance programs. Sampling blanks (pump blank) of distilled water will be poured through the sampling bailer and placed in clean sample collection bottles or vials. Trip blanks will be sealed by the laboratory and carried by the sampler. One water sample blank will be taken for each set of water samples collected from each set of wells. The number of blanks may be one per sampling event or 10% depending on the number of wells sampled for the given site. Specific checks and blanks, and collection of duplicates or split samples will be revised for project specific needs.

6. All sampling equipment will be precleaned prior to arriving on-site, decontaminated following each sampling event, prior to use the next monitoring well and prior to leaving the site.

Sample Records and Chain-of-Custody

1. Sample records for each sample will contain information on sample type and source including; project number, sampler name, sampling date and time, location, laboratory name, sampling method, and any significant conditions that may affect the sampling.

2. A signature Chain-of-custody and transference documentation will be maintained at all times. A copy of the Laboratory sample results and the completed Chain-of-custody will be provided with the technical reporting.

Quality Control and Quality Assurance Objectives

The sampling and chemical laboratory analysis procedures employed for groundwater sampling and monitoring follow quality assurance and quality control (QA/QC) outlined in current Federal, State and local agencies guidance documents. Quality assurance objectives have been established to develop and implement procedures for obtaining and evaluating water quality and field data in an accurate, precise and complete manner. In this way, sampling procedures and field measurements provide information that is comparable and representative of actual field conditions.

Quality control is maintained by site specific field protocols and requiring the analytical laboratory to preform internal and external QC checks. The goal is to provide data that are accurate, precise, complete, comparable and representative. The definitions as developed by overseeing federal, state, and local agency guidance documents for accuracy, precision, completeness, comparability and representativeness are:

- **Accuracy** - the degree of agreement of a measurement with an accepted reference or true value.

- **Precision** - a measure of agreement among individual measurements under similar conditions. Usually expressed in terms of standard deviation.

- **Completeness** - the amount of valid data obtained from a measurement system compared to the amount that was expected to meet the project data goals

- **Comparability** - express the confidence with which one data set can be compared to another.

- **Representativeness** - a sample or group of samples that reflect the characteristics of the media at the sampling point. It also includes how well the sampling point represents the actual parameter variations which are under study.

Revisions and Modifications

This protocol may be amended for specific work plans, regulatory guidance, field conditions or modified for special work as needed or at regulatory request. This protocol has been prepared using current suggested guidance documents for use in site assessment project work plans, and will use the modifications contained therein as well as the experience of supervising professional given the actual site specific conditions. Work will not be done which could provide cross contamination exposure of strata.

ENVIRONMENTAL HEALTH
DEPART SERVICE

96 OCT -9 PM 2:35

Wright
Environmental
Services, Inc.

October 2, 1996

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Subject: Proposal for Additional Environmental Services
Haley Flying Service Facility
21000 Paradise Road
Tracy, California
Wright Project 4111-P-3

Site code 1992

Dear Ms. Haley:

Wright Environmental Services, Inc. (Wright) is pleased to provide Haley Flying Service with this proposal for environmental services. This proposal is in response to a letter from Mr. Stephen Sasson of the San Joaquin County Public Health Services-Environmental Health Division (PHS-EHD), dated September 9, 1996, requiring additional site investigation to further define the eastern extent of the groundwater contamination plume, and sampling of the existing agricultural well.

TASK ONE: AGRICULTURAL WELL SAMPLING:
Collect a "grab sample" from the on site agricultural supply well for laboratory analysis. The sample will be collected and analyzed by a state certified laboratory prior to beginning Task Two work as the data collected will influence elements of the workplan. This sample will be analyzed for all contaminants found during the previous assessment work including Methyl-Tertial-Butyl-Ether (MTBE).

TASK TWO: INSTALL MONITORING WELLS:
Prepare a workplan for the installation of three groundwater wells, a method for gathering data to determine the feasibility of natural attenuation as a remedial alternative, and quarterly monitoring of the wells (due to PHS-EHD by October 31, 1996). Install three groundwater monitoring wells to collect additional data. Selected soil samples will be collected during the drilling of the monitoring wells. After proper installation and development, the monitoring wells will be sampled, and the samples transported following EPA protocols to a state-approved laboratory for analysis. Selected soil samples and groundwater samples will be analyzed for all contaminants of found during previous assessment work, including MTBE. A report of findings summarizing this work will be generated following receipt of laboratory analytical results.

TASK THREE: QUARTERLY MONITORING:
Quarterly monitoring of the groundwater monitoring wells will probably be required by the PHS-EHD for at least four quarters (three more events), to collect additional data. Each monitoring event will include the collection of groundwater samples for laboratory analysis as described in Task Two, and will require the preparation of a quarterly monitoring report summarizing the results of each event for submittal to the PHS-EHD.

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

55

Wright Environmental Services, Inc.

January 15, 1996

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re: Proposal for Soil and Groundwater Investigation
Haley Property
21000 Paradise Road
Tracy, California

Dear Ms. Haley,

Wright Environmental Services, Inc. (Wright) is pleased to provide this workplan to define the extent of soil and groundwater contamination from the area of the former underground aviation gasoline storage tank (UST) at the above referenced site. Preparation of a workplan for a soil and groundwater investigation has been requested by San Joaquin County Public Health Service-Environmental Health Division (PHS-EHD) following their review of Wright's "Workplan for Interim Site Remediation", dated October 3, 1995. This proposal details the procedures and estimated cost to collect a maximum of eight soil and groundwater samples from survey probes to be placed in the upgradient and downgradient directions of the former UST. Included in this proposal is the preparation of work plan, detailing the methodologies and procedures of the investigation.

16 samples

SITE HISTORY

On May 11, 1990, Crisp Tank Testing of Stockton, CA, removed two underground storage tanks (UST's). Tank T-1 had a 1,000 gallon capacity and reportedly last contained regular gasoline. Tank T-2 had a 5,000 gallon capacity and reportedly last contained aviation fuel. Both UST's were removed under approved permits issued by the San Joaquin County Public Health Services - Environmental Health Division (PHS-EHD). At the time of the UST removals, soil and water samples were taken by FGL Laboratory of Stockton, CA under the observation of Mr. William Snavely of the PHS-EHD. The collected samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene, Toluene, Ethyl benzene, and Xylenes (BTEX), Ethylene dibromide (EDB), and Organic Lead (OL).
Laboratory analyses of the soil samples taken from below UST T-1 (sample descriptions 1E and 1W) indicated non-detectable levels of all constituents. Laboratory analyses of the soil samples taken from below UST T-2 (sample descriptions 2E and 2W) indicated non-detectable levels of all constituents in sample 2E. However, analytical results from soil sample 2W indicated concentrations of TPHG at 610 parts per million (ppm), benzene at 6,500 parts per billion (ppb), toluene at 62,240 ppb, ethyl benzene at 41,450 ppb and xylenes at 169,250 ppb. OL was detected at 29 ppm and EDB was not detected.

One water sample was collected from the T-2 excavation. Laboratory analyses of the T-2 water sample indicated concentrations of benzene at 3.9 ppb, toluene at 18.4 ppb, ethyl benzene at 7.5 ppb, xylenes at 31.9 ppb. TPHG, EDB, and OL were not detected in this sample.

MTBE
3588

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

The UST excavations were backfilled and compacted. The area of T-2 was paved to match the surrounding concrete area.

SCOPE OF WORK- TECHNICAL APPROACH

The extent of soil and groundwater contamination needs to be defined in the area of the former 5,000 gallon aviation gasoline tank. The scope of work will include preparation of a Site-Specific Health and Safety Plan, obtaining the appropriate permits from PHS-EHD, install up to eight soil boreholes using direct push technology, and collecting and analyzing the soil and groundwater samples from selected locations. The samples will be logged onto a Chain-of-Custody and placed in an ice chest for transport to a state certified laboratory and analyzed for Total Petroleum Hydrocarbons as Gasoline (TPHG) and Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX), and ~~Tetraethyl Lead by methods~~ MTBE 8015m, 8020, and DOHS/LUFT respectively. & soil

The site work is comprised of three tasks, described below: 8 boring/2 soil samples submitting 1 H2O sample & & water

TASKS

1.0 Locate underground utilities within the proposed area of investigation to confirm that utilities will not impacted during the investigation. Collect soil samples from a maximum of 8 borings to an approximate depth of 10 feet below grade (capillary fringe) in the surmised upgradient and downgradient directions of the former tank location.

2.0 After collecting soil samples, collect grab groundwater samples from the borings. The borings would then be properly sealed with a cement grout. Tremie bottom to top neat

3.0 Prepare and submit a written report summarizing the findings of the investigation to San Joaquin County, Public Health Services-Environmental Health Division (PHS-EHD). The report will ~~also~~ include the methodologies and results of the above accomplished tasks which would include: exploratory boring logs, chemical analytical data, discussion and recommendations, and scaled drawings presenting the surmised extent of soil and groundwater. Contamination. including cross section showing lithology

4.0 Prepare a Corrective Action Plan and Feasibility Study comparing costs and effectiveness of available technologies for further site remediation based on the findings of the investigation.

Wright will ~~obtaining~~ obtain appropriate City permits from the PHS-EHD prior to the commencement of field activities. Underground Service Alert (USA) will be contacted and the use of a private locator service will be used to determine the location of underground utilities at the site. permit

Wright will also arranged for PHS-EHD oversight fees to be billed directly to your office. All estimated costs for the scope of work identified in this proposal and the work plan are presented on Attachment A. Any additional work which may be required during the course of the site investigation will be charged (after receipt of your written approval) from the standard schedule of rates identified on Attachment B.

Should you have any questions about this proposal or cost estimate please call our Tracy office at 833-0758.

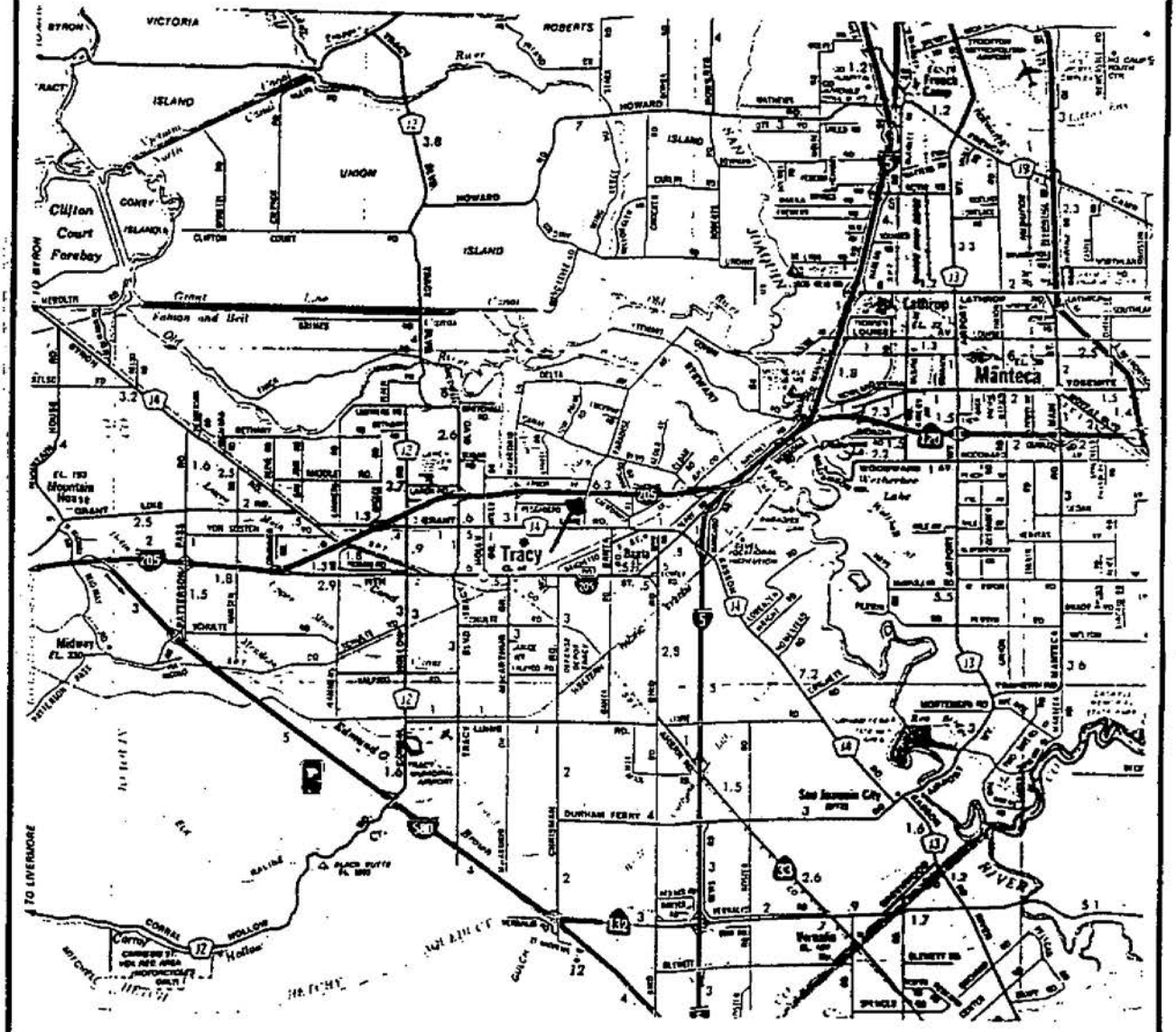
Sincerely,
Wright Environmental Services, Inc.

Lester Messina
Project Manager

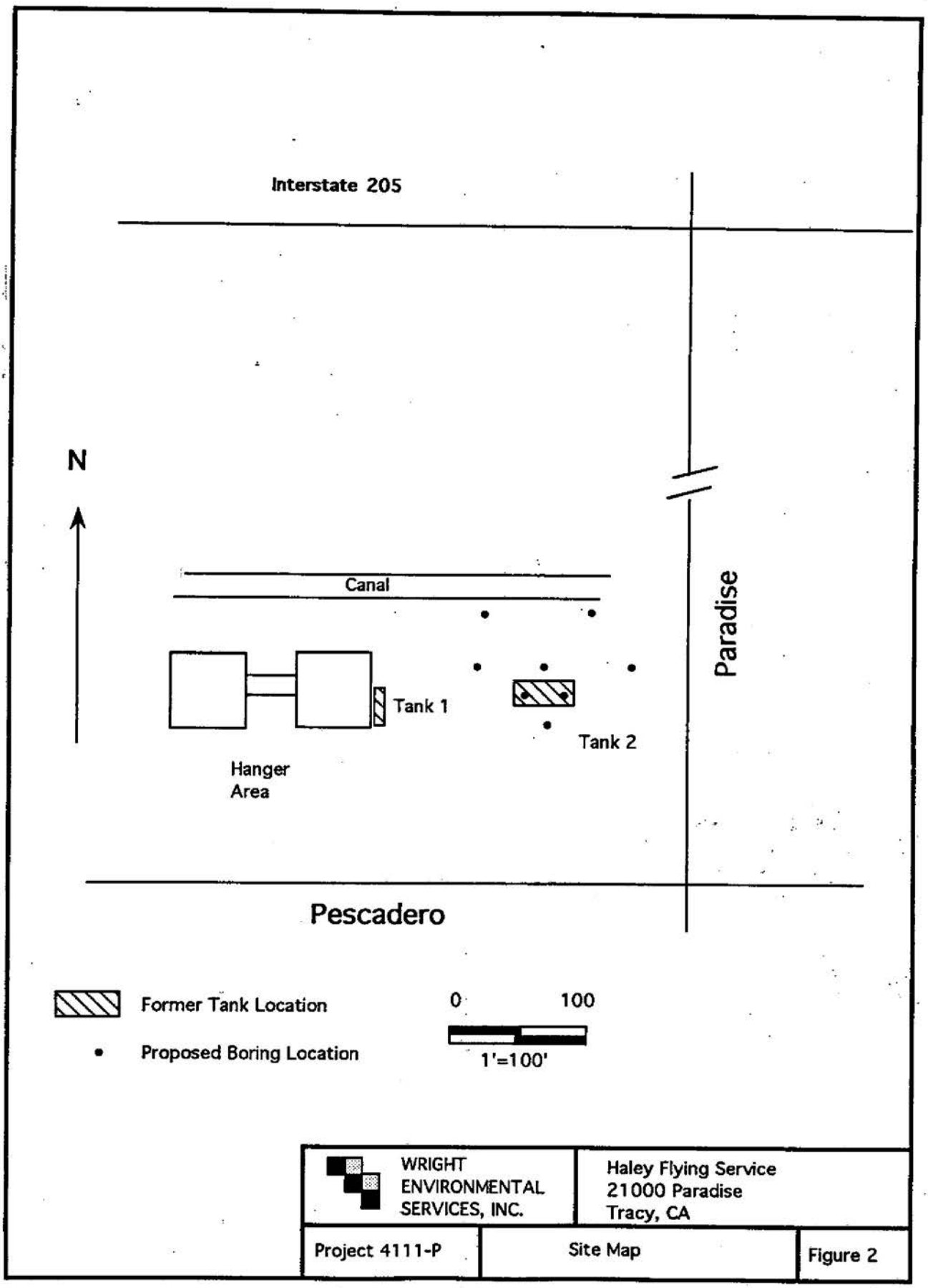
Enclosures: Figure 1, Location Map
Figure 1, Site Plan

Attachment A-Cost Estimate
Attachment B-Standard Schedule of Rates

cc: Steven Sasson, San Joaquin County PHS-EHD
Annabel Mackey, Underground Storage Tank Cleanup Fund



WRIGHT ENVIRONMENTAL SERVICES, INC.	Haley Flying Service 21000 Paradise Tracy, CA	
Project 4111-P	LOCATION MAP	Figure 1



WRIGHT ENVIRONMENTAL SERVICES, INC.	Haley Flying Service 21000 Paradise Tracy, CA	
Project 4111-P	Site Map	Figure 2

PUBLIC HEALTH SERVICES

4111

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer
304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

MAILED NOV 0 9 1995

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RECEIVED NOV 1 0 1995

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the October 3, 1995 "Workplan for Interim Site Remediation" prepared by Wright Environmental Services, Inc. for the above referenced site.

Prior to installation of any form of treatment at this site a Corrective Action Plan shall be submitted to this department for approval and concurrence. As stated in Article 11, Chapter 16, Division 3, Title 23 of the California Code of Regulations (the Corrective Action Requirements) a Corrective Action Plan (CAP) shall be submitted to the regulatory agency for review and concurrence when the soil and water investigation phase is complete. The Corrective Action Plan shall include an assessment of the distribution of the contamination present at the site, a feasibility study to evaluate alternatives for mitigating the actual or potential adverse effects of the unauthorized release, and propose at least two alternatives to achieve cleanup levels for waters with current or potential beneficial uses for which numerical objectives have been designated.

In order to complete the CAP an assessment report of the distribution of the contamination present is required. In the May 10, 1995 letter from PHS/EHD you were directed to begin the investigation to determine the impact to soil and groundwater from the unauthorized release of petroleum hydrocarbons detected during the removal of the 5000 gallon aviation fuel tank on May 11, 1990. The assessment data is necessary to determine the extent of the soil contamination and the size of the groundwater plume. A workplan for the assessment shall be submitted to this agency by November 30, 1995.

During the assessment, and after the assessment is complete, information should be obtained to complete a feasibility study, to evaluate the efficacy of various treatment methodologies. The feasibility study should evaluate each technology with respect to reaching required cleanup goals, the length of time required to reach those goals, and the relative costs to reach those goals.

If you have any questions please contact Steven Sasson, REHS, at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Diane M. Hinson, REHS
Supervisor

SS

c: SWRCB, Underground Storage Tank Section - Lori Casias
c: CRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Lester Messina

ENVIRONMENTAL HEALTH SERVICE
95 OCT 10 AM 10:59

Wright Environmental Services, Inc.

October 3, 1995

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Subject: Workplan for Interim Site Remediation
Haley Property
21000 Paradise Road
Tracy, California

Dear Ms. Haley,

Wright Environmental Services, Inc. (Wright) is pleased to provide this workplan for interim site remediation at the above referenced location. Interim remediation will consist of soil remediation and, if necessary, groundwater remediation. Soil remediation will include excavation and aeration of petroleum hydrocarbon impacted soil. If impacted groundwater is encountered, groundwater remediation will include removal of free floating product as needed, sampling of groundwater encountered within the excavation, and dewatering and treatment of the groundwater from the excavation as needed. Wright will obtain the necessary permits and/or authorization from the appropriate oversight agencies prior to performing the above described services.

SITE HISTORY

On May 11, 1990 , Crisp Tank Testing of Stockton, CA, removed two underground storage tanks (UST's). Tank T-1 had a 1,000 gallon capacity and reportedly last contained regular gasoline. Tank T-2 had a 5,000 gallon capacity and reportedly last contained aviation fuel. Both UST's were removed under approved permits issued by the San Joaquin County Public Health Services - Environmental Health Division (PHS-EHD).

At the time of the UST removals, soil and water samples were taken by FGL Laboratory of Stockton, CA under the observation of Mr. William Snavely of the PHS-EHD. The collected samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene, Toluene, Ethyl benzene, and Xylenes (BTEX), Ethylene dibromide (EDB), and Organic Lead (OL).

Laboratory analyses of the soil samples taken from below UST T-1 (sample descriptions 1E and 1W) indicated non-detectable levels of all constituents. Laboratory analyses of the soil samples taken from below UST T-2 (sample descriptions 2E and 2W) indicated non-detectable levels of all constituents in sample 2E. However, analytical results from soil sample 2W indicated concentrations of TPHG at 610 parts per million (ppm), benzene at 6,500 parts per billion (ppb), toluene at 62,240 ppb, ethyl benzene at 41,450 ppb and xylenes at 169,250 ppb. OL was detected at 29 ppm and EDB was not detected.

One water sample was collected from the T-2 excavation. Laboratory analyses of the T-2 water sample indicated concentrations of benzene at 3.9 ppb, toluene at

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

18.4 ppb, ethyl benzene at 7.5 ppb, xylenes at 31.9 ppb. TPHG, EDB, and OL were not detected in this sample.

In a letter dated March 7, 1994 from PHS-EHD it was noted that "The presents of contaminants at your facility exceed the allowable limits of leaching potential as recommended by the Luft manual." (Oct 1989). The PHS-EHD offered information on requirements to obtain closure of the site and informed you that the excavation should be backfilled and compacted if remedial activities were not planned within 90 days. PHS-EHD informed you that as the local agency overseeing the investigation of UST's under authority of the State of California Water Resources Control Board (SWRCB) "All subsurface investigations and remedial actions must be performed under a workplan approved by the PHS-EHD".

The UST excavations were backfilled and compacted. The area of T-2 was paved to match the surrounding concrete area.

In another letter dated May 10, 1995 PHS-EHD directed you "The property owner, to begin the investigation to "Determine the impact to soil and groundwater"... detected during the removal of the 5,000 gallon aviation fuel tank on May 11, 1990.

Since you have contacted us in mid 1995 Wright personnel have obtained copies the site code (1992) file. After reviewing the technical data, assisting with SWRCB "Petroleum Underground Storage Tank Clean up Fund" application and discussing with the local oversight agency options for remediation of the site Wright has formulated an approach given postulated site conditions.

TECHNICAL APPROACH

The analytical results are consistent with no release of petroleum hydrocarbons below UST T-1 and a limited release of petroleum hydrocarbons into soil and water below the west end of UST T-2. Based on the available data, experience, and professional judgement, Wright assumes soil and groundwater contamination is confined to a small area.

Wright recommends that no further action be taken in the area around former UST T-1 location and that impacted soil around former UST T-2 location be removed.

Typical subsurface soils in this area are relatively low conductivity clay underlain with sandy clay and sand and gravels. Groundwater in this area typically is found 8 to 10 feet below grade surface (bgs). Based upon prior experience of sites within the geographic area with similar subsurface conditions, the following remedial actions have been proven effective;

- Remove impacted soil above the groundwater table in the area of T-2 to eliminate further impact to groundwater.
- Remove the impacted soil matrix within the groundwater zone to expedite groundwater remediation.
- Extract and treat impacted groundwater.

Field Work

Wright proposes the following field work to perform interim remedial measures at the site:

1) Excavate and stockpile non-impacted soil (overburden) separate from impacted soils from an approximate area of 40 by 40 foot in the T 2 area.

2) Excavate impacted soil both above and within the shallow groundwater zone that surrounded T-2. If possible, excavation will continue until it is determined through laboratory analyses that impacted soil is removed. Impacted soil will initially be placed on and covered with 6 mil plastic separate from clean soils.

3) Examine groundwater surface for floating product and remove with floating hydrophilic socks as needed. Petroleum saturated hydrophilic socks will then be removed from the excavation and properly disposed.

4) Sample groundwater in the excavation and analyze for the previously detected petroleum fuel constituents.

5) If the excavation groundwater is impacted, extract the groundwater and treat with activated carbon filters. Carbon filtration is capable of removing the limited level of contaminants from the water to below detectable limits. The water will then be placed in a storage tank and analyzed to confirm non-detectable levels of TPHG and BTEX before use as dust control in the soil aeration process.

6) Resample the groundwater in the excavation to determine if petroleum hydrocarbons have been removed. Repeat the groundwater extraction process, if possible, until petroleum fuel constituents are not detected within the infiltrating groundwater above the practical quantitative limits imposed by the Regional Water Quality Control Board (Region 5), Tri-Regional Guidelines.

7) Remediate impacted soil by aeration and tilling. After soil is remediated, it will be sampled to confirm the removal of petroleum hydrocarbons and then used to backfill the excavation.

Prior to excavation activities, Underground Service Alert (USA) will be contacted and the use of a private locator service will be used to determine the location of underground utilities at the site. Wright will also remove the concrete overlying the former UST area. We anticipate that approximately 30 cubic yards of concrete will be removed from the former UST area. The removed concrete will be stockpiled on site for later recycling or disposal. Chain link fencing will be placed around the excavation area and the stockpiled soil. Wright anticipates that approximately 400 cubic yards of non impacted overburden and 100 cubic yards of impacted soils will be removed.

Permits

Wright will obtain the necessary permits and/or authorization from the San Joaquin County Public Health Services-Environmental Health Division (PHS-EHD) prior to performing field work. The need to permit for aeration will be

determined by the San Joaquin Valley Unified Air Pollution Control District (APCD). Approval for aeration must be processed through PHS-EHD and APCD when the total concentrations of petroleum constituents are determined upon a review of stockpiled soil characterization analytical data. Stockpiled soils will be characterized by submitting 4 discreet samples collected at representative locations and analyzed for TPHG and BTEX. 1 discrete sample for every 25 yards of soil

Field and Laboratory Analysis

Field screening tests will be conducted during the over-excavation activities utilizing Handby™ methods. Confirmatory soil samples for laboratory analyses will be collected from the sidewalls of the excavation at the soil and groundwater interface. If impacted soil is encountered below the groundwater table, the excavation will continue into the groundwater zone. The location and number of confirmatory soil samples will be determined in the field, based upon field screening results and visual observations of the PHS-EHD representative. For the purposes of this work plan it is anticipated that six soil samples above groundwater table and two soil and three groundwater samples below groundwater table will be sufficient to confirm the removal of petroleum hydrocarbons.

The soil samples collected from the former UST excavation area will be analyzed for the presence of TPHG, utilizing EPA method 8015, and BTEX utilizing EPA method 8020, and Total Lead. Soil samples will be collected by hand from the excavator bucket by driving a precleaned 2-inch by 6-inch brass liner into the soil with a rubber mallet. The liners will be covered with Teflon and plastic end caps, recorded on a chain-of-custody document, placed in a chilled ice chest and submitted to Priority Environmental Labs of Milpitas, CA, a state certified laboratory.

At the completion of the excavation activities, Wright will purge the volume of groundwater inside the excavation area at least twice. Wright anticipates that approximately 20,000 gallons of water will be removed each time the excavation is purged. The extracted groundwater will be treated by carbon filtration and placed in a 21,000 gallon storage tank (or one of an appropriate size based upon field conditions). Following the removal and recharge of groundwater into the excavation, Wright will collect a confirmatory sample of groundwater for chemical analyses. The groundwater will be analyzed for the presence of TPHG utilizing EPA method 5030, and BTEX utilizing EPA method 602. Water samples will be collected from the excavation in placed in laboratory prepared containers, sealed, and submitted for analysis as stated above.

Soil Remediation

Wright will stockpile the impacted soils on 6 mil plastic with 24" berms around the perimeter. The soils will be spread in a uniform layer of approximately 18 inches for tilling and allowed to aerate. After sufficient tilling and aeration further soil sampling and laboratory analysis should indicate that the aerated soil may be used to backfill the excavation.

Report Preparation

Following the completion of field work, Wright will issue a report summarizing the activities and results of the scope of work as described above. The report will include the findings of the soil excavation, characterization, and remediation and will include appropriate documentation, scale drawings, and laboratory analyses that support the removal and stockpiling of impacted soil and purged groundwater and excavation backfill. In addition, Wright will provide conclusions and recommendations based on the information generated during field activities.

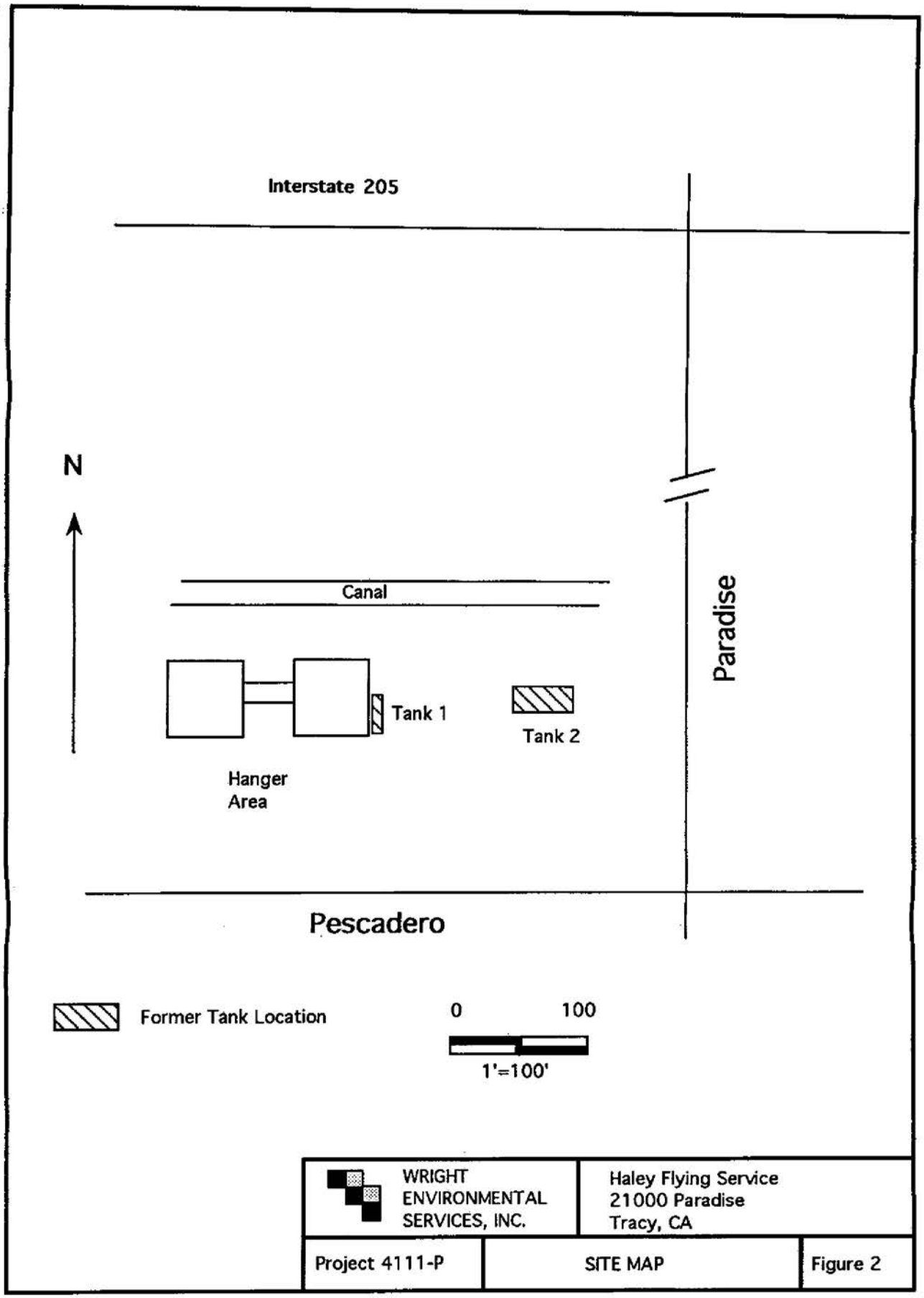
We look forward to working with you on this project. Should you have any questions with this workplan, please contact our Tracy office at (209) 833-0758.

Sincerely,
Wright Environmental Services, Inc.

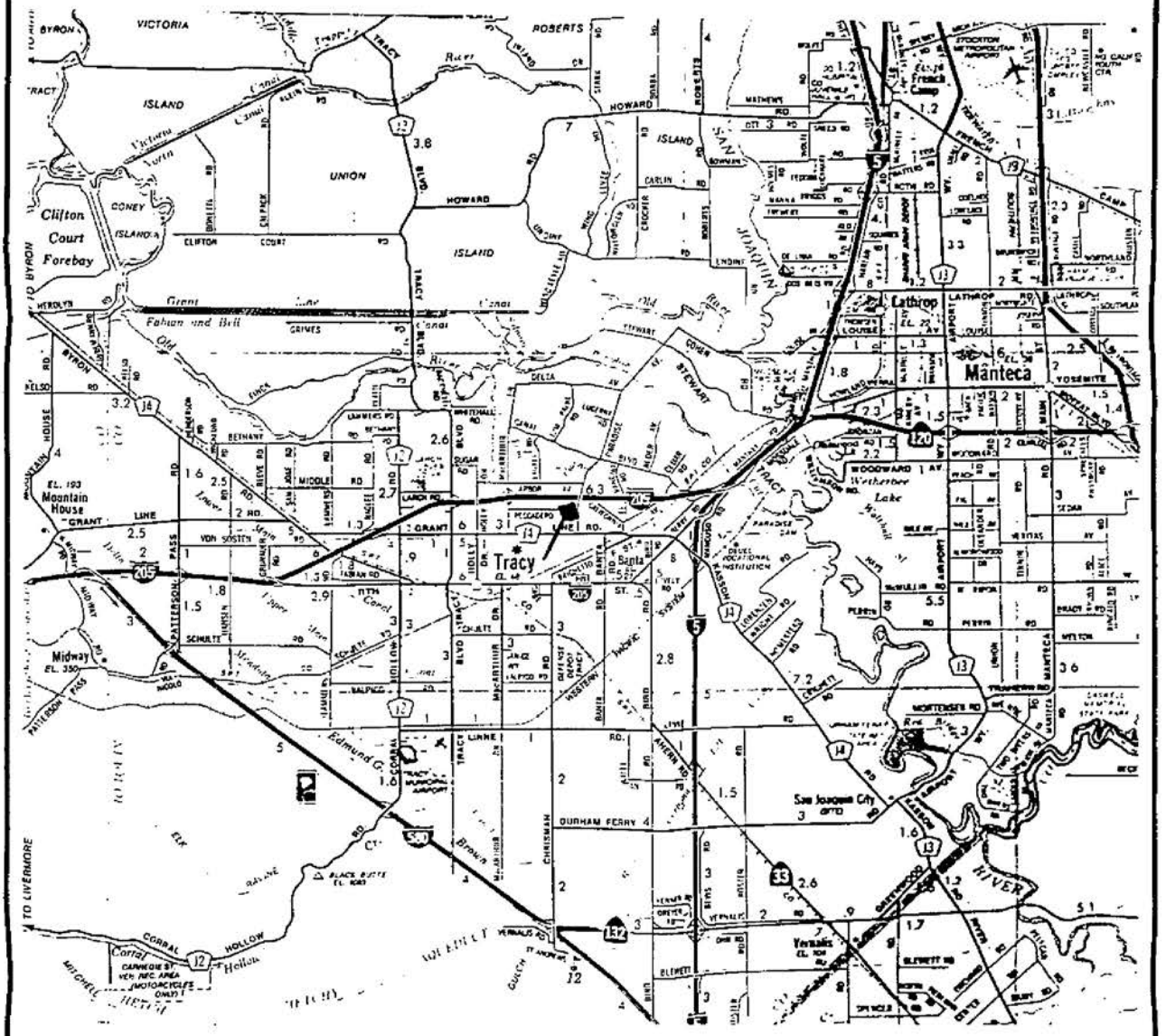
Lester Messina
Project Manager

Enclosures: Figure 1, Location Map
Figure 1, Site Plan

cc: Mr. Steven Sasson, PHS - EHD



WRIGHT ENVIRONMENTAL SERVICES, INC.	Haley Flying Service 21000 Paradise Tracy, CA	
Project 4111-P	SITE MAP	Figure 2



WRIGHT ENVIRONMENTAL SERVICES, INC.	Haley Flying Service 21000 Paradise Tracy, CA	
Project 4111-P	LOCATION MAP	Figure 1

TRANSMITTAL

RECEIVED
SEP 19 1995
ENVIRONMENTAL HEALTH
PERMIT/SERVICES

Fax: ____
Mail: ____

To: Name: Steve Sasso
Company: San Joaquin County
FAX No.: 464-0138 PHONE No.: ____

From: **WRIGHT ENVIRONMENTAL SERVICES, INC.**
4220 Commercial Drive, Suite 5
Tracy, California 95376

Telephone No.: (209) 833-0758
Fax No.: (209) 832-5152

Sent By: J. Lynch
Date : 9-19-95 **Time:** 10:30
Subject: Draft Workplan for Ms. Haley.

Message: Hi Steve,

This is our draft workplan for Ms. Haley. I wanted to get your opinion before finalizing the workplan.

Please look over any changes that you might have. I will review them as they come in and give you a call.

Thank You.

Total number of pages sent, including this cover page: 6
Confirmation of receipt requested (recipient to call sender upon receipt): ☐ Yes ☐ No
If you do not receive all pages, please call.

September 15, 1995

DRAFT

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Subject: Workplan for Interim Site Remediation
Haley Property
21000 Paradise Road
Tracy, California

Dear Ms. Haley,

Wright Environmental Services, Inc. (Wright) is pleased to provide this workplan for interim site remediation at the above referenced location. Interim remediation will consist of soil remediation and, if necessary, groundwater remediation. Soil remediation will include excavation and aeration of petroleum hydrocarbon impacted soil. If impacted groundwater is encountered, groundwater remediation will include removal of free floating product as needed, sampling of groundwater encountered within the excavation, and dewatering and treatment of the groundwater from the excavation as needed. Wright will obtain the necessary permits and/or authorization from the appropriate oversight agencies prior to performing the above described services.

SITE HISTORY

F1 1,000 gal
RS Gas
T-2 5000 gal
Aviation fuel

On May 11, 1990 , Crisp Tank Testing of Stockton, CA, removed two underground storage tanks (UST's). The UST's, T-1 and T-2, reportedly last contained aviation fuel and had 1,000 gallon and 5,000 gallon capacities respectively. Both UST's were removed under approved permits issued by the San Joaquin County Public Health Services-Environmental Health Division (PHS-EHD).

At the time of the UST removals, soil and water samples were taken by FGL Laboratory of Stockton, CA under observation of Mr. William Snavely of the PHS-EHD. The collected samples were analyzed for Total Petroleum Hydrocarbons as Gasoline (TPHG), benzene, toluene, ethyl benzene, and xylenes (BTEX), ethylene dibromide (EDB), and organic lead (OL).

Laboratory analyses of the soil samples taken from below UST T-1 (sample descriptions 1E and 1W) indicated non-detectable levels of all constituents. Laboratory analyses of the soil samples taken from below UST T-2 (sample descriptions 2E and 2W) indicated non-detectable levels of all constituents in sample 2E. However, soil analytical results from soil sample 2W indicated concentrations of TPHG at 610 parts per million (ppm), benzene at 6,500 parts per billion (ppb), toluene at 62,240 ppb, ethyl benzene at 41,450 ppb and xylenes at 169,250 ppb. Also in sample 2W, EDB was not detected and OL was detected at 29 ppm.

One water sample was collected from the T-2 excavation. Laboratory analyses of the T-2 water sample indicated concentrations of benzene at 3.9 ppb, toluene at 18.4 ppb, ethyl benzene at 7.5 ppb, xylenes at 31.9 ppb. TPHG, EDB, and OL were not detected in this sample.

In a letter dated March 7, 1994 from PHS-EHD it was noted that "The presents of contaminants at your facility exceed the allowable limits of leaching potential as recommended by the Luft manual." (Oct 1989). The PHS-EHD offered information on requirements to obtain closure of the site and informed you that the excavation should be backfilled, and computed if remedial activities were not planned within 90 days. PHS-EHD informed you that as the local agency overseeing the investigation of UST's under authority of the State of California Water Resources Control Board (SWRCB) "All subsurface investigations and remedial actions must be performed under a workplan approved by PHS/EHD.

The UST excavations were backfilled and compacted. The area of T-2 was paved to match the surrounding concrete area.

In another letter dated May 10, 1995 PHS-EHD directed you "The property owner, to begin the investigation to "Determine the input to soil and groundwater"... detected during the removal of the 5,000 gallon aviation fuel tank on May 11, 1990.

Since you have contacted us in mid 1995 Wright personnel have obtained copies the site code (1992) file. After reviewing the technical data, assisting with SWRCB "Petroleum Underground Storage Tank Clean up Fund" application and discussing with the local oversight agency options for remediation of the site Wright has formulated an approach given postulated site conditions.

TECHNICAL APPROACH

The analytical results are consistent with no release of petroleum hydrocarbons below UST T-1 and a limited release of petroleum hydrocarbons into soil and water below the west end of UST T-2. Wright recommends that no further action be taken in the area around former UST T-1 location and that impacted soil around former UST T-2 location be removed.

Typical subsurface soils in this area are relatively low conductivity clay underlain with sandy clay and sand and gravels. Groundwater in this area typically is found 8 to 10 feet below grade surface (bgs). Based upon prior experience of sites within the geographic area with similar subsurface conditions, the following remedial actions have been proven effective;

- Remove impacted soil above the groundwater table in the area of T-2 to eliminate further impact to groundwater.
- Remove the impacted soil matrix within the groundwater zone to expedite groundwater remediation.
- Extract and treat impacted groundwater.

Field Work

Wright proposes the following field work to perform interim remedial measures at the site:

1) Excavate non-impacted soil (overburden) in an approximately 40 by 40 foot area to expose the impacted soil.

2) Excavate impacted soil both above and within the shallow groundwater zone that surrounded T-2. If possible, excavation will continue until it is determined through laboratory analyses that impacted soil is removed. Impacted soil will initially be placed on and covered with visqueen.

3) Examine groundwater surface for floating product and remove with floating hydrophilic socks as needed. Petroleum saturated hydrophilic socks will then be removed from the excavation and properly disposed.

4) Sample groundwater in excavation and analyze for the previously detected petroleum fuel constituents.

5) If the excavation groundwater is impacted, extract the groundwater and treat with activated carbon filters. Carbon filtration is capable of removing the petroleum hydrocarbons to below detectable limits. The water will then be placed in a storage tank and analyzed to confirm non-detectable levels of TPHG and BTEX before use as dust control in the soil aeration process.

6) Resample the groundwater in the excavation to determine if petroleum hydrocarbons have been removed. Repeat the groundwater extraction process, if possible, until petroleum fuel constituents are not detected within the infiltrating groundwater above limits imposed by the State Water Quality Control Board (SWRCB) and PHS-EHD. Wright proposes the groundwater cleanup levels for this project be set at the present SWRCB BTEX levels of 1, 100, 620 and 1750 ppb respectively. Although there is not a established level for TPHG, a working value of 100 ppb is generally used and Wright proposes this value be used also.

7) Remediate impacted soil by aeration and tilling. After soil is remediated, it will be sampled to confirm the removal of petroleum hydrocarbons and then used to backfill the excavation.

Prior to excavation activities, Underground Service Alert (USA) will be contacted and the use of a private locator service will be used to determine the location of underground utilities at the site. Wright will also remove the concrete overlying the former UST area. We anticipate that approximately 30 cubic yards of concrete will be removed from the former UST area. The removed concrete will be stockpiled on site for later recycling or disposal. Chain link fencing will be placed around the excavation area and the stockpiled soil. Wright anticipates that approxdmately 400 cubic yards of unimpacted overburden and 100 cubic yards of impacted soils will be removed.

Permits

Wright will obtain the necessary permits and/or authorization from the San Joaquin County Public Health Services-Environmental Health Division (PHS-EHD) prior to performing field work.

Field and Laboratory Analysis

Field screening tests will be conducted during the over-excavation activities utilizing Handby™ methods. Confirmatory soil samples for laboratory analyses will be collected from the sidewalls of the excavation at the soil and groundwater interface. If impacted soil is encountered below the groundwater table, the excavation will continue into the groundwater zone. The location and number of confirmatory soil samples will be determined in the field, based upon field screening results and visual observations of the PHS-EHD representative. For the purposes of this work plan it is anticipated that six soil samples above groundwater table and two soil and three groundwater samples below groundwater table will be sufficient to confirm the removal of petroleum hydrocarbons.

Elemental Lead →

The soil samples collected from the former UST excavation area will be analyzed for the presence of TPHG, utilizing EPA method 8015, and BTEX utilizing EPA method 8020. The soil samples will also be analyzed for the presence of tetraethyl lead (TEL). Soil samples will be collected by hand from the excavator bucket by driving a precleaned 2-inch by 6-inch brass liner into the soil with a rubber mallet. The liners will be covered with Teflon and plastic end caps, recorded on a chain-of-custody document, placed in a chilled ice chest and submitted to a state certified laboratory.

At the completion of the excavation activities, Wright will purge the volume of groundwater inside the excavation area at least twice. Wright anticipates that approximately 20,000 gallons of water will be removed each time the excavation is purged. The extracted groundwater will be treated by carbon filtration and placed in a storage tank. Following the removal and recharge of groundwater into the excavation, Wright will collect a confirmatory sample of groundwater for chemical analyses. The groundwater will be analyzed for the presence of TPHG utilizing EPA method 5030, and BTEX utilizing EPA method 602. Water samples will be collected from the excavation in laboratory prepared containers, sealed, recorded on a chain-of-custody document, placed in a chilled ice chest and submitted to a state certified laboratory.

Soil Remediation

Wright will stockpile the impacted soils on 6 mil plastic with 24" berms around the perimeter. The soils will be spread in a uniform layer of approximately 18 inches and allowed to aerate. After sufficient aeration further soil sampling and laboratory analysis should indicate that the aerated soil may be used to backfill the excavation. It is Wright's understanding that there are no permit fees associated with aeration of impacted soil within the San Joaquin Valley Unified Air Pollution Control District (APCD), however approval for aeration must be processed through PHS-EHD and APCD once the total concentrations of petroleum constituents are determined within the stockpiled soil.

Report Preparation

Following the completion of field work, Wright will issue a report summarizing the activities and results of the scope of work as described above. The report will include the findings of the soil excavation, characterization, and remediation and will include appropriate documentation, scale drawings, and laboratory analyses that support the removal and stockpiling of impacted soil and purged groundwater and excavation backfill. In addition, Wright will provide conclusions and recommendations based on the information generated during field activities.

We look forward to working with you on this project. Should you have any questions with this workplan, please contact our Tracy office at (209) 833-0758.

Sincerely,
Wright Environmental Services, Inc.

Lester Messina
Project Manager

Enclosures: Figure 1, Location Map
Figure 1, Site Plan

SUMMARY OF SAMPLING RESULTS
BY SAMPLING POINTS AND DATES

	DEPTH	DATE	LAB	ANALYSES RUN	POSITIVE RESULTS ?
** SITE: Haley Flying Service					
* SAMPLING POINT: irrig ditch behind					
	0-6"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS	yes
	12-18"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS	yes

SUMMARY OF SAMPLING RESULTS
BY SITE

POINT SAMPLED (SOIL, UNLESS NOTED UNDER 'DEPTH' COLUMN)	CONC PPM-SOIL PPB-WATER PPM-NO3	DEPTH	DATE SAMPLED	ANALYZING LAB	ANALYSES RUN (EPA #) (ONLY POSITIVE RESULTS RECORDED IN THIS DBASE)	TYPE OF SOIL	DEPTH TO GROUND WATER	TYPE OF SITE
** SITE: Haley Flying Service								
* CHEMICAL: 2,4-D								
irrig ditch behind	0.0320	0-6"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS			aerial applic
* CHEMICAL: diuron								
irrig ditch behind	1.3000	0-6"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS			aerial applic
irrig ditch behind	0.8000	12-18"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS			aerial applic
* CHEMICAL: endosulfan								
irrig ditch behind	0.0270	12-18"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS			aerial applic
* CHEMICAL: linuron								
irrig ditch behind	0.0770	0-6"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS			aerial applic
irrig ditch behind	0.0740	12-18"	06/08/88	Cal/Wesco	632S, 8150, 8190, 8140, 8080, GC/MS			aerial applic

San Joaquin

63

Name co: Haley Flying Service Phone:

Name Mngr, Operator: Gary Del Carlo Talked to: Dennis Delaniva emp.

Location: 21000 Paradise Rd

How long? >20yrs

No. applicators: 2

Crops:

Seeding: } 40% Dry

Fertilizer: }

Chemicals:

Tank rinse method: Field Rinsing

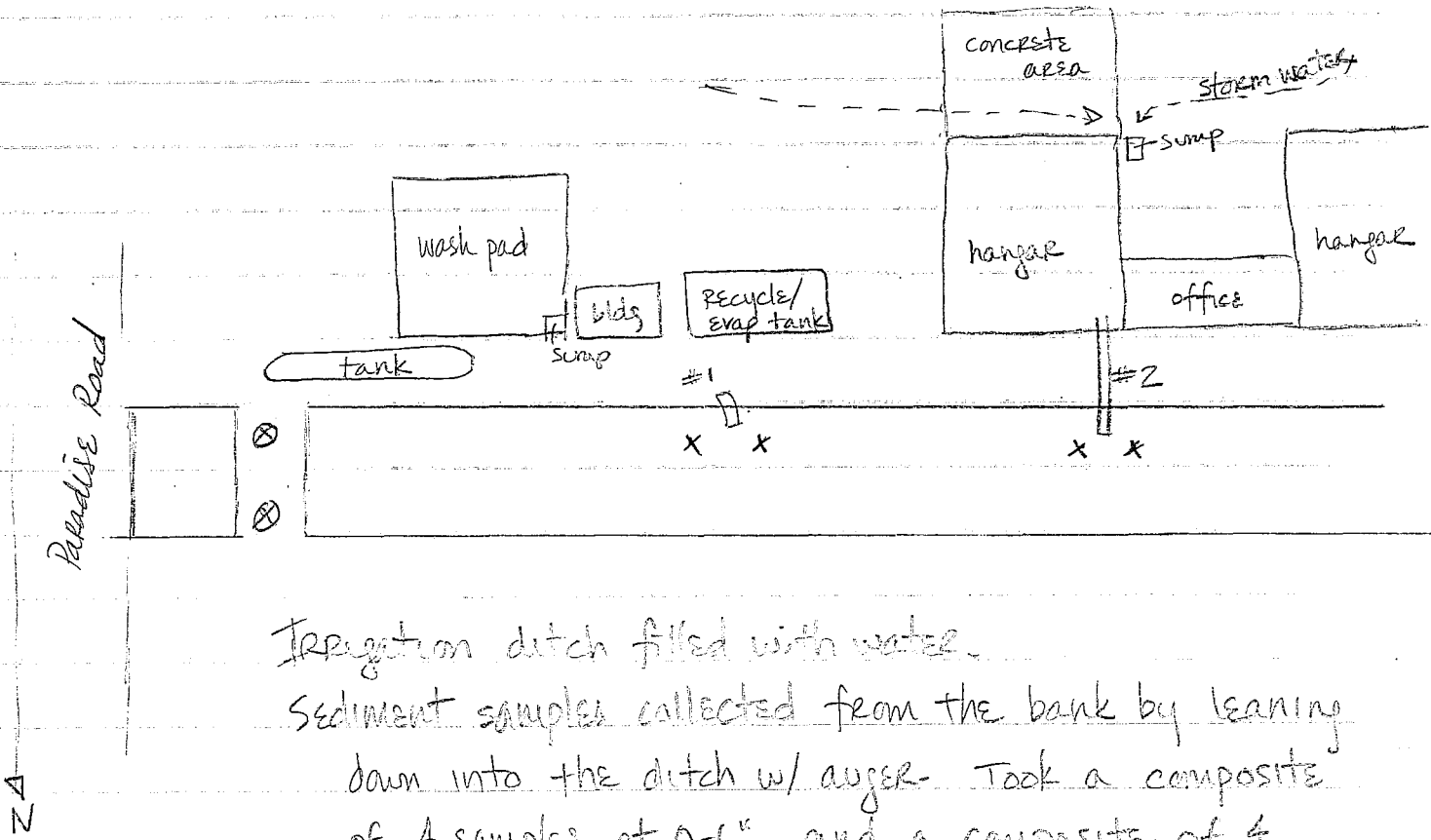
Exterior Wash: Wash pad

Type of disposal system Concrete Evap pond

Notes: Have not been using evap pond - dumping into ditch behind pond

Haley Flying Service

8 June 1987



Irrigation ditch filled with water.

Sediment samples collected from the bank by leaning down into the ditch w/ auger. Took a composite of 4 samples at 0-6" and a composite of 4 at ~ 12-18".

Pipe #1 was lying on bank, sticking into water. Not connected to anything now, but in Feb 88 and in May 1985 it was connected to the sump in the washpad.

Pipe #2 directs stormwater from the front of the hangars into the ditch.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - CENTRAL VALLEY REGION

INSPECTION REPORT

WDS NUMBER: 5B392045N01

STAFF: ~~JLM~~ WSW

DISCHARGER:

HALEY FLYING SERVICE, INC.

TRACY — PO BOX, 1049
CA 95376

CONTACT: Gary Del Carlo
PHONE: 209-948-9345

FACILITY NAME:

Haley Flying Service
20100 Paradise Rd

CONTACT:
PHONE:

ORDERS:
ORDER NUMBER DATE ADOPTED TYPE

LAST INSPECTIONS:
DATE TYPE VIOLATION?

INSPECTION TYPE:

[ ] 1. "A" TYPE COMPLIANCE (SAMPLING)
[ ] 2. "B" TYPE COMPLIANCE (NO SAMPLING)
[ ] 3. NON-COMPLIANCE FOLLOW-UP
[ ] 4. ENFORCEMENT FOLLOW-UP
[ ] 5. COMPLAINT
[ ] 6. PRE-REQUIREMENT
[X] 7. MISCELLANEOUS

PROGRAM COMPONENT
TASK NUMBER: 1316

INSPECTION DATE: 18|8|0|6|0|8| (Y Y M M D D)

INSPECTOR'S INITIALS WSW

CONTACT: Gary Del Carlo

INSPECTION SUMMARY (100 character limit): Took soil samples from irrigation ditch behind the facility.

ADDITIONAL COMMENTS:

WDR REVIEW: _____ MONITORING PROGRAM REVIEW: _____

Was there a VIOLATION discovered during this inspection? YES [ ] NO [ ] PENDING SAMPLE RESULTS [ ] NOT APPLICABLE [X]

(If yes, you MUST attach a completed violation input form.)

Reviewed By:

INSPECTOR SIGNATURE & DATE: Wesley Wyels 8/25/88

DATA ENTRY DATE: SEP 12 1988

pace laboratories, inc.
FORMERLY WESCO LABORATORIES

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

REPORT OF LABORATORY ANALYSIS

Report Date: 07-Nov-88
PACE JOB #: CVR 0702.121-L
Analytical Method: EPA 8080
MATRIX: SOIL

Extract/Purge Date 17-Jun-88
Completion Date: 08-Jul-88
Analyst: Attalla/Clark

LAB #:	8-5700	8-5703
CLIENT'S ID:	Stan	Ha 0-6"

COMPOUND	RESULT (ug/kg)	Detection Limit (mg/kg)	RESULT (ug/kg)	Detection Limit (mg/kg)
Alpha-BHC	N.D.	8.0	N.D.	8.0
Beta-BHC	N.D.	8.0	N.D.	8.0
Lindane	N.D.	8.0	N.D.	8.0
Delta-BHC	N.D.	8.0	N.D.	8.0
Heptachlor	N.D.	8.0	N.D.	8.0
Aldrin	N.D.	8.0	N.D.	8.0
Heptachlor Epoxide	N.D.	8.0	N.D.	8.0
Endosulfan I	N.D.	8.0	N.D.	8.0
4,4-DDE	N.D.	16.0	N.D.	16.0
Dieldrin	N.D.	16.0	N.D.	16.0
Endrin	N.D.	16.0	N.D.	16.0
Endosulfan II	N.D.	16.0	N.D.	16.0
4,4-DDD	N.D.	16.0	N.D.	16.0
Endrin Aldehyde	N.D.	16.0	N.D.	16.0
4,4-DDT	N.D.	16.0	N.D.	16.0
Endosulfan Sulfate	N.D.	16.0	N.D.	16.0
Aroclor 1016	N.D.	80.0	N.D.	80.0
Aroclor 1221	N.D.	80.0	N.D.	80.0
Aroclor 1232	N.D.	80.0	N.D.	80.0
Aroclor 1242	N.D.	80.0	N.D.	80.0
Aroclor 1248	N.D.	80.0	N.D.	80.0
Aroclor 1254	N.D.	160.0	N.D.	160.0
Aroclor 1260	N.D.	160.0	N.D.	160.0
Chlordane	N.D.	80.0	N.D.	80.0
Toxaphene	N.D.	160.0	N.D.	160.0
Methoxychlor	N.D.	80.0	N.D.	80.0
Dilution Factor		0		0

QUALITY CONTROL DATA

Surrogate Spike % Recovery		
2,4,5,6-TCMX	69	N.S.

N.D.: Not Detected
n.d.: not determined
** : Spike diluted out
N.S.: Not Spiked

Analytical Supervisor

PACE laboratories, inc.
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

Report Date: 07-Nov-88
PACE JOB #: CVR 0702.121-L
Analytical Method: EPA 8080
MATRIX: SOIL

Extract/Purge Date 17-Jun-88
Completion Date: 08-Jul-88
Analyst: Attalla/Clark

LAB #:	8-5704	8-5705
CLIENT'S ID:	Ha 12-18"	At 0-6"

COMPOUND	RESULT (ug/kg)	Detection Limit (mg/kg)	RESULT (ug/kg)	Detection Limit (mg/kg)
Alpha-BHC	N.D.	8.0	N.D.	4,000
Beta-BHC	N.D.	8.0	N.D.	4,000
Lindane	N.D.	8.0	N.D.	4,000
Delta-BHC	N.D.	8.0	N.D.	4,000
Heptachlor	N.D.	8.0	N.D.	4,000
Aldrin	N.D.	8.0	N.D.	4,000
Heptachlor Epoxide	N.D.	8.0	N.D.	4,000
Endosulfan I	27	8.0	N.D.	4,000
4,4-DDE	N.D.	16.0	N.D.	8,000
Dieldrin	N.D.	16.0	N.D.	8,000
Endrin	N.D.	16.0	N.D.	8,000
Endosulfan II	N.D.	16.0	N.D.	8,000
4,4-DDD	N.D.	16.0	N.D.	8,000
Endrin Aldehyde	N.D.	16.0	N.D.	8,000
4,4-DDT	N.D.	16.0	N.D.	8,000
Endosulfan Sulfate	N.D.	16.0	N.D.	8,000
Aroclor 1016	N.D.	80.0	N.D.	40,000
Aroclor 1221	N.D.	80.0	N.D.	40,000
Aroclor 1232	N.D.	80.0	N.D.	40,000
Aroclor 1242	N.D.	80.0	N.D.	40,000
Aroclor 1248	N.D.	80.0	N.D.	40,000
Aroclor 1254	N.D.	160.0	N.D.	80,000
Aroclor 1260	N.D.	160.0	N.D.	80,000
Chlordane	N.D.	80.0	N.D.	40,000
Toxaphene	N.D.	160.0	1,000,000	80,000
Methoxychlor	N.D.	80.0	N.D.	40,000
Dilution Factor		0		500

QUALITY CONTROL DATA
Surrogate Spike % Recovery

2,4,5,6-TCMX	N.S.	**

N.D.: Not Detected
n.d.: not determined
** : Spike diluted out
N.S.: Not Spiked

Analytical Supervisor

pace laboratories, inc.
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

Report Date: 07-Nov-88
PACE JOB #: CVR 0702.121-L
Analytical Method: EPA 8140
MATRIX: SOIL

Extracted Date: 17-Jun-88
Completion date: 07-Aug-88
Analyst: Attalla/Clark

LAB #:	8-5700	8-5703	8-5704	8-5705	8-5706	
CLIENT'S ID:	STAN	Ha 0-6"	Ha 12-18"	At 0-6"	At 12-18"	
COMPOUND	RESULT (ug/kg)	RESULT (ug/kg)	RESULT (ug/kg)	RESULT (ug/kg)	RESULT (ug/kg)	Detection Limit (ug/kg)
Azinphos methyl	N.D.	N.D.	N.D.	229	N.D.	150
Bolstar	N.D.	N.D.	N.D.	N.D.	N.D.	15
Chlorpyrifos	51	N.D.	N.D.	1,175	450	30
Coumaphos	N.D.	N.D.	N.D.	N.D.	N.D.	150
Demeton-O	N.D.	N.D.	N.D.	N.D.	N.D.	25
Demeton-S	N.D.	N.D.	N.D.	N.D.	N.D.	25
Diazinon	N.D.	N.D.	N.D.	69	N.D.	60
Dichlorvos	N.D.	N.D.	N.D.	N.D.	N.D.	10
Disulfoton	N.D.	N.D.	N.D.	N.D.	N.D.	20
Ethoprop	N.D.	N.D.	N.D.	N.D.	N.D.	25
Fensulfothion	N.D.	N.D.	N.D.	562	140	150
Fenthion	N.D.	N.D.	N.D.	N.D.	N.D.	10
Merphos	N.D.	N.D.	N.D.	N.D.	N.D.	25
Mevinphos	N.D.	N.D.	N.D.	N.D.	N.D.	30
Naled	N.D.	N.D.	N.D.	N.D.	N.D.	10
Parathion methyl	N.D.	N.D.	N.D.	1,247	N.D.	3
Phorate	N.D.	N.D.	N.D.	N.D.	N.D.	15
Ronnel	N.D.	N.D.	N.D.	N.D.	N.D.	30
Stirophos(Tetrachlorvinphos)	N.D.	N.D.	N.D.	1,694	N.D.	500
Tokuthion (Prothiofos)	N.D.	N.D.	N.D.	N.D.	N.D.	50
Trichloronate	N.D.	N.D.	N.D.	N.D.	N.D.	15
Dilution Factor	0	0	0	0	0	
QUALITY CONTROL DATA						
Surrogate Spike % Recovery						
Stirophos	40%*	33%*	52%*	28%*	62%*	

N.D.: Not Detected
*: Matrix Interference

Analytical Supervisor

pace laboratories, inc.
FORMERLY WESCO LABORATORIES

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

REPORT OF LABORATORY ANALYSIS

Report Date: 09-Nov-88
PACE JOB #: CVR 0702.121-L
Analytical Method: EPA 8190
MATRIX: SOIL

Extract/Purge Date: 15-Jun-88
Completion Date: 07-Jul-88
Analyst: Attalla

LAB #:	8-5690	8-5700	8-5703	8-5707	
CLIENT'S ID:	Sp 0-6"	Stan	Ha 0-6"	Ca 0-6"	
COMPOUND	RESULT (ug/kg)	RESULT (ug/kg)	RESULT (ug/kg)	RESULT (ug/kg)	Detection Limit(ug/kg)
Ametryn	N.D.	N.D.	N.D.	N.D.	0.06
Atraton	N.D.	N.D.	N.D.	N.D.	n.d.
Atrazine	1,200,000	N.D.	N.D.	N.D.	0.05
Prometon	N.D.	N.D.	N.D.	N.D.	0.03
Prometryn	N.D.	N.D.	N.D.	N.D.	0.06
Propazine	N.D.	N.D.	N.D.	N.D.	0.03
Simazine	N.D.	N.D.	N.D.	N.D.	0.06
Terbuthylazine	N.D.	N.D.	N.D.	N.D.	0.03
Terbutryn	N.D.	N.D.	N.D.	N.D.	0.05
Dilution factor	40	0	0	0	

QUALITY CONTROL DATA
Surrogate Spike % Recovery

Stirophos	M.I.	40%	33%	M.I.

QUALITY CONTROL DATA
METHOD: EPA 8190
PACE JOB #: CVR 0702.121-L

COMPOUND	Blank (ug/l)	Spike Duplicate % deviation	Spike % Recovery
Diazinon	N.D.	8	50
Parathion methyl	N.D.	34	37
Parathion ethyl	N.D.	12	39

N.D.: Not Detected
n.d.: not determined
M.I.: Matrix Interference

Analytical Supervisor

PACE laboratories, inc.
FORMERLY WESCO LABORATORIES

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California

Report Date: 21-Oct-88 Extract/Purge Date: 23-Jul-88
PACE JOB #: CVR 0702.121-L Analysis Completion 23-Jul-88
Analytical Method: Percent moisture Analyst: Costigan
MATRIX: SOIL

LAB #	CLIENT ID	Percent Moisture (%)
8-5684	Franklin 0-6"	11.6
8-5685	Franklin 0-6"	9.4
8-5686	Franklin 12-18"	15.6
8-5687	Franklin 12-18"	17.4
8-5688	Spezia 0-6"-1	21.5
8-5689	Spezia 0-6"-2	23.8
8-5690	Spezia 0-6"-3	20.7
8-5691	Spezia 12-18"-1	29.8
8-5692	Spezia 12-18"-2	24.9
8-5695	Nolta 0-6"-1	16.2
8-5696	Nolta 0-6"-2	15.3
8-5697	Nolta 12-18"	17.2
8-5699	Dibble 0-6"	44.9
8-5700	Stan	39.5
8-5703	Haley 0-6"	46.5
8-5704	Haley 12-18"	40.8
8-5705	Attwood 0-6"	15.5
8-5706	Attwood 12-18"	17.4
8-5707	Cache 0-6"	2.4

Analytical Supervisor

Haley F.S.

Memorandum

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD • CENTRAL VALLEY REGION
3443 Routier Road
Sacramento, CA 95827-3098
Phone: (916) 361-5600
ATSS: 8-495-5600

TO: Robert Matteoli, Contract Manager
Y. Mae Hoe, E.S. III

FROM: Wendy Wyels
Assoc LAWUA

DATE: 2 December 1988 **SIGNATURE:** Wendy Wyels

SUBJECT: DISPUTE OVER WESCO/PACE JOB #CVR 0702.121-L

Payment for services provided by Wesco/Pace Laboratory for analysis of samples numbered 8-5684 through 8-5707 should be withheld due to failure to meet contractural obligations and due to the unprofessional quality of work submitted.

A. Failure to meet contract obligations

Contract number 7-095-150-0, section 8, states that "Time of performing analysis and furnishing the results thereof is of the essence to this contract." It is stated that results of routine priority samples shall be received in writing within 15 working days from the date of delivery. The contract further states that no payment will be made for results received 11 or more working days late.

The samples in question were received by Wesco/Pace on 9 June 1988. Initial results were received 25 August 1988, 55 working days after the samples were turned in. After Wesco/Pace was notified that the initial results contained many errors, they sent amended results on 21 October 1988. Wesco/Pace was informed that these results were still unacceptable; a second amended report was received by the Regional Board on 14 November 1988 -- over five months after the samples were submitted.

The contract states that no payment shall be made if results are received later than 26 working days. Based solely on the fact that the first results were not submitted for 55 working days, Wesco/Pace should not be paid.

B. Unprofessional quality of work

Wesco/Pace has made mistake after mistake in the analysis and results reporting of Job Number CVR 0702.121L. Attachment I contains a list of all communications with Wesco/Pace over the five month period that the samples were in the lab. Note that Regional Board staff had to make 15 long distance telephone calls, trying to get correct results.

Attachment II contains a listing of mistakes found in Wesco/Pace's initial results and first amended results. Several of the mistakes were not corrected the first time and had to be brought to Wesco/Pace's attention a second time.

The "Wesco Laboratories Quality Assurance Manual" (January 1987) states that "samples to be analyzed for pesticides are extracted within 7 days of collection and analyzed within the following 7 day period unless otherwise arranged." Holding times for the EPA 8080 and 8140 samples exceeded 7 days before extraction, and all samples exceeded 7 days between extraction and analysis. No notification or arrangement was made with Regional Board staff.

The Quality Assurance Manual also states that "Prior to the use of any instrumentation, the new analyst is checked out on that machine by a supervising chemist, and must demonstrate the ability to operate it with precision, accuracy, and reproducibility. All analyses, computations, and other data generated by a new analyst are reviewed closely by a supervising chemist until the new analyst accomplishes all analytical and quality control protocols correctly and completely."

On 3 October 1988, Regional Board staff was informed by Tom Clark (the 8080 analyst) that he had just been hired at Wesco/Pace and was unfamiliar with their machines in July 1988, when the 8080 analyses were run. He stated that he did not report any toxaphene because he did not know how to read the chromatograms for toxaphene. After Regional Board staff questioned the initial results, toxaphene was reported for four samples. Obviously, the new analyst was not checked out on the machine he was operating, and the supervising chemist did not review his results. If the new operator could not recognize toxaphene, how many other 8080 compounds could he not recognize?

Regional Board staff requested copies of all chromatograms associated with this job. When the chromatograms were sent in November, the accompanying letter noted that "the original chromatograms are all photocopied as you requested." A review of what is assumed to be all the chromatograms finds the following inadequacies:

EPA 8190:
- Only one standard chromatogram was sent. What happened to the chromatograms from the four samples? What about the other standards?

- The completion date in the report is 7/7/88, but the one submitted chromatogram was run on 7/10/88.

EPA 8140:
- The standard mixture contains only 14 of the 21 compounds listed in an EPA 8140 analysis.

- It took five seperate occasions to run all the samples. Standards were not run before and after each set of samples.

- Regional Board staff was told verbally by Wesco staff that all 8140 results were confirmed by second detector confirmation. The chromatograms give no indication as to the type of detector used, and whether confirmation samples were actually run.

EPA 8080:
- Samples were run on 11 different occasions; only seven standards were run. No method blanks or spike duplicates were run.

- Only two toxaphene standards were run. The two samples run at the same time did not contain toxaphene. The four samples whose results were revised to contain toxaphene were not run at the same time as a toxaphene standard. This calls into question the accuracy of the toxaphene quantification.

- The standard mixture contained only 15 of the 27 compounds reported by an EPA 8080 analysis.

- The completion date in the report is 7/8/88, but the latest chromatogram was run on 7/24/88.

- Regional Board staff was told verbally by Wesco staff that all 8080 results were confirmed by second column confirmation. The chromatograms give no indication as to the type of column used, and whether confirmation samples were actually run.

- Sample 5692 is mislabelled in the report as sample 5691.

- For samples 5686, 5688, 5692, 5697, 5699, 5700, 5703, and 5707: many peaks contain handwritten notations of the chemical corresponding to that peak, but the results do not list those chemicals. For example, the Laboratory Report for sample 5707 states that two chemicals were found at 30x dilution. The chromatogram run on 7/14/88 at 10x dilution has 9 peaks with chemical notations; while the chromatogram run on 7/14/88 at 30x dilution shows 8 peaks with chemicals corresponding to them. Why then are only two chemicals recorded as being detected? This implies that all the 8080 results are in error.

Wesco/Pace Laboratory has shown a lack of attention to detail throughout the entire process of analyzing samples 8-5684 through 8-5707. Regional Board staff has spent an inordinate amount of time trying to obtain correct results from Wesco/Pace. The chromatograms have only added more questions about the quality of work that has been performed. The failure to satisfy contractual obligations and the technical inadequacies in the analyses make the results of Job Number CVR 0702.121-L unacceptable and payment should not be made to Wesco/Pace Laboratory.

ATTACHMENT I
CHRONOLOGY OF EVENTS PERTAINING TO PACE JOB # CVR 0702.121L

6/2/88: I called Lisa Peterson to talk about what I was intending to submit, made sure it was ok to subcontract to Enseco; warned that there would be high pesticide levels in the soils.

6/9/88: Samples submitted; per my instructions, some are subcontracted to Enseco.

6/16/88: After Enseco called me, I called Pace. Pace had a "cash flow" problem, so Enseco wasn't working on the samples subcontracted to them. The Enseco soils will be extracted at Day 14, but the NO3 sample is too far over the holding time to run. Pace also screwed up the chain of custody, so I had to go to Enseco to straighten out the analyses for each sample. Warned Pace again about the high pesticide levels in the soils.

7/22/88: I called: Pace is still trying to deal with the 8080's ("they keep blowing the machines".)

8/9/88: I called: Pace will try to get results out by the end of the week.

8/19/88: I called: Pace will send out results today.

8/22/88: I called: results actually sent out in today's mail.

8/25/88: Initial results received.

8/26/88: I called with questions about the results. My questions were written down and I was told the Lisa would call me by 8/31.

8/31/88: I called with more questions and was told that the analyst was still working on the previous questions. Lisa told me that the TDS sample "had been lost" and never run.

9/9/88: I called: left a message for Lisa to call me.

9/12/88: I called: left a message for Lisa to call me.

9/15/88: I called: Lisa said that they had been real busy, but would try to schedule a meeting with the lab director and would call me the next day. Told her I would hold the invoice until I got correct results.

10/3/88: I called. Lisa said she would try to get a revised cover letter and results out by the end of the week. She had me talk to Tom Clark, the 8080 analyst who said that he wasn't familiar with Pace's machines when he initially ran the 8080s. He reanalyzed my samples after I called, and the results changed dramatically. He used second column confirmation on all the 8080 samples and second detector confirmation confirmation on all the 8140s. The delta-BHC result was a typing mistake.

10/14/88: I called Lisa. She transferred me to Dan, who promised that the results would be sent out today. I told him that I was frustrated with Pace's work, and he couldn't explain why things were taking so long.

10/20/88: I called Dan. He promised he would send out a hard copy and also fax the results today. He apologized for the delay.

10/21/88: I called Dan again. He hadn't sent the results, and wanted me to talk to the lab director (Jeff Peterson). Jeff wasn't in, but he should call me. I told Dan that if I didn't get results today, Pace would not get paid.
Jeff called back: the file is done and will be faxed today.
Amended results received.

10/24/88: I called Jeff, to tell him about the mistakes on the amended report. He said that he would respond "as quickly as possible."

11/14/88: Second amended results and "all the original chromatograms" received.

ATTACHMENT II
PROBLEMS WITH RESULTS FROM PACE JOB # CVR 0702.121L

Initial results, received 25 August 1988

1. How can the detection limits be the same for all the 8190 samples when 5690 has atrazine at such a high level?

2. The cover letter should include the fact that sample number 5702 was lost by Wesco and therefore not run.

3. Wesco/Pace did not list the dilution factors and/or the detection limits for each individual sample in the 8140 analysis.

4. How can the 8080 detection limits be the same for the 'no detection' samples and the samples that were diluted 1,000 times? List individual detection limits for each sample.

5. The results are suspect for delta-BHC and alpha BHC, since these are not agricultural chemicals, and therefore not expected to be in these samples.

6. How can no toxaphene be reported? Some of these sites have been sampled before, and high levels of toxaphene were reported then. Toxaphene will not degrade that fast.

7. Check samples 5705 and 5706: these are duplicates. The reported results lack reproducability. (Wesco reports 2,000 ppb endosulfan in one sample and N.D. in the other, 126 ppb heptachlor in one sample and N.D. in the other, etc.) The samples were also run at different dilutions.

8. The Atwood 0-6" sample was split between Wesco and lab E. Lab E found 1,300,000 ppb toxaphene, Wesco found none. In the 8140, Wesco found 19,000 ppb fensulfoton; lab E found no fensulfton but instead found disyston, demethoate, malathion, parathion, DEF, ethion, and trithion.

First amended results, received 21 October 1988

1. I was told that 5695 and 5696 (duplicates) were reanalyzed at the same concentration, but the "dilution factors" and detection limits are different.

2. How can the detection limits be the same for all the 8190 samples when 5690 has atrazine at such a high level?

3. Why was the 8080 dilution factor for 5703 changed from 10x dilution on the initial report to 0x dilution on this report?

4. For the 8140, sample 5705 should read 'At 0-6"' not 'At 6-12"'.

5. The cover letter should include the fact that sample 5702 was lost by Wesco and therefore not run.

6. List the dilution factors and/or the detection limits for each individual sample for the 8140 analysis.

SAN JOAQUIN COUNTY
Department of Agriculture
1868 EAST HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
P. O. BOX 1869 · PHONE 944-2493

LODI OFFICE
210 N. SACRAMENTO ST.

MANTECA OFFICE
392 S. MOFFATT BLVD.

TRACY OFFICE
503 E. 10TH STREET

ESCALON OFFICE
1540 ROOSEVELT ST.

ROBERT C. ROBERSON
AGRICULTURAL COMMISSIONER

March 27, 1974

Sargeant J. Green
California Regional Water
Quality Control Board
3201 S Street
Sacramento, CA 95816

Dear Mr. Green:

Your memorandum regarding the Haley Aircraft operation has been received and studied by us. Even though we agree that this is a deplorable condition, it is our opinion that there are no violations of the regulations which we have the authority to enforce. Consequently, we will not be able to take action in this case.

We will be quite willing to assist you and make available our expertise in any such matter, however, our enforcement capability is limited to the state Agricultural Code.

Please let us know when we can be of help.

Sincerely,

Robert C. Roberson, Jr.
Agricultural Commissioner

RCR:cz

MEMORANDUM

TO: James A. Robertson
FROM: Sargeant J. Green
SUBJECT: Haley Aircraft Investigation

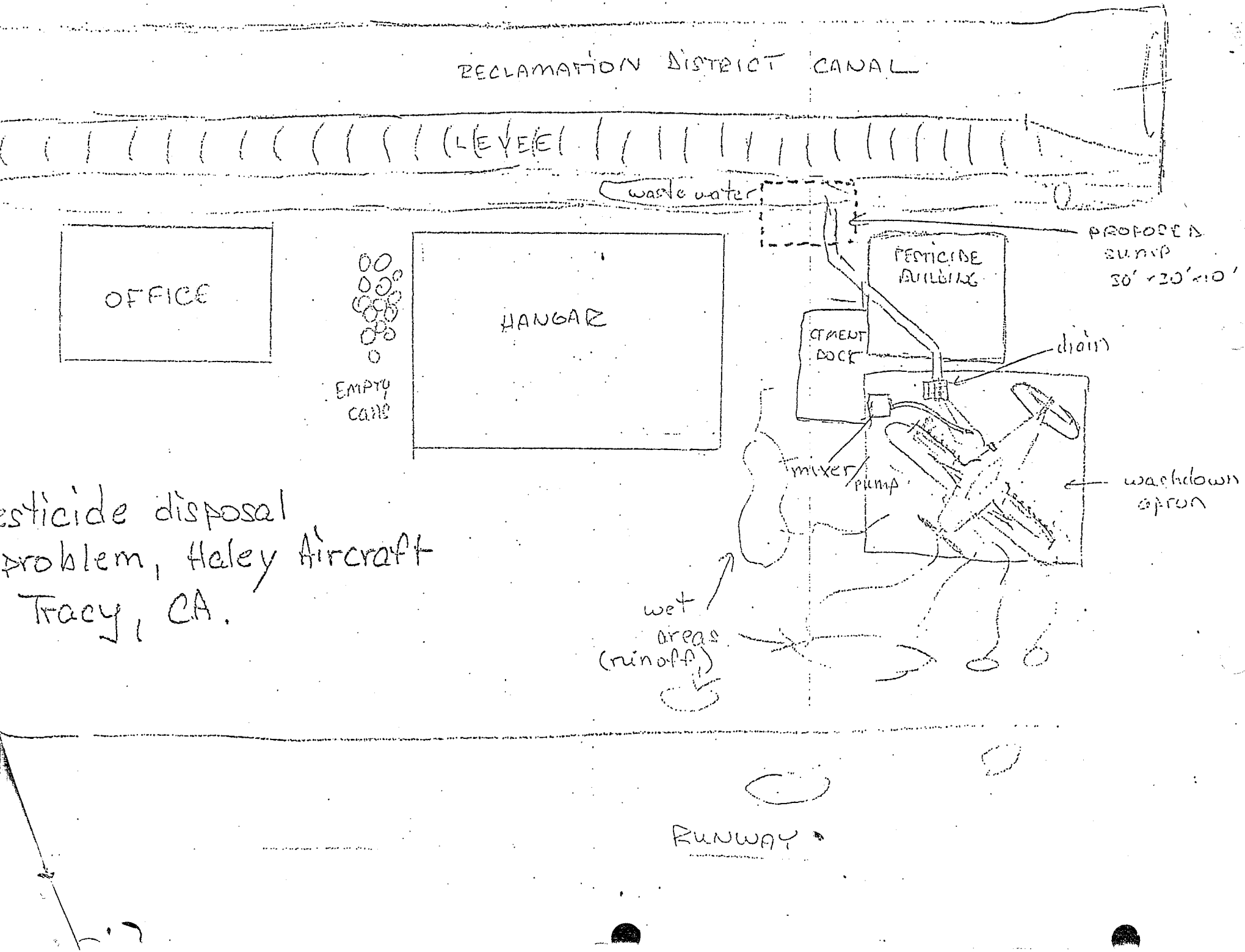
On 6 March 1974, I visited the Haley Airfield, Paradise Road, Tracy, at the request of Will DeVore, San Joaquin County Environmental Health Department. Haley Aircraft is a crop dusting operation that serves the Tracy & Delta area. The reason we visited the operation was to see what steps they were taking to prevent pesticide or herbicide spills from leaving the property by runoff or by washdown of the tanks on the aircraft. They apparently have management problems, including poor supervision and no collection or treatment system. The washings from the aircraft run off the apron pavement into a drain that empties into a ditch behind the buildings. No attempt is made to collect this drainage. This small ditch is parallel to a large reclamation district distribution canal. Mr. Steve Haley, one of the operators, explained future plans to contain this runoff and excess biocide problem. He has contacted a Mr. Norm Ackerman of U.C. Davis, who is developing a treatment/disposal system to collect and evaporate this waste. According to Mr. Haley, the plans did not contain provision to collect and dispose of rainfall runoff, which carries the biocides off the apron and surrounding areas to the aforementioned ditch. I told him that his plans should be modified to include provision for the runoff problem. This operation will need to be checked after the treatment system is built, to assure that all wastes are contained on the property.

How we know this and so what

22/March 1974
SJG:kim

cc: Will DeVore, San Joaquin Co. Environmental Health
Robert Roberson, San Joaquin Co. Agricultural Commissioner
Erwin Ebe, San Joaquin Co. Assistant Agricultural Commissioner
Haley Aircraft

esticide disposal
problem, Haley Aircraft
Tracy, CA.



Name: Haley Flying Service

County: San Joaquin Co

CVRWQCB
PESTICIDE APPLICATOR SURVEY
FALL 1987

Inspected by: WW, JLM Date: 2-19-88

Accompanied by:

I. FACILITY OWNERSHIP

Type of business: Aerial

Company name: Haley Flying Service, Inc.

Mailing address: PO Box 1043 Tracy 95376

Business address: 30100 Paradise Rd

Years in operation at this location: ~1947 start 1970 - Haley

If subsidiary, name and address of parent company:

Owner's name, address, phone:

Corporation

Facility operator, phone: Gary Del Carlo 209-948-9345

Company contact person, phone: 209-836-0213

RENT the land from a trust (Dorothy Haley)

II. SITE ACTIVITIES

Activities that generate chemical wastes (rinsing pesticide containers, formulation and application equipment, washing, seed treatment, etc):

Number of aircraft, nurse tanks, etc at site:

Groups of chemicals handled at this site (specify whether in open or closed continers):

Fertilizers

Insecticides/acaricides

Herbicides

Fungicides

Nematicides

Growth regulators

Other (describe)

Percentages of waste disposal (including rinse waters):

Retained and disposed of onsite _____%

Disposed of off-site _____% (check the method and give location)

cropland application

ground evaporation at auxiliary site

discharge to dump site

other (specify)

Site water supply source:

Backflow protection method to protect source of water used for chemical washing, diluting, etc:

III. WASTE DISPOSAL FACILITIES ON SITE

Tank rinse method (materials used beside water):

Exterior wash method:

Storage of rinsed drums until disposal:

Method of disposal of rinsed drums:

Method of disposal of paper, plastic containers:

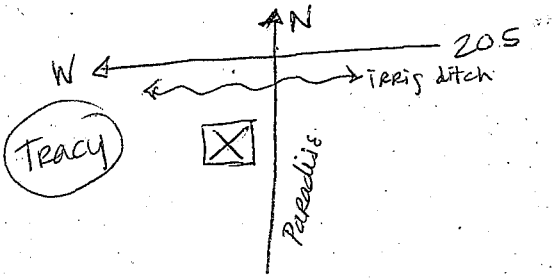
History of waste disposal at site:

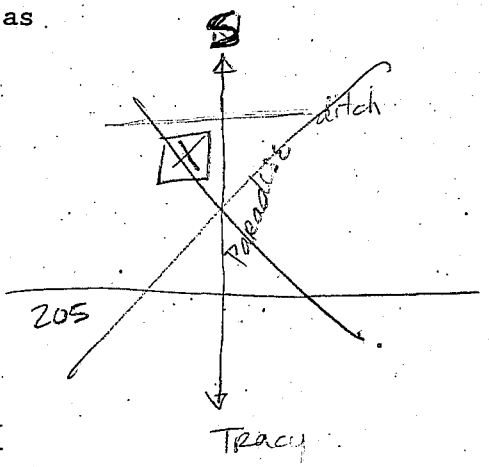
Brief summary of past local or state agency inspections or regulatory actions dealing with chemical handling or waste disposal at this site:

IV. SITE DESCRIPTION

Show location of facility on 7 1/2 min. USGS quad or other map (attach).

Sketch the facility, including all appropriate structures such as:
- all wells (water supply, monitoring, disposal, drainage, injection)
- sumps, pits, ponds
- pesticide waste treatment and disposal facilities
- pesticide waste (including container) storage areas
- pesticide storage area
- pesticide loading and mixing areas
- volume of storage tanks
- storm drain pattern
- wash down areas for cans, equipment, etc
- leach lines





V. SUMMARY OF INSPECTION

2 planes

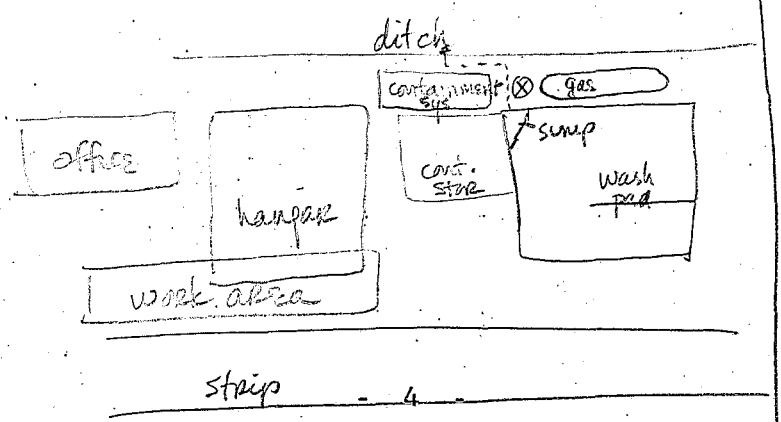
field rinse tanks

exterior wash water to evaporation tanks (tanks are partly underground; have a slanted wooden cover over which water is pumped & evaporates)

ON DHS list to look at sites w/ problems from past practices

Evidence of discharge to drain - SEE pics

also SEE LFP's 1985 comment



Paradise

CVRWQCB JUNE 1988 SAMPLING RESULTS

Name: HALEY FLYING SERVICE, SAN JOAQUIN COUNTY
Date sampled: 8 June 1988
Sample location: Composite of four samples from ditch behind facility. Two samples around pipe discharging stormwater from the front of the facility, and two samples around pipe that used to be connected to sump at washpad.

Depth/ Medium	Analysis	Positive Results (wet weight)	% Moisture	Lab	Comments *
0-6", soil	EPA 8150	2,4-D: 32 ug/kg	42.8	Enseco	RL not increased
	Carbamates	diuron: 1,300 ug/kg linuron: 77 ug/kg	42.8	Enseco	RL inc 10x for carbofuran
	EPA 8190	ND	46.5	Wesco	RL increased ?x
	EPA 8080	ND	46.5	Wesco	RL increased 0x
	EPA 8140	ND	46.5	Wesco	RL increased 0x
	GC/MS #	Not identified	41.9	Enseco	HSL Volatile Organics Library Search
	GC/MS #	Not identified	41.9	Enseco	HSL Semivolatile Organics Library Search
12-18", soil	EPA 8150	ND	42.3	Enseco	RL inc 2x for 2,4,5-TP and MCPA
	Carbamates	diuron: 800 ug/kg linuron: 74 ug/kg	42.3	Enseco	RL inc 15x for carbofuran, 10x for neburon
	EPA 8080	endosulfan: 27 ug/kg	40.8	Wesco	RL not increased
	EPA 8140	ND	40.8	Wesco	RL increased 0x

* RL: laboratory reporting limit increased due to "matrix interference"
\# GC/MS compounds identified by GC/MS Library Search and by the mass spectroscopist. Concentrations are estimated and will vary by +/- 50%. Carbamates and EPA 8150s can not be identified by the GC/MS scans.

QA/QC ok

Enseco

Chlorinated Phenoxyacid Herbicides

Method 8150

Client Name: Wesco Laboratories
Client ID: Haley 0-6"
Lab ID: 042002-0017-SA Enseco ID: 56787
Matrix: SOIL Sampled: 08 JUN 88 Received: 09 JUN 88
Authorized: 16 JUN 88 Prepared: 17 JUN 88 Analyzed: 08 JUL 88

Parameter	Result	Units	Reporting Limit
2,4-D	32	ug/kg	25
Fenac	ND	ug/kg	5.0
2,4,5-TP (Silvex)	ND	ug/kg	5.0
2,4,5-T	ND	ug/kg	5.0
MCPA/MCPP	ND	ug/kg	5000

ND=Not Detected
NA=Not Applicable

Reported By: Matt Monagle Approved By: Ben Gulizia

The cover letter is an integral part of this report.
Rev 230787

Enseco

Carbamate & Urea Pesticides, HPLC

Method 632

Client Name: Wesco Laboratories
Client ID: Haley 0-6"
Lab ID: 042002-0017-SA Enseco ID: 56787
Matrix: SOIL Sampled: 08 JUN 88 Received: 09 JUN 88
Authorized: 16 JUN 88 Prepared: 17 JUN 88 Analyzed: 29 JUN 88

Parameter	Result	Wet wt. Units	Reporting Limit	
Oxamyl (Vydate)	ND	ug/kg	500	
Nudrin (Methomyl)	ND	ug/kg	500	
Monuron	ND	ug/kg	50	
Baygon	ND	ug/kg	1000	
Carbofuran (Furadan)	ND	ug/kg	10000	A
Carbaryl (Sevin)	ND	ug/kg	500	
Fluometuron	ND	ug/kg	100	
Diuron	1300	ug/kg	50	
Propham	ND	ug/kg	500	
Methiocarb	ND	ug/kg	500	
Linuron	77	ug/kg	50	
Chloropropham	ND	ug/kg	500	
Neburon	ND	ug/kg	50	

Note A : Reporting Limit raised due to matrix interferences.

ND=Not Detected
NA=Not Applicable

Reported By: Claire Hanamoto Approved By: Ben Gulizia

The cover letter is an integral part of this report.
Rev 230787

Percent Water by GCMS

CLP Method

Client Name: Wesco Laboratories
Matrix: SOIL
Units: %
Received: 28 JUN 88
Authorized: 28 JUN 88

Lab ID	Client ID	Result	Reporting Limit	Date Prepared	Date Analyzed
042220-0001-SA	Franklin Field 0-6"	9.09	0.1	NA	30 JUN 88
042220-0002-SA	Spezia F.S. 0-6"	22.60	0.1	NA	30 JUN 88
042220-0003-SA	Nolta F.S. 0-6"	17.41	0.1	NA	30 JUN 88
042220-0004-SA	Nolta F.S. 12-18"	17.68	0.1	NA	30 JUN 88
042220-0005-SA	Atwood 0-6"	16.28	0.1	NA	30 JUN 88
042220-0006-SA	Cache Cr. Chem.	3.91	0.1	NA	30 JUN 88
042220-0007-SA	Dibble	42.35	0.1	NA	30 JUN 88
042220-0008-SA	Haley	41.92	0.1	NA	30 JUN 88

ND=Not Detected
NA=Not Applicable

Reported By: Shelly Eyraud
Approved By: Shelly Eyraud

The cover letter is an integral part of this report.
Rev 110588

ISL Volatile Organics
LIBRARY SEARCH

Enseco ID	Client ID	Compounds (1)	Date Analyzed
042220-001	Franklin Field 0-6"	NI	14 JULY 88
-003	Nolta F.S. 0-6"	NI	14 JULY 88
-004	Nolta F.S. 12-18"	NI	14 JULY 88
-005	Atwood 0-6"	NI	14 JULY 88
-006	Cache Cr. Chem.	NI	14 JULY 88
-007	Dibble	NI	14 JULY 88
-008	Haley	NI	14 JULY 88

(1) Compounds identified by GC/MS library search and mass spectroscopist.

NI = Not Identified

Prepared by: Dave Nishimura Approved by: Phil Hartwick

The cover letter is an integral part of this report.
Rev 230788

HSL Semivolatile Organics
LIBRARY SEARCH

Enseco-Cal ID: 042220-008
Client ID: Haley

Date Prepared: 29 JUNE 88
Date Analyzed: 18 JULY 88

Compound (1)	Estimated Concentration

No compounds tentatively identified.

(1) These are tentatively identified compounds assigned by the data system or qualified by the mass spectroscopist.

Reported by: Scott Barmby

Approved by: Calvin Tanaka

Enseco

Carbamate & Urea Pesticides, HPLC

Method 632

Client Name: Wesco Laboratories
Client ID: Haley 12-18"
Lab ID: 042002-0018-SA Enseco ID: 56788
Matrix: SOIL Sampled: 08 JUN 88 Received: 09 JUN 88
Authorized: 16 JUN 88 Prepared: 17 JUN 88 Analyzed: 29 JUN 88

Parameter	Result	Wet wt. Units	Reporting Limit	
Oxamyl (Vydate)	ND	ug/kg	500	
Nudrin (Methomyl)	ND	ug/kg	500	
Monuron	ND	ug/kg	50	
Baygon	ND	ug/kg	1000	
Carbofuran (Furadan)	ND	ug/kg	15000	A
Carbaryl (Sevin)	ND	ug/kg	500	
Fluometuron	ND	ug/kg	100	
Diuron	800	ug/kg	50	
Propham	ND	ug/kg	500	
Methiocarb	ND	ug/kg	500	
Linuron	74	ug/kg	50	
Chloropropham	ND	ug/kg	500	
Neburon	ND	ug/kg	500	A

Note A : Reporting Limit raised due to matrix interferences.

ND=Not Detected
NA=Not Applicable

Reported By: Claire Hanamoto Approved By: Ben Gulizia

The cover letter is an integral part of this report.
Rev 230787

Enseco

Chlorinated Phenoxyacid Herbicides

Method 8150

Client Name: Wesco Laboratories
Client ID: Haley 12-18"
Lab ID: 042002-0018-SA Enseco ID: 56788
Matrix: SOIL Sampled: 08 JUN 88 Received: 09 JUN 88
Authorized: 16 JUN 88 Prepared: 17 JUN 88 Analyzed: 08 JUL 88

Parameter	Result	Units	Reporting Limit	
2,4-D	ND	ug/kg	25	
Fenac	ND	ug/kg	5.0	
2,4,5-TP (Silvex)	ND	ug/kg	5.0	
2,4,5-T	ND	ug/kg	10	A
MCPA/MCPP	ND	ug/kg	10000	A

Note A : Reporting Limit raised due to matrix interferences.

ND=Not Detected
NA=Not Applicable

Reported By: Matt Monagle Approved By: Ben Gulizia

The cover letter is an integral part of this report.
Rev 230787

STATE OF CALIFORNIA
GEORGE DEUKMEJIAN, *Governor*

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
CENTRAL VALLEY REGION
3443 ROUTIER ROAD
SACRAMENTO, CA 95827-3098

10 November 1988

Mr. Gary Del Carlo
Haley Flying Service
P.O. Box 1049
Tracy, CA 95376

SAMPLING RESULTS

As you may recall, Regional Water Board staff sampled sediment from the irrigation ditch behind your facility for pesticides. The results are enclosed. While low levels of four materials were detected, it appears that your current operation (field rinsing tanks, pumping exterior wash water to the evaporation tank) poses little threat to water quality.

If you have any questions, I can be reached at (916) 361-5699.

Wendy Wyels

Wendy Wyels
Associate Land & Water Use Analyst

cc: Mr. Ray Mahoney, San Joaquin County Agricultural Commissioner's Office, Stockton

FILE

CVRWQCB 1988 SAMPLING RESULTS

Name: HALEY FLYING SERVICE, SAN JOAQUIN COUNTY
Date sampled: 8 June 1988
Sample location: Composite of four samples from ditch behind facility. Two samples around pipe discharging stormwater from the front of the facility, and two samples around pipe that used to be connected to sump at washpad.

Depth/ Medium	Analysis	Positive Results (wet weight)	% Moisture	Lab	Comments *
0-6", soil	EPA 8150	2,4-D: 32 ug/kg	42.8	Enseco	RL not increased
	Carbamates	diuron: 1,300 ug/kg linuron: 77 ug/kg	42.8	Enseco	RL inc 10x for carbofuran
	EPA 8190	ND	46.5	Wesco	RL increased ?x
	EPA 8080	ND	46.5	Wesco	RL increased 0x
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	GC/MS #	Not identified	41.9	Enseco	HSL Volatile Organics Library Search
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12-18", soil	EPA 8150	ND	42.3	Enseco	RL inc 2x for 2,4,5-TP and MCPA
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	EPA 8080	endosulfan: 27 ug/kg	40.8	Wesco	RL not increased
	EPA 8140	ND	40.8	Wesco	RL increased 0x

* RL: laboratory reporting limit increased due to "matrix interference"
\# GC/MS compounds identified by GC/MS Library Search and by the mass spectroscopist. Concentrations are estimated and will vary by +/- 50%. Carbamates and EPA 8150s can not be identified by the GC/MS scans.

QA/QC ok

INSPECTION REPORT

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - CENTRAL VALLEY REGION

WDS NUMBER: 5B392045N01 Form Printed -> 11/02/90

DISCHARGER:

HALEY FLYING SERVICE, INC.
P.O. BOX 1049
TRACY ,CA 95237

CONTACT: GARY DEL CARLO
PHONE: 2099489345

FACILITY NAME:

HALEY FLYING SERVICE, INC.

CONTACT:
PHONE:

STAFF: WSW

ORDERS:
ORDER NUMBER DATE ADOPTED TYPE

LAST INSPECTIONS:
DATE TYPE VIOLATION?

SCHEDULED INSPECTIONS:
9104B1

INSPECTION TYPE:

[ ] 1. "A" TYPE COMPLIANCE (SAMPLING)
[ ] 2. "B" TYPE COMPLIANCE (NO SAMPLING)
[ ] 3. NON-COMPLIANCE FOLLOW-UP
[ ] 4. ENFORCEMENT FOLLOW-UP
[ ] 5. COMPLAINT
[ ] 6. PRE-REQUIREMENT
[X] 7. MISCELLANEOUS

PROGRAM COMPONENT
TASK NUMBER:
|1|3|1|

INSPECTION DATE: |9|0|1|1|0|7|
Y Y M M D D

INSPECTOR'S INITIALS WSW |C|M|H|

CONTACT: NONE

INSPECTION SUMMARY (100 character limit): THE "EVAPORATOR TANK" IS PARTLY UNDERGROUND. ITS BOTTOM IS VERY WET WITH SLUDGE AND RINSEATE. IT IS UNKNOWN IF THE TANK IS LEAKING. SYSTEM IS INADEQUATE.

ADDITIONAL COMMENTS: "Rinsewater evaporator" running. Strong pesticide smell. We may be concerned about the buildup of pesticides in the sludge in the bottom of the evaporator. The pump on the evaporator is leaking, and Rinsewater is soaking into the sandy soil next to the pump. Strip looks messy. There's a lot of empty containers thrown against the east hangar wall.

WDR REVIEW: _____ MONITORING PROGRAM REVIEW: _____

Was there a VIOLATION discovered during this inspection? YES [✓] NO [ ] PENDING SAMPLE RESULTS [ ] NOT APPLICABLE [ ]

(If yes, you MUST attach a completed violation input form.)

INSPECTOR SIGNATURE & DATE: C.M. Holm, 11/9/90

Reviewed By:

DATA ENTRY DATE: NOV 3 0 1990



N

See 1987 pictures too

HALEY FLYING SERVICE

18 February 1988

Tank w/ slanted wooden cover to which rinse water is pumped. Water is continuously pumped over top of cover to evaporate.



Ditch behind Haley F.S. Pipe in bank, ditch is eroded below pipe

N



Ditch behind Haley F.S. Then white pipe running from sump at washpad, behind building. At this time, is not connected to larger white pipe which empties into ditch.

N

Haley Flying Service, Tracy, San Joaquin County

JLM
4 June 1987



← Application equipment (aircraft) are washed on a cracked concrete slab which drains to a sump in the northwest corner.



← Sump in the northwest corner has a pump which discharges to above-ground steel pipe

Haley Flying Service



← Discharge from sump is to in-ground concrete tank located north west of washpad. Tank is covered and there used to be a system to enhance evaporation by pumping rinse water onto cover by solar evaporation.



← Concrete sump had adequate freeboard at time of inspection. Unknown if capacity problems exist and, if so, how they are resolved.

said that the aircraft spray tank is field rinsed and the exterior of the plane is washed at the site with the rinse water going onto the ground.

Recommendations: Soils at this site should be checked for pesticide residues. If unacceptable levels are found, action should be taken to bring the site into compliance with State and Federal regulations.

Jim Davis Inc.

Inspection revealed a wash pad with a slotted grate below which lies a concrete sump. Employee Dave Taylor explained that fertilizer spreaders are washed on the pad. He said that the rinse water is pumped out and applied to fields. He said that no pesticides are applied through company equipment.

Recommendation: No action should be necessary at this time.

Delta Farm Service

Dan Flack explained that Delta Farm Service has been at this site for eight years. He said that packaged pesticides and liquid fertilizers are sold, but no pesticides or fertilizer are applied by the company, and no fertilizer is stored at the site.

Recommendation: No action should be necessary at this time.

Haley Flying Service

Employee Dennis Delanina explained that this site has been used for aerial application for over 20 years. He said that about 40% of current activity is dry application. He said that spray tanks are field rinsed and aircraft exteriors are washed on a concrete pad which drains into a concrete lined evaporation sump. Inspection revealed an inclined roof over the sump. Dennis explained that rinse water can be pumped onto the roof to accelerate evaporation. There was not enough water in the sump to completely cover the bottom at the time of inspection.

Recommendations: Although this disposal system appears to be effective in handling rinse water, it does not comply with Subchapter 15. Soils and rinse water at this site should be sampled. If unacceptable levels of pesticides are found, action should be taken to bring the site into compliance with State and Federal regulations.

3. Haley Flying Service, Tracy. Two planes are operated of off this strip. Tanks are field rinsed while exterior wash is pumped from a concrete pad to an evaporation tank. The tank is partly underground and has a slanted wooden cover over which the rinseate is continuouly pumped so that it will evaporate. We found evidence that not all rinsewater flows to the evaporation tank - some appears to be piped to an irrigation ditch behind the facility. Priority 1.

4. Trinkle and Boys Flying Service, Tracy. The Regional Board presently had a Cleanup and Abatement Order against Trinkle and Boys. In 1986, Board staff found 12 pesticides in the perched ground water below the former application equipment wash area. There is now a tank to collect rinsewater. There was a large area of spilled dormant oil and sulfur in front of the hangar and office. Priority 1.

5. Rankins Ag Service, Tracy. This small custom applicator (one ground rig) field rinses his tank. Priority 3.

6. Sky Ag Services, Tracy. One helicopter and one plane's tanks are field rinsed. The exteriors are washed on a concrete pad. Rinse water is piped to a large, plastic lined, above ground evaporation tank. Priority 2.

7. Rhodes Bean & Supply Co-op, Tracy. The liquid fertilizer and application equipment was auctioned off a few months ago. The co-op still sells bagged dry fertilizer. The old washpad is located at the end of the fertilizer tanks (which now store water). Priority 6.

8. Wilbur-Ellis, Stockton. This facility sells a small amount of bulk liquid fertilizer and packaged ag chemicals, and rents some field storage equipment (which must be washed by the grower). The washing of application equipment was terminated seven years ago. At that time, the washpad was also removed. Before removal, the underlying soil was tested and some was hauled to Kettleman. Priority 6.

9. John Taylor, Stockton. This large facility has a washpad on which fertilizer application equipment is washed. Rinsewater is either pumped to a fixed tank to be used as makeup water, or pumped to an above ground tank to evaporate. Herbicide application equipment must be field washed. Bulk dry fertilizer goes straight to the field and is never stored on site. The only berm is around the D-D tank. Priority 6.

10. D&D Flying Service, Stockton. D&D's one plane is based at a dirt strip on Roberts Island. The tanks are field rinsed, while exterior rinse is on a dirt area to the south of the strip. Priority 1.

STATE WATER RESOURCES CONTROL BOARD
PAUL R. BONDERSON BUILDING
901 P STREET
P.O. BOX 100
SACRAMENTO, CALIFORNIA 95801
(916) 324-9498

DEC 03 1985

Haley Fujing Service
P.O. Box 1049
Tracy, CA 95376

San Joaquin County

Dear Hazardous Substance Storage Registrant:

The State Water Resources Control Board (State Board) has received your Dec. 23, 1985 correspondence regarding the Toxic Pits Cleanup Act [Article 9.5 (commencing with Section 25208) of Chapter 6.5 of Division 20 of the Health and Safety Code]. Our records, based on the Hazardous Substance Storage Statement that you submitted, showed that you own a surface impoundment which might be covered under the Act. However, in your most recent correspondence, you state that you are not affected by the Act because:

[✓] you do not own a surface impoundment as defined in Section 25208.1(w) of the Health and Safety Code.

[✓] you do not store hazardous waste.

[ ] your container is a flow-through device and thus does not store a hazardous waste.

[ ] your facility was not used on or after January 1, 1985 and proper monitoring and/or closure is under way.

[ ]

We will change our records accordingly.

Please be aware that we are forwarding this information to the Regional Water Quality Control Board in your area for verification and for any follow-up actions that office may deem necessary. The Regional Board staff may contact you for additional information or to arrange for an inspection of your facility. Where any doubt exists as to whether your container is a surface impoundment or stores a hazardous waste, as defined in state law, you are responsible for presenting technical evidence to justify your claimed exemption.

If you have any questions regarding this matter, please contact Terry Brazell at (916) 322-0202.

Sincerely,

Roger Johnson

Roger Johnson, Chief
Program Branch
Division of Water Quality

cc: Regional Board (w/letter attached)

RECEIVED
SACRAMENTO
CVRWQCB
JAN 3 8 29 AM '86

Haley Flying Service Inc.
Agricultural Flying

P.O. Box 1049
Tracy, California 95376
Tracy: (209) 836-0213
Stockton: (209) 948-9345

December 23, 1985

Miss Tony Brazell
State Water Resources Control Board
P.O. Box 100
Sacramento, California 95801

Dear Miss Brazell

It has been brought to my attention, that I registered our facility wrong. We have a tank, not a sump, and because we return all rinse water to the fields being treated there is no hazardous waste. Please change our forms and I believe now that the $500.00/100 fee does not apply.

Sincerely Yours
Gary DeLand
President. HFS Inc.

STATE OF CALIFORNIA - CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, *Governor*

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS
2014 T STREET, SUITE 130
P.O. BOX 944212
SACRAMENTO, CALIFORNIA 94244-2120
(916)227-4334
(916)227-4530 (FAX)

EAT

November 30, 1995

Dorothy E. Haley
1311 Madison Avenue
Tracy CA 95376

UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM, NOTICE OF CLAIM ACCEPTANCE: CLAIM NUMBER 010776; FOR SITE ADDRESS: 21000 Paradise Road, Tracy CA 95376

Your claim has been conditionally accepted for placement on the Priority List in the priority class claimed (Priority Class B). The Priority List is updated on a monthly basis. This project should be added to the next monthly update. The formal Priority List is published annually.

Staff will review, verify, and process applications based on the priority and rank within the priority class. During the detailed review, staff may request additional information to verify eligibility. Once review of the application is complete and the claim is determined to be valid, a Letter of Commitment will be issued obligating funds toward the cleanup. If the detailed review determines that your claim is unacceptable or ineligible, you will be notified of our intent to remove your claim from the Priority List.

If you have any questions, please contact me at (916) 227-4334.

Sincerely,

Annabel L. Mackey

Annabel L. Mackey, Claims Reviewer
Underground Storage Tank Cleanup Fund

cc: Ms. Diane Hinson
San Joaquin County EHD
P.O. Box 2009
Stockton, CA 95201

Mr. Gordon Boggs
California Regional Water Quality
Control Board, Central Valley Region
3443 Routier Road
Sacramento, CA 95827-3098

RECEIVED
SACRAMENTO
CVRWQCB
95 DEC -4 PM 1:43

Cal/EPA

State Water Resources Control Board

Division of Clean Water Programs

Mailing Address:
P.O. Box 944212
Sacramento, CA
94244-2120

2014 T Street,
Suite 130
Sacramento, CA
95814
(916) 227-4307
FAX (916) 227-4530

World Wide Web:
http://www.swrcb.ca.gov/~cwphome/fundhome.htm

Pete Wilson
Governor

March 25, 1997

DOROTHY E HALEY
1311 MADISON AVE
TRACY, CA 95376

UNDERGROUND STORAGE TANK CLEANUP FUND, CLAIM NO. 010776, FOR SITE ADDRESS: 21000 PARADISE RD, TRACY

The State Water Resources Control Board (State Board) is able to issue, pursuant to applicable regulations, the enclosed Letter of Commitment (LOC) in an amount not to exceed **$35,000**. This LOC is based upon our review of the corrective action costs you reported to have incurred to date. The LOC may be modified by the State Board.

It is very important that you read the terms and conditions in the LOC. The State Board will take steps to withdraw this LOC after 90 calendar days from the date of this letter unless you proceed with due diligence with your cleanup effort.

NOTE: You must also submit your first reimbursement request for the costs that you reported to have incurred within 90 calendar days from the date of this letter or submit a **written** explanation as to the status of the cleanup and **when** a reimbursement request can be expected. Failure to submit a request or an approved explanation may result in the removal of committed funds. Claims filed with the Underground Storage Tank Cleanup Fund far exceed the funding available and it is important that you make use of the funding that has been committed to your cleanup in a timely manner.

You are reminded that you must comply with all regulatory agency time schedules and requirements and you must obtain three bids for any required corrective action. Only corrective action costs *required* by the regulatory agency to protect human health, safety and the environment can be claimed for reimbursement. **Unless waived in writing, you are required to obtain *preapproval of costs* for all future corrective action work (form enclosed).** If you have any questions on obtaining preapproval of your costs or the three bid requirement, please call Christopher Stevens, our engineer assigned to claims in your Region, at (916) 227-4519. Failure to obtain preapproval of your future costs may result in the costs not being reimbursed.

97 MAR 27 PM 2:52
RECEIVED
SAN FRANCISCO BAY REGION

The following documents needed to submit your reimbursement request are enclosed:

- "Reimbursement Request Instructions" package. **Retain this package for future reimbursement requests**. These instructions must be followed when seeking reimbursement for corrective action costs incurred after January 1, 1988. Included in the instruction package are samples of completed reimbursement request forms and spreadsheets.
- "Bid Summary Sheet" to list information on bids received which **must be completed and returned**.
- "Certification of Non-Recovery From Other Sources" which **must be returned before any reimbursements can be made.**
- "Reimbursement Request" forms which you **must use to request reimbursement of costs incurred**.
- "Spreadsheet" forms which you **must use in conjunction with your reimbursement request**.
- "Claimant Data Record" (Std. Form 204) which **must be completed and returned with your first reimbursement request.**

We continuously review the status of all active claims. If you do not submit a reimbursement request or fail to proceed with due diligence with the cleanup, we will take steps to withdraw your LOC.

If you have any questions regarding the enclosed documents, please contact Annabel L. Mackey at (916) 227-4334.

Sincerely,

Dave Deaner, Manager
UST Cleanup Fund Program

Enclosures

cc: Mr. Gordon Boggs
RWQCB, Reg. 5 - Sacramento
3443 Routier Road
Sacramento, CA 95827-3098

Ms. Margaret Lagorio
San Joaquin County EHD
P.O. Box 2009
Stockton, CA 95201

LETTER OF COMMITMENT FOR REIMBURSEMENT OF COSTS

CLAIM NO: **010776**

AMENDMENT NO: **0**

CLAIMANT: **DOROTHY E HALEY**

BALANCE FORWARD: **$0**

CO-PAYEE: **NONE**

THIS AMOUNT: **$35,000**

JOINT CLAIMANT: **NONE**

NEW BALANCE: **$35,000**

CLAIMANT ADDRESS: **1311 MADISON AVE**
TRACY, CA 95376

TAX ID/SSA NO: **565-48-5808**

Subject to availability of funds, the State Water Resources Control Board (SWRCB) agrees to reimburse **DOROTHY E HALEY** (Claimant) for eligible corrective action costs at **PARADISE AIRSTRIP 21000 PARADISE RD, TRACY, CA 95376** (Site). The commitment reflected by this Letter is subject to all of the following terms and conditions:

1. Reimbursement shall not exceed **$35,000** unless this amount is subsequently modified in writing by an amended Letter of Commitment.

2. The obligation to pay any sum under this Letter of Commitment is contingent upon availability of funds. In the event that sufficient funds are not available for reasons beyond the reasonable control of the SWRCB, the SWRCB shall not be obligated to make any disbursements hereunder. If any disbursements otherwise due under this Letter of Commitment are deferred because of unavailability of funds, such disbursements will promptly be made when sufficient funds do become available. Nothing herein shall be construed to provide the Claimant with a right of priority for disbursement over any other claimant who has a similar Letter of Commitment.

3. All costs for which reimbursement is sought must be eligible for reimbursement and the Claimant must be the person entitled to reimbursement thereof.

4. Claimant must at all times be in compliance with all applicable state laws, rules and regulations and with all terms, conditions, and commitments contained in the Claimant's Application and any supporting documents or in any payment requests submitted by the Claimant.

5. No disbursement under this Letter of Commitment will be made except upon receipt of acceptable Standard Form Payment Requests duly executed by or on behalf of the Claimant. All Payment Requests must be executed by the Claimant or a duly authorized representative who has been approved by the Division of Clean Water Programs.

6. Any and all disbursements payable under this Letter of Commitment may be withheld if the Claimant is not in compliance with the provisions of Paragraph 5 above.

7. Neither this Letter of Commitment nor any right thereunder is assignable by the Claimant without the written consent of the SWRCB. In the event of any such assignment, the rights of the assignee shall be subject to all terms and conditions set forth in this Letter of Commitment and the SWRCB's consent.

8. This Letter of Commitment may be withdrawn at any time by the SWRCB if completion of corrective action is not performed with reasonable diligence.

IN WITNESS WHEREOF, this Letter of Commitment has been issued by the SWRCB this 17th day of March, 1997.

STATE WATER RESOURCES CONTROL BOARD

BY Doug Wilson
Manager, Underground Storage Tank Cleanup Fund Program

BY Susan Hori
for Chief, Division Administrative Services

STATE USE:
CALSTARS CODING:
0550 - 569.02 - 30530

$_____

R:3/24/94

REIMBURSEMENT REQUEST - UNDERGROUND STORAGE TANK CLEANUP FUND

CLAIM NO: 010776 **REGION:** 5 **REIMBURSEMENT NO:**

CLAIMANT: DOROTHY E HALEY
CO-PAYEE: NONE
JOINT CLAIMANT: NONE

CLAIMANT ADDRESS: 1311 MADISON AVE
TRACY, CA 95376

CONTAMINATED SITE: PARADISE AIRSTRIP
ADDRESS: 21000 PARADISE RD
TRACY, CA 95376

LETTER OF COMMITMENT $35,000 **AMENDMENT NO:** 0

PROJECT COSTS INCURRED TO DATE

(This Section to be completed by claimant)

		APPROVED FOR PAYMENT (TO DATE) (State Use Only)
1. CORRECTIVE ACTION COSTS (Costs entered here must be cumulative, Total-to-date, NOT INCREMENTAL.)	$	$
2. THIRD PARTY JUDGEMENT	$	$
3. ADJUSTMENT	$ ( )	$
4. DEDUCTIBLE (Subtract)	$ (5,000)	$ (5,000)
TOTAL (Lines 1, 2, 3 & 4)	$	$

CERTIFICATION:
I have read and agree with the "Conditions of Payments" (Exhibit I), listed on the reverse side of this document.
NOTE: This request CANNOT BE PROCESSED unless the "Conditions of Payments" are included on the reverse side when submitted.

The costs claimed have been incurred and have been paid or will be paid within thirty (30) days of receipt of the funds requested hereby. If such costs have not been paid within 30 days, funds received under this request will be returned to the State Water Resources Control Board.

CLAIMANT SIGNATURE: **DATE:**

STATE USE ONLY: APPROVAL FOR PAYMENTS

$ _____ LESS: $ _____ = $ _____
Approved for Payment to Date — Previous Payments — Amount Due

_____ _____ _____
Reviewed By: — Title: — Date:

_____ _____ _____
Approved By: — Title: — Date:

California R[illegible]gional Water Quality C[illegible]ontrol Board
Central Valley Region

Peter M. Rooney
Secretary for Environmental Protection

Sacramento Main Office
Internet Address: http://www.swrcb.ca.gov/~rwqcb5/home.html
3443 Routier Road, Suite A, Sacramento, California 95827-3003
Phone (916) 255-3000 • FAX (916) 255-3015

Ed J. Schnabel
Chair

16 October 1998

FILE

Ms. Margaret Lagorio
San Joaquin County Environmental Health Division
304 E. Weber Avenue, Third Floor
Stockton, CA 95201-0388

NO FURTHER ACTION REQUIRED CONCURRENCE, UNDERGROUND STORAGE TANKS, SAN JOAQUIN COUNTY

This letter confirms the completion of site the investigation and remedial action for the following underground storage tank facility located in San Joaquin County.

Facility	Street Address	City
Haley Flying Service	21000 Paradise Road	Tracy

Based on the available information in our files and with the provision that the information provided to this agency is accurate and representative of site conditions, no further action related to the underground storage tank release is required for the above facility.

If you have any questions, please call Mark List at (916) 255-3132.

APPROVED
author MEL
Senior

CVRWQCB
U.T. Data Input
Entered by
Date

J. LAWRENCE PEARSON, P.E.
Chief, Site Cleanup Section

Enclosures

cc: Ms. Sandy Gill, State Water Resources Control Board, UST Cleanup Fund, Sacramento

California R gional Water Quality Control Board
Central Valley Region

Peter M. Rooney
Secretary for Environmental Protection

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Phone (916) 255-3000 • FAX (916) 255-3015

Ed J. Schnabel
Chair

TO: Gordon L. Boggs
UST Program Manager

FROM: Mark R. List
Engineering Geologist

DATE: 15 October 1998

SIGNATURE: Mark List

SUBJECT: ***FILE REVIEW FOR CLOSURE CONCURRENCE, HALEY FLYING SERVICE, 21000 PARADISE ROAD, TRACY, SAN JOAQUIN COUNTY***

At the request of the San Joaquin County Environmental Health Division (SJCEHD), a file review was completed to determine if Regional Board staff agree with the SJCEHD determination of no further action required at this site. This information was obtained during my review of the Regional Board casefile, the SJCEHD casefile, and discussions with Ms. Carol Oz of SJCEHD.

Background:

On 11 May 1990 two, (a 1,000-gallon regular gasoline and a 5,000-gallon aviation fuel), underground storage tanks (USTs), were removed from the site. The SJCEHD field inspector noted petroleum odors at the Aviation fuel tank location. Soil sample analytical results from the aviation fuel tank excavation revealed elevated concentrations of TPHg, benzene and xylenes.

On 19 June 1996, a Hydropunch® boring program was initiated, with soil and groundwater samples collected from six probe borings. The results of the Hydropunch sampling revealed elevated concentrations of TPHgasoline (TPHg), TPHkerosene (TPHk), TPHaviation fuel (TPHa), and all BTEX constituents in soil from one of the six borings at 10 feet below ground surface (bgs). Groundwater samples collected from three of the six borings also contained elevated concentrations of the same constituents. SJCEHD required that the impact to groundwater below the site be evaluated.

Three groundwater monitoring wells were installed on 29 May 1997 to evaluate groundwater quality. The depth to groundwater in each well is approximately 7 feet bgs. The wells are screened from 20 to 10 feet bgs. The static water level in each well has been above the top of the well screen during each groundwater monitoring/sampling event.

The initial groundwater sampling results revealed 340 µg/L (ppb) TPHa in MW-2. No other constituents were detected above the laboratory reporting limits. On 18 December 1997, TPHk was the only contaminant detected in groundwater samples collected from MW-1 at 170 µg/L and MW-2 at 210 µg/L. The water sample from MW-3 did not contain any petroleum constituents above the laboratory reporting limits.

Summary:

Elevated concentrations of total petroleum hydrocarbons as gasoline, kerosene and aviation fuel, and BTEX constituents were detected in soil in the vicinity of the former aviation fuel UST. Groundwater below the site has also been impacted by low concentrations of TPHa and TPHk.

The screened interval for the three groundwater monitoring wells was below static water level during all sampling events. This inundation of the well screens may have the effect of reducing the contaminant concentrations in groundwater samples collected from the monitoring wells. However, based on the soil boring grab groundwater samples, the groundwater impact appears to be limited in extent, and of low concentration.

The contaminant distribution appears to be adequately defined in soil and is limited to the vicinity of the former UST excavation, to a depth of approximately 10 feet bgs. TPHa and TPHk remain in groundwater below the site at concentrations up to 340 µg/L and 210 µg/L, respectively. Benzene, toluene, ethylbenzene, xylenes and MTBE were not detected in any groundwater samples collected during any of the quarterly sampling events. I agree with the SJCEHD determination that the site appears to be low risk and that closure is warranted.

TABLE 1 - CHECKLIST OF REQUIRED DATA
FOR NO FURTHER ACTION REQUESTS AT UNDERGROUND TANK SITES

Site Name and Location: **Haley Flying Service, 21000 Paradise Road, Tracy, San Joaquin Co.**

[Y] *1. Distance to production wells for municipal, domestic, agriculture, industry and other uses within 2000 feet of the site;* — ***There is 1-Ag well and ditch on-site. Well was sampled on 26 October 1996 and results were ND. Unknown where screened.***

[Y] *2. Site maps, to scale, of area impacted showing locations of former and existing tank systems, excavation contours and sample locations, boring and monitoring well elevation contours, gradients, and nearby surface waters, buildings, streets, and subsurface utilities;* — ***Scaled site maps with the UST loc and MWs in casefile.***

[Y] *3. Figures depicting lithology (cross section), treatment system diagrams;* — ***Borings logs were provided. Silty Clay to 12.5' bgs, sand to 20.5' bgs and clay to TD of the soil borings. Varies w/boring.***

[N] *4. Stockpiled soil remaining on-site or off-site disposal (quantity);*

[Y] *5. Monitoring wells remaining on-site, fate;* — ***3 monitoring wells on-site, to be properly decommissioned.***

[Y] *6. Tabulated results of all groundwater elevations and depths to water;* — ***DTW was approx 7' bgs. The historic low was 12.6' bgs. GW flow(grad), NNE (0.002) to NW (0.0062).***

[Y] *7. Tabulated results of all sampling and analyses:* — ***This information was provided to SJCEHD. See SJCEHD casefile for detection limits and lab QA/QC. Low concentrations of E,X remain in soil. Low concentrations of TPHa and TPHk remain in water. concentrations appear to be limited to the UST Ex and in well network.***

- [Y] *Detection limits for confirmation sampling*
- [Y] *Lead analyses*

[N] *8. Concentration contours of contaminants found and those remaining in soil and groundwater, and both on-site and off-site:* — ***Soil contamination is defined in the vertical and lateral directions by soil borings and excavation sampling. The three MWs and soil probe borings define the groundwater impact.***

- [Y] *Lateral and* [Y] *Vertical extent of soil contamination*
- [Y] *Lateral and* [Y] *Vertical extent of groundwater contamination*

[NA] *9. Zone of influence calculated and assumptions used for subsurface remediation system and the zone of capture attained for the soil and groundwater remediation system;*

[Y] *10. Reports / information* [Y] *Unauthorized Release Form* [Y] *QMRs (Dates)* ***7/97, 11/97 and 2/98***

[Y] *Well and boring logs* [N] *PAR* [N] *FRP* [N] *Other (report name)*

[Y] *11. Best Available Technology (BAT) used or an explanation for not using BAT;* — ***SJCEHD determined contaminant concentrations in soil/water to be low risk.***

[NA] *12. Reasons why background was/is unattainable using BAT;*

[N] *13. Mass balance calculation of substance treated versus that remaining;*

[NA] *14. Assumptions, parameters, calculations and model used in risk assessments, and fate and transport modeling;*

[Y] *15. Rationale why conditions remaining at site will not adversely impact water quality, health, or other beneficial uses; and* — ***No benzene or MTBE confirmed in groundwater monitoring wells. TPH-aviation fuel and TPH-kerosene are the only contaminants in water at low concentrations***

[NA] *16. WET or TCLP results*

By: MRL
Date: 10/15/98

Comments: All indications by SJCEHD are that the contamination at the site is located in the immediate area of the former UST excavation. The primary contaminant are TPHa and TPHk in water. This does appear to be a low risk site. Concurrence with the SJCEHD decision of no further action required appears warranted.

Cal/EPA

State Water Resources Control Board

Division of Clean Water Programs

Mailing Address:
P.O. Box 944212
Sacramento, CA
94244-2120

2014 T Street,
Suite 130
Sacramento, CA
95814
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Pete Wilson
Governor

November 22, 1996

FLOYD BARNES
9744 FOUNTAIN VALLEY DR
STOCKTON, CA 95209

UNDERGROUND STORAGE TANK CLEANUP FUND PROGRAM, NOTICE OF CLAIM ACCEPTANCE: CLAIM NUMBER 011828; FOR SITE ADDRESS: 1817 FRESNO AVE S, STOCKTON

Your claim has been accepted for placement on the Priority List in Priority Class "B".

After adoption of the Priority List, staff will review, verify, and process applications based on their priority and rank within a priority class. During this detailed review, staff may request additional information needed to verify eligibility. Once review of the application is complete and the claim is determined to be valid, a Letter of Commitment will be issued obligating funds toward the cleanup.

If, during the detailed review, it is determined that the claim application contained fraudulent information or misrepresentation making the claim unacceptable or ineligible, your claim may be rejected. In such event, you will be issued a Notice of Intended Removal from the Priority List, informed of the grounds for the proposed removal of the claim, and provided an opportunity to correct any deficiencies which are the basis for the proposed removal.

If you have any questions, please contact me at (916) 227-4334.

Sincerely,

Annabel L. Mackey

Annabel L. Mackey, Team Leader, Region 5
Underground Storage Tank Cleanup Fund

cc: Ms. Margaret Lagorio
San Joaquin County EHD
P.O. Box 2009
Stockton, CA 95201

Mr. Gordon Boggs
California Regional Water Quality
Control Board, Central Valley Region
3443 Routier Road
Sacramento, CA 95827-3098

RECEIVED
NOV 27 PM 2:52
SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DEPT

Q-MR

Wright
Environmental
Services, Inc.

July 30, 1997
Project No. 4111

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re: Groundwater Monitoring Well Installation and Initial Quarterly Sampling Haley Flying Services 21000 Paradise Road, Tracy, CA

Dear Ms. Haley,

Wright Environmental Services, Inc. (WRIGHT) has prepared this Groundwater Monitoring Well Installation and Sampling Report for the above referenced site. This report presents the results of the groundwater monitoring well installation and sampling required by the County of San Joaquin County Public Health Services Environmental Health Division (PHS-EHD). The work presented herein was reviewed and approved by PHS-EHD representatives, and slightly modified in the field by a PHS-EHD representative.

Background

Two underground storage tanks (one 1000 gallon gasoline and one 5000 gallon aviation gasoline) were removed on May 11, 1990 by Crisp Tank Testing of Stockton, CA. The tanks were removed under approved permits of the PHS-EHD. Soil samples under the tanks revealed that contaminants were not detected under the regular gasoline tank. Soil samples collected under the aviation gasoline tank showed 610 parts per million (ppm) Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene at 6,500 parts per billion (ppb), Toluene at 62,240 ppb, Ethylbenzene at 41,450 ppb and Xylenes at 169,250 ppb. A groundwater sample from the 5000 gallon tank pit revealed TPHG was not detected, Benzene at 3.9 ppb, Toluene at 18.4 ppb, Ethylbenzene at 7.5 ppb and Xylenes at 31.9 ppb. Ethylene dibromide and organic lead were not detected in the groundwater sample (see References).

Wright performed a reconnaissance site exploration by drilling exploratory borings in June, 1996. Six exploratory borings were sampled and revealed degraded petroleum fuels (Total Petroleum Hydrocarbons as Gasoline, Kerosene and Aviation Gasoline, TPHG, TPHK TPHA) adjacent to and slightly downgradient from the former 5000 gallon aviation gasoline tank. Upon review of the PHS-EHD, monitoring wells were requested for site monitoring.

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ENVIRONMENTAL HEALTH

Exploratory Soil Borings and Monitoring Well Installation

Three exploratory borings were drilled at the locations shown on Figure 1. Drilling permits were secured from the PHS-EHD prior to doing the field work. Boreholes were drilled with hollowstem auger drilling equipment. All drilling equipment and sampling tools were cleaned

4220 Commercial Dr. #5 • Tracy, California 95376
Telephone (209) 833-0758 • Fax (209) 832-5152

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Exploratory Soil Borings and Monitoring Well Installation

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prior to arriving, and before leaving the site. Soil samples were collected by advancing the augers to the desired sampling depth interval, and driving a split spoon sampler equipped with clean brass liners. The sampler was then retrieved and dissembled, and the soil samples retained for chemical analysis were cut from the soil filled acetate liner, sealed with foil and plastic endcaps, labeled, logged onto chain-of-custody forms and placed in a chilled ice chest. The boreholes were logged using the Unified Soil Classification System under the supervision of a registered geologist. Additional lithologic information was collected to describe the subsurface geology. The samples were continuously collected at intervals of obvious contamination and at stratigraphic features of interest.

Three groundwater monitoring wells were installed. The wells were cased with Sch. 40 PVC casing, threaded together; glues were not used. The slotted interval was cased with 0.020 inch slot and the annular space around the slots was backfilled with a 2/12 size sand. Previous experience has shown this to be a reliable well design in fine grained and stratified depositional environments. Final well design was modified to the site specific conditions encountered in the borehole during drilling. Once the aquifer strata has been defined, the casing was lowered to the bottom of the borehole, leaving a slotted interval above the occurrence of groundwater to observe for floating product. The sand pack was placed to a point about two feet above the slots. A bentonite seal was placed atop the sand pack, and a cement grout seal placed atop the bentonite using a tremie line, filling from the bottom to top of the borehole. A traffic rated well head access box and security device completed the well.

The location for monitoring well MW-3 was adjusted in the field after discussions with the PHS-EHD representative. The location was moved about 15 feet closer to the former underground storage tank location from the initially proposed location.

Well Head Survey

All wells will be surveyed to mean sea level using a known datum. This allows accurate measurements and groundwater gradient to be calculated.

Monitoring Well Sampling and Development

All monitoring wells were developed to remove the drilling muck, grade the sand pack and provide a more complete hydraulic connection to the aquifer. The well volume was calculated and a number of those volumes were removed until the water clears and the amount of sand pumped was minimal. The well was then allowed to recover for at least 72 hours prior to sampling. A log of the development was kept for each well.

Each monitoring well was sampled. Each borehole was advanced into the aquifer and temporarily cased. Each monitoring well was purged using calculated well volumes based upon the depth to water in each casing. Depth to groundwater measurements were made to the nearest one-one hundredth of one foot, and also checked for the presence of separate phase product. As each purge volume was removed, measurements of pH, electrical conductivity and temperature were taken until these parameters stabilized, which is interpreted to indicate aquifer water entering the casing. The sample was carefully collected with a clean bailer and poured into the appropriate laboratory prepared container with minimum cavitation. Each water sample was labeled, logged onto a chain-of-custody form, and placed in a chilled ice chest. Upon completion of well sampling, the well was closed and locked and the sampler moved to the next sampling point.

Subsurface Conditions

Three exploratory soil borings were advanced on-site at the locations shown on Figure 1. The pavements are underlain by silty clay to depths of about 12- to 14 feet. This clay is in turn underlain by sandy clay and clayey sand to depths of about 20-feet. These sandy strata may contain thin fine sand and clay interbeds several inches thick and compose the aquifer. The boreholes were terminated at a depth of 21.5-feet into a clay strata which is assumed to be continuous aquitard under the site.

Groundwater was encountered in each borehole at depths of roughly 12-feet and is interpreted to be unconfined to weakly confined in this area. Slow entry was observed in some boreholes. The irrigation canal just north of the site was filled with water and was flowing to the east. The groundwater elevation data indicate an southwesterly direction of flow. The low gradient was calculated at 0.014.

Chemical Analysis and Results

Nine soil and six groundwater samples were analyzed at Priority Environmental Laboratories, Inc. in Milpitas, CA, a State certified analytical laboratories. Samples were tested for the following; Total Petroleum hydrocarbons as Gasoline (TPHG), as Aviation Fuel (TPHA), as Kerosene (TPHK), Benzene (B), Toluene (T), Ethylbenzene (E), Xylene (X), Methyl-tertial-buytl-ether (MBTE) and Total Lead using EPA Methods 5030, 8015, 8020, 602 and 7420. The results are attached (see Appendix D) and listed below in Tables 1 and 2.

TABLE 1. SOIL CHEMICAL DATA

Sample No.	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Lead
	--------mg/kg------			----------ug/kg----------					mg/kg
MW-1-2	ND	ND	ND	ND	ND	ND	ND	ND	9.0
MW-2-2	ND	ND	ND	ND	ND	ND	ND	ND	5.2
MW-3-2	ND	11	ND	ND	ND	ND	ND	ND	4.5
Soil Stockpile	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2. GROUNDWATER CHEMICAL DATA

Sample No.	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Lead
	----------ug/l----------								mg/kg
MW-1	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-2	ND	ND	340	ND	ND	ND	ND	ND	ND
MW-3	ND	ND	ND	ND	ND	ND	ND	ND	ND
Drum Water	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not Detected
mg/kg - milligram per kilogram
ug/kg - microgram per kilogram
ug/l - microgram per liter

Discussion

The dissolved contaminants appeared to have migrated in a northeasterly direction from the former tank pit area from previous study (Wright 1996). This field evidence indicated that the migration in the shallow aquifer had occurred along or just below the capillary fringe for a limited distance. The reconnaissance borings of 1996 clearly showed an easterly contaminant movement. It is surmised that seepage from the canal currently influences flow.

The groundwater monitoring well data shows that only MW-2 revealed dissolved TPHA at 340 ppb. These concentrations indicate highly degraded volatile components in the gasoline product. This indicates that the residual contaminants are not mobile. The concentration differences between these studies are attributed to the drilling action which tends to free absorbed contaminants. However since the monitoring wells are located at points further from the reconnaissance borings, the migration and quantity of dissolved contaminants appears minimal.

Concentrations of BTEX were not detected in any well water sample, indicating that natural biodegradation process have operated on this fuel, and the fuel is highly degraded. A relatively flat gradient, together with the clayey sand aquifer strata, appear to have limited migration of the plume.

Conclusions and Recommendations

Three groundwater monitoring wells were used to further define the extent of petroleum contaminants in the vicinity of a former underground storage tank location. Previous exploratory soil borings and reconnaissance groundwater sampling show that highly degraded TPHG and BTEX occurs downgradient of the former tank and dispenser area (Wright, 1996). Contaminant distribution is indicative of a contaminant plume to the east. Groundwater flow is currently southwesterly, and is attributed to seepage from the nearby canal influence. Local regional groundwater is anticipated to flow easterly given previous work and contaminant dispersal when the canalis empty.

Cleanup actions of further soil excavation, and soil and groundwater extraction and treatment do not appear to be cost effective for this site's degraded contaminant composition and distribution and pending State guidance. Given the degraded BTEX volatile component chemistry of the dissolved plume, Wright feels that natural biologic action will continue to decompose the gasoline. However, site groundwater monitoring is warranted.

We also recommend that monitoring for biologic parameters be added to the monitoring program to estimate biologic activity (i. e., dissolved oxygen, pH, ferrous iron, sulfate and nitrate; Buscheck and O'Reilly, 1995). This will establish a baseline to estimate the biologic activity inferred from the data collected. Periodic monitoring is proposed quarterly for the next two quarters, with a review of data to ascertain the feasibility of site closure.

Limitations

This report has been prepared for the specifically for the Haley Flying Services Site at 21000 Paradise, Tracy, CA and was done according to the State and local agency suggested guidance documents for these investigations. The interpretations, conclusions and recommendations made herein are based on the data and analysis for the soil and water samples collected on-site and should be reviewed in the context of the whole report and previous site work. Please note that reports of contamination must be submitted to the agencies in a timely manner. Wright Environmental Services, Inc. is not responsible for errors in laboratory analysis and reporting, or for information withheld during the course of the study, and no warranty or guarantee is expressed or implied therein.

If you have any questions please call.

Sincerely,
Wright Environmental Services, Inc.

John Affonso
Project manager

Christopher M. Palmer
C. E. G. 1262; HG 246

Attachments:

Figure 1. Groundwater Monitoring Well Locations and Groundwater Contour Map
Exploratory Boring Logs and Well construction Details
Well development Logs and Well Sampling Sheets
Chemical Analytical Reports

References

Buscheck, T. and O'Reilly, K., March, 1995, Protocol for Monitoring Intrinsic Bioremediation in Groundwater: Chevron Research and Technology Company Health, Environment and Safety Group, 20 pg.

Wright Environmental Services, Inc. letter dated October 3, 1995 entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project. No. 4111, 5 pg. with attachments.

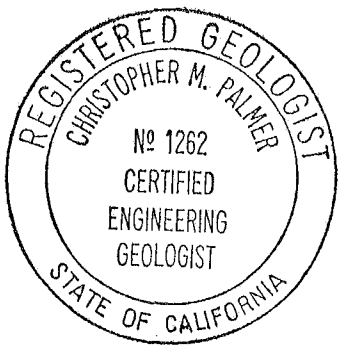
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Project manager

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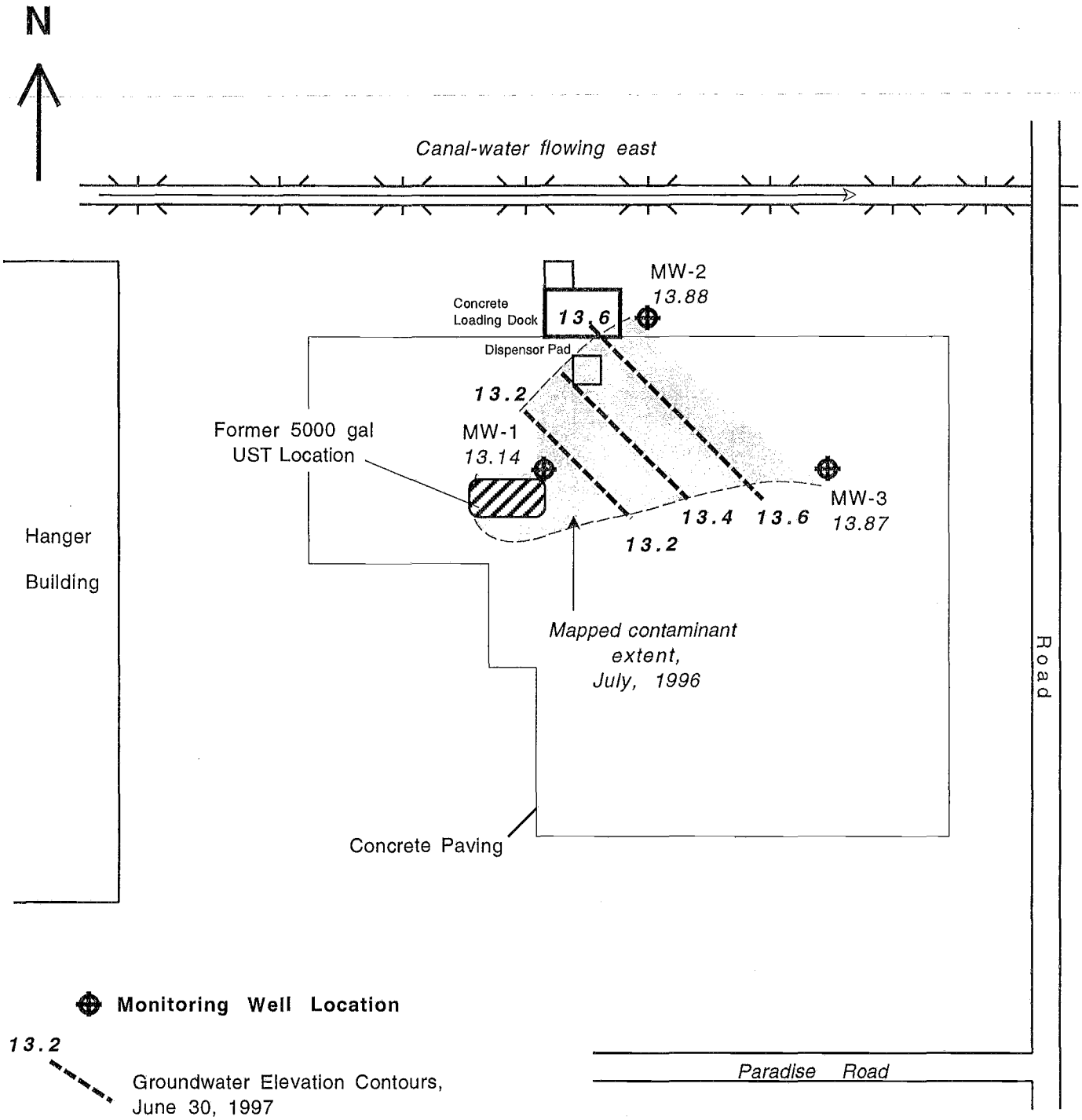
TABLE 1. RECONNAISSANCE BORING SOIL CHEMICAL DATA (1996)

Sample No.	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Total Lead
	--------mg/kg------			----------ug/kg----------					--mg/kg--
PB-1-2	ND	ND	ND	ND	ND	ND	ND	ND	4.3
PB-2-3	ND	ND	ND	ND	ND	ND	ND	ND	2.5
PB-2-4	ND	ND	ND	ND	ND	ND	ND	ND	4.7
PB-3-2	ND	ND	ND	ND	ND	ND	ND	ND	2.3
PB-3-3	150	400	550	300	98	180	330	ND	2.2
PB-3-2	ND	ND	ND	ND	ND	ND	ND	ND	2.5
PB-4-2	ND	ND	ND	ND	ND	ND	ND	ND	2.1
PB-5-2	ND	ND	ND	ND	ND	ND	ND	ND	4.0
PB-6-2	ND	ND	ND	ND	ND	ND	ND	ND	3.7
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE 2. RECONNAISSANCE BORING GROUNDWATER CHEMICAL DATA (1996)

Sample No.	TPHG	TPHK	TPHA	Ben	Tol	Ethyl	Xyl	MBTE	Total Lead
	----------ug/l----------								--mg/l--
PB-1	ND	ND	ND	ND	ND	ND	ND	ND	ND
PB-2	370	400	770	3.8	3.9	2.2	5.8	ND	ND
PB-3	600	690	1300	2.8	2.5	4.4	6.9	ND	ND
PB-4	87	200	290	ND	ND	0.5	2.8	ND	ND
PB-5	ND	ND	ND	ND	ND	ND	ND	ND	ND
PB-6	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - Not Detected mg/kg - milligram per kilogram
ug/kg - microgram per kilogram ug/l - microgram per liter
Note: Aviation fuel has components of gasoline and kerosene with a mixed hydrocarbon range from C6 to C17; the laboratory has broken these components out in the reports.



Groundwater Monitoring Well Locations and Groundwater Contour Map

Haley Flying Serivces
21000 Paradise Road
Tracy, CA

Project No. 4111
Scale: 1" = 30'
Date: June, 1997

Figure 1

Wright Environmental Services
Tracy, CA

Wright Environmental Services, Inc., Tracy, CA

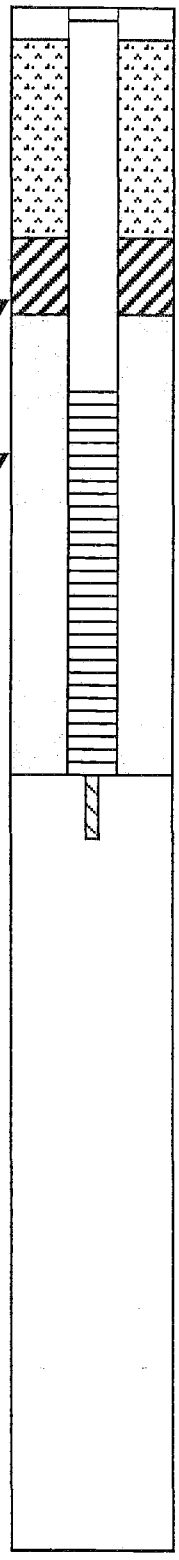
Project No. 4111 **Boring/Well No.** MW-1
Client: Haley Flying Services **Date Drilled:** May 24, 1997
Location: Pescadero at Paradise, Tracy, CA **Logger:** CMP
Drilling Method: 8" OD Hollowstem Auger
Permit: PHS-EHD #012546
Water Levels: 1st Enc:12.5'± @10:07 am
Static: 8.5' @1:10 pm

Exploratory Boring Log

Well Installed: 2" dia. Sch 40 PVC
Total Depth: 21.5' Casing Depth: 20'
Screen Length and Size: 10' of 0.020"
Top of Sand Pack: 8' Sand Size: 2/12
Top Bentonite: 6' Cement Grout Seal: 6' to 1'
Surface vault box; Casing Elev. 22.39' MSL

Sample No.	OV	Blow Count	Sample	Depth (ft)	Lithology Log
					Concrete and Subbase
					CL - Silty CLAY, dark grayish brown 10YR4/2, moderate plasticity, 30% fine sand dissem. in clay matrix, minor caliche, soft, damp.
				5	
MW-1-1	-	4			Same as above, soft, damp.
				10	
MW-1-2	-	22			Same as above, sand 25%, very faint bedding, very stiff, damp.
					SC - Clayey SAND, yellowish brown 10YR5/6, fine sand 80-85% silt-clay up to 15%, faint bedding, medium dense, saturated; water enters borehole slowly.
				15	
MW-1-3	-	20			Same as above, 2" thick interbeds of medium sand in clay; sand saturated, clay moist.
				20	
MW-1-4	-	27			CL - Sandy CLAY, brown 7.5YR4/2, low plasticity, sand to 45%, minor caliche, contains 1' thick sand interbeds very moist to saturated; clay low plasticity, very stiff, damp to moist.
					Bottom of Boring = 21.5 feet

Borehole Completion



Reviewed by RG/CEG

Wright Environmental Services, Inc., Tracy, CA

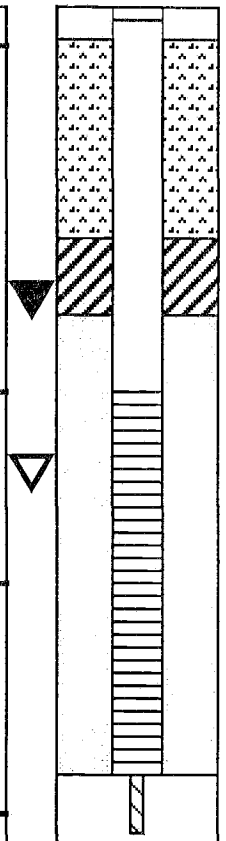
Project No. 4111 **Boring/Well No.** MW-2
Client: Haley Flying Services **Date Drilled:** May 24, 1997
Location: Pescadero at Paradise, Tracy, CA **Logger:** CMP
Drilling Method: 8" OD Hollowstem Auger
Permit: PHS-EHD #012546
Water Levels: 1st Enc: 12.5' @ 8:45 am
Static: 7.9' @ 1"11 pm

Exploratory Boring Log

Well Installed: 2" dia. Sch 40 PVC
Total Depth: 21.5' Casing Depth: 20'
Screen Length and Size: 10' of 0.020"
Top of Sand Pack: 8' Sand Size: 2/12
Top Bentonite: 6' Cement Grout Seal: 6' to 1'
Surface vault box; Casing Elev. 22.02 MSL

Sample No.	OV	Blow Count	Sample	Depth (ft)	Lithology Log
					Gravel Fill
					CL - Silty CLAY, dark yellowish brown 10YR4/6, low-moderate plasticity, fine-med. sand 30% dissem in clay, firm, damp.
MW-2-1	-	grab		5	Same as above, drills firm to stiff, damp.
MW-2-2	-	13		10	CL - Sandy CLAY, dark grayish brown 10YR4/3, moderate plasticity, 40% fine sand dissem. in clay, 10% silt-clay, massive stiff, very moist to saturated.
MW-2-3	-	17		15	SM - Silty SAND, dark grayish brown 10YR4/2, fine sand 80%, silt-clay 20%, slightly plastic, medium dense, saturated.
MW-2-4	-	17		20	Same as above, more clay at 20 feet.
					CL - Silty CLAY, brown 10YR 4/3, 25% fine sand disem in clay, massive, minor caliche, stiff, damp.
					Bottom of Boring = 21.5 feet

Borehole Completion



Reviewed by RG/CEG

Wright Environmental Services, Inc., Tracy, CA

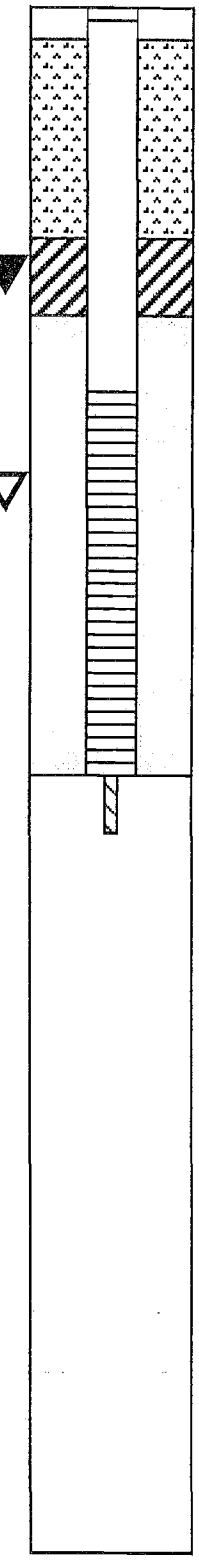
Exploratory Boring Log

Project No. 4111 **Boring/Well No.** MW-3
Client: Haley Flying Services **Date Drilled:** May 24, 1997
Location: Pescadero at Paradise, Tracy, CA **Logger:** CMP
Drilling Method: 8" OD Hollowstem Auger
Permit: PHS-EHD #012546
Water Levels: 1st Enc: 13'± @ 11:35 am
Static: 7.10' @ 1:21 pm

Well Installed: 2" dia. Sch 40 PVC
Total Depth: 21.5' Casing Depth: 20'
Screen Length and Size: 10' of 0.020"
Top of Sand Pack: 8' Sand Size: 2/12
Top Bentonite: 6' Cement Grout Seal: 6' to 1'
Surface vault box; Casing Elev. 21.76 MSL

Sample No.	OV	Blow Count	Sample	Depth (ft)	Lithology Log
					Concrete and Subbase
					CL - Sandy CLAY, dark yellowish brown, low plasticity, fine sand 40%, silt to 20%, faintly bedded, rootholes 1%, stiff, damp.
MW-3-1	-	12		5	Same as above, less silt, stiff, damp.
MW-3-2	-	22		10	Same as above, fine sand 30%, color change to light olive brown 2.5Y5/6, faint bedding, very stiff, damp to moist.
MW-3-3	-	20		15	SC-CL - Sandy CLAY to Clayey SAND, dark yellowish brown 10YR4/4, Clayey sand interbeds saturated, clay beds moist, med. dense to stiff.
MW-3-4	-	26		20	CL - Silty CLAY dark yellowish brown10YR4/4, low plasticity, fine sand 20% dissem. in clay, faintly bedded, contains clayey sand interbeds which are nearly saturated, clay damp to moist, stiff overall.
					Bottom of Boring = 21.5 feet

Borehole Completion



Reviewed by RG/CEG

Wright
Environmental
Services, Inc.

Construction ◆ Engineering ◆ Remediation

YAA

November 6, 1997
Project No. 4111

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re: Quarterly Sampling Groundwater Monitoring Well
Haley Flying Services 21000 Paradise Road, Tracy, CA

Dear Ms. Haley,

This report describes the monitoring well sampling at the above referenced site for the quarter ending September, 1997. Wright Environmental Services, Inc. (Wright) was retained to coordinate sampling and chemical analysis of the site monitoring wells. Previous reports are on file with the County of San Joaquin Public Health Service, Environmental Health Division (PHS-EHD) regarding the removal of impacted soil discovered during underground fuel storage tank removal. Three monitoring wells currently exist on-site.

Field Sampling Procedures

Three monitoring wells were sampled on August 25, 1997. The samplers proceeded to purge well volumes of groundwater from each well using a submersible electric purge pump (a volume calculation was done for each well following water level measurements). Purge water was stored on-site in barrels. Measurements of conductivity, pH, and water temperature were obtained between each well volume, and noted on the attached groundwater sampling information sheets. Once the readings stabilized over two purge volumes, aquifer water was assumed to enter the well. Each well was then allowed to recharge to about 80% of the initial water level prior to sample collection.

A new disposable bailer was used to obtain each well groundwater sample. Each sample was carefully poured into laboratory prepared containers leaving no headspace, capped, labeled, logged onto chain-of-custody forms and immediately placed on ice for shipment to Priority Environmental Laboratories Inc. in Milpitas, California (a State Certified Testing Lab). Table 1 presents the groundwater monitoring well water level data.

RECEIVED
SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DEPT
97 NOV 13 AM 11:55

4220 Commercial Dr., Suite 5 ◆ Tracy, CA 95376
209.833.0758 ◆ Fax 209.832.5152
wright@inreach.com Lic. #651501 A-B HazMat

Table 1. Groundwater Monitoring Well Data

Well No.	Date Sampled	Well Depth (ft)	Depth to Water (ft)	Casing Elev. ft.	Water Elev. ft.	Floating Product
MW-1	8/25/97	19.34	7.34	22.39	15.05	None
MW-2	8/25/97	17.25	7.07	22.02	14.95	None
MW-3	8/25/97	19.27	6.71	21.76	15.05	None

Groundwater Gradient

Groundwater elevations were plotted to a known datum to prepare a groundwater contour map. The groundwater flow direction was toward the north-northwest at sampling time, and a flow gradient of 0.0062 was calculated. Historic groundwater flow trends typically vary from north-northeasterly to north-northwesterly.

Chemical Analysis and Results

Priority Environmental Labs Inc. tested the groundwater samples using EPA Methods 5030/ 8015 and 602 for Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and fuel oxygenates including Methyl-tert-butyl-ether (MTBE). The analytical reports are attached, and the results are listed below in Table 2.

Table 2. Groundwater Chemical Data

Well No.	Date	TPHG	B	T	E	X	Fuel Ox.
		ug/l					
MW-1	8/25/97	ND	ND	ND	ND	ND	ND
MW-2	8/25/97	ND	ND	ND	ND	ND	ND
MW-3	8/25/97	ND	ND	ND	ND	ND	ND
Blank	8/25/97	ND	ND	ND	ND	ND	ND

ND - None detected NA - Not Analyzed ug/l - micrograms per liter.
Fuel Ox. - Fuel Oxygenates

Discussion

Groundwater flow direction appears consistent with historically observed trends. Contaminants were not observed in any well. If the none detected trend continues for two more quarters, then a proposal to close the site will be made to PHS-EHD.

Monitoring Schedule

The quarterly monitoring for this site is scheduled to continue at quarterly intervals.

Limitations

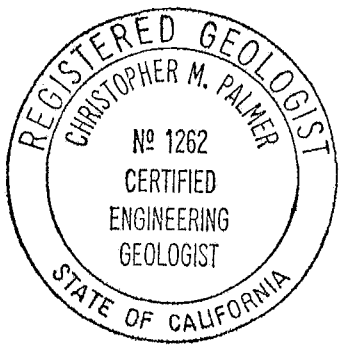
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If you have any questions please call.

Sincerely,
Wright Environmental Services, Inc.

John Affonso
Project manager

Christopher M. Palmer
C. E. G. 1262; HG 246



Attachments: Figure 1. Groundwater Contour Map
Well Sampling Sheets
Chemical Analytical Reports and Chain-of-Custody

References

Wright Environmental Services, Inc. letter dated October 3, 1995 entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project. No. 4111, 5 pg. with attachments.

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RECEIVED SEP 1 5 1997

WELL GAUGING DATA

Project # 970825-M1 Date 8-25-97 Client Wright Env. Svc.

Site 21000 Paradise Rd. Tracy, Ca

Well I.D.	Well Size (in.)	Sheen/ Odor	Depth to Immiscible Liquid (feet)	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Survey Point: TOB or TOC
MW1	2					7.34	19.34	TOC
MW2	2					7.07	17.25	"
MW3	2					6.71	19.27	"

WELL MONITORING DATA SHEET

Project #: 970825-M1	Client: Wright Env
Sampler: Mikel	Start Date:
Well I.D.: MW-1	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 19.34 After	Depth to Water: Before 7.34 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1 Case Volume	x	Specified Volumes	=	gallons
1.9	x	3	=	5.7

Purging: (Bailer) Disposable Bailer Middleburg Electric Submersible Extraction Pump Other_____

Sampling: Bailer Disposable Bailer (Extraction Port) Other_____

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1035	67.4	6.8	4900	7200	2.0	Turbid
1040	66.6	6.7	4700	7200	4.0	
1045	66.2	6.7	4400	7200	6.0	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 6.0

Sampling Time: 1050 Sampling Date: 8-25-97

Sample I.D.: MW1 Laboratory: Priority

Analyzed for: (TPH-G) (BTEX) TPH-D OTHER: MTBE; Aviation Fuel Kerosene Total Lead

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: TPH-G BTEX TPH-D OTHER:

WELL MONITORING DATA SHEET

Project #: 970825-M1	Client: Wrllhat Env
Sampler: Mikel	Start Date: 8-25-97
Well I.D.: MW2	Well Diameter: (circle one) 2 3 4 6 ___
Total Well Depth: Before 17.25 After	Depth to Water: Before 7.07 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: PVC Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1.6 (1 Case Volume) x 3 (Specified Volumes) = 4.8 gallons

Purging: Bailer✓
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other_____

Sampling: Bailer
Disposable Bailer✓
Extraction Port
Other_____

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1120	64.6	5.5	1800	>200	2.0	Turbid
1125	64.8	5.6	1500	>200	4.0	
1130	64.6	5.6	1500	>200	5.0	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated: 5.0

Sampling Time: 1130 Sampling Date: 8-25-97

Sample I.D.: MW2 Laboratory: Priority

Analyzed for: (Circle) TPH-G BTEX TPH-D OTHER: MTBE, Aviation Fel Kerosene Total Lead

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: (Circle) TPH-G BTEX TPH-D OTHER:

1300
945
7558

WELL MONITORING DATA SHEET

Project #: 970825-MM	Client: WRIGHT ENV
Sampler: MIKEL	Start Date: 8-25-97
Well I.D.: MW3	Well Diameter: (circle one) (2) 3 4 6 ___
Total Well Depth: Before 19.27 After	Depth to Water: Before 6.71 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade Other:	

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1 Case Volume	x	Specified Volumes	=	gallons
2.0	x	3	=	6.0

Purging: Bailer
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other ___

Sampling: Bailer
Disposable Bailer X
Extraction Port
Other ___

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1150	64.8	5.5	1800	7200	2.0	TURBID
1155	64.8	5.5	1800	7200	4.0	
1200	65.0	5.5	1800	7200	6.0	

Did Well Dewater? NO If yes, gals. Gallons Actually Evacuated: 6.0

Sampling Time: 1215 Sampling Date: 8-25-97

Sample I.D.: MW3 Laboratory: PRIORITY

Analyzed for: (Circle) TPH-G BTEX TPH-D (OTHER) MTBE, AVIATION FUEL / KEROSENE TOTAL Pb

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for: (Circle) TPH-G BTEX TPH-D OTHER:

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

August 31, 1997 PEL # 9708049

WRIGHT ENVIRONMENTAL, INC.

Attn: John Afonso

Re: Three water samples for Gasoline/BTEX with MTBE and TEPH analyses.

Project name: Haley Flying Service
Project location: 21000 Paradise Rd., - Tracy,CA.

Date sampled: Aug 25, 1997 Date submitted: Aug 28, 1997
Date extracted: Aug 28-30, 1997 Date analyzed: Aug 28-30, 1997

RESULTS:

SAMPLE I.D.	MTBE (ug/L)	Gasoline (ug/L)	Aviation (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Kerosene (mg/L)
MW-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-2	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	---	81.9%	---	82.5%	94.4%	85.7%	94.2%	---
Detection limit	0.5	50	50	0.5	0.5	0.5	0.5	50
Method of Analysis	602	5030 / 8015	3510/ 8015	602	602	602	602	3510/ 8015

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

August 30, 1997 PEL # 9708049

WRIGHT ENVIRONMENTAL SERVICES, INC.

Attn: John Afonso

Re: Three water samples for total Lead analysis.

Project name: Haley Flying Service
Project location: 21000 Paradise Rd., - Tracy, CA.

Date sampled: Aug 25, 1997 Date submitted: Aug 28, 1997
Date extracted: Aug 28-30, 1997 Date analyzed: Aug 28-30, 1997

RESULTS:

SAMPLE I.D.	Lead (mg/L)
MW-1	N.D.
MW-2	N.D.
MW-3	N.D.
Blank	N.D.
Detection limit	0.05
Method of Analysis	7420

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

September 02, 1997

PEL # 9708049

WRIGHT ENVIRONMENTAL, INC. Attn: John Affonso

Project name: Haley Flying Service
Project location:21000 Paradise Rd.-Tracy, CA.

Sample I.D.: MW-1

Date Sampled: Aug 25, 1997 Date Submitted: Aug 28, 1997
Date Analyzed: Aug 28-Sep 02, 1997

Method of Analysis: EPA 8260 Detection limit: 5.0ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromoethane	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PEL # 9708049

SAMPLE I.D. MW-1

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
Isopropylbenzene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

September 02, 1997

PEL # 9708049

WRIGHT ENVIRONMENTAL, INC. Attn: John Affonso

Project name: Haley Flying Service
Project location:21000 Paradise Rd.-Tracy, CA.

Sample I.D.: MW-2

Date Sampled: Aug 25, 1997 Date Submitted: Aug 28, 1997
Date Analyzed: Aug 28-Sep 02, 1997

Method of Analysis: EPA 8260 Detection limit: 5.0ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromoethane	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

PEL # 9708049

SAMPLE I.D. MW-2

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
Isopropylbenzene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

September 02, 1997

PEL # 9708049

WRIGHT ENVIRONMENTAL, INC. Attn: John Affonso

Project name: Haley Flying Service
Project location:21000 Paradise Rd.-Tracy, CA.

Sample I.D.: MW-3

Date Sampled: Aug 25, 1997 Date Submitted: Aug 28, 1997
Date Analyzed: Aug 28-Sep 02, 1997

Method of Analysis: EPA 8260 Detection limit: 5.0ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Benzene	N.D.	71-43-2
Bromobenzene	N.D.	108-86-1
Bromochloromethane	N.D.	74-97-5
Bromodichloromethane	N.D.	75-27-4
Bromoform	N.D.	75-25-2
Bromomethane	N.D.	74-83-9
n-Butylbenzene	N.D.	104-51-8
sec-Butylbenzene	N.D.	135-98-8
tert-Butylbenzene	N.D.	98-06-6
Carbon tetrachloride	N.D.	56-23-5
Chlorobenzene	N.D.	108-90-7
Chloroethane	N.D.	75-00-3
Chloroform	N.D.	67-66-3
Chloromethane	N.D.	74-87-3
2-Chlorotoluene	N.D.	95-49-8
4-Chlorotoluene	N.D.	106-43-4
Dibromochloromethane	N.D.	124-38-1
1,2-Dibromo-3-chloropropane	N.D.	96-12-8
1,2-Dibromoethane	N.D.	106-93-4
Dibromoethane	N.D.	74-95-3
1,2-Dichlorobenzene	N.D.	95-50-1
1,3-Dichlorobenzene	N.D.	541-73-1
1,4-Dichlorobenzene	N.D.	106-46-7
Dichlorodifluoromethane	N.D.	75-71-8
1,1-Dichloroethane	N.D.	75-34-3
1,2-Dichloroethane	N.D.	107-06-2
1,1-Dichloroethene	N.D.	75-35-4
cis-1,2-Dichloroethene	N.D.	156-69-4
trans-1,2-Dichloroethene	N.D.	156-60-5
1,2-Dichloropropane	N.D.	78-87-5
1,3-Dichloropropane	N.D.	142-28-9
2,2-Dichloropropane	N.D.	594-20-7
1,1-Dichloropropene	N.D.	563-58-6

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PRIORITY ENVIRONMENTAL LABS
Precision Environmental Analytical Laboratory

PEL # 9708049

SAMPLE I.D. MW-3

COMPOUND NAME	CONCENTRATION (ug/L)	C.A.S. no.
Ethylbenzene	N.D.	100-41-1
Hexachlorobutadiene	N.D.	87-68-3
Isopropylbenzene	N.D.	98-82-8
p-Isopropyltoluene	N.D.	99-87-6
Methylene chloride	N.D.	75-09-2
Naphthalene	N.D.	91-20-3
n-Propylbenzene	N.D.	103-65-1
Styrene	N.D.	100-42-5
1,1,1,2-Tetrachloroethane	N.D.	630-20-6
1,1,2,2-Tetrachloroethane	N.D.	79-34-5
Tetrachloroethene	N.D.	127-18-4
Toluene	N.D.	108-88-3
1,2.3-Trichlorobenzene	N.D.	87-61-6
1,2,4-Trichlorobenzene	N.D.	120-82-1
1,1,1-Trichloroethane	N.D.	71-55-6
1,1,2-Trichloroethane	N.D.	79-00-5
Trichloroethene	N.D.	79-01-6
Trichlorofluoromethane	N.D.	75-69-4
1,2,3-Trichloropropane	N.D.	96-18-4
1,2,4-Trimethylbenzene	N.D.	95-63-6
1,3,5-Trimethylbenzene	N.D.	108-67-8
Vinyl chloride	N.D.	75-01-4
o-Xylene	N.D.	95-47-6
m-Xylene	N.D.	108-38-3
p-Xylene	N.D.	106-42-3

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

BLAINE TECH SERVICES INC.

1680 ROGERS AVENUE
SAN JOSE, CALIFORNIA 95112
FAX (408) 573-7771
PHONE (408) 573-0555

CHAIN OF CUSTODY

CLIENT: Wright Environmental Services
SITE: Hillsley Flying Service
21000 Paradise Rd.
Tracy, CA

SAMPLE I.D.	MATRIX S = SOIL W = H2O	CONTAINERS TOTAL	C = COMPOSITE ALL CONTAINERS	CONDUCT ANALYSIS TO DETECT: TPH/GAS	BTEX, MTBE	Aviation Fuel	Kerosene	Total Lead (Pb)	8260
MW1	W	8		X	X	X	X	X	X
MW2	W	8		X	X	X	X	X	X
MW3	W	8		X	X	X	X	X	X

LAB: Priority

DHS #

ALL ANALYSES MUST MEET SPECIFICATIONS AND DETECTION LIMITS SET BY CALIFORNIA DHS AND

- ☐ EPA
- ☐ LIA
- ☐ OTHER
- ☐ RWQCB REGION: _____

SPECIAL INSTRUCTIONS: Invoice & Report to Wright Environmental Services. Attn: John Affonso

ADD'L INFORMAT

PEL # 9708049

INV # 27894

SAMPLING COMPLETED	DATE	TIME
	8/25	1215

SAMPLING PERFORMED BY: Mikel

RESULTS NEEDED NO LATER THAN: Per client

RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
	8-28-97	1030		08/28/97	10:20 Am
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME
RELEASED BY	DATE	TIME	RECEIVED BY	DATE	TIME

SHIPPED VIA	DATE SENT	TIME SENT	COOLER #	

Wright Environmental Services, Inc.

Construction ◆ Engineering ◆ Remediation

February 5, 1998
Project No. 4111

Ms. Dorothy Haley
1311 Madison Avenue
Tracy, California 95376

Re: Quarterly Sampling Groundwater Monitoring Well
Haley Flying Services 21000 Paradise Road, Tracy, CA

Dear Ms. Haley,

This report describes the monitoring well sampling at the above referenced site for the quarter ending December 1997. Wright Environmental Services, Inc. (Wright) was retained to coordinate sampling and chemical analysis of the site monitoring wells. Previous reports are on file with the County of San Joaquin Public Health Service, Environmental Health Division (PHS-EHD) regarding the removal of impacted soil discovered during underground fuel storage tank removal. Three monitoring wells currently exist on-site.

Field Sampling Procedures

Three monitoring wells were sampled on December 11, 1997. The samplers proceeded to purge well volumes of groundwater from each well using a submersible electric purge pump (a volume calculation was done for each well following water level measurements). Purge water was stored on-site in barrels. Measurements of conductivity, pH, and water temperature were obtained between each well volume, and noted on the attached groundwater sampling information sheets. Once the readings stabilized over two purge volumes, aquifer water was assumed to enter the well. Each well was then allowed to recharge to about 80% of the initial water level prior to sample collection.

A new disposable bailer was used to obtain each well groundwater sample. Each sample was carefully poured into laboratory prepared containers leaving no headspace, capped, labeled, logged onto chain-of-custody forms and immediately placed on ice for shipment to Chromalab Inc., Pleasanton, California (a State Certified Testing Lab). Table 1 presents the groundwater monitoring well water level data.

Table 1. Groundwater Monitoring Well Data

Well No.	Date	Well Depth	Depth to Water	Casing Elev. (ft)	Water Elev. (ft)	Floating Product
MW-1	8/25/97	19.34	7.34	22.39	15.05	None
MW-1	12/11/97	19.34	12.63		9.76	None
MW-2	8/25/97	17.25	7.07	22.02	14.95	None
MW-2	12/11/97	17.25	12.34		9.68	None
MW-3	8/25/97	19.27	6.71	21.76	15.05	None
MW-3	12/11/97	19.27	12.05		9.71	None

RECEIVED
SACRAMENTO
CVRWQCB
98 MAR -9 PM 1:37

4220 Commercial Dr., Suite 5 ◆ Tracy, CA 95376
209.833.0758 ◆ Fax 209.832.5152
wright@inreach.com *Lic. #651501* *A-B HazMat*

Groundwater Gradient

Groundwater elevations were plotted to a known datum to prepare a groundwater contour map. The groundwater flow direction was toward the north-northeast at sampling time, and a flow gradient of 0.002 was calculated. Historic groundwater flow trends typically vary from north-northeasterly to north-northwesterly. Groundwater levels rose over the last quarter and are attributed to winter rain recharge.

Chemical Analysis and Results

Chromalab Inc. tested the groundwater samples using EPA Methods for Total Petroleum Hydrocarbons as Gasoline (TPHG), Benzene, Toluene, Ethylbenzene and Xylene (BTEX) and fuel oxygenates including Methyl-tert-butyl-ether (MTBE). The analytical reports are attached, and the results are listed below in Table 2.

Table 2. Groundwater Chemical Data

Well No.	Date	TPHG	Kero	B	T	E	X	Fuel Ox.
		ug/l						
MW-1	8/25/97	ND	NA	ND	ND	ND	ND	ND
MW-1	12/11/97	ND	170	ND	ND	ND	ND	ND
MW-2	8/25/97	ND	NA	ND	ND	ND	ND	ND
MW-2	12/11/97	ND	210	ND	ND	ND	ND	ND
MW-3	8/25/97	ND	NA	ND	ND	ND	ND	ND
MW-3	12/11/97	ND	ND	ND	ND	ND	ND	ND
Blank	12/11/97	ND	ND	ND	ND	ND	ND	ND

ND - None detected NA - Not Analyzed ug/l - micrograms per liter.
Fuel Ox. - Fuel Oxygenates by Method 8260.
Kero - Kerosene, but does not match the Kerosene standard.

Discussion

Groundwater flow direction appears consistent with historically observed trends. Contaminants observed in two wells appear to be highly degraded TPH quantified as Kerosene. However, these did not match the Kerosene standard and are interpreted to be residual TPH. If the highly degraded TPH to none detected trend continues for two more quarters, then a proposal for site closure will be made to PHS-EHD.

Monitoring Schedule

The quarterly monitoring for this site is scheduled to continue at quarterly intervals.

Limitations

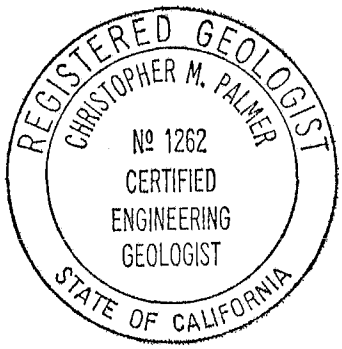
This report has been prepared specifically for the Haley Flying Services site in Tracy, CA, and was done according to the State and local agency suggested guidance documents for these investigations. The interpretations, conclusions and recommendations made herein are based on the data and analysis for the water samples collected on-site and should be reviewed in the context of the whole report. Please note that reports of contamination must be submitted to the agencies in a timely manner. Wright Environmental Services, Inc. is not responsible for errors in laboratory analysis and reporting, or for information withheld during the course of the study, and no warranty or guarantee is expressed or implied therein.

If you have any questions please call.

Sincerely,
Wright Environmental Services, Inc.

John Affonso
Project manager

Christopher M. Palmer
C. E. G. 1262; HG 246

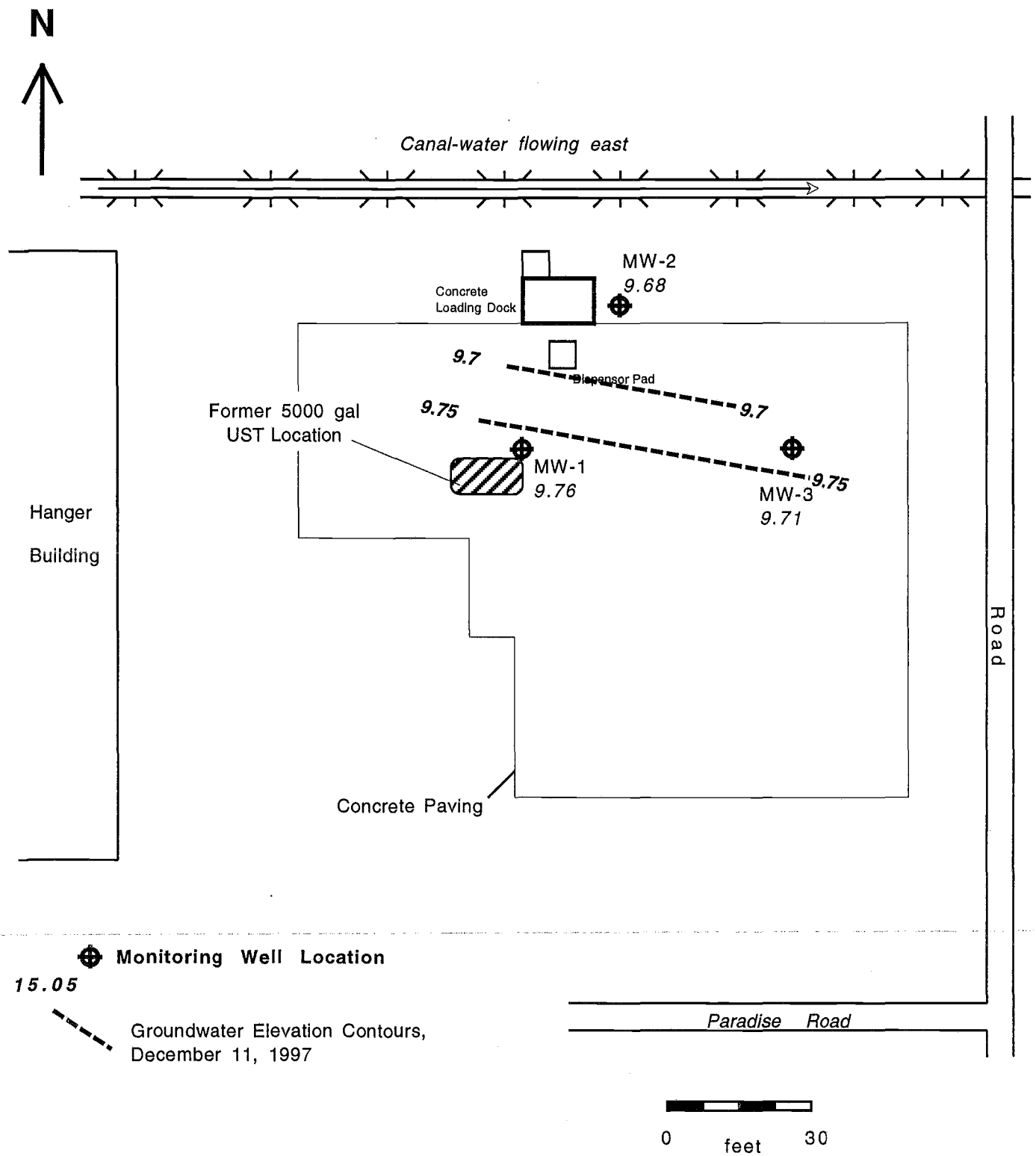


Attachments: Figure 1. Groundwater Contour Map
Well Sampling Sheets
Chemical Analytical Reports and Chain-of-Custody

References

Wright Environmental Services, Inc. letter dated October 3, 1995 entitled, "Workplan for Interim Site Remediation Haley Property 21000 Paradise Road, Tracy, CA," Project. No. 4111, 5 pg. with attachments.

Wright Environmental Services, Inc. report dated July 26, 1996 entitled, "Reconnaissance Site Investigation, Haley Property 21000 Paradise Road, Tracy, CA," Project. No. 4111, 7 pg. with attachments.



Groundwater Contour Map
December 11, 1997

Haley Flying Serivces
21000 Paradise Road
Tracy, CA

Project No. 4111
Scale: 1" = 30'
Date: Dec., 1997

Figure 1

Wright Environmental Services
Tracy, CA

WELL GAUGING DATA

Project No. 4205 Date _____ Client Haley Flying Service

Site 21000 Paradise Road Tracy, CA

Well I.D.	Well Size (in.)	Sheen/ Odor	Depth to Immisible Liquid (feet)	Thickness of Immiscible Liquid(ft.)	Volume of Immiscibles Removed (ml.)	Depth to Water (feet)	Depth to Well Bottom (feet)	Survey Point: TOB or TOC
MW-1	2"					12.63	19.4	TOC
MW-2	2"					12.34	17.0	"
MW-3	2"					12.05	19.34	"

WELL MONITORING DATA SHEET

Project No: 4205	Client: HALEY
Sampler: Randy Chadwick	Start Date: 12-11-97
Well I.D. MW-1	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: Before: 19.4 After:	Depth to Water: Before: 12.63 After:
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC)	Grade Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1.08	x	3	=	3.2
1 Case Volume		Specified Volume		Gallons

Purging: (Bailer)
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other _____

Sampling: (Bailer)
Disposable Bailer
Extraction Port
Other _____

TIME	TEMP. (C)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
9:15	19.5	8.39	4.57	999	1.0	TAN
9:23	19.0	8.38	4.64	79	1.0	TAN
9:30	19.0	8.36	4.64	999	1.2	TAN

Did Well Dewater? NO	If yes, gals.	Gallons Actually Evacuated: 3.2	
Sampling Time: 10:00 a.m.		Sampling Date: 12-11-97	
Sample I.D.: MW-1		Laboratory: PEL	
Analyzed for: (TPH-G) (BTEX) TPH-D (Circle)		Other: MTBE, AVIATION FUEL, KEROSENE, TOTAL LEAD, 8260	

WELL MONITORING DATA SHEET

Project No: 4205	Client: WALEY
Sampler: Randy Chadwick	Start Date: 12-4
Well I.D. MW-2	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: Before: 17.0 After:	Depth to Water: Before: 12.34 After:
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC)	Grade Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

.07 (1 Case Volume) x 3 (Specified Volume) = 2.2 (Gallons)

Purging: (Bailer)
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other _____

Sampling: (Bailer)
Disposable Bailer
Extraction Port
Other _____

TIME	TEMP. (C)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
10:20	17.1	8.13	.692	68	.07	TAN
10:25	17.9	8.08	.689	76	.09	|
10:30	17.7	8.08	.669	83	.07	|

Did Well Dewater? No If yes, gals.	Gallons Actually Evacuated: 2.1
Sampling Time: 10:45 am	Sampling Date: 12-11-97
Sample I.D.: MW-2	Laboratory: PEL
Analyzed for: (TPH-G) (BTEX) TPH-D (Circle)	Other: MTBE, AVIATION FUEL, KEROSENE, TOTAL LEAD, 8260

WELL MONITORING DATA SHEET

Project No: 4205	Client: HALEY
Sampler: Randy Chadwick	Start Date: 12-11
Well I.D. MW-3	Well Diameter: (circle one) (2) 3 4 6
Total Well Depth: Before: 19.34 After:	Depth to Water: Before: 12.09 After:
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC)	Grade Other:

Well Diameter	VCF	Well Diameter	VCF
1"	0.04	6"	1.47
2"	0.16	8"	2.61
3"	0.37	10"	4.08
4"	0.65	12"	5.87
5"	1.02	16"	10.43

1.1 (1 Case Volume) x 3 (Specified Volume) = 3.5 (Gallons)

Purging: (Bailer)
Disposable Bailer
Middleburg
Electric Submersible
Extraction Pump
Other _____

Sampling: (Bailer)
Disposable Bailer
Extraction Port
Other _____

TIME	TEMP. (C)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
11:14	18.5	7.82	1.87	999	1.0	TAN
11:20	19.0	7.81	1.98	999	1.0	"
11:25	18.5	7.80	1.81	77	1.5	"

Did Well Dewater? NO If yes, gals.	Gallons Actually Evacuated: 3.5
Sampling Time: 11:40 am	Sampling Date: 12-11-97
Sample I.D.: MW-3	Laboratory: PEL
Analyzed for: (TPH-G) (BTEX) TPH-D (Circle)	Other: MTBE, Aviation Fuel, Kerosene, Total Lead, 8260

CHROMALAB, INC.

Environmental Services (SDB)

December 31, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:*10302 *Analyzed:* December 19, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	107	1
MTBE	N.D.	5.0	N.D.	100	1
BENZENE	N.D.	0.50	N.D.	99	1
TOLUENE	N.D.	0.50	N.D.	99	1
ETHYL BENZENE	N.D.	0.50	N.D.	111	1
XYLENES	N.D.	0.50	N.D.	102	1

Vincent Vancil
Chemist

Michael Verona
Operations Manager

209-832-5152

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

PM V132 O:BTEXQC0220
VINCE 11:50

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix:* WATER *Extracted:* December 15, 1997
Sampled: December 11, 1997 *Run#:* 10196 *Analyzed:* December 16, 1997

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
LEAD	0.025	0.0050	N.D.	96.8	1

Christopher Arndt
Chemist

John S. Labash
Inorganics Supervisor

209-832-5152 PM 12/18

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Federal ID #68-0140157

M010 0:QC0405 JOHN 10:48

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix:* WATER *Extracted:* December 16, 1997
Sampled: December 11, 1997 *Run#:*10235 *Analyzed:* December 17, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
KEROSENE	170	53	N.D.	--	1

Note: Quantitation for the above Analyte is based on the response factor of Diesel.Hydrocarbon reported is in the late Kerosene range and does not match our Kerosene standard.

Bruce Havlik
Chemist

Michael R. Tam for
Alex Tam
Semivolatiles Supervisor

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Federal ID #68-0140157

4205

CHROMALAB, INC.

RECEIVED JAN 16 1998

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis.
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed:* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACETONE	N.D.	50	N.D.	--	1
BENZENE	N.D.	0.50	N.D.	99.4	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	1
BROMOFORM	N.D.	0.50	N.D.	--	1
BROMOMETHANE	N.D.	1.0	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	1
CHLOROBENZENE	N.D.	0.50	N.D.	96.1	1
CHLOROETHANE	N.D.	1.0	N.D.	--	1
2-BUTANONE (MEK)	N.D.	50	N.D.	--	1
2-CHLOROETHYLVINYLETHER	N.D.	0.50	N.D.	--	1
CHLOROFORM	N.D.	0.50	N.D.	--	1
CHLOROMETHANE	N.D.	1.0	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,2-DIBROMO-3-CHLOROPROPANE	N.D.	5.0	N.D.	--	1
1,2-DIBROMOETHANE	N.D.	0.50	N.D.	--	1
DIBROMOMETHANE	N.D.	0.50	N.D.	--	1
DICHLORODIFLUOROMETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	0.50	N.D.	101	1
1,2-DICHLOROETHENE (CIS)	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHENE (TRANS)	N.D.	0.50	N.D.	--	1
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
ETHYLBENZENE	N.D.	0.50	N.D.	--	1
2-HEXANONE	N.D.	50	N.D.	--	1
METHYLENE CHLORIDE	N.D.	3.0	N.D.	--	1
4-METHYL-2-PENTANONE (MIBK)	N.D.	50	N.D.	--	1
NAPHTHALENE	N.D.	1.0	N.D.	--	1
STYRENE	N.D.	0.50	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	1
TOLUENE	N.D.	0.50	N.D.	99.7	1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROETHENE	N.D.	0.50	N.D.	102	1
1,1,1,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
VINYL ACETATE	N.D.	5.0	N.D.	--	1
VINYL CHLORIDE	N.D.	0.50	N.D.	--	1

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Federal ID #68-0140157

V053 0:QC0405 OLEG 13:22

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis, continued.
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-1**
Spl#: 162320 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed:* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
TOTAL XYLENES	N.D.	1.0	N.D.	--	1
CARBON DISULFIDE	N.D.	0.50	N.D.	--	1
ISOPROPYLBENZENE	N.D.	0.50	N.D.	--	1
BROMOBENZENE	N.D.	0.50	N.D.	--	1
BROMOCHLOROMETHANE	N.D.	1.0	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1

Michael Lee
Chemist

for Michael Verona
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

December 31, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-2**
Spl#: 162321 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:*10302 *Analyzed:* December 19, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	107	1
MTBE	N.D.	5.0	N.D.	100	1
BENZENE	N.D.	0.50	N.D.	99	1
TOLUENE	N.D.	0.50	N.D.	99	1
ETHYL BENZENE	N.D.	0.50	N.D.	111	1
XYLENES	N.D.	0.50	N.D.	102	1

Vincent Vancil
Chemist

Michael Verona
Operations Manager

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CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-2**
Spl#: 162321 *Matrix:* WATER *Extracted:* December 15, 1997
Sampled: December 11, 1997 *Run#:* 10196 *Analyzed:* December 16, 1997

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
LEAD	0.038	0.0050	N.D.	96.8	1

Christopher Arndt
Chemist

John S. Labash
Inorganics Supervisor

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Federal ID #68-0140157

M010 0:QC0405 JOHN 10:48

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **MW-2**
Spl#: 162321 *Matrix:* WATER *Extracted:* December 16, 1997
Sampled: December 11, 1997 *Run#:*10235 *Analyzed:* December 17, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
KEROSENE	210	54	N.D.	--	1

Note: Quantitation for the above Analyte is based on the response factor of Diesel. Hydrocarbon reported is in the late Kerosene range and does not match our Kerosene standard.

Bruce Havlik
Chemist

Alex Tam
Semivolatiles Supervisor

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CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis.
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-2**
Spl#: 162321 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed:* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
ACETONE	N.D.	50	N.D.	--	1
BENZENE	N.D.	0.50	N.D.	99.4	1
BROMODICHLOROMETHANE	N.D.	0.50	N.D.	--	1
BROMOFORM	N.D.	0.50	N.D.	--	1
BROMOMETHANE	N.D.	1.0	N.D.	--	1
CARBON TETRACHLORIDE	N.D.	0.50	N.D.	--	1
CHLOROBENZENE	N.D.	0.50	N.D.	96.1	1
CHLOROETHANE	N.D.	1.0	N.D.	--	1
2-BUTANONE (MEK)	N.D.	50	N.D.	--	1
2-CHLOROETHYLVINYLETHER	N.D.	0.50	N.D.	--	1
CHLOROFORM	0.88	0.50	N.D.	--	1
CHLOROMETHANE	N.D.	1.0	N.D.	--	1
DIBROMOCHLOROMETHANE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,3-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,4-DICHLOROBENZENE	N.D.	0.50	N.D.	--	1
1,2-DIBROMO-3-CHLOROPROPANE	N.D.	5.0	N.D.	--	1
1,2-DIBROMOETHANE	N.D.	0.50	N.D.	--	1
DIBROMOMETHANE	N.D.	0.50	N.D.	--	1
DICHLORODIFLUOROMETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHANE	N.D.	0.50	N.D.	--	1
1,1-DICHLOROETHENE	N.D.	0.50	N.D.	101	1
1,2-DICHLOROETHENE (CIS)	N.D.	0.50	N.D.	--	1
1,2-DICHLOROETHENE (TRANS)	N.D.	0.50	N.D.	--	1
1,2-DICHLOROPROPANE	N.D.	0.50	N.D.	--	1
CIS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
TRANS-1,3-DICHLOROPROPENE	N.D.	0.50	N.D.	--	1
ETHYLBENZENE	N.D.	0.50	N.D.	--	1
2-HEXANONE	N.D.	50	N.D.	--	1
METHYLENE CHLORIDE	N.D.	3.0	N.D.	--	1
4-METHYL-2-PENTANONE (MIBK)	N.D.	50	N.D.	--	1
NAPHTHALENE	N.D.	1.0	N.D.	--	1
STYRENE	N.D.	0.50	N.D.	--	1
1,1,2,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
TETRACHLOROETHENE	N.D.	0.50	N.D.	--	1
TOLUENE	N.D.	0.50	N.D.	99.7	1
1,1,1-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
1,1,2-TRICHLOROETHANE	N.D.	0.50	N.D.	--	1
TRICHLOROETHENE	N.D.	0.50	N.D.	102	1
1,1,1,2-TETRACHLOROETHANE	N.D.	0.50	N.D.	--	1
VINYL ACETATE	N.D.	5.0	N.D.	--	1
VINYL CHLORIDE	N.D.	0.50	N.D.	--	1

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Federal ID #68-0140157

V053 0:QC0405 OLEG 13:22

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis, continued.
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-2**
Spl#: 162321 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed:* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
TOTAL XYLENES	N.D.	1.0	N.D.	--	1
CARBON DISULFIDE	N.D.	0.50	N.D.	--	1
ISOPROPYLBENZENE	N.D.	0.50	N.D.	--	1
BROMOBENZENE	N.D.	0.50	N.D.	--	1
BROMOCHLOROMETHANE	N.D.	1.0	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1

Michael Lee
Chemist

for Michael Verona
Operations Manager

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
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CHROMALAB, INC.

Environmental Services (SDB)

December 31, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Gasoline BTEX MTBE analysis.
Method: SW846 8020A Nov 1990 / 8015Mod

Client Sample ID: **MW-3**
Spl#: 162322 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:*10302 *Analyzed:* December 19, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
GASOLINE	N.D.	50	N.D.	107	1
MTBE	N.D.	5.0	N.D.	100	1
BENZENE	N.D.	0.50	N.D.	99	1
TOLUENE	N.D.	0.50	N.D.	99	1
ETHYL BENZENE	N.D.	0.50	N.D.	111	1
XYLENES	N.D.	0.50	N.D.	102	1

Vincent Vancil
Chemist

Michael Verona
Operations Manager

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CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for Miscellaneous Metals analysis.
Method: *EPA 3010A/3050A/6010A Nov 1990*

Client Sample ID: **MW-3**
Spl#: 162322 *Matrix:* WATER *Extracted:* December 15, 1997
Sampled: December 11, 1997 *Run#:* 10196 *Analyzed:* December 16, 1997

ANALYTE	RESULT (mg/L)	REPORTING LIMIT (mg/L)	BLANK RESULT (mg/L)	BLANK SPIKE (%)	DILUTION FACTOR
LEAD	0.039	0.0050	N.D.	96.8	1

Christopher Arndt
Chemist

John S. Labash
Inorganics Supervisor

209-832-5152 PM 12/18

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Federal ID #68-0140157

M010 0:QC0405 JOHN 10:48

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES

Atten: John Lynch

Project: HALEY
Received: December 11, 1997

re: One sample for TEPH analysis.
Method: *EPA 8015M*

Client Sample ID: **MW-3**
Spl#: 162322 *Matrix:* WATER *Extracted:* December 16, 1997
Sampled: December 11, 1997 *Run#:*10235 *Analyzed:* December 17, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
KEROSENE	N.D.	53	N.D.	--	1

Note: Quantitation for the above Analyte is based on the response factor of Diesel.

Bruce Havlik
Chemist

Michael R. Vann for
Alex Tam
Semivolatiles Supervisor

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Federal ID #68-0140157

CHROMALAB, INC.

Environmental Services (SDB)

December 18, 1997 *Submission #:* 9712241

WRIGHT ENVIRONMENTAL SERVICES
Atten: John Lynch
Project: HALEY
Received: December 11, 1997
re: One sample for Volatile Organics by GC/MS analysis, continued.
Method: *SW846 Method 8260A Sept 1994*

Client Sample ID: **MW-3**
Spl#: 162322 *Matrix:* WATER
Sampled: December 11, 1997 *Run#:* 10270 *Analyzed:* December 15, 1997

ANALYTE	RESULT (ug/L)	REPORTING LIMIT (ug/L)	BLANK RESULT (ug/L)	BLANK SPIKE (%)	DILUTION FACTOR
TOTAL XYLENES	N.D.	1.0	N.D.	--	1
CARBON DISULFIDE	N.D.	0.50	N.D.	--	1
ISOPROPYLBENZENE	N.D.	0.50	N.D.	--	1
BROMOBENZENE	N.D.	0.50	N.D.	--	1
BROMOCHLOROMETHANE	N.D.	1.0	N.D.	--	1
TRICHLOROFLUOROMETHANE	N.D.	0.50	N.D.	--	1

Michael Lee
Chemist

for Michael Verona
Michael Verona
Operations Manager

209-832-5152 PM 12/18

1220 Quarry Lane • Pleasanton, California 94566-4756
(510) 484-1919 • Facsimile (510) 484-1096
Federal ID #68-0140157

V053 0:QC0405 OLEG 13:22

12241 / 162320 - 162322

37198

CHAIN OF CUSTODY RECORD
REQUEST FOR ANALYSIS

DATE: 12-11-97
PAGE 1 OF 1

CLIENT NAME: WALEY FLYING SERVICE
ADDRESS: 21000 PARADISE RD. TRACY, CA
PHONE NO. (209) 833-0758 FAX NO. (209) 832-5152
PROJECT NAME: WALEY
SEND REPORT TO: JOHN LYNCH

Wright Environmental Services, Inc.
(209) 833-0758
Fax (209) 832-5152
4220 Commercial Dr., #5
Tracy, CA 95376

SAMPLER NAME/SIGNATURE
RANDY CHADWICK Randy Chadwick

TURN AROUND TIME
NORMAL ☒
RUSH ☐

SAMPLE NUMBER	SAMPLING DATE/TIME		PRESERVATIVE	CONTAINER SIZE/TYPE	SAMPLE DESCRIPTION WATER	SOIL	OTHER
MW-1	12-11-97	0810	ICE	(3) LITERS	X		
MW-1	12-11-97	0810		(3) VOAS	X		
MW-2		1045		(3) LITERS	X		
MW-2		1045		(3) VOAS	X		
MW-3		1140		(3) LITERS	X		
MW-3		1140		(3) VOAS	X		

ANALYSES REQUIRED

418.1	M8015	8010/601	8020/602	8080/608	8240/624	8270/625	CAM Metals	TPHG	BTEX	MTBE	AVIATION FUEL	KEROSENE	TOTAL LEAD	8260
								X	X	X	X	X	X	X
								↓	↓	↓	↓	↓	↓	↓

SUBM #: 9712241 REP: PM
CLIENT: WRIGHT
DUE: 12/18/97
REF #:37198

COMMENTS:

Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:	Relinquished by: (Signature)	Date:	Received by: (Signature)	Date:
RANDY CHADWICK	12-11					Mike Naranjo	12-11-97
Company: WES	Time:	Company:	Time:	Company:	Time:	Company:	Time: 1615

EAST

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M.D., M.P.H., Acting Health Officer
445 N. San Joaquin Street • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

COPY

DOROTHY HALEY TRUSTEE
1311 MADISON AVE
TRACY CA 95376

MAY 10 1995

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

The attached "Notice of Reimbursement" is official notification that your site has been assigned to the San Joaquin County Public Health Services, Environmental Health Division's (PHS/EHD) Local UST Oversight Program for oversight of assessment and cleanup activities at contaminated underground tank sites.

PHS/EHD sent a letter to David De Carlo, owner of Haley Flying Service, dated March 7, 1994 regarding the State Water Resources Control Board (SWRCB) "Prioritization System for Leaking Underground Storage Tank Sites". The system created a ranking list to prioritize all the contaminated sites in San Joaquin County. The letter stated that based upon the priority ranking you will be directed to begin the required investigation. A copy of that letter has been enclosed for your reference.

At this time PHS/EHD is directing you, the property owner, to begin the investigation to determine the impact to soil and groundwater from the unauthorized release of petroleum hydrocarbons detected during the removal of the 5000 gallon aviation fuel tank on May 11, 1990.

Fees for review activities and inspections associated with contaminated site assessment activities will not be billed by this office. The State Water Resource Control Board (SWRCB) will invoice you directly for activities performed under the auspices of the Local UST Oversight Program. The goal of the site evaluation performed by PHS/EHD is to certify closures of underground tank leakage sites. **Closure certification occurs only after mitigation activities are completed.**

In addition, the "Regional Board Staff Recommendations For Initial Evaluation and Investigation of Underground Tanks" and "Appendix A" reporting format and the LUFT Manual shall be utilized as guidance documents in the preparation of work plans and/or reports.

95 MAY 12 PM 1:55
RECEIVED
SACRAMENTO
CVRWQCB

Enclosed please find a list of consultants to contact for proposals for further investigation.

A workplan for this investigation should be submitted to PHS/EHD by May 31, 1995

If you have any questions or there are any corrections in the responsible party information, contact Steven Sasson, REHS at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Diane M. Hinson, REHS
Supervisor

SS

Enc.

c: SWRCB, Underground Storage Tank Section - Lori Casias
✓c: CRWQCB, Central Valley Region - Elizabeth Thayer

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF CLEAN WATER PROGRAMS
UST LOCAL OVERSIGHT PROGRAM

NOTICE OF REQUIREMENT TO REIMBURSE

SITE CODE: 1992 DATE FIRST REPORTED: 05/11/90
SITE NAME: HALEY FLYING SERVICE SUBSTANCE: 01
ADDRESS: 21000 PARADISE RD PETROLEUM: Y
CITY: TRACY CA ZIP: 95376

The following information has been provided to:

RESPONSIBLE PARTY: HALEY FLYING SERVICE
CONTACT: DOROTHY HALEY
ADDRESS: 1311 MADISON AVE
CITY: TRACY STATE: CA ZIP: 95376

The federal Petroleum Leaking Underground Storage Tank Trust Fund (Federal Trust Fund) provides funding to pay the local and state agency administrative and oversight costs associated with the cleanup of releases from underground storage tanks. The Legislature has authorized funds to pay the local and state agency administrative and oversite costs associated with the cleanup of releases from underground storage tanks. The direct and indirect costs of overseeing removal or remedial action at the above site are funded, in whole or in part, from the Federal Trust Fund. The above individual(s) or entity(ies) have been identified as the party or parties responsible for investigation and cleanup of the above site. YOU ARE HEREBY NOTIFIED that pursuant to Title 42 of the United States Code, Section 6991b(h)(6) and Sections 25297.1 and 25360 of the California Health and Safety Code, the above Responsible Party or Parties must reimburse the State Water Resources Control Board not more than 150 percent of the total amount of site specific oversight costs actually incurred while overseeing the cleanup of the above underground storage tank site, and the above Responsible Party or Parties shall make full payment of such costs within 30 days of receipt of a detailed invoice from the State Water Resources Control Board.

CONTRACT PROJECT DIRECTOR:

_____ (209) 468-3450 DATE: 5-9-95
Signature Telephone Number

Add: X Reason: ADD NEW SITE

Delete: _____ Reason: _____

Change: _____ Reason: _____

MRL

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Karen Furst, M.D., M.P.H., Health Officer
304 East Weber Avenue, Third Floor • Stockton, CA 95202
209/468-3420

EXECUTIVE OFFICER
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3098

JUL 17 1998

RE: HALEY FLYING SERVICE
21000 PARADISE RD
TRACY CA 95376

SITE CODE: 1992

Our agency has determined that the site investigation and remedial action of contamination resulting from an unauthorized release from the underground storage tank(s) formerly and/or currently located at the above referenced site has been completed.

Enclosed is a "Case Closure Summary" and chronology for this site. According to our Local Oversight Program contract with the State Water Resources Control Board the "Case Closure Summary" is to be forwarded to you. If our agency has not received written correspondence from you, detailing problems with closure of this site, within 30 days of your receipt of this letter, our agency will mail the responsible party a "Case Closure Letter" ("No Further Action Letter").

If you have any questions, please contact Carol Oz, Senior REHS, at (209) 468-3440.

Donna Heran, REHS, Director
Environmental Health Division
Margaret Lagorio

Margaret Lagorio, Supervising REHS
LOP/Site Mitigation Unit

ML:lb

Enclosure

cc: CVRWQCB - Mark List
Responsible Party:
cc: Dorothy Haley
1311 Madison
Tracy, CA 95376

(RB30Day/97 CC Changed 09/30/97)

Case Closure Summary
Leaking Underground Fuel Storage Tank Program

I. **Agency Information** Date: 06/30/97

Agency Name: San Joaquin County Environmental Health	Address: 304 E. Weber Ave.
City/State/Zip: Stockton CA 95202	Phone: (209) 468-3440
Responsible Staff Person: Carol Oz	Title: Senior REHS

II. **Case Information**

Site Facility Name: Haley Flying Service		
Site Facility Address: 21000 Paradise Rd.		
RB LUSTIS Case No: **NA** Local/LOP Case No: 1992 Sweeps No: **NA** URF Filing Date: **5/28/91**		
Responsible Parties	Addresses	Phone Numbers
Dorothy Haley	**1311 Madison, Tracy, CA 95376**	**209-835-4725**

Tank #	Size (gallons)	Contents	Closed In-Place/Removed	Date
(1) 39-1992-01	**1000 GAL**	**REGULAR**	**REMOVED**	**5/11/90**
(2) 39-1992-02	**5000 GAL**	**Aviation Fuel**	**REMOVED**	**5/11/90**

III. Release and Site Characterization Information

Cause and Type of Release: **UNKNOWN**		
Site Characterization Complete? **YES** June 2, 1998		
Monitoring Wells Installed? **YES**	Number: 3	Proper Screen Interval? **YES**
High GW Depth(bgs): 6.71 feet	Low Depth: 12.63 feet	Gradient: NW, .0062 to **NorthNE, .002**
Most Sensitive Current Use: **BENEFICIAL USE** Are Drinking Water Wells Affected? **NO**		
Aquifer Name: **San Joaquin River Basin** Is Surface Water Affected? **NO** Nearest Surface Water: **Irrigation ditch on site, Paradise slough 1 mile north, Old River R. North of slough**		
Off-site Beneficial Use Impacts (Address/Locations): Agricultural zone Report(s) on file with: **NA**		
Treatment and Disposal of Affected Material Purge rinsate stored in 55 gal. Drums on site		

Material: Purge rinsate	Amount (Units) Tank rinsate-300gal	Action(Treatment or Disposal w/Destination): Refineries services	Date: 5/10/90
Tank(s)	**(1) 5,000 gal aviation fuel tank and (1) 1,000gal regular gasoline tank**	**Tanks taken to Cal-Coast MFG, 424 S. Tegnor Rd., Turlock, CA**	**5/11/90**
Piping	**None associated**		
Free Product	**NONE**	**NONE**	
Groundwater	**NONE**	**PURGE WATER ONLY, DRUMMED (BARRELS, SEE BELOW)**	
Barrels		**PETROLEUM RECYCLING CALIFORNIA**	**7/21/97**

III Release and Site Characterization Information (continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup									
Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After	Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After
TPH (Gas)	0.610	ND	600	ND	Ethylbenene	41.4	ND	180	0.002
Benzene	6.50	ND	3.8	ND	Xylene	169	ND	330	0.013
Toluene	98	ND	3.9	ND	Kerosene	NA	NA	.17	.2<
Comments:									

IV. Closure

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? **YES**
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? **YES**
Does corrective action protect public health for current land use? **YES**
Site management requirements: **NONE**
Should corrective action be reviewed if land use changes? YES
Monitoring/Vapor wells decommissioned: **3 MWs not decommissioned**
List enforcement actions taken: **NOR May 10, 1995**
List enforcement actions rescinded: **NONE**

V. Local Agency Representative Data

Name: Donna Heran	Title: Director of Environmental Health
Signature: Margaret Lagorio, Supervising RHS	Date: 7/17/98

VI. Central Valley Regional Water Quality Control Board (RB) Notification

Date Submitted to RB:	Response Date:
RB Staff: Mark List Title:	Response:

VII. Additional Comments, Data, etc.

This document and the related CASE CLOSURE LETTER, Shall be retained by the lead agency as part of the official site file.

CHRONOLOGY
HALEY'S FLYING SERVICE
21000 PARADISE RD.
TRACY, CA 95376

LOP SITE CODE: 1992 PROGRAM ELEMENT: 3526

February 5, 1986- EHD received payment for 4 underground tanks at this site.

March 29, 1988-Owner was notified that the UGTs are exempt to EHD regulation due to business involved with agricultural

June 6, 1989- A 1,000 gal regular UGT and a 5,000 gal aviation fuel tank were recorded by Jamie Favilla as being on site.

April 27, 1990 - Closure plan approved by EHD

May 11, 1990-Two UGTs removed this date (one 1,000 gal. Regular tank and one 5,000 gal. Aviation fuel tank), William Snavely inspector, noted petroleum odors at tank #2 location.

June 5, 1990- Soil sample results from tank #2, 5,000 gallon aviation fuel tank evidence ; Benzene=6500ppb, TPHG=610ppm, Xylene=169,250 ppb; TPH-G=610 ppm

June 27, 1990-Prop 65 and UAR filed this date.

April 21, 1991-RP search conducted by LOP staff, PHS/EHD

May 10, 1995- Site entered LOP

November 9, 1995- PHS/EHD sent comment letter to owner requiring Corrective Action Plan.

June 19, 1996- Steve Sasson, REHS observed hydro-punch investigation and soil sampling Soil sample results evidenced soil contanination at 10 feet at 150 ppm TPHG, 400ppm TPHK, 550ppm TPHA, 300 ppb Benzene, 98 ppb Toluene, 180 ppb, Ethyl Benzene, 330 ppb Xylene. Ground water samples evidenced contamination of 600 mg/l TPHG, 690 mg/l TPHK, 1300 mg/l TPHA, 2.8 mg/l Benzene, 2.5 mg/l Toluene, 4.4 mg/l Ethyl Benzene, 6.9 mg/l Xylene.

October 18, 1996- Agricultural well on site sampled, observed by Steve Sasson, REHS

October 26, 1996-Agricultural well water sample results are Non detectable

May 29, 1997- Steve Sasson, REHS, observed Monitor well 1, 2, 3, installations this date.

July 30, 1997-Initial quarterly groundwater monitoring evidenced 340 ppb TPHA in MW 2. Non detectable results for all previous contaminants.

August 25, 1997-MW's 1, 2, 3, nondetectable sample results for VOC's and BTEX, TPH-G.

December 18, 1997-Quarterly monitoring evidences kerosene at 170 ppb in MW 1, 210 ppb in MW 2 and non detectable contaminants otherwise in MW's 1, 2, 3.

March 2, 1998-PHS/EHD sent comment letter requiring quality control quality assurance laboratory records for analytical sample results; review of quarterly sampling and site investigation

April 1, 1998- PHS/EHD received all required lab documentation; began closure summary preparation for site. Contaminant concentrations are non detectable or limited (as in the case of Kerosene at 170 ppb) at this site. Contaminants are shallow, low in concentration and appear to be contained. Site appears to be low risk.

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Karen Furst, M.D., M.P.H., Health Officer
304 East Weber Avenue, Third Floor • Stockton, CA 95202
209/468-3420

FILE COPY

EXECUTIVE OFFICER
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3098

JUL 17 1998

RE: HALEY FLYING SERVICE
21000 PARADISE RD
TRACY CA 95376

SITE CODE: 1992

Our agency has determined that the site investigation and remedial action of contamination resulting from an unauthorized release from the underground storage tank(s) formerly and/or currently located at the above referenced site has been completed.

Enclosed is a "Case Closure Summary" and chronology for this site. According to our Local Oversight Program contract with the State Water Resources Control Board the "Case Closure Summary" is to be forwarded to you. If our agency has not received written correspondence from you, detailing problems with closure of this site, within 30 days of your receipt of this letter, our agency will mail the responsible party a "Case Closure Letter" ("No Further Action Letter").

If you have any questions, please contact Carol Oz, Senior REHS, at (209) 468-3440.

Donna Heran, REHS, Director
Environmental Health Division
Margaret Lagorio
Margaret Lagorio, Supervising REHS
LOP/Site Mitigation Unit

ML:lb

Enclosure

cc: CVRWQCB - Mark List
Responsible Party:
cc: Dorothy Haley
1311 Madison
Tracy, CA 95376

(RB30Day/97 CC Changed 09/30/97)

ATTN MARK LIST
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD
UNDERGROUND STORAGE TANK UN
3443 ROUTTIER RD STE A
SACRAMENTO CA 95827-3098

JUL 17 1998

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	

April 1995

Is your RETURN ADDRESS completed on the reverse side?

SENDER: 7/14/1998 Gwendolyn Pugh
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

ATTN MARK LIST
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BOARD
UNDERGROUND STORAGE TANK UNI
3443 ROUTIER RD STE A
SACRAMENTO CA 95827-3098

4a. Article Number: Z 224 364 422

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery: JUL 23 1998

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X

PS Form 3811, December 1994 102595-97-B-0179 Domestic Return Receipt

ATTN EXECUTIVE OFFICER
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BORAD
3443 ROUTTIER RD STE A
SACRAMENTO CA 95827-3098

JUL 17 1998

Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	

0, April 1995

Is your RETURN ADDRESS completed on the reverse side?

SENDER: 7/14/1998 Gwendolyn Pugh
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Consult postmaster for fee.

ATTN EXECUTIVE OFFICER
CENTRAL VALLEY REGIONAL
WATER QUALITY CONTROL BORAD
3443 ROUTTIER RD STE A
SACRAMENTO CA 95827-3098

4a. Article Number: Z 224 364 421

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery: JUL 23 1998

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X

PS Form 3811, December 1994 102595-97-B-0179 Domestic Return Receipt

Case Closure Summary
Leaking Underground Fuel Storage Tank Program

I. **Agency Information** Date: 06/30/97

Agency Name: San Joaquin County Environmental Health	Address: 304 E. Weber Ave.
City/State/Zip: Stockton CA 95202	Phone: (209) 468-3440
Responsible Staff Person: Carol Oz	Title: Senior REHS

II. **Case Information**

Site Facility Name: Haley Flying Service

Site Facility Address: 21000 Paradise Rd.

RB LUSTIS Case No: NA Local/LOP Case No: 1992 Sweeps No: NA URF Filing Date: 5/28/91

Responsible Parties	Addresses	Phone Numbers
Dorothy Haley	**1311 Madison, Tracy, CA 95376**	**209-835-4725**

Tank #	Size (gallons)	Contents	Closed In-Place/Removed	Date
(1) 39-1992-01	1000 GAL	REGULAR	REMOVED	5/11/90
(2) 39-1992-02	5000 GAL	Aviation Fuel	REMOVED	5/11/90

III. Release and Site Characterization Information

Cause and Type of Release: UNKNOWN

Site Characterization Complete? YES June 2, 1998

Monitoring Wells Installed? YES	Number: 3	Proper Screen Interval? YES
High GW Depth(bgs): 6.71 feet	Low Depth: 12.63 feet	Gradient: NW, .0062 to **NorthNE, .002**

Most Sensitive Current Use: BENEFICIAL USE Are Drinking Water Wells Affected? NO

Aquifer Name: **San Joaquin River Basin** Is Surface Water Affected? NO Nearest Surface Water: **Irrigation ditch on site, Paradise slough 1 mile north, Old River R. North of slough**

Off-site Beneficial Use Impacts (Address/Locations): Agricultural zone Report(s) on file with: NA

Treatment and Disposal of Affected Material Purge rinsate stored in 55 gal. Drums on site

Material: Purge rinsate	Amount (Units) Tank rinsate-300gal	Action(Treatment or Disposal w/Destination): Refineries services	Date: 5/10/90
Tank(s)	**(1) 5,000 gal aviation fuel tank and (1) 1,000gal regular gasoline tank**	**Tanks taken to Cal-Coast MFG, 424 S. Tegnor Rd., Turlock, CA**	**5/11/90**
Piping	**None associated**		
Free Product	NONE	NONE	
Groundwater	NONE	PURGE WATER ONLY, DRUMMED (BARRELS, SEE BELOW)	
Barrels		PETROLEUM RECYCLING CALIFORNIA	7/21/97

Leaking Underground Fuel Storage Tank Program

III. Release and Site Characterization Information (continued)

Maximum Documented Contaminant Concentrations -- Before and After Cleanup									
Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After	Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After
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Toluene	98	ND	3.9	ND	Kerosene	NA	NA	.17	.2<
Comments:									

IV. Closure

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? YES
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? YES
Does corrective action protect public health for current land use? YES
Site management requirements: NONE
Should corrective action be reviewed if land use changes? YES
Monitoring/Vapor wells decommissioned: 3 MWs not decommissioned
List enforcement actions taken: NOR May 10, 1995
List enforcement actions rescinded: NONE

V. Local Agency Representative Data

Name: Donna Heran	Title: Director of Environmental Health
Signature: Margaret Lagorio, Supervising REHS	Date: 7/17/98

VI. Central Valley Regional Water Quality Control Board (RB) Notification

Date Submitted to RB:	Response Date:
RB Staff: Mark List Title:	Response:

VII. Additional Comments, Data, etc.

This document and the related CASE CLOSURE LETTER, shall be retained by the lead agency as part of the official site file.

CHRONOLOGY
HALEY'S FLYING SERVICE
21000 PARADISE RD.
TRACY, CA 95376

LOP SITE CODE: 1992 PROGRAM ELEMENT: 3526

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97 MRT 1/25/99

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Karen Furst, M.D., M.P.H., Health Officer
304 East Weber Avenue, Third Floor • Stockton, CA 95202
209/468-3420

COPY

DOROTHY HALEY
1311 MADISON
TRACY CA 95376

DEC 2 8 1998

RE: HALEY FLYING SERVICE
21000 PARDISE RD
TRACY CA 95376

SITE CODE: 1992

Dear Dorothy Haley,

This letter confirms the completion of a site investigation and remedial action for the underground storage tank(s) formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Donna Heran, REHS, Director
Environmental Health Division

cc: SWRCB, Cleanup Fund - Dave Deaner
CVRWQCB - Mark List
Other Responsible Party:
NONE

(RAC/NFA - 01/06/97 - CC Changed 05/98)

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Case Closure Summary
Leaking Underground Fuel Storage Tank Program

I. **Agency Information** Date: 06/30/97

Agency Name: San Joaquin County Environmental Health	Address: 304 E. Weber Ave.
City/State/Zip: Stockton CA 95202	Phone: (209) 468-3440
Responsible Staff Person: Carol Oz	Title: Senior REHS

II. **Case Information**

Site Facility Name: Haley Flying Service		
Site Facility Address: 21000 Paradise Rd.		
RB LUSTIS Case No: NA Local/LOP Case No: 1992 Sweeps No: NA URF Filing Date: 5/28/91		
Responsible Parties	Addresses	Phone Numbers
Dorothy Haley	1311 Madison, Tracy, CA 95376	209-835-4725

Tank #	Size (gallons)	Contents	Closed In-Place/Removed	Date
(1) 39-1992-01	1000 GAL	REGULAR	REMOVED	5/11/90
(2) 39-1992-02	5000 GAL	Aviation Fuel	REMOVED	5/11/90

III. **Release and Site Characterization Information**

Cause and Type of Release: UNKNOWN		
Site Characterization Complete? YES June 2, 1998		
Monitoring Wells Installed? YES	Number: 3	Proper Screen Interval? YES
High GW Depth(bgs): 6.71 feet	Low Depth: 12.63 feet	Gradient: NW, .0062 to NorthNE, .002
Most Sensitive Current Use: BENEFICIAL USE		Are Drinking Water Wells Affected? NO
Aquifer Name: San Joaquin River Basin	Is Surface Water Affected? NO	Nearest Surface Water: Irrigation ditch on site, Paradise slough 1 mile north, Old River R. North of slough
Off-site Beneficial Use Impacts (Address/Locations): Agricultural zone		Report(s) on file with: NA
Treatment and Disposal of Affected Material Purge rinsate stored in 55 gal. Drums on site		

Material: Purge rinsate	Amount (Units) Tank rinsate-300gal	Action(Treatment or Disposal w/Destination): Refineries services	Date: 5/10/90
Tank(s)	(1) 5,000 gal aviation fuel tank and (1) 1,000gal regular gasoline tank	Tanks taken to Cal-Coast MFG, 424 S. Tegnor Rd., Turlock, CA	5/11/90
Piping	None associated		
Free Product	NONE	NONE	
Groundwater	NONE	PURGE WATER ONLY, DRUMMED (BARRELS, SEE BELOW)	
Barrels		PETROLEUM RECYCLING CALIFORNIA	7/21/97

III Release and Site Characterization Information (continued)

Maximum Documented Contaminant Concentrations - - Before and After Cleanup									
Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After	Contaminant	Soil Before	(ppm) After	Water Before	(ppm) After
TPH (Gas)	0.610	ND	600	ND	Ethylbenene	41.4	NC	180	0.002
Benzene	6.50	ND	3.3	ND	Xylene	169	NO	330	0.013
Toluene	98	NO	3.9	ND	Kerosene	NA	NA	.17	.2<
Comments:									

IV Closure

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan? YES
Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan? YES
Does corrective action protect public health for current land use? YES
Site management requirements: NONE
Should corrective action be reviewed if land use changes? YES
Monitoring/Vapor wells decommissioned: 3 MWs decommissioned
List enforcement actions taken: NOR May 10, 1995
List enforcement actions rescinded: NONE

V. Local Agency Representative Data

Name: Donna Heran	Title: Director of Environmental Health
Signature: Laurie A. Cotulla	Date: 12/28/98

VI. Central Valley Regional Water Quality Control Board (RB) Notification

Date Submitted to RB: 7/17/98	Response Date: 10/16/98
RB Staff: Mark List Title: Engineering Geologist	Response: Concurrence

VII. Additional Comments, Data, etc.

This document and the related CASE CLOSURE LETTER, shall be retained by the lead agency as part of the official site file.

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY

ENVIRONMENTAL HEALTH DIVISION

Ernest M. Fujimoto, M.D., M.P.H., Acting Health Officer

445 N. San Joaquin Street • P.O. Box 388 • Stockton, CA 95201-0388

(209) 468-3420

COPY

GARY DE CARLO
HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

MAR 0 7 1994

RE: 21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has recently reviewed the analytical results of the soil and/or water samples taken from beneath the underground storage tank(s) that were/was removed from this site on May 11, 1990.

The presence of contaminants at your facility exceed the allowable limits of leaching potential as recommended by the LUFT Manual [1]. The former underground storage tank(s) (UST) cannot be recommended for final closure without further investigation to determine the full extent of the soil and/or groundwater problem.

PHS/EHD is providing you notification that an "Underground Storage Tank Unauthorized Release (Leak)/Contaminated Site Report" has been filed pursuant to Section 25295 of the Health and Safety Code (HSC). The appropriate disclosure of a hazardous waste discharge pursuant to Section 25180.7 of the Health and Safety Code has been made, and the site has been placed on the list of contaminated sites in San Joaquin County which is maintained by PHS/EHD.

PHS/EHD has been designated by the State of California Water Resources Control Board (SWRCB) as the local agency overseeing the investigation of leaking USTs. Pursuant to Section 25299.37 (HSC), "dischargers" must take corrective action in response to the unauthorized release.

Please be advised that PHS/EHD will be utilizing the SWRCB "Prioritization System for Leaking Underground Storage Tank Sites" ranking list in order to prioritize all the contaminated sites. The "Prioritization System" has established criteria to distinguish between High Priority Sites, Moderate Priority Sites, and Low Priority Sites. Site specific conditions which influence the placement within the ranking system are, for example, depth to groundwater, proximity to a drinking water source (municipal or domestic well), the extent of soil contamination, and the site's clean up funding availability.

Based upon the priority ranking, you will be directed to begin the required investigation. However, given the conditions for the prioritization, wherever possible PHS/EHD will work with you to coincide enforcement directives in conjunction with secured clean up funding. If you have any questions, contact the PHS/EHD Site Mitigation Unit for further information at (209) 468-3450.

If your tank removal was recent and you are not planning any remedial activities within 90 days, the tank excavation should be closed. It has been our experience that open tank excavations allow for rapid downward migration of contaminants. Contact the appropriate building department for specific requirements that may be necessary prior to filling with pea gravel and/or

compacting the tank excavation with clean fill soil. Before receiving a PHS/EHD corrective action directive and in order to receive the SWRCB Clean up Fund Letter of Committment, you must make application to the State of California Water Resources Control Board's (SWRCB) "Petroleum Underground Storage Tank Cleanup Fund" (Fund). An application package for the Fund has been provided.

The Fund was created pursuant to Chapter 6.75 of the California Health and Safety Code to help eligible owners and operators of petroleum underground storage tanks to:

1. Meet federal requirements to demonstrate financial responsibility;

2. Obtain reimbursement for costs of the cleanup of unauthorized releases of petroleum from USTs; and

3. Obtain reimbursement for damages awarded to third parties who are injured by petroleum releases.

The maximum amount available from the Fund is $990,000 per occurrence. Claimants are responsible for the first $10,000 of eligible costs. **Applications must be submitted to the SWRCB Clean Up Fund by March 31, 1994 to undergo eligibility ranking for funding in the 1994-95 state fiscal budget year.** All subsurface investigations and remedial actions must be performed under a workplan approved by PHS/EHD.

The Fund does not cover the costs incurred for the removal, repair, retrofit, or installation of USTs. Should you wish to obtain a low interest loan for the upgrade of your tank system, please contact the State of California Trade and Commerce Agency, UST Loan Program, regarding their loan requirements, at (916) 445-6733.

If you have any questions, please do not hesitate to contact Linda Turkatte, Senior REHS, of my staff at (209) 468-3441.

Ernest M. Fujimoto, M.D., M.P.H.
Acting Health Officer

Linda A. Turkatte

for Diane M. Hinson, Supervising R.E.H.S.
Environmental Health Division

DMH/lt

Enclosures

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[1] "Leaking Underground Fuel Tank Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure", State of California Leaking Underground Fuel Tank Task Force, October, 1989.

The following is a listing of community development departments within San Joaquin County. Contact the department located within your area:

San Joaquin County Community Development Department
Building Division: 209/468-3123

City of Stockton Community Development Department
Building Division: 209/937-8561

City of Lodi Community Development Department
Building Division: 209/333-6714

City of Tracy Building Inspection Division
209/836-2750

City of Lathrop Building Inspection Department
209/858-5595

City of Manteca Building Inspection Department
209/239-9511

City of Escalon
209/838-3556

City of Ripon
209/599-2108

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY

ENVIRONMENTAL HEALTH DIVISION

Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer

304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388

209/468-3420

COPY

MAILED MAR 14 1996

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RE: HALEY FLYING SERVICE
2 000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the January 15, 1996 Proposal for Soil and Groundwater Investigation Workplan for Interim Site Remediation, prepared by Wright Environmental Services, Inc. for the above referenced site.

In the workplan Wright Environmental proposes to define the extent of soil and groundwater contamination discovered during the July 11, 1990, 5,000 gallon aviation underground storage tank (UST) removal. The proposal is for eight pushpoint borings to be advanced in and around the former tank excavation in upgradient and downgradient positions. Two soil samples and one groundwater sample will be obtained from each boring. Eight soil and eight groundwater samples will be submitted for analysis. The laboratory analysis will consist of total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene, xylenes and tetraethyl lead. After the samples are obtained they will be placed in an ice chest for transport to a state certified laboratory. The pushpoints will be properly sealed with a cement grout. The surmised extent of the contamination, conclusions, recommendations and all the raw data will be compiled into a report and submitted to this agency. A Feasibility Study and a Corrective Action Plan will then be prepared to determine the most cost effective method of remediating the site.

PHS/EHD has the following comments regarding the workplan:

1) PHS/EHD policy states that organic lead has not demonstrated mobility outside of the hydrocarbon plume. Testing for organic lead is not required by PHS/EHD when determining the extent of the hydrocarbon contamination.

2) The workplan does not include analysis for methyl tertiary butyl ether (MTBE). PHS/EHD requires analysis for MTBE at all sites where tanks were operated from 1980 to the present time. This site meets that criteria. Soil and groundwater samples submitted for analysis shall be analyzed for MTBE.

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3) PHS/EHD recommends that the pushpoint locations be determined based upon field conditions. Initial pushpoints should be placed within 10 feet of the original sample location and should be sampled for soil and groundwater contamination. Once the extent of the soil contamination has been determined additional pushpoints should be sampled for groundwater only.

4) Soil samples obtained during the UST removal were obtained from a depth of 9 feet. Soil samples collected during this investigation shall be obtained from a minimum depth of 9 feet.

5) The pushpoints shall be abandoned with a cement slurry from bottom to within 3 feet of the surface and applied using the tremie method. The diameter of the pushpoint should be large enough to facilitate the use of a tremie or the pushpoint down hole rod itself may be used as the tremie.

6) Samples shall be placed in an ice chest chilled to 4 degrees centigrade to maintain the integrity of the samples while in transit to the state certified laboratory.

7) Gradient has not been established for this site. However regional gradient in the Tracy area is in a north easterly direction. Gradient at this site may be affected by the presence of a canal on the northern property boundary or other local influences.

8) The workplan does not mention installation of monitoring wells. Installation of monitoring wells is required at all sites where contamination has been discovered within 5 feet of groundwater. The presence of groundwater in the excavation at the time of the tank removal demonstrates that monitoring wells are required at this site. Monitoring well locations may be determined pending the results of this investigation.

9) The site plan present in the PHS/EHD files indicates the presence of a drinking water well within 100 feet east of the aviation fuel tank. PHS/EHD recommends that a water sample be obtained from this well and analyzed for all constituents of concern.

10) A drilling permit application filed by a C-57 licensed contractor or authorized representative shall be approved by this agency prior to on site drilling activities.

11) Drilling should be scheduled with the PHS/EHD representative a minimum of 24 hours prior to drilling.

If you have any questions please contact Steven Sasson at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Margaret Lagorio, REHS
Lead Senior

SS

c: SWRCB, Underground Storage Tank Section - Annabel Mackey
c: CVRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Lester Messina

PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer
304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

COPY

SEP 0 9 1996

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the July 26, 1996 Reconnaissance Site Investigation prepared by Wright Environmental Services, Inc. for the above referenced site.

The results of the investigation reveal the presence of a petroleum hydrocarbon plume with the aviation gas fuel tank as the source. Wright Environmental was unable to determine the eastern extent of the plume during this phase of the investigation. The recommendation in the report is to install three monitoring wells in a triangular formation. PHS/EHD concurs with this recommendation.

PHS/EHD recommends that a water sample, obtained from the on site agricultural supply well, be analyzed for all contaminants of concern including MTBE, prior to the installation of the three monitoring wells. PHS/EHD recommends that the location of this well be depicted on all future site maps.

PHS/EHD recommends that a workplan describing the installation of three monitoring wells, and a method to gather data to determine the feasibility of natural attenuation as a remedial alternative, be submitted to this agency by October 31, 1996. After PHS/EHD approval, the workplan should be submitted to the State Water Resources Control Board (SWRCB) Cleanup Fund staff for reimbursement pre-approval.

For additional information please contact Steven Sasson at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Margaret Lagorio, REHS
Supervisor

SS

c: SWRCB, Underground Storage Tank Section - Mel Jacobo
c: CVRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Chris Palmer

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PUBLIC HEALTH SERVICES

SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DIVISION
Ernest M. Fujimoto, M. D., M.P.H., Acting Health Officer
304 E. Weber Ave., Third Floor • P. O. Box 388 • Stockton, CA 95201-0388
209/468-3420

COPY
MAILED NOV 09 1995

MS DOROTHY HALEY
1311 MADISON AVE
TRACY CA 95376

RE: HALEY FLYING SERVICE
21000 PARADISE ROAD
TRACY CA 95376

SITE CODE: 1992

San Joaquin County Public Health Services, Environmental Health Division (PHS/EHD) has reviewed the October 3, 1995 "Workplan for Interim Site Remediation" prepared by Wright Environmental Services, Inc. for the above referenced site.

Prior to installation of any form of treatment at this site a Corrective Action Plan shall be submitted to this department for approval and concurrence. As stated in Article 11, Chapter 16, Division 3, Title 23 of the California Code of Regulations (the Corrective Action Requirements) a Corrective Action Plan (CAP) shall be submitted to the regulatory agency for review and concurrence when the soil and water investigation phase is complete. The Corrective Action Plan shall include an assessment of the distribution of the contamination present at the site, a feasibility study to evaluate alternatives for mitigating the actual or potential adverse effects of the unauthorized release, and propose at least two alternatives to achieve cleanup levels for waters with current or potential beneficial uses for which numerical objectives have been designated.

In order to complete the CAP an assessment report of the distribution of the contamination present is required. In the May 10, 1995 letter from PHS/EHD you were directed to begin the investigation to determine the impact to soil and groundwater from the unauthorized release of petroleum hydrocarbons detected during the removal of the 5000 gallon aviation fuel tank on May 11, 1990. The assessment data is necessary to determine the extent of the soil contamination and the size of the groundwater plume. A workplan for the assessment shall be submitted to this agency by November 30, 1995.

During the assessment, and after the assessment is complete, information should be obtained to complete a feasibility study, to evaluate the efficacy of various treatment methodologies. The feasibility study should evaluate each technology with respect to reaching required cleanup goals, the length of time required to reach those goals, and the relative costs to reach those goals.

If you have any questions please contact Steven Sasson, REHS, at (209) 468-3459.

Donna Heran, REHS, Director
Environmental Health Division

Steven Sasson, Senior REHS
Site Mitigation Unit

Diane M. Hinson, REHS
Supervisor

SS

c: SWRCB, Underground Storage Tank Section - Lori Casias
c: CRWQCB, Central Valley Region - Elizabeth Thayer
c: Wright Environmental Services, Inc. - Lester Messina

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SAN JOAQUIN COUNTY
ENVIRONMENTAL HEALTH DEPT.

UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY ☐ YES ☑ NO

HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? ☐ YES ☐ NO

REPORT DATE 06 26 90 (M M D D Y) CASE #

FOR LOCAL AGENCY USE ONLY
I HEREBY CERTIFY THAT I AM A DESIGNATED GOVERNMENT EMPLOYEE AND THAT I HAVE REPORTED THIS INFORMATION TO LOCAL OFFICIALS PURSUANT TO SECTION 25180.7 OF THE HEALTH AND SAFTY CODE.
SIGNED: William R. Snavely DATE: 6-26-90

REPORTED BY
NAME OF INDIVIDUAL FILING REPORT: William R. SNAVELY | PHONE: (209) 468-3420 | SIGNATURE: William R. Snavely
REPRESENTING ☐ OWNER/OPERATOR ☐ REGIONAL BOARD ☑ LOCAL AGENCY ☐ OTHER
COMPANY OR AGENCY NAME: SAN JOAQUIN Co. Public HEALTH SERVICES
ADDRESS: P. O. BOX 2009 (STREET) CITY: STOCKTON STATE: CA ZIP: 95201

RESPONSIBLE PARTY
NAME: DOROTHY HALEY ☐ UNKNOWN | CONTACT PERSON: DOROTHY HALEY | PHONE: (209) 835-4725
ADDRESS: 1311 MADISON (STREET) CITY: TRACY STATE: CA ZIP: 95376

SITE LOCATION
FACILITY NAME (IF APPLICABLE): HALEY FLYING SERVICE | OPERATOR: GARY DEL CARLO | PHONE: (209) 948-9345
ADDRESS: 21000 PARADISE Rd (STREET) CITY: TRACY COUNTY: CA ZIP: 95376
CROSS STREET: GRANT LINE
TYPE OF AREA ☐ COMMERCIAL ☐ INDUSTRIAL ☐ RURAL ☐ RESIDENTIAL ☐ OTHER
TYPE OF BUSINESS ☐ RETAIL FUEL STATION ☐ FARM ☐ OTHER

IMPLEMENTING AGENCIES
LOCAL AGENCY: SAN JOAQUIN Co. Public HEALTH SERVICES | CONTACT PERSON | PHONE: (209) 468-3420
REGIONAL BOARD: CVRWQCB | PHONE: (916) 361-5600

SUBSTANCES INVOLVED
(1) NAME: Petroleum hydrocarbons | QUANTITY LOST (GALLONS) ☐ UNKNOWN
(2) ☐ UNKNOWN

CVRWQCB U.T. Data Base Entered by: CMUELLER Date: 11 July 1990

DISCOVERY/ABATEMENT
DATE DISCOVERED: 06 26 90 (M M D D Y) | HOW DISCOVERED ☐ INVENTORY CONTROL ☐ SUBSURFACE MONITORING ☐ NUISANCE CONDITIONS ☐ TANK TEST ☑ TANK REMOVAL ☐ OTHER
DATE DISCHARGE BEGAN (M M D D Y Y) ☐ UNKNOWN
HAS DISCHARGE BEEN STOPPED? ☐ YES ☐ NO IF YES, DATE (M M D D Y Y)
METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY) ☐ REMOVE CONTENTS ☐ REPLACE TANK ☐ CLOSE TANK ☐ REPAIR TANK ☐ REPAIR PIPING ☐ CHANGE PROCEDURE ☐ OTHER

SOURCE/CAUSE
SOURCE OF DISCHARGE: ☐ TANK LEAK ☐ UNKNOWN ☐ PIPING LEAK ☐ OTHER
TANKS ONLY/CAPACITY: 5000 (1000) GAL. AGE YRS ☑ UNKNOWN
MATERIAL: ☐ FIBERGLASS ☑ STEEL ☐ OTHER
CAUSE(S): ☐ OVERFILL ☐ RUPTURE/FAILURE ☐ CORROSION ☐ UNKNOWN ☐ SPILL ☐ OTHER

CASE TYPE
CHECK ONE ONLY: ☐ UNDETERMINED ☐ SOIL ONLY ☑ GROUNDWATER ☐ DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)

CURRENT STATUS
CHECK ONE ONLY: ☐ SITE INVESTIGATION IN PROGRESS (DEFINING EXTENT OF PROBLEM) ☐ CLEANUP IN PROGRESS ☐ SIGNED OFF (CLEANUP COMPLETED OR UNNECESSARY) ☐ NO ACTION TAKEN ☐ POST CLEANUP MONITORING IN PROGRESS ☐ NO FUNDS AVAILABLE TO PROCEED ☐ EVALUATING CLEANUP ALTERNATIVES

REMEDIAL ACTION
CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS)
☐ CAP SITE (CD) ☐ EXCAVATE & DISPOSE (ED) ☐ REMOVE FREE PRODUCT (FP) ☐ ENHANCED BIO DEGRADATION (IT)
☐ CONTAINMENT BARRIER (CB) ☐ EXCAVATE & TREAT (ET) ☐ PUMP & TREAT GROUNDWATER (GT) ☐ REPLACE SUPPLY (RS)
☐ TREATMENT AT HOOKUP (HU) ☐ NO ACTION REQUIRED (NA) ☐ OTHER (OT)

COMMENTS
water and soil results reveal CONTAMINATION From Underground storage tank removed on 5-17-90. Further site assessment will be required to determine the nature and extent of contamination as required by the appropriate Agency.

HSC 05 (4/87)

APPENDIX D

Phase II Environmental Site Assessment

Brusca Associates, Inc.
Environmental Engineering Geology

October 30, 2020

Diepenbrock Elkin
Attention: Bradley Elkin, Esq.
555 University Avenue, Suite #180
Sacramento, CA. 95825

DRAFT PHASE II ENVIRONMENTAL SITE ASSESSMENT
-SOIL INVESTIGATION AND GEOPHYSICAL SURVEY
FORMER HALEY'S FLYING SERVICE PROPERTY
APN 213-060-13
21000 Paradise Road and 2395 East Pescadero Avenue
Tracy, San Joaquin County, California
Brusca Reference No. 194-006

INTRODUCTION

In accordance with your request, our firm performed environmental soil investigation and a geophysical survey at the subject property. The purpose of the investigative work has been to further evaluate concerns identified in a *Phase I Environmental Site Assessment* of the property by our firm dated January 7, 2020.[1] Specifically, the soil investigation was performed to further evaluate the nature and extent of previously-identified pesticide impact to onsite soils and to evaluate whether site soils contain other potential contaminants of concern, including petroleum hydrocarbons, volatile organic compounds (VOCs), and metals. Initial soil sampling and testing by our firm was conducted in May 2020; based on those results, additional episodes of soil sampling were performed through early October 2020 to further define the extent of pesticide soil impact at the site. An objective of our evaluation has been to present information that could be used by a remediation contractor to develop preliminary cost estimate ranges for site clean-up. The geophysical survey was performed to evaluate whether any remnant underground fuel storage tanks (USTs) exist within the area of the former Haley's Flying Service crop-dusting facility on the property. Our investigative work at the subject site has been performed for environmental due diligence purposes only; our work has not included engagement of a regulatory agency for oversight. This report presents our findings.

A *Vicinity Map* showing the location of the property is presented as Plate 1 and an aerial photograph showing the layout of the entire subject property is presented as Plate 2. Plate 3 is a detail map showing the layout of the former Haley's Flying Service crop-dusting facility on the far easterly portion of the property. Plate 4 is a *Reference Site Map* showing the coverage areas

[1] Brusca Associates, Inc.; "Phase I Environmental Site Assessment, Former Haley's Flying Service Property, APN 213-060-13, 21000 Paradise Road and 2395 East Pescadero Avenue, Tracy, San Joaquin County, California"; January 7, 2020.

for the detailed site maps (Plates 5 through 9) that depict the soil sampling locations at the property. Plates 10 through 12 show preliminarily proposed remedial excavation areas for impacted site soils. Organochlorine pesticide soil analytical data are summarized on Table I, and petroleum hydrocarbon, VOC, and metals data are summarized on Table II. The results of soluble pesticides laboratory testing via the Toxicity Characteristic Leaching Procedure (TCLP) performed on some of the collected soil samples are presented on Table III. The laboratory reports and chain-of-custody documentation are appended.

SITE DESCRIPTION AND BACKGROUND

Site Description

The approximate ten-acre subject site is located northwesterly of the intersection of Paradise Road and Pescadero Avenue in a mixed agricultural and commercial/light industrial area of Tracy, San Joaquin County, California (see Plates 1 and 2). The subject property is addressed as 21000 Paradise Road and 2395 Pescadero Avenue and is identified by the San Joaquin County Assessor's Office as parcel number (APN) 213-060-13. The subject site currently is vacant and unused. Portions of the property generally are void of vegetation and other portions support low to medium-high volunteer vegetation/grasses; vegetation on portions of the site appears to have burned in the past. The far easterly portion of the property supports a number of remnant concrete slabs and other concrete structures (including a raised platform/former loading dock and depressed "washout pit") that apparently were associated with a previous onsite agricultural air strip/crop dusting facility (referred to as Haley's Flying Service). A narrow strip of remnant pavement generally traverses the property from east to west; this feature evidently is the former airstrip used by Haley's Flying Service. Portions of the airstrip (primarily on the far westerly portion of the site) are highly dilapidated and/or removed.

Site History

Research conducted in conjunction with our referenced *Phase I Environmental Site Assessment* indicates that the subject property historically consisted of vacant farmland until around 1950 when the former Haley's Flying Service facility was constructed on the easterly portion of the property and the former airstrip was constructed across the entire site in an east-west orientation. The former Haley's Flying Service operated an agricultural airstrip and crop-dusting facility on the subject property from 1951 until about 1989. The onsite facility included hangar buildings, an office, a concrete-lined washout pit (where aircraft agricultural chemical tanks were rinsed), a loading dock (to facilitate the loading of agricultural chemicals into crop dusting aircraft), and a concrete-paved area where agricultural pesticides were stored and handled. Former features associated with the crop-dusting facility on the far easterly portion of the site are shown on Plate 3. Subsequent to the 1980s, the property reportedly was occupied by various businesses, including a trucking company (Continental Express), a tomato packing company, and a truck repair business. It is indicated that one or more of the buildings on the property were destroyed by fire in 2018, and the remaining structures were razed thereafter. The site apparently has been vacant and generally unused since 2018.

PAST SITE INVESTIGATIONS

General

Environmental investigations and regulatory agency site inspections have taken place at the subject property dating back to the 1970s. Most of the available environmental documentation pertaining to the property is related to inspections and investigative work performed to evaluate the area of the former onsite agricultural air strip/crop dusting facility (Haley's Flying Service) and associated hazardous materials use and storage practices. Past soil and groundwater sampling at the site performed in conjunction with a *Preliminary Endangerment Assessment* (PEA) and a PEA *Addendum* in 2006 revealed significant pesticide impact on the property; the PEA work was performed with the oversight of the California Department of Toxic Substances Control (DTSC). Additionally, past site investigations were performed to evaluate site impact from former underground fuel storage tank usage at the Haley's Flying Service facility. Our firm performed a *Phase I Environmental Site Assessment* of the property and we performed a groundwater investigation at the site earlier this year.

2006 Preliminary Endangerment Assessment

As mentioned above, a PEA performed at the site in 2006 identified significant pesticide impact to soils on the property. The PEA included shallow soil sampling at a number of locations within the area of the former onsite crop-dusting facility, including near the aircraft loading pad, near the loading dock, near the washout pit, near the hangars, and near the runway. The locations of soil samples collected in conjunction with the 2006 PEA are shown on Plates 5 through 9 along with the locations of the samples collected by our firm in 2020. The soil samples collected during the PEA generally were collected at depths ranging from the surface to a depth of 12 inches. Nearly all of the soil samples were analyzed for organochlorine pesticides. A limited number of soil samples also were tested for organo-phosphorous herbicides/pesticides, chlorinated herbicides, n-methyl carbamate pesticides, petroleum hydrocarbons, and/or VOCs.

The results of the analytical laboratory testing of the soil samples obtained during the 2006 PEA are summarized on the attached Tables I and II; the laboratory testing revealed very high concentrations of contaminants (primarily the organochlorine pesticides DDT, DDD, DDE, and toxaphene) at a number of locations, including within the vicinities of the aircraft loading dock, the surrounding loading pad, and the washout pad. The PEA report characterized the soils in these areas as "severely contaminated" and the associated health risks as "extremely high." The report suggested that the data demonstrated vertical attenuation of the detected contaminant in soils; however, neither the full vertical nor lateral extent of site impact was characterized. The pesticide soil impact was primarily identified on the far easterly portion of the property, although some impact was identified along the runway at some distance to the west. The PEA soil sampling/testing did not reveal petroleum hydrocarbon or VOC impact; however, very few soil samples were tested for these analytes. Additionally, it does not appear that the 2006 PEA included analysis of soil samples for metals. The PEA generally concluded that further site investigation and remedial action were warranted.

2020 Phase I Environmental Site Assessment

Our referenced *Phase I Environmental Site Assessment* completed earlier this year identified the following *recognized environmental conditions* in connection with the subject property:

- Past site inspections by regulatory agencies revealed a number of violations with respect to historical onsite hazardous materials and wastewater handling practices (primarily during the time that the former Haley's Flying Service operated on the property). Additionally, soil and groundwater sampling performed in conjunction with the 2006 PEA revealed significant pesticide contamination conditions on the property. It does not appear that further investigative or remedial work regarding these conditions has been performed since the time of the 2006 PEA. Our review suggests that the past investigative work was not sufficient to characterize the site contamination conditions; the extent of pesticide impact to soils and groundwater was not determined, the past sampling did not include evaluation of metals, and the extent of testing for petroleum hydrocarbons and VOCs was minimal. Additionally, it does not appear that the area of the onsite septic system was specifically targeted during past investigation. The known site contamination conditions and potential yet unidentified contamination conditions attributable to past site activities are considered a *recognized environmental condition*.

- Our site observations revealed a number of areas of burned debris on the property. Additionally, it is indicated that a structure fire occurred on the property around 2018. In our experience, burned debris and ash from structure fires can contain contaminants, including elevated concentrations of metals. The potential for site contamination conditions attributable to past fires on the property and burned debris is considered a *recognized environmental condition*.

- Two underground fuel storage tanks (USTs) were removed from the property in 1990. Subsequent site investigations reportedly revealed only minor petroleum hydrocarbon impact to soil and groundwater attributable to one of the removed USTs. Based on the data, the UST case received regulatory agency closure in 1998. Given the closed agency status, the past UST case at the site is considered a *historical recognized environmental condition* that does not require further environmental work. However, our research indicates that additional USTs may have been located at the site (beyond the two that were removed in 1990). It is reported that the San Joaquin County Environmental Health Department (SJCEHD) received payment for a total of four USTs in 1986; additionally, a complaint record on file with the SJCEHD dated 2001 noted the potential of remnant USTs at the site. The potential for remnant USTs at the site (and the associated potential for contamination conditions attributable to any such USTs) is considered a *recognized environmental condition*.

2020 Groundwater Investigation

As mentioned above, pesticide groundwater impact was identified at the site during performance of the PEA in 2006. Earlier this year our firm performed additional groundwater assessment and those results were presented in a report dated June 8, 2020.[2] In general, the results of our 2020 groundwater investigation indicate that the area of groundwater beneath the site containing elevated concentrations of organochlorine pesticides is relatively small and fairly well defined.

PURPOSE AND SCOPE OF WORK

The primary purpose of this investigation has been to further evaluate the nature and extent of previously-identified pesticide impact to site soils at the property and to evaluate whether near-surface site soils contain other potential contaminants of concern, including petroleum hydrocarbons, VOCs, and metals. As a part of the subject investigation, we performed a geophysical survey to evaluate whether any USTs exist within the area of the former Haley's Flying Service facility on the property and to attempt to identify the location of the former onsite septic system. Our scope of work included: performance of a geophysical survey; utility clearance; performance of backhoe test pits; collection of soil samples from the site surface and from various depths within the test pits; laboratory analysis of the collected samples; and, evaluation of the results. Initial soil sampling and testing by our firm was conducted in May 2020; based on those results, additional episodes of soil sampling were performed through early October 2020 to further define the extent of pesticide soil impact at the site. All work was performed in accord with standard environmental protocol, and all activities were overseen by a Professional Geologist from our office. Personnel involved with fieldwork on the property are certified for Hazardous Waste Site Operations training in accord with 29 CFR 1910.120.

Our investigative work at the subject site has been performed for environmental due diligence purposes only; our work has not included engagement of a regulatory agency for oversight.

INVESTIGATIVE ACTIVITIES

Geophysical Survey and Related Subsurface Exploration

On May 5, 2020 we directed a geophysical survey on the far easterly portion of the property within the area of the former Haley's Flying Service facility. The geophysical survey included magnetic methods to identify any anomalies that could be indicative of any remnant USTs beneath this portion of the property. No significant geophysical anomalies were identified within the immediate vicinity of the former Haley's Flying Service Facility structures, loading dock, or washout pit; however, two relatively weak anomalies were detected beneath the remnant airstrip pavement to the west of the former hangars/office building; the location of the geophysical

[2] Brusca Associates, Inc.; "Phase II Environmental Site Assessment – Groundwater Investigation, Former Haley's Flying Service Property, APN 213-060-13, 21000 Paradise Road and 2395 East Pescadero Avenue, Tracy, San Joaquin County, California"; June 8, 2020.

anomalies are shown on Plate 6. These anomalies both measured about 15 feet square and were situated about seven feet apart.

To evaluate the identified geophysical anomalies beneath the former runway, we advanced two backhoe test trenches across the anomalies on May 19, 2020. The test trenches completely traversed the anomalies in a north-south direction and extended to a depth of about four feet. The trenches engaged undisturbed native soils below the runway pavement; no evidence of USTs, fill, or debris was observed in the trenches.

As a part of the geophysical survey work at the site, we attempted to identify the location of the septic system that was associated with the former Haley's Flying Service facility. No evidence was obtained to indicate the location of the former septic system.

Exploratory Test Pits and Soil Sampling

In May 2020, our firm directed the performance of 19 test pits (identified as T1 through T19) within the area of the former crop-dusting facility on the easterly portion of the property and a limited number of test pits (T20 through T24) along the remnant airstrip that traverses the site from west to east. Based on the results from the May 2020 soil sampling, it was determined that significant additional soil sampling/testing at the site was warranted to further evaluate the extent of pesticide soil contamination conditions at the property. Additional soil sampling episodes and test pit excavations were performed in August, September, and October 2020; the additional sampling locations are identified as T25 through T98. Prior to the performance of exploratory test pits at the site, we marked the test pit locations and we contacted Underground Service Alert to clear the locations of underground utilities.

Our soil sampling locations at the site (identified as T1 through T98) are shown on Plates 5 through 9; a reference map showing the coverage areas for those plates is presented as Plate 4. At each soil sampling location, a surface soil sample was collected (from the surface to a depth of six inches). At most of the sampling locations, test pits were excavated via backhoe for the collection of deeper soil samples (maximum depth of three feet). It is noted that at sampling location T16 (within the former washout pit) the depths of the samples were measured from the base of the concrete washout pit structure (which is situated about four feet below surrounding grades at the T16 location).

The soil samples from location T1 through T98 were collected in accord with standard environmental protocol and were placed in laboratory-provided eight-ounce jars. The collected soil samples were labeled, immediately placed on ice, and transported under chain-of-custody documentation to the analytical laboratory. Some of the collected deeper soil samples were placed on hold with the analytical laboratory pending the results of the shallower soil samples. The depths of the samples subjected to laboratory testing are shown on Tables I, II, and III.

At a number of soil sampling locations within the area of the former facility on the far easterly portion of the property concrete pavements and slabs were present at the surface; the thickness of the concrete flatwork generally varied from about four to six inches. At the sampling locations within the remnant airstrip, the asphaltic concrete pavement thickness generally ranged from about two to six inches. "Surface" soils collected in the areas of flatwork were collected directly

below the lower surface of the pavement/slab. As mentioned earlier in this report, the airstrip pavement was highly dilapidated and/or absent within areas on the westerly portion of the property; where the pavement was absent, varying amounts of asphaltic concrete rubble was observed within surface soils.

At the surface and beneath remnant flatwork in much of the area within the former facility on the far easterly portion of the site, gravel and gravel-soil mixtures were encountered in our test pits extending to depths ranging from a few inches to about one foot. Beneath these gravelly surface materials in the area of the former facility, and at the surface on other portions of the site, the test pits generally encountered alluvial deposits comprised of silty clays and clayey silts, with varying amounts of sand. In the area of the remnant washout pit of the far northeasterly portion of the property, some of the soils encountered exhibited orange staining and a strong chemical odor. Subsurface water was not encountered in any of the test pits.

At location T15, loose gravelly soil materials were encountered to the termination depth of the test pit (about 3.5 feet); these materials appeared to be fill. It is likely that the T15 location is the site of one of the former underground fuel tanks that was removed from the property in the past, and the materials encountered in this test pit likely are disturbed backfill materials placed in the tank removal excavation.

In addition to the soil samples collected at locations T1 through T98 described above, we collected three surface samples (identified as S1, S2, and S3) of burn debris/ash-soil mixtures from selected locations on the property where burn debris was evident. Samples S1 and S2 were collected near the former westerly hangar structure on the far easterly portion of the property where burn debris was observed at the surface apparently remnant from past burning of this structure. Sample S3 was collected from a small pile of burn debris along the remnant airstrip on the central portion of the property. These samples were collected in accord with standard environmental protocol and were placed in laboratory-provided eight-ounce jars. The soil samples were labeled, immediately placed on ice, and transported under chain-of-custody documentation to the analytical laboratory.

Laboratory Testing

The collected soil samples were submitted to a State-certified laboratory (Sunstar Laboratories, Inc.; ELAP No. 2250) for analysis. All soil samples from locations T1 through T98 were tested for organochlorine pesticides by EPA Method 8081A; these results are summarized on Table I. A number of soil samples from the area of the former crop-dusting facility on the easterly portion of the property were tested for other potential analytes of concern, including: gasoline-, diesel-, and motor oil-range petroleum hydrocarbons by EPA Method 8015B; VOCs by EPA Method 8260B; and/or, CAM17 metals by EPA Method 6010/200.7; the results of these analyses are summarized on Table II. Further, a number of soil samples from the site (including soil samples with the highest concentrations of organochlorine pesticides) were tested for soluble pesticides by the Toxicity Characteristic Leaching Procedure (TCLP) to evaluate whether these soils would be characterized as a Federal (RCRA) hazardous waste; the TCLP results are summarized on Table III. The laboratory reports and chain-of-custody documentation are attached; quality control/quality assurance documentation are included with the laboratory reports.

RESULTS AND DISCUSSION

Organochlorine Pesticides

As shown on Table I and the appended laboratory reports, most of the soil samples collected from the subject property contained some of the organochlorine pesticides tested at concentrations above the laboratory reporting limits. To evaluate the significance of the concentrations of pesticides detected in site soils, we have compared the analytical results to Environmental Screening Levels (ESLs) published by the San Francisco Bay Regional Water Quality Control Board; the ESL values are presented on Table I along with the soil analytical data.[3] Because commercial/light-industrial development of the property is contemplated, we have considered ESLs published for commercial/industrial sites. Additionally, we have considered California Title 22 Total Threshold Limit Concentration (TTLC) hazardous waste levels for the detected pesticides in site soils; those values also are presented on Table I. As shown, a substantial percentage of the soil samples collected from the subject property contained one or more organochlorine pesticides at concentrations above the ESL values, and many of these concentrations also exceed California hazardous waste TTLC values. The most significantly elevated and pervasive pesticides in soils at the site would appear to be DDD, DDE, DDT, and toxaphene.

DDD was detected in soil samples collected by our firm at concentrations as high as 93 milligrams per kilogram (mg/kg), and as high as 3,000 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (12 mg/kg).

DDE was detected in soil samples collected by our firm at concentrations as high as 68 milligrams per kilogram (mg/kg), and as high as 530 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (8.3 mg/kg).

DDT was detected in soil samples collected by our firm at concentrations as high as 260 milligrams per kilogram (mg/kg), and as high as 19,000 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (8.5 mg/kg).

The combined DDD, DDE, and DDT California hazardous waste TTLC value is 1.0 mg/kg; many of the soil samples collected at the site contained these pesticides at concentrations above the TTLC value.

Toxaphene appears to be the most pervasive elevated pesticide detected in soils at the subject property. Toxaphene was detected in soil samples collected by our firm at concentrations as high as 5,400 milligrams per kilogram (mg/kg), and as high as 24,000 mg/kg during soil sampling conducted during the 2006 PEA. Nearly one-half of the soil samples collected from the subject property contained toxaphene at concentrations above the ESL and/or TTLC value (2.2 mg/kg and 5.0 mg/kg, respectively).

[3] San Francisco Bay Regional Water Quality Control Board; "Environmental Screening Levels"; July 2019.

Limited occurrences of other organochlorine pesticides were detected in site soils at concentrations above their respective ESL and/or hazardous waste TTLC values, including heptachlor, chlordane, dieldrin, and endrin. Soil samples containing elevated concentrations of these pesticides also contained elevated concentrations of DDD, DDE, DDT, and/or toxaphene (suggesting that it would be appropriate to regard DDD, DDE, DDT, and toxaphene as indicators for remedial action such as excavation/soil removal).

The detected concentrations of DDD, DDE, DDT, and toxaphene in site soil samples are plotted on site maps and presented on Plates 5 through 9. The most pervasive and highest concentrations of these pesticides were detected on the easterly portion of the site in the area of the former crop-dusting facility (see Plates 5 and 6); the most severe impact in this area would appear to be in the vicinity of the washout pit and loading dock along the northerly margin of the former facility. However, as shown on Plates 7 through 9, elevated concentrations of pesticides (primarily toxaphene) were detected at numerous locations beneath and near the former airstrip extending across the property. As shown, we collected soil samples at multiple distances laterally from the former airstrip to attempt to define the extent of impact near the former airstrip. Within some site areas, the sampling conducted to date would appear to define the lateral extents of organochlorine pesticide soil impact, however uncertainty remains regarding actual onsite limits of soil contamination (particularly to the north of the former airstrip and directly to the west of the northerly portion of the former crop-dusting facility).

Along the runway and within some portions of the former crop-dusting facility on the easterly portion of the property, the vertical extent pesticide soil impact appears to be limited to near surface soils and generally does not appear to extend to a depth of one foot; this limited degree of vertical impact is somewhat typical for organochlorine pesticides in soils. However, within sizable portions of the former crop-dusting facility on the easterly portion of the site, the soil impact extends deeper (to depths of at least one to three feet). At certain locations (primarily along the northerly margin of the former crop-dusting facility in the areas of the washout pit and loading dock), the vertical extent of pesticide soil impact is not defined by the available sampling data; however, in general vertical attenuation of contaminant concentrations is indicated at these locations and it appears unlikely that the pesticide impact would extend significantly deeper than about three feet within sizable areas.

As mentioned above, a substantial number of the soil samples collected from the subject property contained organochlorine pesticides at concentrations above California hazardous waste TTLC values. To evaluate whether site soils may be characterized as a Federal (RCRA) hazardous waste, a number of soil samples (including soil samples with the highest concentrations of total pesticides) were subjected to soluble organochlorine analyses by the TCLP method; the results are presented on Table III. As shown on Table III, none of the tested soil samples contained soluble pesticides at concentrations above Federal (RCRA) hazardous waste levels. It is noted that detectable concentrations of endrin ketone were detected via the TCLP method in some of the tested soils samples. It does not appear that a Federal (RCRA) hazardous waste TCLP value has been established specific to endrin ketone, although a TCLP level has been established for endrin. Our preliminary review suggests that the TCLP hazardous waste criteria for endrin would not apply to endrin ketone; however, we suggest that

this assumption be confirmed with a licensed hazardous materials contractor and/or an appropriate hazardous waste acceptance facility.

Other Potential Contaminants of Concern

Selected soil samples from the area of the former onsite crop-dusting facility and one sample of burn debris collected on the central portion of the site along the former airstrip were tested for other potential contaminants of concern, including petroleum hydrocarbons, VOCs, and metals. As shown on Table II, a few of the tested soil samples from the area of the former crop-dusting facility contained very low concentrations of diesel- and/or motor oil-range petroleum hydrocarbons, and one soil sample (collected within the former washout pit) contained very low concentrations of VOCs, including toluene and xylenes. The detected concentrations of petroleum hydrocarbons and VOCs in site soil samples are well below commercial/industrial ESL values, and, as such, are not considered a significant environmental concern.

As shown on Table II, all of the soil samples tested for metals contained some metals at concentrations above the laboratory reporting limits. The vast majority of the metals concentrations detected in the soil samples are considered very low, within typical background (naturally-occurring) soils metals concentrations in the region, and are below ESL and California TTLC hazardous waste levels. However, it is noted that the three samples collected from burn debris on the property (S1, S2, and S3) contained elevated concentrations of lead and/or zinc. The zinc concentration detected in sample S1 (13,000 mg/kg) exceeds the TTLC value of 5,000 mg/kg. The lead concentrations in samples S2 and S3 (330 mg/kg and 1,400 mg/kg, respectively) exceed the ESL value of 320 mg/kg. The lead concentration in sample S3 also exceeds the California hazardous waste TTLC value of 1,000 mg/kg. However, in general the extent of burn debris on the property appears very minimal compared to the extent of pesticide impacted soils, and it is likely that the pesticide impacts are a much greater factor in assessing the environmental condition of the property and the costs for future remedial action.

DISCUSSION REGARDING REMEDIAL ACTION

We understand that commercial/light-industrial development of the subject property is contemplated. Due to the elevated and pervasive organochlorine pesticide impact to soils at the site, remedial action is warranted prior to site development. As described herein, a limited degree of metals impact to soils/burn debris at the property is indicated; however, the metals impact conditions appear to be nominal compared to the pesticides soil impact, and likely would be addressed by remedial action to mitigate the soil pesticides impact (i.e. during soil removal).

On a preliminary basis, we have considered remedial action consisting of excavation of impacted soils at the site for proper disposal at an appropriate offsite facility. An objective of our evaluation has been to present information that could be used by a remediation contractor to develop preliminary cost estimate ranges for site clean-up. Plates 10 through 12 show preliminarily proposed remedial excavation areas. The conceptual excavation areas shown generally encompass areas where organochlorine pesticide concentrations in site soils exceed ESL and/or California Hazardous Waste TTLC values. Plates 10 through 12 also show various proposed depths of remedial excavation, ranging from one foot to three feet. It is noted that the

base of the washout pit within the northerly portion of the former crop-dusting facility is depressed up to about four feet with respect to surrounding grades; as such, the three foot deep excavation shown at this structure would extend up to seven feet below surrounding ground surfaces.

The preliminarily proposed excavation areas and depths shown on Plates 10 through 12 are conceptual in nature. It should be recognized that within some site areas, uncertainty exists regarding actual onsite limits of soil impact (particularly to the north of the former airstrip and directly to the west of the former hangars building); the actual lateral limits and depths of soils requiring remedial removal may be greater that those shown on the attached plates. We note that at some of the sampling locations, elevated concentrations of pesticides were detected at the indicated proposed depth of remedial excavation; as such, it is very possible that deeper excavation will be necessary in some areas. We also note that in some areas it may be possible to refine and slightly reduce some of the proposed excavation limits and depths shown via additional site characterization. For instance, in most of the areas shown for a one-foot depth of soil excavation, excessive soil impact was identified in the upper six inches of the soil profile but not at a depth of one foot; in portions of these areas a depth of remedial soil excavation less than one foot may be acceptable (although such a limited and precise depth of soil excavation across large areas may not be entirely practical or feasible depending on the type of excavation equipment/methods utilized). Additionally, the potential exists that site-specific risk assessment could be performed to demonstrate that some soils containing contaminants at concentrations above ESL values may be acceptable to leave in place; such determinations would need to be made in concert with discussions with an oversight regulatory agency. Despite the uncertainties regarding actual required excavation limits, the proposed remedial areas shown on Plates 10 through 12 may provide a rough basis for due diligence decision making regarding the property.

As a part of environmental due diligence efforts, we recommend that this report be presented to a qualified and experienced remediation contractor to consider appropriate soil disposal facility alternatives and to develop a range of potential costs for remedial excavation and disposal of impacted site soils. For preliminary cost estimation and planning purposes, we suggest that a factor of safety/contingency of at least 25 percent be used for remedial soil excavation quantity estimates due to the uncertainties that exist regarding the actual extents of soil impact at the site.

It is emphasized that our investigative work at the subject site has been performed for the purposes of environmental due diligence with respect to a potential property transaction involving the property, and our work has not included engagement or consultation with an oversight regulatory agency. Upon request and with permission of the current property owner, we could discuss the findings presented herein and the pathway forward for the property with an appropriate regulatory agency (such as the California DTSC); the results of such discussions may provide greater insight regarding actual requirements for the environmental issues associated with the property and may assist in refining and confirming costs to resolve the onsite contamination conditions.

CLOSING

We would be pleased to discuss the results presented herein and strategies/pathways for resolving the environmental issues associated with the subject property. If you have any questions or require additional information, please contact the undersigned at (916) 677-1470.

Sincerely,

BRUSCA ASSOCIATES, INC.

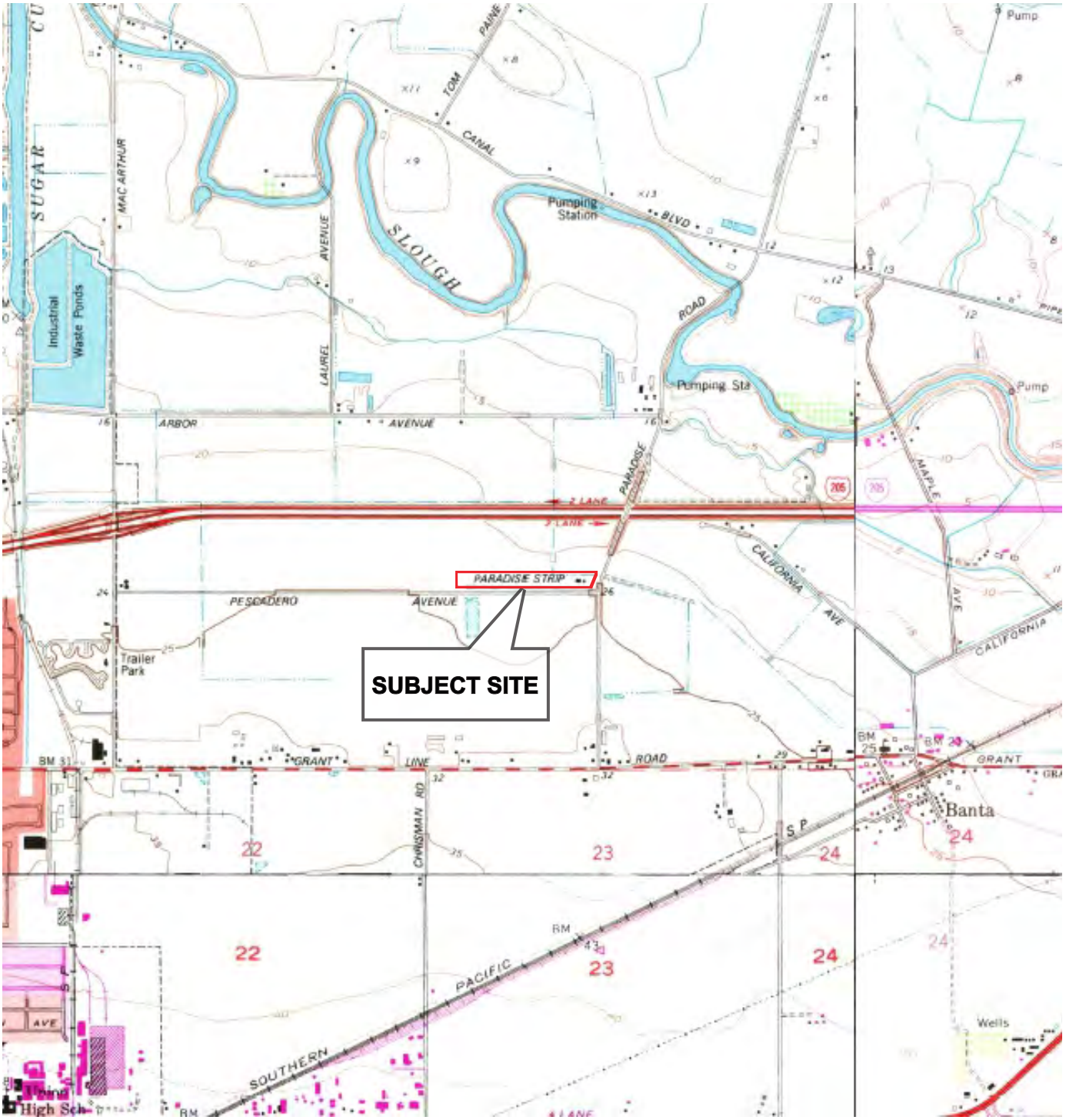


Joe Brusca
Principal Engineering Geologist
Certified Engineering Geologist No. 1948

Attachments: Plate 1, *Vicinity Map*
Plate 2, *Site Map*
Plate 3, *Former Haley's Flying Service Facility*
Plate 4, *Reference Site Map*
Plate 5, *Soil Sampling Locations – Former Washout Pit and Loading Area*
Plate 6, *Soil Sampling Locations – Former Hangars Area*
Plate 7, *Soil Sampling Locations -Central Property Area*
Plate 8, *Soil Sampling Locations -West and Central Property Areas*
Plate 9, *Soil Sampling Locations -West Property Area*
Plate 10, *Preliminary Proposed Remedial Excavation Area – East Property Area*
Plate 11, *Preliminary Proposed Remedial Excavation Area – Central Property Area*
Plate 12, *Preliminary Proposed Remedial Excavation Area – West Property Area*

Table I – Summary of Soil Analytical Data – Organochlorine Pesticides
Table II – Summary of Soil Analytical Data – Petroleum Hydrocarbons, VOCs, and Metals
Table III – Summary of Soil Analytical Data – Organochlorine Pesticides TCLP Testing

Appendix – Laboratory Reports and Chain-of-Custody Documentation



SOURCE: U.S.G.S. 7.5-minute Union Island Quadrangle, California, 1978
Scale 1:24,000

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FORMER HALEY'S FLYING SERVICE PROPERTY

21000 Paradise Road and
2395 East Pescadero Avenue
Tracy, California

Brusca Project No. 194-006

VICINITY MAP

PLATE 1



Approximate boundary of subject property

All features and locations are approximate only

0 380

APPROXIMATE SCALE IN FEET

N

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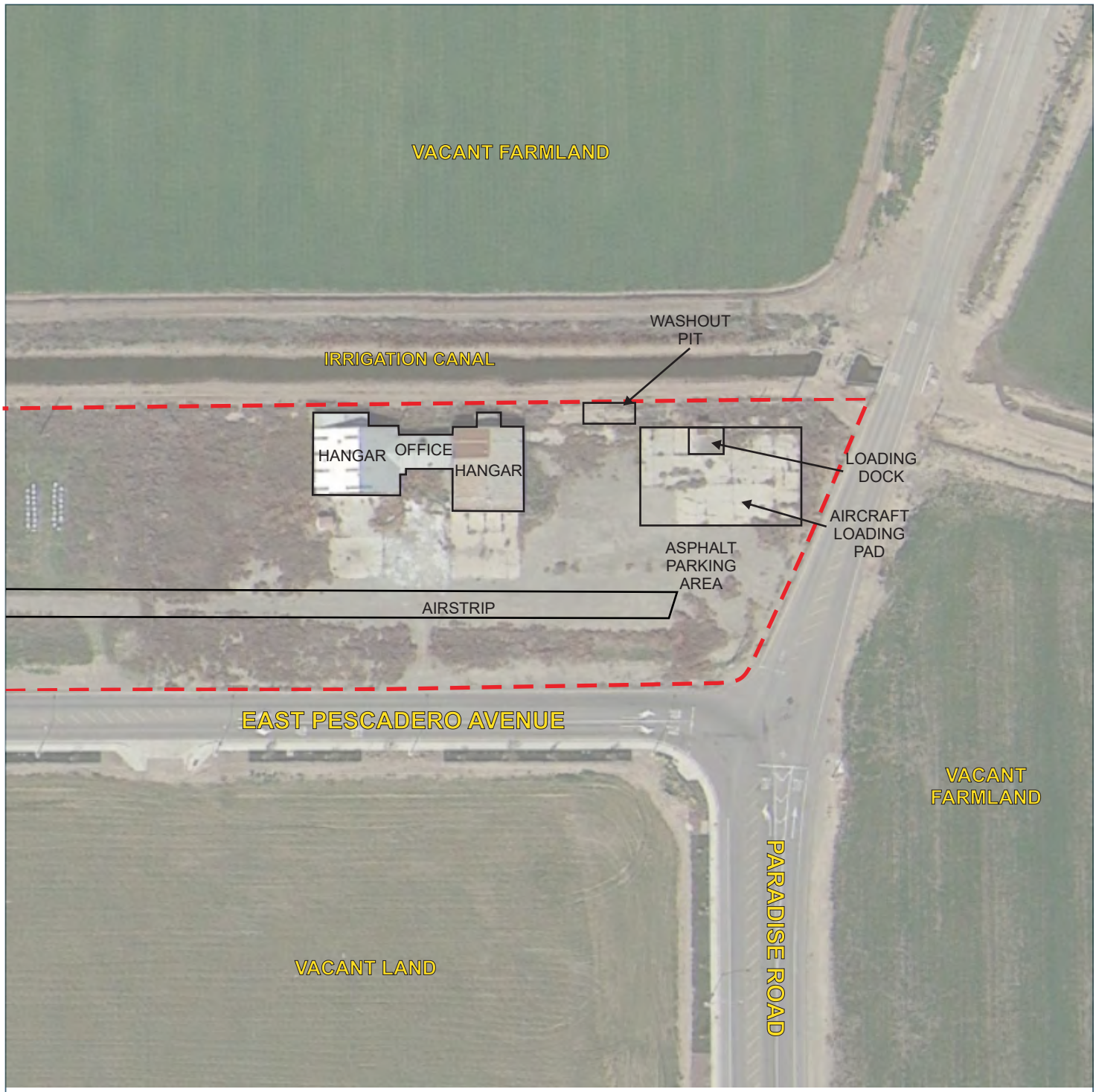
FORMER HALEY'S FLYING SERVICE PROPERTY

21000 Paradise Road and
2395 East Pescadero Avenue
Tracy, California

Brusca Project No. 194-006

SITE MAP

PLATE 2



Approximate boundary of subject property

0 100

APPROXIMATE SCALE IN FEET

N

All features and locations are approximate only

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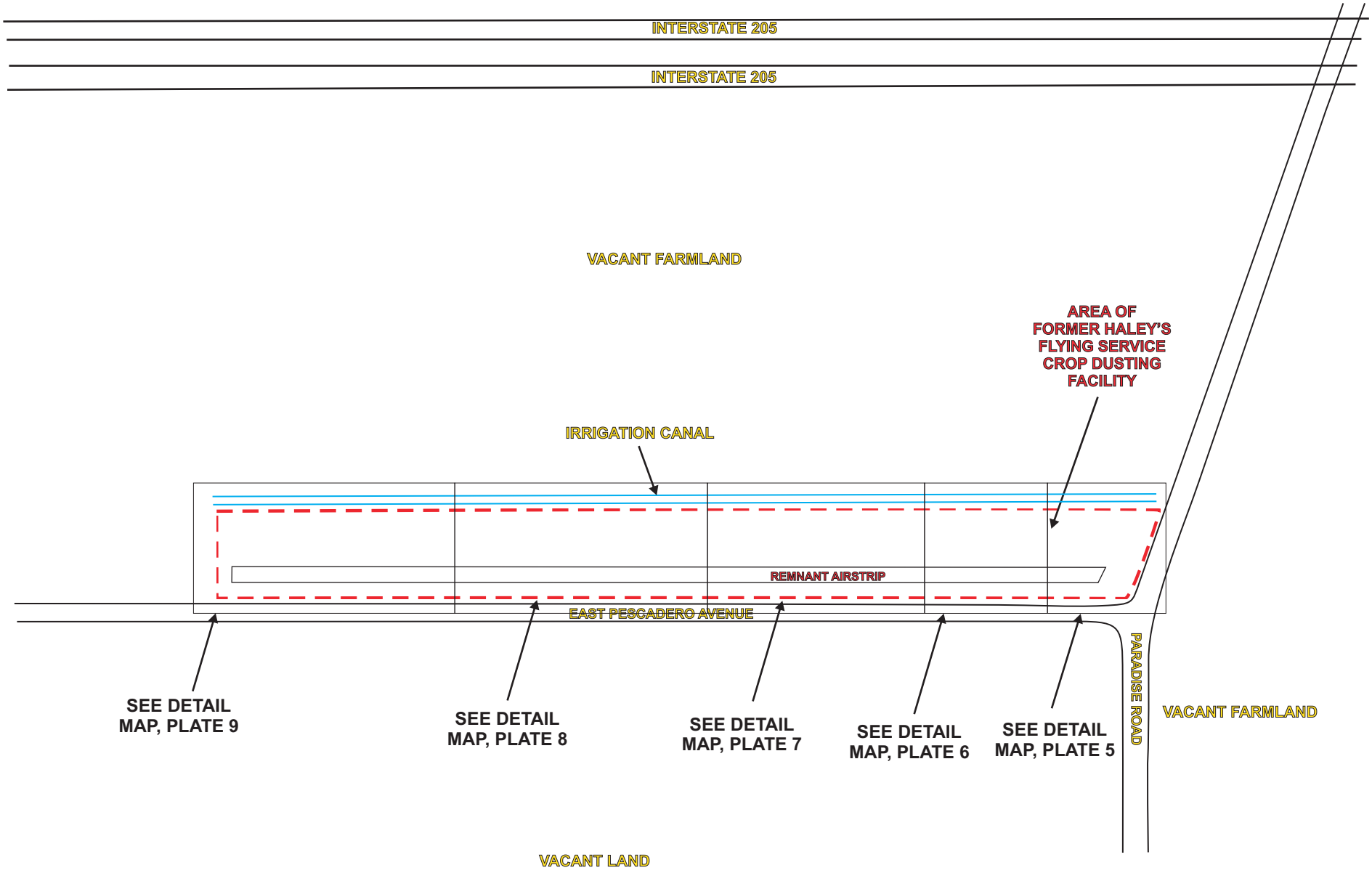
FORMER HALEY'S FLYING SERVICE PROPERTY

21000 Paradise Road and
2395 East Pescadero Avenue
Tracy, California

Brusca Project No. 194-006

FORMER HALEY'S FLYING SERVICE FACILITY

PLATE 3



Approximate boundary of subject property

0 300
APPROXIMATE SCALE IN FEET

N

All features and locations are approximate only

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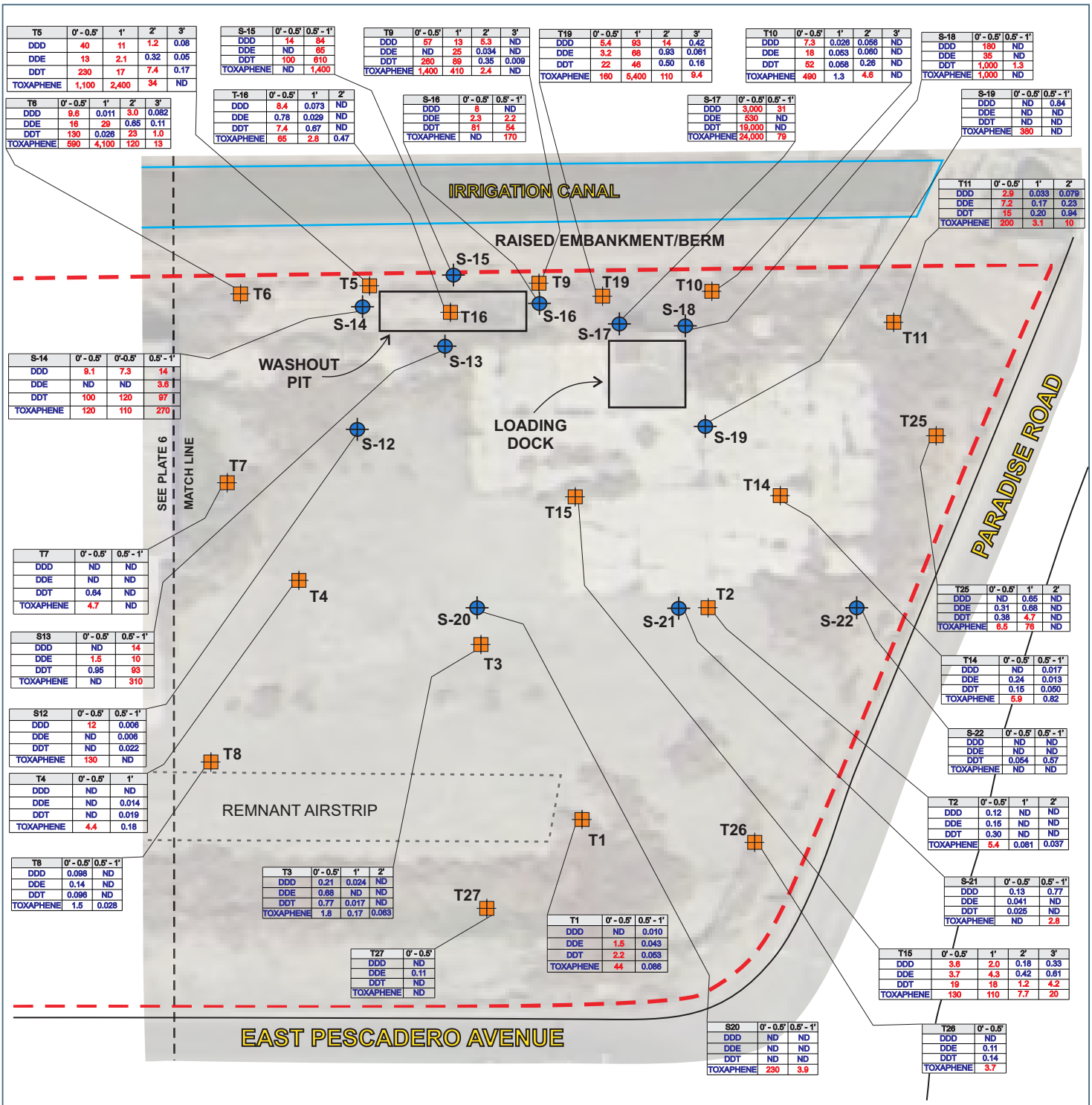
FORMER HALEY'S FLYING SERVICE PROPERTY

21000 Paradise Road and
2395 East Pescadero Avenue
Tracy, California

Brusca Project No. 194-006

REFERENCE SITE MAP

PLATE 4



T5	0' - 0.5'	1'	2'	3'
DDD	40	11	1.2	0.08
DDE	13	2.1	0.32	0.05
DDT	230	17	7.4	0.17
TOXAPHENE	1,100	2,400	34	ND

T6	0' - 0.5'	1'	2'	3'
DDD	9.6	0.011	3.0	0.082
DDE	16	29	0.65	0.11
DDT	130	0.026	23	1.0
TOXAPHENE	590	4,100	120	13

S-15	0' - 0.5'	0.5' - 1'
DDD	14	84
DDE	ND	65
DDT	100	610
TOXAPHENE	ND	1,400

T-16	0' - 0.5'	1'	2'
DDD	8.4	0.073	ND
DDE	0.78	0.029	ND
DDT	7.4	0.67	ND
TOXAPHENE	65	2.8	0.47

T9	0' - 0.5'	1'	2'	3'
DDD	57	13	5.3	ND
DDE	ND	25	0.034	ND
DDT	260	89	0.35	0.009
TOXAPHENE	1,400	410	2.4	ND

S-16	0' - 0.5'	0.5' - 1'
DDD	8	ND
DDE	2.3	2.2
DDT	81	54
TOXAPHENE	ND	170

T19	0' - 0.5'	1'	2'	3'
DDD	5.4	93	14	0.42
DDE	3.2	68	0.93	0.061
DDT	22	46	0.50	0.16
TOXAPHENE	160	5,400	110	9.4

S-17	0' - 0.5'	0.5' - 1'
DDD	3,000	31
DDE	630	ND
DDT	19,000	ND
TOXAPHENE	24,000	79

T10	0' - 0.5'	1'	2'	3'
DDD	7.3	0.026	0.056	ND
DDE	18	0.053	0.060	ND
DDT	52	0.058	0.26	ND
TOXAPHENE	490	1.3	4.6	ND

S-18	0' - 0.5'	0.5' - 1'
DDD	180	ND
DDE	35	ND
DDT	1,000	1.3
TOXAPHENE	1,000	ND

S-19	0' - 0.5'	0.5' - 1'
DDD	ND	0.84
DDE	ND	ND
DDT	ND	ND
TOXAPHENE	380	ND

T11	0' - 0.5'	1'	2'
DDD	2.9	0.033	0.079
DDE	7.2	0.17	0.23
DDT	15	0.20	0.94
TOXAPHENE	200	3.1	10

S-14	0' - 0.5'	0'-0.5'	0.5' - 1'
DDD	9.1	7.3	14
DDE	ND	ND	3.6
DDT	100	120	97
TOXAPHENE	120	110	270

T7	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	ND
DDT	0.64	ND
TOXAPHENE	4.7	ND

S13	0' - 0.5'	0.5' - 1'
DDD	ND	14
DDE	1.5	10
DDT	0.95	93
TOXAPHENE	ND	310

S12	0' - 0.5'	0.5' - 1'
DDD	12	0.006
DDE	ND	0.006
DDT	ND	0.022
TOXAPHENE	130	ND

T4	0' - 0.5'	1'
DDD	ND	ND
DDE	ND	0.014
DDT	ND	0.019
TOXAPHENE	4.4	0.18

T8	0' - 0.5'	0.5' - 1'
DDD	0.098	ND
DDE	0.14	ND
DDT	0.096	ND
TOXAPHENE	1.5	0.028

T3	0' - 0.5'	1'	2'
DDD	0.21	0.024	ND
DDE	0.88	ND	ND
DDT	0.77	0.017	ND
TOXAPHENE	1.8	0.17	0.063

T27	0' - 0.5'
DDD	ND
DDE	0.11
DDT	ND
TOXAPHENE	ND

T1	0' - 0.5'	0.5' - 1'
DDD	ND	0.010
DDE	1.5	0.043
DDT	2.2	0.053
TOXAPHENE	44	0.086

S20	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	ND
DDT	ND	ND
TOXAPHENE	230	3.9

T25	0' - 0.5'	1'	2'
DDD	ND	0.65	ND
DDE	0.31	0.68	ND
DDT	0.38	4.7	ND
TOXAPHENE	6.5	76	ND

T14	0' - 0.5'	0.5' - 1'
DDD	ND	0.017
DDE	0.24	0.013
DDT	0.15	0.050
TOXAPHENE	5.9	0.82

S-22	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	ND
DDT	0.054	0.57
TOXAPHENE	ND	ND

T2	0' - 0.5'	1'	2'
DDD	0.12	ND	ND
DDE	0.15	ND	ND
DDT	0.30	ND	ND
TOXAPHENE	5.4	0.061	0.037

S-21	0' - 0.5'	0.5' - 1'
DDD	0.13	0.77
DDE	0.041	ND
DDT	0.025	ND
TOXAPHENE	ND	2.8

T15	0' - 0.5'	1'	2'	3'
DDD	3.6	2.0	0.18	0.33
DDE	3.7	4.3	0.42	0.61
DDT	19	16	1.2	4.2
TOXAPHENE	130	110	7.7	20

T26	0' - 0.5'
DDD	ND
DDE	0.11
DDT	0.14
TOXAPHENE	3.7

Approximate boundary of subject property

Past soil sampling location, 2006 PEA

Soil sampling location/Test pit, 2020

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

0 40

APPROXIMATE SCALE IN FEET

N

All features and locations are approximate only

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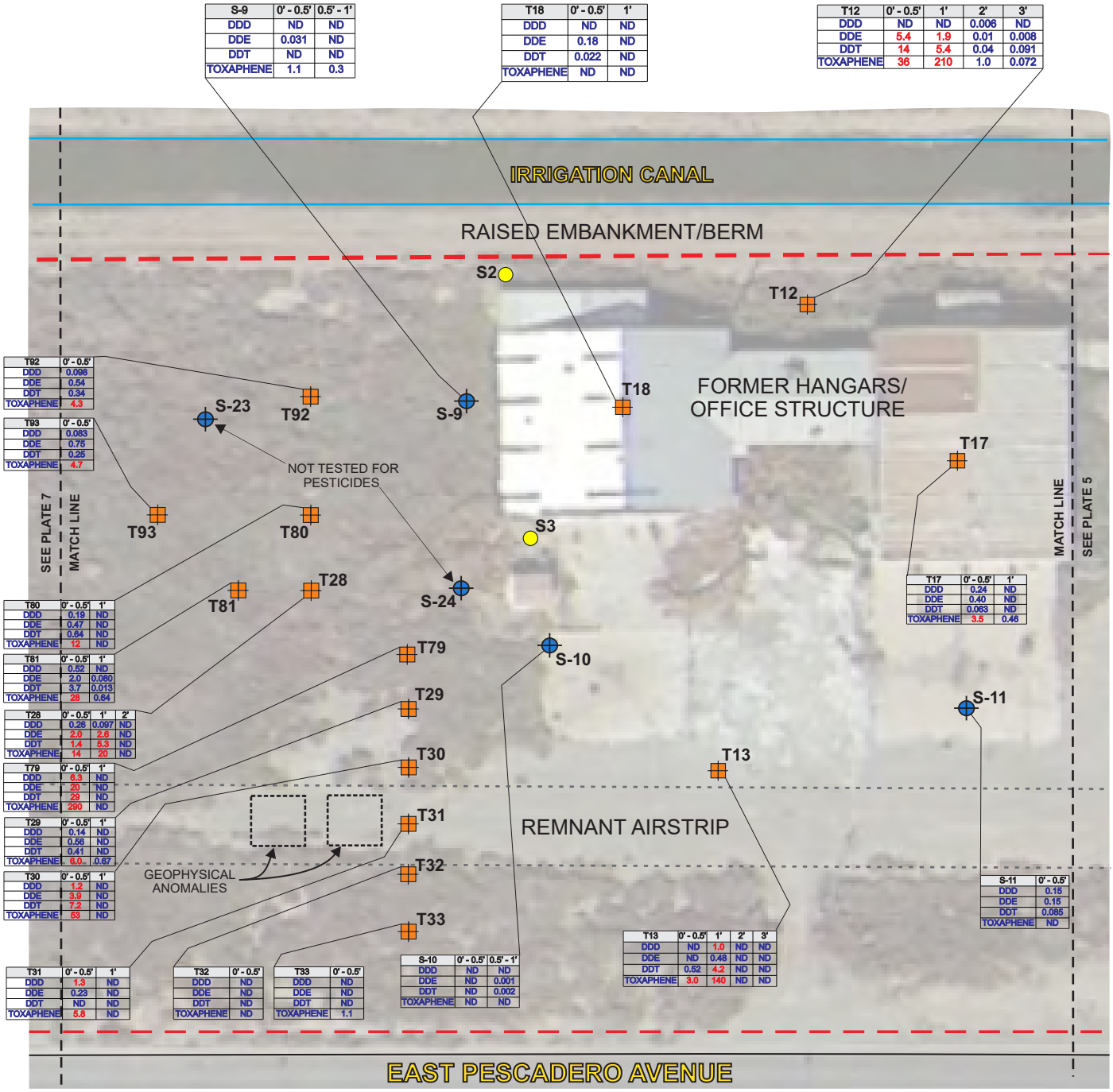
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Tracy, California

Brusca Project No. 194-006

SOIL SAMPLING LOCATIONS- FORMER WASHOUT PIT AND LOADING AREA

PLATE 5



S-9	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.031	ND
DDT	ND	ND
TOXAPHENE	1.1	0.3

T18	0' - 0.5'	1'
DDD	ND	ND
DDE	0.18	ND
DDT	0.022	ND
TOXAPHENE	ND	ND

T12	0' - 0.5'	1'	2'	3'
DDD	ND	ND	0.006	ND
DDE	5.4	1.9	0.01	0.008
DDT	14	5.4	0.04	0.091
TOXAPHENE	36	210	1.0	0.072

T92	0' - 0.5'
DDD	0.098
DDE	0.54
DDT	0.34
TOXAPHENE	4.3

T93	0' - 0.5'
DDD	0.083
DDE	0.75
DDT	0.25
TOXAPHENE	4.7

T80	0' - 0.5'	1'
DDD	0.19	ND
DDE	0.47	ND
DDT	0.84	ND
TOXAPHENE	12	ND

T81	0' - 0.5'	1'
DDD	0.52	ND
DDE	2.0	0.080
DDT	3.7	0.013
TOXAPHENE	28	0.64

T28	0' - 0.5'	1'	2'
DDD	0.26	0.097	ND
DDE	2.0	2.6	ND
DDT	1.4	5.3	ND
TOXAPHENE	14	20	ND

T79	0' - 0.5'	1'
DDD	6.3	ND
DDE	20	ND
DDT	29	ND
TOXAPHENE	290	ND

T29	0' - 0.5'	1'
DDD	0.14	ND
DDE	0.56	ND
DDT	0.41	ND
TOXAPHENE	6.0	0.67

T30	0' - 0.5'	1'
DDD	1.2	ND
DDE	3.9	ND
DDT	7.2	ND
TOXAPHENE	53	ND

T31	0' - 0.5'	1'
DDD	1.3	ND
DDE	0.23	ND
DDT	ND	ND
TOXAPHENE	5.8	ND

T32	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	ND

T33	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	1.1

S-10	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	0.001
DDT	ND	0.002
TOXAPHENE	ND	ND

T17	0' - 0.5'	1'
DDD	0.24	ND
DDE	0.40	ND
DDT	0.083	ND
TOXAPHENE	3.5	0.46

T13	0' - 0.5'	1'	2'	3'
DDD	ND	1.0	ND	ND
DDE	ND	0.48	ND	ND
DDT	0.52	4.2	ND	ND
TOXAPHENE	3.0	140	ND	ND

S-11	0' - 0.5'
DDD	0.15
DDE	0.15
DDT	0.085
TOXAPHENE	ND

Approximate boundary of subject property

Past soil sampling location, 2006 PEA

Soil sampling location/Test pit, 2020

Surface soil/burn debris sample, May 2020

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

0 40

APPROXIMATE SCALE IN FEET

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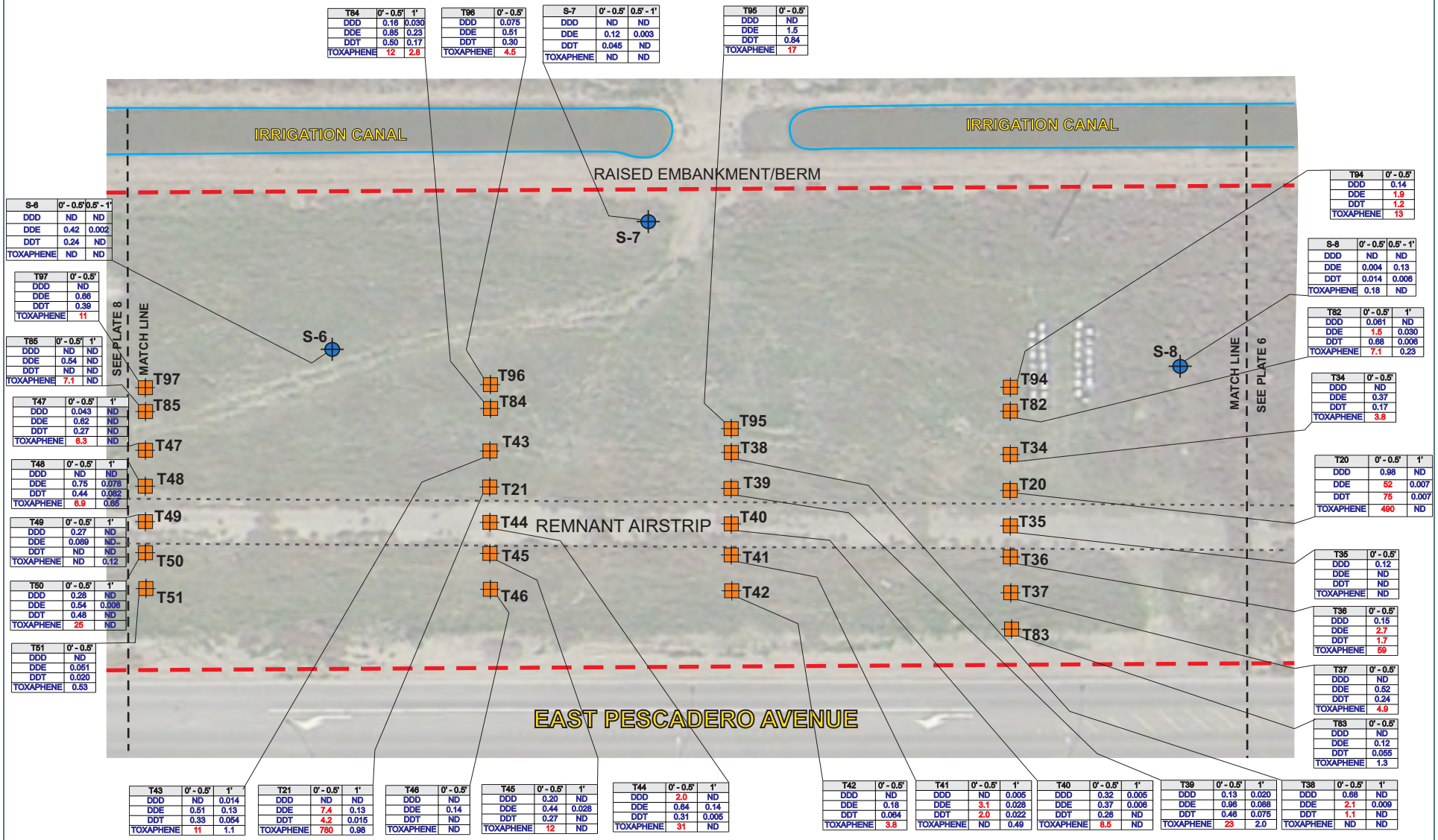
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SOIL SAMPLING LOCATIONS- FORMER HANGERS AREA

PLATE 6



T84	0' - 0.5'	1'
DDD	0.16	0.030
DDE	0.85	0.23
DDT	0.50	0.17
TOXAPHENE	12	2.8

T96	0' - 0.5'
DDD	0.075
DDE	0.51
DDT	0.30
TOXAPHENE	4.5

S-7	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.12	0.003
DDT	0.045	ND
TOXAPHENE	ND	ND

T95	0' - 0.5'
DDD	ND
DDE	1.5
DDT	0.84
TOXAPHENE	17

S-6	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.42	0.002
DDT	0.24	ND
TOXAPHENE	ND	ND

T97	0' - 0.5'
DDD	ND
DDE	0.66
DDT	0.39
TOXAPHENE	11

T85	0' - 0.5'	1'
DDD	ND	ND
DDE	0.54	ND
DDT	ND	ND
TOXAPHENE	7.1	ND

T47	0' - 0.5'	1'
DDD	0.043	ND
DDE	0.62	ND
DDT	0.27	ND
TOXAPHENE	6.3	ND

T48	0' - 0.5'	1'
DDD	ND	ND
DDE	0.75	0.078
DDT	0.44	0.052
TOXAPHENE	6.9	0.65

T49	0' - 0.5'	1'
DDD	0.27	ND
DDE	0.089	ND
DDT	ND	ND
TOXAPHENE	ND	0.12

T50	0' - 0.5'	1'
DDD	0.28	ND
DDE	0.54	0.008
DDT	0.48	ND
TOXAPHENE	25	ND

T51	0' - 0.5'
DDD	ND
DDE	0.051
DDT	0.020
TOXAPHENE	0.53

T94	0' - 0.5'
DDD	0.14
DDE	1.9
DDT	1.2
TOXAPHENE	13

S-8	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.004	0.13
DDT	0.014	0.006
TOXAPHENE	0.18	ND

T82	0' - 0.5'	1'
DDD	0.061	ND
DDE	1.5	0.030
DDT	0.68	0.006
TOXAPHENE	7.1	0.23

T34	0' - 0.5'
DDD	ND
DDE	0.37
DDT	0.17
TOXAPHENE	3.8

T20	0' - 0.5'	1'
DDD	0.98	ND
DDE	52	0.007
DDT	75	0.007
TOXAPHENE	490	ND

T35	0' - 0.5'
DDD	0.12
DDE	ND
DDT	ND
TOXAPHENE	ND

T36	0' - 0.5'
DDD	0.15
DDE	2.7
DDT	1.7
TOXAPHENE	59

T37	0' - 0.5'
DDD	ND
DDE	0.52
DDT	0.24
TOXAPHENE	4.9

T83	0' - 0.5'
DDD	ND
DDE	0.12
DDT	0.055
TOXAPHENE	1.3

T43	0' - 0.5'	1'
DDD	ND	0.014
DDE	0.51	0.13
DDT	0.33	0.054
TOXAPHENE	11	1.1

T21	0' - 0.5'	1'
DDD	ND	ND
DDE	7.4	0.13
DDT	4.2	0.015
TOXAPHENE	780	0.98

T46	0' - 0.5'
DDD	ND
DDE	0.14
DDT	ND
TOXAPHENE	ND

T45	0' - 0.5'	1'
DDD	0.20	ND
DDE	0.44	0.028
DDT	0.27	ND
TOXAPHENE	12	ND

T44	0' - 0.5'	1'
DDD	2.0	ND
DDE	0.84	0.14
DDT	0.31	0.005
TOXAPHENE	31	ND

T42	0' - 0.5'
DDD	ND
DDE	0.18
DDT	0.064
TOXAPHENE	3.8

T41	0' - 0.5'	1'
DDD	ND	0.005
DDE	3.1	0.028
DDT	2.0	0.022
TOXAPHENE	ND	0.49

T40	0' - 0.5'	1'
DDD	0.32	0.005
DDE	0.37	0.006
DDT	0.26	ND
TOXAPHENE	8.5	ND

T39	0' - 0.5'	1'
DDD	0.13	0.020
DDE	0.96	0.088
DDT	0.46	0.075
TOXAPHENE	23	2.0

T38	0' - 0.5'	1'
DDD	0.68	ND
DDE	2.1	0.009
DDT	1.1	ND
TOXAPHENE	ND	ND

Approximate boundary of subject property

Soil sampling location/Test pit, 2020

Past soil sampling location, 2006 PEA

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

All features and locations are approximate only

0 60
APPROXIMATE SCALE IN FEET

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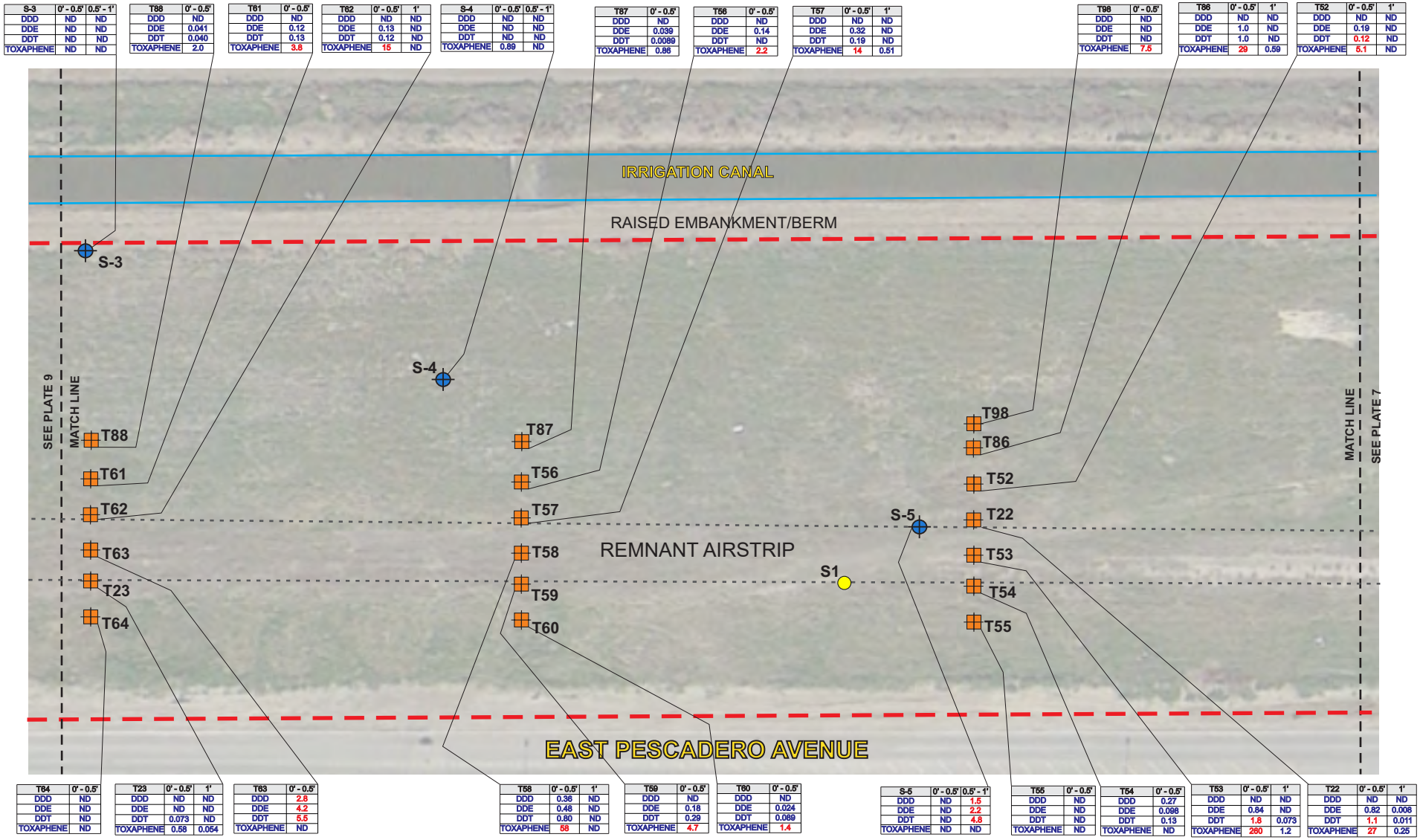
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Brusca Project No. 194-006

SOIL SAMPLING LOCATIONS - CENTRAL PROPERTY AREA

PLATE 7



S-3	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	ND
DDT	ND	ND
TOXAPHENE	ND	ND

T88	0' - 0.5'
DDD	ND
DDE	0.041
DDT	0.040
TOXAPHENE	2.0

T61	0' - 0.5'
DDD	ND
DDE	0.12
DDT	0.13
TOXAPHENE	3.8

T62	0' - 0.5'	1'
DDD	ND	ND
DDE	0.13	ND
DDT	0.12	ND
TOXAPHENE	15	ND

S-4	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	ND
DDT	ND	ND
TOXAPHENE	0.89	ND

T87	0' - 0.5'
DDD	ND
DDE	0.039
DDT	0.0089
TOXAPHENE	0.86

T56	0' - 0.5'
DDD	ND
DDE	0.14
DDT	ND
TOXAPHENE	2.2

T57	0' - 0.5'	1'
DDD	ND	ND
DDE	0.32	ND
DDT	0.19	ND
TOXAPHENE	14	0.51

T98	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	7.5

T86	0' - 0.5'	1'
DDD	ND	ND
DDE	1.0	ND
DDT	1.0	ND
TOXAPHENE	29	0.59

T52	0' - 0.5'	1'
DDD	ND	ND
DDE	0.19	ND
DDT	0.12	ND
TOXAPHENE	5.1	ND

T64	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	ND

T23	0' - 0.5'	1'
DDD	ND	ND
DDE	ND	ND
DDT	0.073	ND
TOXAPHENE	0.58	0.054

T63	0' - 0.5'
DDD	2.8
DDE	4.2
DDT	5.5
TOXAPHENE	ND

T58	0' - 0.5'	1'
DDD	0.36	ND
DDE	0.48	ND
DDT	0.80	ND
TOXAPHENE	58	ND

T59	0' - 0.5'
DDD	ND
DDE	0.18
DDT	0.29
TOXAPHENE	4.7

T60	0' - 0.5'
DDD	ND
DDE	0.024
DDT	0.089
TOXAPHENE	1.4

S-5	0' - 0.5'	0.5' - 1'
DDD	ND	1.5
DDE	ND	2.2
DDT	ND	4.8
TOXAPHENE	ND	ND

T55	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	ND

T54	0' - 0.5'
DDD	0.27
DDE	0.098
DDT	0.13
TOXAPHENE	ND

T53	0' - 0.5'	1'
DDD	ND	ND
DDE	0.84	ND
DDT	1.8	0.073
TOXAPHENE	260	1.2

T22	0' - 0.5'	1'
DDD	ND	ND
DDE	0.82	0.006
DDT	1.1	0.011
TOXAPHENE	27	0.25

Approximate boundary of subject property

Soil sampling location/Test pit, 2020

Past soil sampling location, 2006 PEA

Surface soil/burn debris sample, May 2020

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

All features and locations are approximate only

0 60

APPROXIMATE SCALE IN FEET

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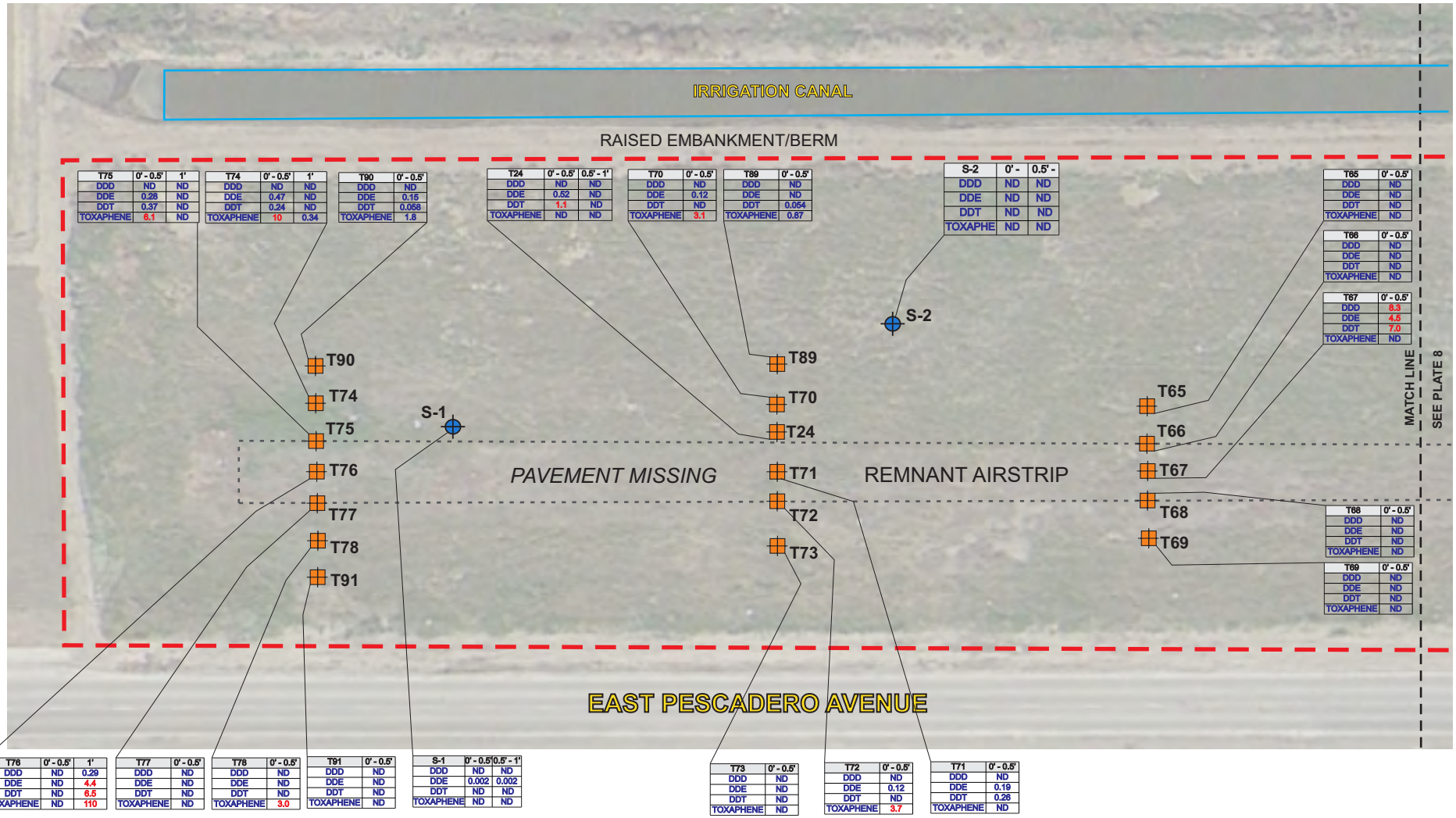
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SOIL SAMPLING LOCATIONS - WEST AND CENTRAL PROPERTY AREAS

PLATE 8



Approximate boundary of subject property

Soil sampling location/Test pit, 2020

Past soil sampling location, 2006 PEA

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

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0 60
APPROXIMATE SCALE IN FEET

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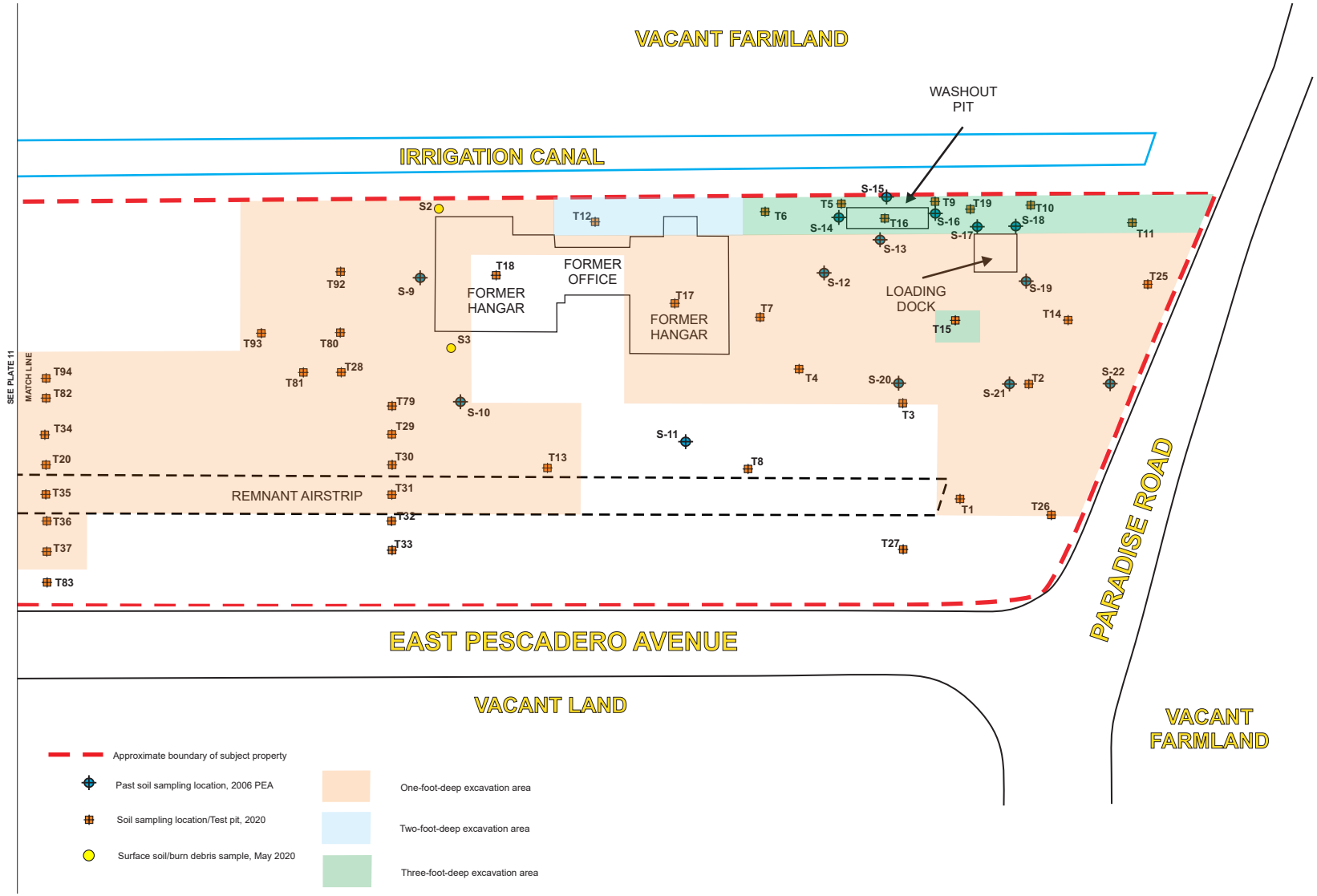
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SOIL SAMPLING LOCATIONS - WESTERLY PROPERTY AREA

PLATE 9



0 80

APPROXIMATE SCALE IN FEET

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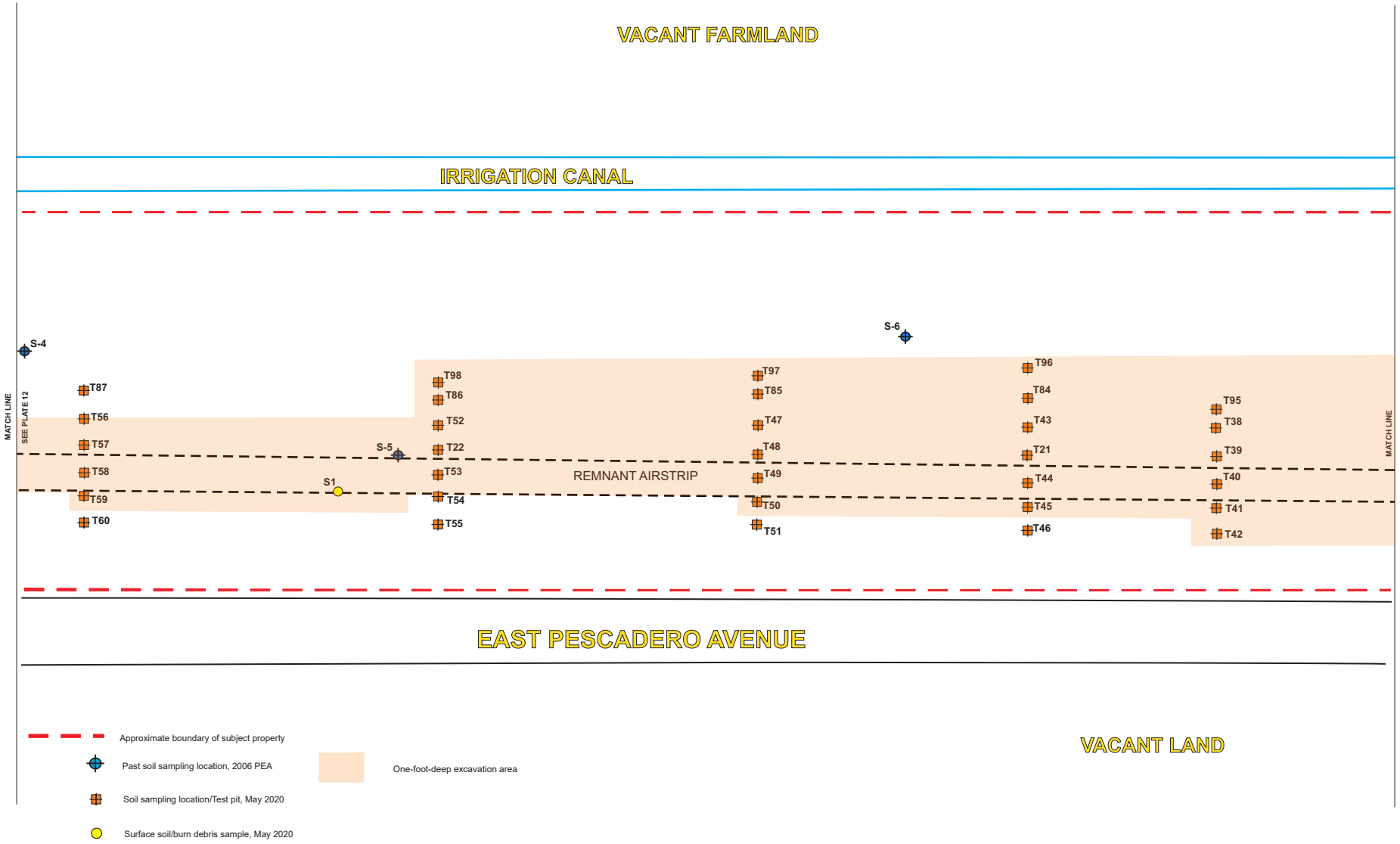
FORMER HALEY'S FLYING SERVICE PROPERTY

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Brusca Project No. 194-006

PRELIMINARY PROPOSED REMEDIAL EXCAVATION LOCATIONS -EASTERLY AREA

PLATE 10



All features and locations are approximate only

0 80

APPROXIMATE SCALE IN FEET

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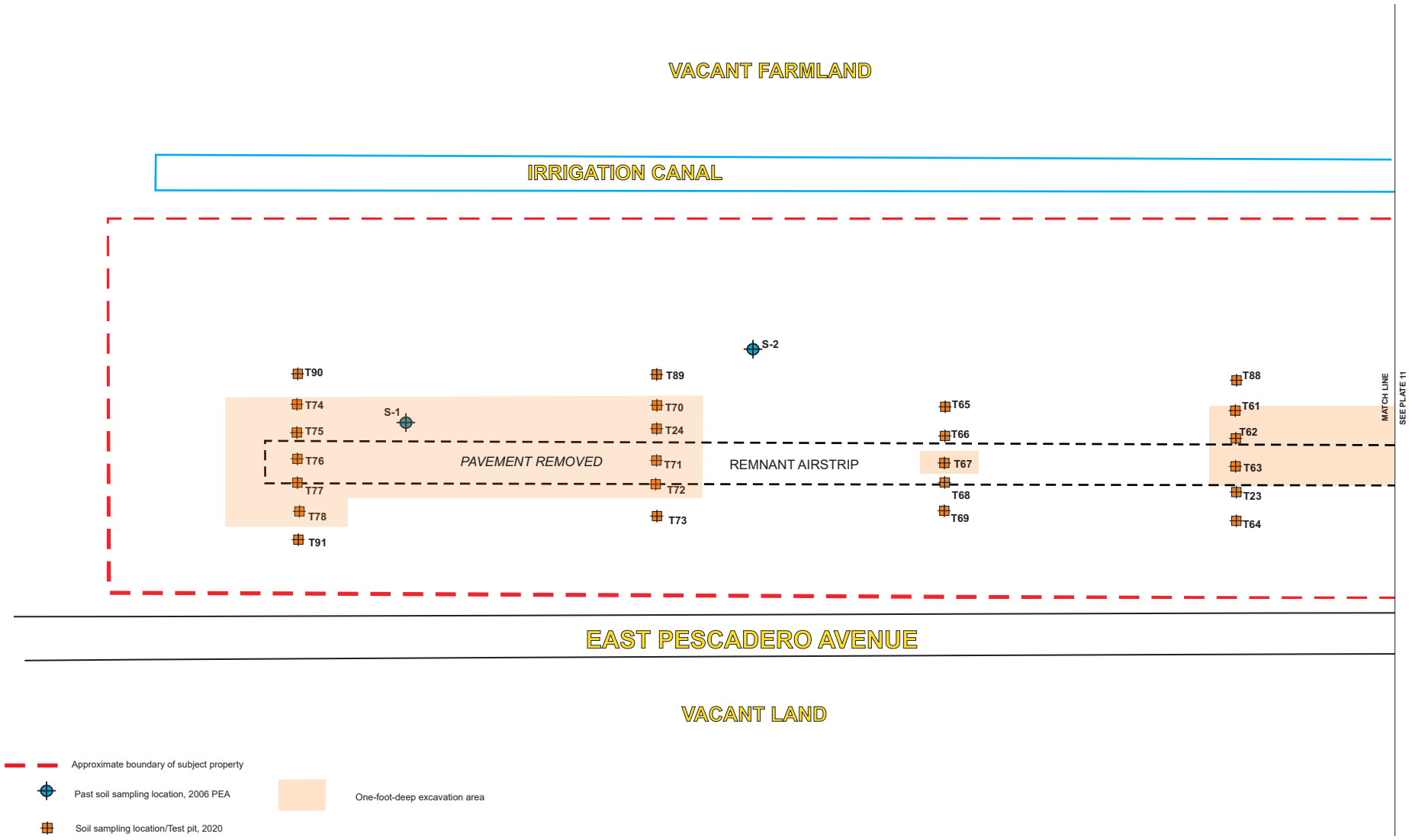
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Brusca Project No. 194-006

PRELIMINARY PROPOSED REMEDIAL EXCAVATION LOCATIONS -CENTRAL AREA

PLATE 11



0 80

APPROXIMATE SCALE IN FEET

N

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FORMER HALEY'S FLYING SERVICE PROPERTY

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PRELIMINARY PROPOSED REMEDIAL EXCAVATION LOCATIONS -WESTERLY AREA

PLATE 12

TABLE I
SUMMARY OF SOIL ANALYTICAL DATA - ORGANOCHLORINE PESTICIDES
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
Geo-Phase	S-1A	S-1	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.002**	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-1B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.002**	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-2A	S-2	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-2B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-3A	S-3	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-3B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-4A	S-4	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.89**
Geo-Phase	S-4B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-5A	S-5	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**9.9**	ND	ND	ND	ND	ND
Geo-Phase	S-5B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**1.5**	**2.2**	**4.8**	ND	**15**	ND	ND	ND	ND	ND
Geo-Phase	S-6A	S-6	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	**0.75**	ND	**0.42**	**0.24**	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-6B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.002**	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-7A	S-7	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.12**	**0.045**	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-7B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.003**	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-8A	S-8	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.004**	**0.014**	ND	ND	ND	ND	ND	ND	**0.18**
Geo-Phase	S-8B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.13**	**0.006**	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-9A	S-9	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.031**	ND	ND	**0.77**	ND	ND	ND	**0.2**	**1.1**
Geo-Phase	S-9B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.27**	ND	ND	ND	ND	**0.3**
Geo-Phase	S-10A	S-10	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-10B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.001**	**0.002**	ND	**0.003**	ND	ND	ND	ND	ND
Geo-Phase	S-11	S-11	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**0.15**	**0.15**	**0.085**	ND	**0.108**	ND	ND	ND	ND	ND
Geo-Phase	S-12A	S-12	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**12**	ND	ND	ND	**1.8**	ND	ND	ND	ND	**130**
Geo-Phase	S-12B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**0.006**	**0.006**	**0.022**	**0.004**	ND	ND	ND	ND	ND	ND
Geo-Phase	S-13A	S-13	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	**0.82**	ND	**1.5**	**0.95**	ND	**32.6**	ND	ND	ND	ND	ND
Geo-Phase	S-13B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	**8.5**	**14**	**10**	**93**	**3.8**	**273**	**10**	ND	ND	ND	**310**
Geo-Phase	S-14A	S-14	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**9.1**	ND	**100**	ND	**51**	ND	ND	ND	ND	**120**
Geo-Phase	S-14A-X2		0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**7.3**	ND	**120**	ND	**57**	ND	ND	ND	ND	**110**
Geo-Phase	S-14-B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**14**	**3.6**	**97**	ND	**97**	ND	ND	ND	**24**	**270**
Geo-Phase	S-15A	S-15	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**14**	ND	**100**	ND	**122**	ND	ND	ND	ND	ND
Geo-Phase	S-15B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	**17**	**84**	**65**	**610**	ND	**880**	**40**	ND	ND	**260**	**1,400**
Geo-Phase	S-16A	S-16	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**8.0**	**2.3**	**81**	ND	**57**	ND	ND	ND	ND	ND
Geo-Phase	S-16B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	**1.1**	ND	**2.2**	**54**	ND	**47**	ND	ND	ND	ND	**170**
Geo-Phase	S-17A	S-17	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**3,000**	**530**	**19,000**	ND	**1,850**	ND	ND	ND	ND	**24,000**
Geo-Phase	S-17B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**31**	ND	ND	ND	ND	ND	ND	ND	ND	**79**
Geo-Phase	S-18A	S18	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**180**	**35**	**1,000**	ND	**630**	**31**	ND	ND	ND	**1,000**
Geo-Phase	S-18B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.3**	ND	**0.90**	ND	ND	ND	ND	ND
Geo-Phase	S-19A	S-19	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**380**
Geo-Phase	S-19B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**0.84**	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-20A	S-20	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**230**
Geo-Phase	S-20B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.9**
Geo-Phase	S-21A	S-21	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**0.13**	**0.041**	**0.025**	ND	**0.048**	ND	ND	ND	**0.015**	ND
Geo-Phase	S-21B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	**0.77**	ND	ND	ND	**0.23**	ND	ND	ND	ND	**2.8**
Geo-Phase	S-22A	S-22	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.054**	ND	**0.054**	ND	ND	ND	ND	ND
Geo-Phase	S-22B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.57**	ND	**2.53**	ND	ND	ND	ND	ND
Brusca Associates, Inc.	T1-surf	T1	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.5**	**2.2**	ND	**12.3**	ND	ND	ND	ND	**44**
	T1-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.010**	**0.043**	**0.053**	**0.028**	**0.15**	ND	ND	ND	ND	**0.086**
	T2-surf	T2	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.12**	**0.15**	**0.30**	**0.091**	**0.79**	ND	ND	ND	**0.70**	**5.4**
	T2-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.13**	ND	ND	ND	ND	**0.081**
	T2-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.037**
	T3-surf	T3	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	**0.25**	**0.21**	**0.68**	**0.77**	ND	**11**	ND	**0.15**	ND	**1.1**	**1.8**
	T3-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.024**	ND	**0.017**	ND	**0.082**	ND	ND	ND	ND	**0.17**
	T3-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.009**	ND	ND	ND	ND	**0.063**
	T4-surf	T4	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**4.4**
	T4-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.014**	**0.019**	ND	ND	ND	ND	ND	ND	**0.18**
	T5-surf	T5	0 - 0.5	5/19/2020	**0.28**	**0.53**	**0.63**	**0.65**	**0.84**	ND	ND	**10.1**	**40**	**13**	**230**	ND	**53**	ND	**10**	ND	**32**	**1,100**
	T5-1		1	5/19/2020	**0.20**	**0.45**	ND	**0.70**	ND	ND	ND	**2.8**	**11**	**2.1**	**17**	ND	**25**	ND	**4.2**	ND	**9.4**	**2,400**
	T5-2		2	5/19/2020	**0.027**	**0.052**	ND	ND	ND	ND	ND	**0.41**	**1.2**	**0.32**	**7.4**	**0.13**	**5.2**	ND	**0.72**	ND	**1.3**	**34**
	T5-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	**0.28**	**0.08**	**0.05**	**0.17**	**0.065**	**4.8**	ND	**0.17**	ND	**0.075**	ND
	T6-surf	T6	0 - 0.5	5/19/2020	**0.023**	**0.051**	ND	**0.043**	ND	ND	ND	**4.6**	**9.6**	**16**	**130**	ND	**4.5**	ND	ND	ND	ND	**590**
	T6-1		1	5/19/2020	**0.68**	**0.69**	ND	ND	**3.6**	ND	ND	**47**	**0.011**	**29**	**0.026**	ND	**660**	ND	ND	ND	**250**	**4,100**
	T6-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	**3.0**	**0.65**	**23**	ND	**7.3**	ND	ND	ND	ND	**120**
	T6-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	**0.019**	**0.082**	**0.11**	**1.0**	**0.049**	**2.14**	ND	ND	ND	ND	**13**
	T7-surf	T7	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.64**	ND	ND	ND	ND	ND	ND	**4.7**
	T7-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	**0.055**	ND	ND	ND	ND	**0.48**	ND	ND	ND	ND	ND

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2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
Brusca Associates, Inc.	T8-surf	T8	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.026	0.098	0.14	0.096	ND	ND	ND	ND	ND	ND	1.5
	T8-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	ND	ND	0.028
	T9-surf	T9	0 - 0.5	5/19/2020	ND	1.1	ND	ND	1.2	ND	ND	4.6	57	ND	260	ND	58	ND	ND	ND	ND	1,400
	T9-1		1	5/19/2020	0.08	0.18	0.018	0.043	0.2	ND	ND	0.64	13	25	89	ND	86	ND	ND	30	13	410
	T9-2		2	5/19/2020	0.008	0.019	ND	ND	0.006	ND	ND	0.013	5.3	0.034	0.35	0.017	1.7	ND	ND	ND	24	2.4
	T9-3		3	5/19/2020	ND	0.006	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	1.3	ND	0.012	ND	ND	ND
	T10-surf	T10	0 - 0.5	5/19/2020	ND	1.4	ND	ND	ND	ND	ND	2.5	7.3	18	52	ND	8.8	ND	ND	ND	29	490
	T10-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.026	0.053	0.058	ND	1.4	ND	0.023	ND	ND	1.3
	T10-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.046	0.056	0.060	0.26	ND	0.77	ND	ND	ND	0.45	4.6
	T10-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T11-surf	T11	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.66	2.9	7.2	15	1.2	2.9	ND	ND	ND	ND	200
	T11-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.027	0.033	0.17	0.20	0.035	ND	0.21	ND	ND	ND	3.1
	T11-2		2	5/19/2020	ND	ND	ND	ND	ND	0.009	ND	0.047	0.079	0.23	0.94	ND	0.057	0.063	ND	ND	ND	10
	T12-surf	T12	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	14	ND	2.9	ND	ND	ND	ND	36
	T12-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.25	ND	1.9	5.4	0.73	0.66	ND	ND	ND	ND	210
	T12-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.01	0.04	ND	0.55	ND	ND	ND	ND	1.0
	T12-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	0.091	ND	0.013	ND	ND	ND	ND	0.072
	T13-surf	T13	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	ND	ND	ND	ND	ND	ND	3.0
	T13-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	1.0	0.48	4.2	0.06	ND	ND	ND	ND	ND	140
	T13-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T13-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T14-surf	T14	0 - 0.5	5/19/2020	ND	ND	ND	ND	0.014	ND	ND	0.10	ND	0.24	0.15	0.39	ND	ND	ND	ND	ND	5.9
	T14-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.017	0.013	0.050	0.013	0.085	ND	ND	ND	ND	0.82
	T15-surf	T15	0 - 0.5	5/19/2020	0.010	0.016	ND	ND	0.086	ND	0.11	1.5	3.6	3.7	19	1.1	4.8	ND	ND	ND	ND	130
	T15-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.42	2.0	4.3	18	0.84	1.4	ND	ND	ND	ND	110
	T15-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.057	0.18	0.42	1.2	0.097	ND	0.085	ND	ND	ND	7.7
	T15-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.081	0.33	0.61	4.2	0.14	ND	ND	ND	ND	ND	20
	T16-surf	T16	0 - 0.5	5/19/2020	0.024	ND	0.031	ND	ND	ND	ND	0.94	8.4	0.78	7.4	ND	3.2	ND	0.39	ND	ND	65
	T16-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.022	0.073	0.029	0.67	ND	0.44	0.013	0.039	ND	ND	2.8
	T16-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	0.35	ND	0.036	ND	ND	0.47
	T17-surf	T17	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.068	0.24	0.40	0.063	ND	0.26	ND	ND	ND	ND	3.5
	T17-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.46
	T18-surf	T18	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	0.008	ND	0.74	ND	0.18	0.022	0.026	ND	ND	ND	ND	ND	ND
	T18-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T19-surf	T19	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	3.6	5.4	3.2	22	ND	28	ND	ND	ND	8.4	160
	T19-1		1	5/19/2020	2.0	3.3	ND	2.0	8.1	ND	ND	78	93	68	46	ND	110	ND	ND	ND	76	5,400
	T19-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.61	14	0.93	0.50	0.85	6.0	ND	1.0	ND	ND	110
	T19-3		3	5/19/2020	ND	0.008	ND	ND	ND	ND	ND	0.084	0.42	0.061	0.16	0.061	1.34	ND	0.13	ND	0.10	9.4
	T20-surf	T20	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.98	52	75	ND	68	ND	ND	ND	ND	490
	T20-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	0.007	ND	0.016	ND	ND	ND	ND	ND
	T21-surf	T21	0 - 0.5	5/19/2020	ND	ND	ND	ND	2.3	ND	ND	12	ND	7.4	4.2	ND	430	ND	ND	ND	19	780
	T21-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.024	ND	0.13	0.015	ND	0.39	ND	ND	ND	ND	0.98
	T22-surf	T22	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.82	1.1	ND	7.8	ND	ND	ND	ND	27
	T22-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	0.011	ND	0.086	ND	ND	ND	ND	0.25
	T23-surf	T23	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.073	ND	ND	ND	ND	ND	ND	0.58
	T23-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.054
	T24-surf	T24	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	1.1	ND	2.8	ND	ND	ND	ND	ND
	T24-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T25-surf	T25	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	0.38	ND	ND	ND	ND	ND	ND	6.5
	T25-1	T25	1	10/1/2020	0.084	0.058	ND	ND	ND	ND	ND	ND	0.65	0.68	4.7	ND	36	ND	ND	ND	3.6	76
	T25-2	T25	2	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T26-surf	T26	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	0.14	ND	ND	ND	ND	ND	ND	3.7
	T27-surf	T27	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND	ND	ND	ND	ND	ND	ND	ND

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2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
Brusca Associates, Inc.	T28-surf	T28	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**0.163**	**0.26**	**2.0**	**1.4**	**0.077**	**0.13**	**0.057**	**0.21**	ND	ND	**14**
	T28-1	T28	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	**0.016**	**0.097**	**2.6**	**5.3**	**0.074**	**0.074**	ND	ND	ND	ND	**20**
	T28-2	T28	2	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T29-surf	T29	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**0.115**	**0.14**	**0.56**	**0.41**	**0.026**	**0.062**	ND	ND	ND	ND	**6.0**
	T29-1	T29	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.67**
	T30-surf	T30	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**1.96**	**1.2**	**3.9**	**7.2**	ND	**0.56**	**0.18**	ND	ND	ND	**53**
	T30-1	T30	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T31-surf	T31	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**1.3**	**0.23**	ND	ND	**0.36**	ND	ND	ND	ND	**5.8**
	T31-1	T31	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T32-surf	T32	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T33-surf	T33	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.1**
	T34-surf	T34	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.37**	**0.17**	ND	ND	ND	ND	ND	ND	**3.8**
	T35-surf	T35	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.12**	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T36-surf	T36	0 - 0.5	8/26/2020	ND	**0.096**	ND	ND	ND	ND	ND	ND	**0.15**	**2.7**	**1.7**	ND	**1.34**	ND	ND	ND	ND	**59**
	T36-1	T36	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.012**	**0.005**	ND	ND	ND	ND	ND	ND	ND
	T37-surf	T37	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.52**	**0.24**	ND	**0.34**	ND	ND	ND	ND	**4.9**
	T38-surf	T38	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	**0.1**	**0.68**	**2.1**	**1.1**	ND	**0.60**	ND	ND	ND	ND	ND
	T38-1	T38	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.009**	ND	ND	ND	ND	ND	ND	ND	ND
	T39-surf	T39	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	**0.12**	**0.13**	**0.96**	**0.46**	ND	**1.04**	ND	ND	ND	**0.42**	**23**
	T39-1	T38	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	**0.0188**	**0.020**	**0.088**	**0.075**	ND	**0.7**	ND	ND	ND	ND	**2.0**
	T40-surf	T40	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	**0.23**	**0.32**	**0.37**	**0.26**	ND	**3.2**	ND	ND	ND	**0.32**	**8.5**
	T40-1	T40	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.005**	**0.006**	ND	ND	**0.065**	ND	ND	ND	**0.009**	ND
	T41-surf	T41	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.1**	**2.0**	ND	**13.9**	ND	ND	ND	**1.1**	ND
	T41-1	T41	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.005**	**0.028**	**0.022**	ND	**0.059**	ND	ND	ND	ND	**0.49**
	T42-surf	T42	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.18**	**0.064**	ND	ND	ND	ND	ND	ND	**3.8**
	T43-surf	T43	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.51**	**0.33**	ND	**0.16**	ND	ND	ND	ND	**11**
	T43-1	T43	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.014**	**0.13**	**0.054**	ND	ND	ND	ND	ND	ND	**1.1**
	T44-surf	T44	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**2.0**	**0.64**	**0.31**	**0.44**	**4.8**	ND	ND	ND	ND	**31**
	T44-1	T44	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.14**	**0.005**	ND	ND	ND	ND	ND	ND	ND
	T45-surf	T45	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**0.12**	**0.20**	**0.44**	**0.27**	ND	**1.18**	ND	ND	ND	ND	**12**
	T45-1	T45	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.028**	ND	ND	ND	ND	ND	ND	ND	ND
	T46-surf	T46	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.14**	ND	ND	ND	ND	ND	ND	ND	ND
	T47-surf	T47	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.043**	**0.62**	**0.27**	ND	**0.072**	ND	ND	ND	ND	**6.3**
	T47-1	T47	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T48-surf	T48	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.75**	**0.44**	ND	**0.39**	ND	ND	ND	ND	**6.9**
	T48-1	T48	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.078**	**0.082**	ND	ND	ND	ND	ND	ND	**0.65**
	T49-surf	T49	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.27**	**0.089**	ND	ND	ND	ND	ND	ND	ND	ND
	T49-1	T49	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.12**
	T50-surf	T50	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.28**	**0.54**	**0.48**	ND	**2.5**	ND	ND	ND	ND	**25**
	T50-1	T50	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.006**	ND	ND	**0.040**	ND	ND	ND	**0.006**	ND
	T51-surf	T51	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.051**	**0.020**	ND	ND	ND	ND	ND	ND	**0.53**
	T52-surf	T52	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.19**	**0.12**	ND	**0.11**	ND	ND	ND	ND	**5.1**
	T52-1	T52	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T53-surf	T53	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**3.3**	ND	**0.84**	**1.8**	ND	**151**	ND	ND	ND	ND	**260**
	T53-1	T53	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.073**	ND	**0.34**	ND	ND	ND	ND	**1.2**
	T54-surf	T54	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**0.29**	**0.27**	**0.098**	**0.13**	ND	ND	ND	ND	ND	ND	ND
	T55-surf	T55	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T56-surf	T56	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.14**	ND	ND	ND	ND	ND	ND	ND	**2.2**
	T57-surf	T57	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.32**	**0.19**	ND	**0.36**	ND	ND	ND	ND	**14**
	T57-1	T57	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.51**
	T58-surf	T58	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**0.223**	**0.36**	**0.48**	**0.80**	ND	**11.3**	ND	ND	ND	ND	**58**
	T58-1	T58	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T59-surf	T59	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.18**	**0.29**	ND	**0.32**	ND	ND	ND	ND	**4.7**
	T60-surf	T60	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.024**	**0.089**	ND	ND	ND	ND	ND	ND	**1.4**
	T61-surf	T61	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.12**	**0.13**	ND	**0.28**	ND	ND	ND	ND	**3.8**
	T62-surf	T62	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.13**	**0.12**	ND	**0.97**	ND	ND	ND	ND	**15**
	T62-1	T62	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T63-surf	T63	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**2.8**	**4.2**	**5.5**	ND	**14.4**	**22**	**3.4**	ND	ND	ND
	T64-surf	T64	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T65-surf	T65	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T66-surf	T66	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE I
SUMMARY OF SOIL ANALYTICAL DATA - ORGANOCHLORINE PESTICIDES
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
Brusca Associates, Inc.	T67-surf	T67	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	**8.3**	**4.5**	**7.0**	ND	**5.0**	**0.95**	**0.32**	ND	ND	ND
	T68-surf	T68	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T69-surf	T69	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T70-surf	T70	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.12**	ND	ND	ND	ND	ND	ND	ND	**3.1**
	T71-surf	T71	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.19**	**0.26**	ND	**5.81**	ND	ND	ND	ND	ND
	T72-surf	T72	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**3.7**
	T73-surf	T73	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T74-surf	T74	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.47**	**0.24**	ND	**0.20**	ND	ND	ND	ND	**10**
	T74-1	T74	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.34**
	T75-surf	T75	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.28**	**0.37**	ND	**0.20**	ND	ND	ND	ND	**6.1**
	T75-1	T75	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T76-surf	T76	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	**0.13**	**0.29**	**4.4**	**6.5**	ND	**26**	ND	ND	ND	**2.1**	**110**
	T76-1	T76	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T77-surf	T77	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T78-surf	T78	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.205**	ND	ND	ND	ND	**3.0**
	T79-surf	T79	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	**2.6**	**6.3**	**20**	**29**	ND	ND	ND	ND	ND	ND	**290**
	T79-1	T79	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T80-surf	T80	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.19**	**0.47**	**0.64**	ND	**0.13**	ND	ND	ND	ND	**12**
	T80-1	T80	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T81-surf	T81	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	**0.16**	**0.52**	**2.0**	**3.7**	**0.24**	ND	ND	ND	ND	ND	**28**
	T81-1	T81	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.080**	**0.013**	**0.006**	**0.006**	ND	ND	ND	ND	**0.64**
	T82-surf	T82	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	**0.039**	**0.061**	**1.5**	**0.68**	ND	**0.129**	ND	ND	ND	ND	**7.1**
	T82-1	T82	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.030**	**0.006**	ND	ND	ND	ND	ND	ND	**0.23**
	T83-surf	T83	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.12**	**0.055**	ND	ND	ND	ND	ND	ND	**1.3**
	T84-surf	T84	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.16**	**0.85**	**0.50**	ND	**0.376**	ND	ND	ND	ND	**12**
	T84-1	T84	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	**0.006**	**0.030**	**0.23**	**0.17**	ND	**0.168**	ND	ND	ND	ND	**2.8**
	T85-surf	T85	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.54**	ND	ND	ND	ND	ND	ND	ND	**7.1**
	T85-1	T85	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T86-surf	T86	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.0**	**1.0**	ND	**2.65**	ND	ND	ND	ND	**29**
	T86-1	T86	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.59**
	T87-surf	T87	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.039**	**0.009**	ND	**0.005**	ND	ND	ND	ND	**0.86**
	T88-surf	T88	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.041**	**0.040**	ND	**0.108**	ND	ND	ND	ND	**2.0**
	T89-surf	T89	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.054**	ND	ND	ND	ND	ND	ND	**0.87**
	T90-surf	T90	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.15**	**0.058**	ND	**0.187**	ND	ND	ND	ND	**1.8**
	T91-surf	T91	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T92-surf	T92	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	**0.024**	**0.098**	**0.54**	**0.34**	**0.066**	**0.046**	ND	ND	ND	ND	**4.3**
	T93-surf	T93	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	**0.053**	**0.083**	**0.75**	**0.25**	**0.044**	**0.053**	ND	ND	ND	ND	**4.7**
	T94-surf	T94	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	**0.14**	**1.9**	**1.2**	**0.062**	**0.44**	ND	ND	ND	ND	**13**
	T95-surf	T95	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**1.5**	**0.84**	ND	**0.78**	ND	ND	ND	ND	**17**
	T96-surf	T96	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	**0.059**	**0.075**	**0.51**	**0.30**	**0.030**	**0.086**	ND	ND	ND	ND	**4.5**
	T97-surf	T97	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	**0.44**	ND	**0.66**	**0.39**	ND	**0.29**	ND	ND	ND	ND	**11**
	T98-surf	T98	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**7.5**
SCREENING LEVELS																						
ESLs, Commercial/industrial[3]					N/A	2.5	N/A	N/A	0.53	0.28	0.15	2.2	12	8.3	8.5	0.16	5,800	290	N/A	N/A	4,800	2.2
California Hazardous Waste Levels[4]					N/A	4.0	N/A	N/A	4.7	4.7	1.4	2.5	1.0	1.0	1.0	8.0	N/A	0.2	N/A	N/A	100	5.0

Notes:

1. All concentrations expressed in milligrams per kilogram (mg/kg).
2. ND = Not detected at a concentration above the laboratory reporting limit.
3. SFRWQCB Environmental Screening Levels; Commercial/industrial, shallow soil exposure; July 2019.
4. California Title 22 Total Threshold Limit Concentration (TTLC).
5. N/A = level not established.
6.. Concentrations in red exceed the ESL value and/or the cited hazardous waste level.

TABLE II
SUMMARY OF SOIL ANALYTICAL DATA - PETROLEUM HYDROCARBONS, VOCs AND METALS
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

					PETROLEUM HYDROCARBONS			VOLATILE ORGANIC COMPOUNDS						METALS											
Collected by	**Sample ID**	**Sample Location**	**Depth (feet)**	**Date**	**Gasoline Range**	**Diesel Range**	**Motor Oil Range**	**n-Propylbenzene**	**1,3,5-Trimethylbenzene**	**1,2,4-Trimethylbenzene**	**Toluene**	**Xylenes**	**Other VOCs (see lab report)**	**Barium**	**Cadmium**	**Chromium**	**Cobalt**	**Copper**	**Lead**	**Molybdenum**	**Nickel**	**Vanadium**	**Zinc**	**Mercury**	**Other Metals (see lab report)**
Geo-Phase	S9-A	S9	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S9-B		0.5 - 1.0	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S10-A	S10	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S10-B		0.5 - 1.0	Aug. 2005	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S23	S23	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S24	S24	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Brusca Associates, Inc.	T1-surf	T1	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**89**	ND	**14**	**5.0**	**16**	**4.8**	ND	**19**	**23**	**28**	ND	ND
	T1-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T2-surf	T2	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**	ND	**16**	**6.4**	**17**	**5.7**	ND	**20**	**24**	**31**	ND	ND
	T2-1		1	5/10/2020	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T4-1	T4	1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T5-surf	T5	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**150**	ND	**23**	**5.0**	**75**	**21**	ND	**16**	**28**	**110**	ND	ND
	T5-1		1	5/10/2020	ND	**87**	**210**	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T5-2		2	5/10/2020	NT	NT	NT	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T7-surf	T7	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**120**	ND	**160**	**14**	**91**	**16**	ND	**250**	**27**	**260**	ND	ND
	T7-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T9-surf	T9	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**150**	ND	**17**	**3.3**	**74**	**14**	ND	**9.7**	**27**	**42**	ND	ND
	T9-1		1	5/10/2020	ND	**15**	**22**	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T10-surf	T10	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**260**	ND	**16**	**2.8**	**120**	**130**	**5.0**	**7.0**	**18**	**64**	ND	ND
	T10-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T12-surf	T12	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**220**	ND	**22**	**6.2**	**140**	**28**	ND	**22**	**28**	**470**	ND	ND
	T12-1		1	5/10/2020	ND	ND	**12**	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T15-surf	T15	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**88**	ND	**12**	**4.4**	**42**	**11**	ND	**11**	**22**	**45**	ND	ND
	T15-1		1	5/10/2020	ND	**17**	**53**	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T16-surf	T16	0 - 0.5	5/10/2020	ND	**22**	**33**	**0.003**	**0.003**	**0.015**	**0.003**	**0.007**	ND	**110**	ND	**17**	**10**	**40**	**7.3**	ND	**28**	**26**	**55**	ND	ND
	T16-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**120**	ND	**17**	**7.1**	**13**	**4.2**	ND	**25**	**26**	**31**	ND	ND
	T17-surf	T17	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**	**4.7**	**28**	**5.8**	**35**	**90**	ND	**67**	**25**	**81**	ND	ND
	T17-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T18-1	T18	1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T20-surf	T20	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**110**	ND	**19**	**7.1**	**20**	**6.3**	ND	**27**	**28**	**45**	ND	ND
	T22-surf	T22	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**	ND	**16**	**4.9**	**88**	**10**	ND	**20**	**27**	**52**	ND	ND
	T24-surf	T24	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**130**	ND	**16**	**5.8**	**20**	**6.0**	ND	**24**	**32**	**36**	ND	ND
	S1	S1	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**77**	ND	**24**	**150**	**220**	**6.1**	ND	**15**	**20**	**13,000**	ND	ND
	S2	S2	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**180**	**3.3**	**27**	**7.9**	**100**	**330**	ND	**23**	**30**	**5,000**	ND	ND
	S3	S3	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**310**	**21**	**70**	**7.9**	**740**	**1,400**	ND	**29**	**23**	**2,000**	**0.13**	ND
SCREENING LEVELS																									
ESLs, Commercial/industrial[4]					2,000	1,200	180,000	N/A	N/A	N/A	5,300	2,500		220,000	1,100	1,800,000	350	47,000	320	5,800	11,000	5,800	350,000	190	
California Hazardous Waste Levels[5]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		10,000	100	2,500	8,000	2,500	1,000	3,500	2,000	2,400	5,000	20	

Notes: 1. All concentrations expressed in milligrams per kilogram (mg/kg)

2. ND = Not detected at a concentration above the laboratory reporting limit.

3. NT = Not tested.

4. SFRWQCB Environmental Screening Levels; Commercial/industrial, shallow soil exposure; July 2019

5. California Title 22 Total Threshold Limit Concentration (TTLC)

6. N/A = level not established.

7. Concentrations in red exceed the ESL value and/or the cited hazardous waste level.

TABLE III
SUMMARY OF SOIL ANALYTICAL DATA - ORGANOCHLORINE PESTICIDES TCLP TESTING
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Sample ID	Sample Location	Depth (feet)	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin Ketone	Methoxychlor	Toxaphene	Other organochlorine pesticides (see lab report)
T1-surf	T1	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0029**	ND	ND	ND	ND
T2-surf	T2	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.0014**	ND	**0.0026**	ND	**0.030**	ND	ND	ND	ND
T5-surf	T5	0 - 0.5	**0.0025**	**0.0063**	**0.0028**	ND	ND	ND	**0.013**	**0.0067**	**0.078**	ND	**0.60**	**0.035**	**0.020**	ND	ND
T5-1		1	**0.0028**	**0.0073**	ND	**0.0045**	ND	**0.0030**	**0.023**	**0.0039**	**0.025**	ND	**0.079**	**0.024**	ND	ND	ND
T5-2		2	**0.0020**	**0.0050**	ND	**0.0050**	ND	ND	**0.011**	**0.0032**	**0.049**	ND	**0.128**	**0.041**	**0.020**	ND	ND
T6-surf	T6	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.0051**	**0.0024**	**0.022**	ND	**0.110**	**0.017**	ND	ND	ND
T6-1		1	**0.0035**	**0.0036**	ND	**0.0011**	**0.0013**	**0.011**	**0.066**	**0.019**	**0.25**	ND	**0.48**	**0.071**	**0.15**	ND	ND
T7-surf	T7	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T9-surf	T9	0 - 0.5	**0.0070**	ND	ND	**0.017**	ND	ND	**0.019**	**0.0061**	**0.12**	ND	**0.069**	**0.047**	ND	ND	ND
T11-3	T11	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.34**	ND
T12-surf	T12	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.026**	**0.014**	**0.078**	**0.0044**	**0.121**	**0.033**	ND	ND	ND
T12-1		1	ND	ND	ND	ND	ND	ND	ND	**0.0010**	**0.0060**	ND	**0.047**	**0.0034**	ND	ND	ND
T13-surf	T13	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T13-1		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T15-surf	T15	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.002**	ND	**0.0088**	**0.0032**	**0.016**	**0.031**	ND	**0.31**	ND
T15-2		2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.001**	ND	**0.033**	ND
T16-surf	T16	0 - 0.5	ND	ND	ND	ND	ND	**0.0016**	**0.0065**	ND	ND	ND	**0.014**	**0.0057**	ND	ND	ND
T16-1		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.023**	**0.0014**	ND	ND	ND
T17-surf	T17	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T19-surf	T19	0 - 0.5	**0.0015**	**0.0044**	ND	**0.0036**	ND	ND	**0.011**	**0.0043**	**0.021**	ND	**0.348**	**0.024**	ND	ND	ND
T19-1		1	**0.0012**	ND	ND	ND	ND	ND	ND	**0.004**	ND	ND	**0.164**	ND	**0.055**	ND	ND
T19-2		2	ND	ND	ND	ND	ND	ND	ND	**0.0091**	ND	ND	**0.017**	**0.0094**	ND	ND	ND
T21-surf	T21	0 - 0.5	ND	ND	ND	ND	ND	**0.0054**	ND	ND	ND	ND	**0.037**	ND	ND	ND	ND
T22-surf	T22	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.011**	ND	ND	ND	ND
T24-surf	T24	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T71-surf	T71	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T72-surf	T72	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T76-surf	T76	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.004**	ND	ND	ND	ND
Federal (RCRA) TCLP Levels			N/A	0.4	N/A	N/A	0.008	0.03	N/A	N/A	N/A	N/A	N/A	N/A	10	0.5	

Notes: 1. Concentrations expressed in milligrams per liter (mg/L)
2. ND = Not detected at a concentration above the laboratory reporting limit

APPENDIX – Laboratory Reports

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

04 June 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 05/21/20 09:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T1-SURF	T202322-01	Soil	05/19/20 00:00	05/21/20 09:00
T1-1	T202322-02	Soil	05/19/20 00:00	05/21/20 09:00
T2-SURF	T202322-05	Soil	05/19/20 00:00	05/21/20 09:00
T2-1	T202322-06	Soil	05/19/20 00:00	05/21/20 09:00
T2-2	T202322-07	Soil	05/19/20 00:00	05/21/20 09:00
T3-SURF	T202322-09	Soil	05/19/20 00:00	05/21/20 09:00
T3-1	T202322-10	Soil	05/19/20 00:00	05/21/20 09:00
T3-2	T202322-11	Soil	05/19/20 00:00	05/21/20 09:00
T4-SURF	T202322-13	Soil	05/19/20 00:00	05/21/20 09:00
T4-1	T202322-14	Soil	05/19/20 00:00	05/21/20 09:00
T5-SURF	T202322-17	Soil	05/19/20 00:00	05/21/20 09:00
T5-1	T202322-18	Soil	05/19/20 00:00	05/21/20 09:00
T5-2	T202322-19	Soil	05/19/20 00:00	05/21/20 09:00
T6-SURF	T202322-21	Soil	05/19/20 00:00	05/21/20 09:00
T6-1	T202322-22	Soil	05/19/20 00:00	05/21/20 09:00
T6-2	T202322-23	Soil	05/19/20 00:00	05/21/20 09:00
T7-SURF	T202322-25	Soil	05/19/20 00:00	05/21/20 09:00
T7-1	T202322-26	Soil	05/19/20 00:00	05/21/20 09:00
T8-SURF	T202322-29	Soil	05/19/20 00:00	05/21/20 09:00
T8-1	T202322-30	Soil	05/19/20 00:00	05/21/20 09:00
T9-SURF	T202322-33	Soil	05/19/20 00:00	05/21/20 09:00
T9-1	T202322-34	Soil	05/19/20 00:00	05/21/20 09:00
T9-2	T202322-35	Soil	05/19/20 00:00	05/21/20 09:00
T10-SURF	T202322-37	Soil	05/19/20 00:00	05/21/20 09:00
T10-1	T202322-38	Soil	05/19/20 00:00	05/21/20 09:00
T10-2	T202322-39	Soil	05/19/20 00:00	05/21/20 09:00

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T11-SURF	T202322-41	Soil	05/19/20 00:00	05/21/20 09:00
T11-1	T202322-42	Soil	05/19/20 00:00	05/21/20 09:00
T12-SURF	T202322-45	Soil	05/19/20 00:00	05/21/20 09:00
T12-1	T202322-46	Soil	05/19/20 00:00	05/21/20 09:00
T13-SURF	T202322-49	Soil	05/19/20 00:00	05/21/20 09:00
T13-1	T202322-50	Soil	05/19/20 00:00	05/21/20 09:00
T14-SURF	T202322-53	Soil	05/19/20 00:00	05/21/20 09:00
T14-1	T202322-54	Soil	05/19/20 00:00	05/21/20 09:00
T15-SURF	T202322-57	Soil	05/19/20 00:00	05/21/20 09:00
T15-1	T202322-58	Soil	05/19/20 00:00	05/21/20 09:00
T16-SURF	T202322-61	Soil	05/19/20 00:00	05/21/20 09:00
T16-1	T202322-62	Soil	05/19/20 00:00	05/21/20 09:00
T16-2	T202322-63	Soil	05/19/20 00:00	05/21/20 09:00
T17-SURF	T202322-65	Soil	05/19/20 00:00	05/21/20 09:00
T17-1	T202322-66	Soil	05/19/20 00:00	05/21/20 09:00
T18-SURF	T202322-69	Soil	05/19/20 00:00	05/21/20 09:00
T18-1	T202322-70	Soil	05/19/20 00:00	05/21/20 09:00
T19-SURF	T202322-73	Soil	05/19/20 00:00	05/21/20 09:00
T19-1	T202322-74	Soil	05/19/20 00:00	05/21/20 09:00
T19-2	T202322-75	Soil	05/19/20 00:00	05/21/20 09:00
T20-SURF	T202322-77	Soil	05/19/20 00:00	05/21/20 09:00
T20-1	T202322-78	Soil	05/19/20 00:00	05/21/20 09:00
T21-SURF	T202322-81	Soil	05/19/20 00:00	05/21/20 09:00
T21-1	T202322-82	Soil	05/19/20 00:00	05/21/20 09:00
T22-SURF	T202322-85	Soil	05/19/20 00:00	05/21/20 09:00
T22-1	T202322-86	Soil	05/19/20 00:00	05/21/20 09:00

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T23-SURF	T202322-89	Soil	05/19/20 00:00	05/21/20 09:00
T23-1	T202322-90	Soil	05/19/20 00:00	05/21/20 09:00
T24-SURF	T202322-93	Soil	05/19/20 00:00	05/21/20 09:00
T24-1	T202322-94	Soil	05/19/20 00:00	05/21/20 09:00
S1	T202322-97	Soil	05/19/20 00:00	05/21/20 09:00
S2	T202322-98	Soil	05/19/20 00:00	05/21/20 09:00
S3	T202322-99	Soil	05/19/20 00:00	05/21/20 09:00

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

DETECTIONS SUMMARY

Sample ID: T1-SURF **Laboratory ID:** T202322-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**89**	1.0	mg/kg	EPA 6010b	
Chromium	**14**	2.0	mg/kg	EPA 6010b	
Cobalt	**5.0**	2.0	mg/kg	EPA 6010b	
Copper	**16**	1.0	mg/kg	EPA 6010b	
Lead	**4.8**	3.0	mg/kg	EPA 6010b	
Nickel	**19**	2.0	mg/kg	EPA 6010b	
Vanadium	**23**	5.0	mg/kg	EPA 6010b	
Zinc	**28**	1.0	mg/kg	EPA 6010b	
Endosulfan I	**5.5**	1.0	mg/kg	EPA 8081A	
4,4´-DDE	**1.5**	1.0	mg/kg	EPA 8081A	
Endosulfan II	**6.8**	1.0	mg/kg	EPA 8081A	
4,4´-DDT	**2.2**	1.0	mg/kg	EPA 8081A	
Toxaphene	**44**	4.0	mg/kg	EPA 8081A	

Sample ID: T1-1 **Laboratory ID:** T202322-02

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.056**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.043**	0.0050	mg/kg	EPA 8081A	
Dieldrin	**0.028**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.0096**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.091**	0.0050	mg/kg	EPA 8081A	E
4,4´-DDT	**0.053**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.086**	0.020	mg/kg	EPA 8081A	

Sample ID: T2-SURF **Laboratory ID:** T202322-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**100**	1.0	mg/kg	EPA 6010b	
Chromium	**16**	2.0	mg/kg	EPA 6010b	
Cobalt	**6.4**	2.0	mg/kg	EPA 6010b	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Sample ID: T2-SURF **Laboratory ID:** T202322-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Copper	**17**	1.0	mg/kg	EPA 6010b	
Lead	**5.7**	3.0	mg/kg	EPA 6010b	
Nickel	**20**	2.0	mg/kg	EPA 6010b	
Vanadium	**24**	5.0	mg/kg	EPA 6010b	
Zinc	**31**	1.0	mg/kg	EPA 6010b	
Endosulfan I	**0.60**	0.050	mg/kg	EPA 8081A	E
4,4´-DDE	**0.15**	0.050	mg/kg	EPA 8081A	
Dieldrin	**0.091**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**0.12**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.19**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**0.30**	0.050	mg/kg	EPA 8081A	
Methoxychlor	**0.70**	0.050	mg/kg	EPA 8081A	E
Toxaphene	**5.4**	1.0	mg/kg	EPA 8081A	

Sample ID: T2-1 **Laboratory ID:** T202322-06

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.12**	0.0050	mg/kg	EPA 8081A	E
Endosulfan II	**0.011**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.081**	0.020	mg/kg	EPA 8081A	

Sample ID: T2-2 **Laboratory ID:** T202322-07

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.037**	0.020	mg/kg	EPA 8081A	

Sample ID: T3-SURF **Laboratory ID:** T202322-09

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.14**	0.050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.11**	0.050	mg/kg	EPA 8081A	
Endosulfan I	**9.1**	0.050	mg/kg	EPA 8081A	E
4,4´-DDE	**0.68**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**0.21**	0.050	mg/kg	EPA 8081A	

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Sample ID: T3-SURF **Laboratory ID:** T202322-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan II	**1.9**	0.050	mg/kg	EPA 8081A	E
4,4´-DDT	**0.77**	0.050	mg/kg	EPA 8081A	E
Methoxychlor	**1.1**	0.050	mg/kg	EPA 8081A	E
Endrin ketone	**0.15**	0.050	mg/kg	EPA 8081A	
Toxaphene	**1.8**	1.0	mg/kg	EPA 8081A	

Sample ID: T3-1 **Laboratory ID:** T202322-10

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.082**	0.010	mg/kg	EPA 8081A	
4,4´-DDE	**0.024**	0.010	mg/kg	EPA 8081A	
4,4´-DDT	**0.017**	0.010	mg/kg	EPA 8081A	
Toxaphene	**0.17**	0.040	mg/kg	EPA 8081A	

Sample ID: T3-2 **Laboratory ID:** T202322-11

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.0093**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.063**	0.020	mg/kg	EPA 8081A	

Sample ID: T4-SURF **Laboratory ID:** T202322-13

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**4.4**	2.0	mg/kg	EPA 8081A	

Sample ID: T4-1 **Laboratory ID:** T202322-14

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.014**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.019**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.18**	0.020	mg/kg	EPA 8081A	

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Sample ID: T5-SURF **Laboratory ID:** T202322-17

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**150**	0.91	mg/kg	EPA 6010b	
Chromium	**23**	1.8	mg/kg	EPA 6010b	
Cobalt	**5.0**	1.8	mg/kg	EPA 6010b	
Copper	**75**	0.91	mg/kg	EPA 6010b	
Lead	**21**	2.7	mg/kg	EPA 6010b	
Nickel	**16**	1.8	mg/kg	EPA 6010b	
Vanadium	**28**	4.5	mg/kg	EPA 6010b	
Zinc	**110**	0.91	mg/kg	EPA 6010b	
alpha-BHC	**0.28**	0.050	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.53**	0.50	mg/kg	EPA 8081A	
beta-BHC	**0.63**	0.050	mg/kg	EPA 8081A	E
delta-BHC	**0.65**	0.50	mg/kg	EPA 8081A	
Heptachlor	**0.84**	0.050	mg/kg	EPA 8081A	E
gamma-Chlordane	**5.9**	0.50	mg/kg	EPA 8081A	
alpha-Chlordane	**4.2**	0.50	mg/kg	EPA 8081A	
Endosulfan I	**23**	5.0	mg/kg	EPA 8081A	
4,4´-DDE	**13**	5.0	mg/kg	EPA 8081A	
4,4´-DDD	**40**	5.0	mg/kg	EPA 8081A	
Endosulfan II	**30**	5.0	mg/kg	EPA 8081A	
4,4´-DDT	**230**	25	mg/kg	EPA 8081A	
Endosulfan sulfate	**3.7**	0.50	mg/kg	EPA 8081A	
Methoxychlor	**32**	5.0	mg/kg	EPA 8081A	
Endrin ketone	**10**	5.0	mg/kg	EPA 8081A	
Toxaphene	**1100**	100	mg/kg	EPA 8081A	

Sample ID: T5-1 **Laboratory ID:** T202322-18

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**87**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**210**	10	mg/kg	EPA 8015B	
alpha-BHC	**0.20**	0.050	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.45**	0.050	mg/kg	EPA 8081A	
delta-BHC	**0.70**	0.0050	mg/kg	EPA 8081A	E
gamma-Chlordane	**1.5**	0.50	mg/kg	EPA 8081A	
alpha-Chlordane	**1.3**	0.0050	mg/kg	EPA 8081A	E
Endosulfan I	**15**	0.0050	mg/kg	EPA 8081A	

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Sample ID: T5-1 **Laboratory ID:** T202322-18

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**2.1**	0.50	mg/kg	EPA 8081A	
4,4´-DDD	**11**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**10**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**17**	0.0050	mg/kg	EPA 8081A	
Methoxychlor	**9.4**	0.0050	mg/kg	EPA 8081A	E
Endrin ketone	**4.2**	0.50	mg/kg	EPA 8081A	
Toxaphene	**2400**	20	mg/kg	EPA 8081A	E

Sample ID: T5-2 **Laboratory ID:** T202322-19

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.027**	0.0050	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.052**	0.0050	mg/kg	EPA 8081A	
gamma-Chlordane	**0.23**	0.050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.18**	0.050	mg/kg	EPA 8081A	
Endosulfan I	**3.4**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**0.32**	0.050	mg/kg	EPA 8081A	
Dieldrin	**0.13**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**1.2**	0.50	mg/kg	EPA 8081A	
Endosulfan II	**1.8**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**7.4**	0.50	mg/kg	EPA 8081A	E
Methoxychlor	**1.3**	0.50	mg/kg	EPA 8081A	
Endrin ketone	**0.72**	0.50	mg/kg	EPA 8081A	
Toxaphene	**34**	10	mg/kg	EPA 8081A	

Sample ID: T6-SURF **Laboratory ID:** T202322-21

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.023**	0.0050	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.051**	0.0050	mg/kg	EPA 8081A	
delta-BHC	**0.043**	0.0050	mg/kg	EPA 8081A	
gamma-Chlordane	**2.5**	0.50	mg/kg	EPA 8081A	
alpha-Chlordane	**2.1**	0.50	mg/kg	EPA 8081A	
Endosulfan I	**4.4**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**16**	2.5	mg/kg	EPA 8081A	

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Sample ID: T6-SURF **Laboratory ID:** T202322-21

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDD	**9.6**	2.5	mg/kg	EPA 8081A	
Endosulfan II	**0.056**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**130**	2.5	mg/kg	EPA 8081A	E
Toxaphene	**590**	10	mg/kg	EPA 8081A	E

Sample ID: T6-1 **Laboratory ID:** T202322-22

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.68**	0.50	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.69**	0.50	mg/kg	EPA 8081A	
Heptachlor	**3.6**	0.50	mg/kg	EPA 8081A	
gamma-Chlordane	**25**	5.0	mg/kg	EPA 8081A	
alpha-Chlordane	**22**	5.0	mg/kg	EPA 8081A	
Endosulfan I	**440**	5.0	mg/kg	EPA 8081A	E
4,4´-DDE	**29**	5.0	mg/kg	EPA 8081A	
4,4´-DDD	**0.011**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**220**	5.0	mg/kg	EPA 8081A	E
4,4´-DDT	**0.026**	0.0050	mg/kg	EPA 8081A	
Methoxychlor	**250**	5.0	mg/kg	EPA 8081A	E
Toxaphene	**4100**	200	mg/kg	EPA 8081A	E

Sample ID: T6-2 **Laboratory ID:** T202322-23

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**7.3**	0.50	mg/kg	EPA 8081A	E
4,4´-DDE	**0.65**	0.50	mg/kg	EPA 8081A	
4,4´-DDD	**3.0**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**23**	0.50	mg/kg	EPA 8081A	E
Toxaphene	**120**	10	mg/kg	EPA 8081A	

Sample ID: T7-SURF **Laboratory ID:** T202322-25

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**120**	1.0	mg/kg	EPA 6010b	

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Sample ID: T7-SURF **Laboratory ID:** T202322-25

Analyte	Result	Reporting Limit	Units	Method	Notes
Chromium	**160**	2.0	mg/kg	EPA 6010b	
Cobalt	**14**	2.0	mg/kg	EPA 6010b	
Copper	**91**	1.0	mg/kg	EPA 6010b	
Lead	**16**	3.0	mg/kg	EPA 6010b	
Nickel	**250**	2.0	mg/kg	EPA 6010b	
Vanadium	**27**	5.0	mg/kg	EPA 6010b	
Zinc	**260**	1.0	mg/kg	EPA 6010b	
4,4´-DDT	**0.64**	0.50	mg/kg	EPA 8081A	
Toxaphene	**4.7**	2.0	mg/kg	EPA 8081A	

Sample ID: T7-1 **Laboratory ID:** T202322-26

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.055**	0.050	mg/kg	EPA 8081A	
Endosulfan I	**0.25**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.23**	0.050	mg/kg	EPA 8081A	

Sample ID: T8-SURF **Laboratory ID:** T202322-29

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.020**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.0062**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.14**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**0.098**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**0.096**	0.050	mg/kg	EPA 8081A	
Toxaphene	**1.5**	0.20	mg/kg	EPA 8081A	

Sample ID: T8-1 **Laboratory ID:** T202322-30

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.0059**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.028**	0.020	mg/kg	EPA 8081A	

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Sample ID: T9-SURF **Laboratory ID:** T202322-33

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**150**	1.0	mg/kg	EPA 6010b	
Chromium	**17**	2.0	mg/kg	EPA 6010b	
Cobalt	**3.3**	2.0	mg/kg	EPA 6010b	
Copper	**74**	1.0	mg/kg	EPA 6010b	
Lead	**14**	3.0	mg/kg	EPA 6010b	
Nickel	**9.7**	2.0	mg/kg	EPA 6010b	
Vanadium	**27**	5.0	mg/kg	EPA 6010b	
Zinc	**42**	1.0	mg/kg	EPA 6010b	
gamma-BHC (Lindane)	**1.1**	0.50	mg/kg	EPA 8081A	
Heptachlor	**1.2**	0.50	mg/kg	EPA 8081A	
gamma-Chlordane	**4.6**	0.50	mg/kg	EPA 8081A	
Endosulfan I	**32**	25	mg/kg	EPA 8081A	
4,4´-DDD	**57**	25	mg/kg	EPA 8081A	
Endosulfan II	**26**	25	mg/kg	EPA 8081A	
4,4´-DDT	**260**	25	mg/kg	EPA 8081A	
Toxaphene	**1400**	100	mg/kg	EPA 8081A	

Sample ID: T9-1 **Laboratory ID:** T202322-34

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**15**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**22**	10	mg/kg	EPA 8015B	
alpha-BHC	**0.080**	0.050	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.18**	0.050	mg/kg	EPA 8081A	
beta-BHC	**0.018**	0.0050	mg/kg	EPA 8081A	E
delta-BHC	**0.043**	0.0050	mg/kg	EPA 8081A	
Heptachlor	**0.20**	0.050	mg/kg	EPA 8081A	
gamma-Chlordane	**0.34**	0.050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.30**	0.050	mg/kg	EPA 8081A	
Endosulfan I	**41**	5.0	mg/kg	EPA 8081A	
4,4´-DDE	**25**	5.0	mg/kg	EPA 8081A	
4,4´-DDD	**13**	5.0	mg/kg	EPA 8081A	
Endosulfan II	**45**	5.0	mg/kg	EPA 8081A	
4,4´-DDT	**89**	10	mg/kg	EPA 8081A	
Endrin aldehyde	**30**	5.0	mg/kg	EPA 8081A	
Methoxychlor	**13**	0.0050	mg/kg	EPA 8081A	E

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Sample ID: T9-1 **Laboratory ID:** T202322-34

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**410**	40	mg/kg	EPA 8081A	

Sample ID: T9-2 **Laboratory ID:** T202322-35

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0083**	0.0050	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.019**	0.0050	mg/kg	EPA 8081A	
Heptachlor	**0.0061**	0.0050	mg/kg	EPA 8081A	
gamma-Chlordane	**0.0075**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.0059**	0.0050	mg/kg	EPA 8081A	
Endosulfan I	**1.6**	0.25	mg/kg	EPA 8081A	
4,4´-DDE	**0.034**	0.0050	mg/kg	EPA 8081A	
Dieldrin	**0.017**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**5.3**	5.0	mg/kg	EPA 8081A	
Endosulfan II	**0.11**	0.10	mg/kg	EPA 8081A	
4,4´-DDT	**0.35**	0.10	mg/kg	EPA 8081A	
Methoxychlor	**24**	5.0	mg/kg	EPA 8081A	
Toxaphene	**2.4**	0.40	mg/kg	EPA 8081A	

Sample ID: T10-SURF **Laboratory ID:** T202322-37

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**260**	1.0	mg/kg	EPA 6010b	
Chromium	**16**	2.0	mg/kg	EPA 6010b	
Cobalt	**2.8**	2.0	mg/kg	EPA 6010b	
Copper	**120**	1.0	mg/kg	EPA 6010b	
Lead	**130**	3.0	mg/kg	EPA 6010b	
Molybdenum	**5.0**	5.0	mg/kg	EPA 6010b	
Nickel	**7.0**	2.0	mg/kg	EPA 6010b	
Vanadium	**18**	5.0	mg/kg	EPA 6010b	
Zinc	**64**	1.0	mg/kg	EPA 6010b	
gamma-Chlordane	**1.4**	0.50	mg/kg	EPA 8081A	
alpha-Chlordane	**1.1**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**18**	0.50	mg/kg	EPA 8081A	E
4,4´-DDD	**7.3**	0.50	mg/kg	EPA 8081A	E

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Sample ID: T10-SURF **Laboratory ID:** T202322-37

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan II	**8.8**	0.50	mg/kg	EPA 8081A	E
4,4´-DDT	**52**	25	mg/kg	EPA 8081A	
Methoxychlor	**29**	25	mg/kg	EPA 8081A	
Toxaphene	**490**	100	mg/kg	EPA 8081A	

Sample ID: T10-1 **Laboratory ID:** T202322-38

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**1.2**	0.25	mg/kg	EPA 8081A	
4,4´-DDE	**0.053**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.026**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.17**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**0.058**	0.050	mg/kg	EPA 8081A	
Endrin ketone	**0.023**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**1.3**	0.20	mg/kg	EPA 8081A	

Sample ID: T10-2 **Laboratory ID:** T202322-39

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.024**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.022**	0.0050	mg/kg	EPA 8081A	
Endosulfan I	**0.57**	0.25	mg/kg	EPA 8081A	
4,4´-DDE	**0.060**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.056**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.20**	0.10	mg/kg	EPA 8081A	
4,4´-DDT	**0.26**	0.25	mg/kg	EPA 8081A	
Methoxychlor	**0.45**	0.25	mg/kg	EPA 8081A	
Toxaphene	**4.6**	1.0	mg/kg	EPA 8081A	

Sample ID: T11-SURF **Laboratory ID:** T202322-41

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.66**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**7.2**	5.0	mg/kg	EPA 8081A	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Sample ID: T11-SURF **Laboratory ID:** T202322-41

Analyte	Result	Reporting Limit	Units	Method	Notes
Dieldrin	**1.2**	0.50	mg/kg	EPA 8081A	
4,4´-DDD	**2.9**	0.50	mg/kg	EPA 8081A	
Endosulfan II	**2.9**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**15**	5.0	mg/kg	EPA 8081A	
Toxaphene	**200**	20	mg/kg	EPA 8081A	

Sample ID: T11-1 **Laboratory ID:** T202322-42

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.017**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.010**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.17**	0.050	mg/kg	EPA 8081A	
Dieldrin	**0.035**	0.0050	mg/kg	EPA 8081A	
Endrin	**0.021**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.033**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.20**	0.050	mg/kg	EPA 8081A	
Toxaphene	**3.1**	0.20	mg/kg	EPA 8081A	

Sample ID: T12-SURF **Laboratory ID:** T202322-45

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**220**	1.0	mg/kg	EPA 6010b	
Chromium	**22**	2.0	mg/kg	EPA 6010b	
Cobalt	**6.2**	2.0	mg/kg	EPA 6010b	
Copper	**140**	1.0	mg/kg	EPA 6010b	
Lead	**28**	3.0	mg/kg	EPA 6010b	
Nickel	**22**	2.0	mg/kg	EPA 6010b	
Vanadium	**28**	5.0	mg/kg	EPA 6010b	
Zinc	**470**	1.0	mg/kg	EPA 6010b	
4,4´-DDE	**5.4**	2.5	mg/kg	EPA 8081A	
Endosulfan II	**2.9**	2.5	mg/kg	EPA 8081A	
4,4´-DDT	**14**	2.5	mg/kg	EPA 8081A	
Toxaphene	**36**	0.20	mg/kg	EPA 8081A	E

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Sample ID: T12-1 **Laboratory ID:** T202322-46

Analyte	Result	Reporting Limit	Units	Method	Notes
C29-C40 (MORO)	**12**	10	mg/kg	EPA 8015B	
gamma-Chlordane	**0.25**	0.0050	mg/kg	EPA 8081A	E
Endosulfan I	**0.66**	0.0050	mg/kg	EPA 8081A	E
4,4´-DDE	**1.9**	1.0	mg/kg	EPA 8081A	
Dieldrin	**0.73**	0.0050	mg/kg	EPA 8081A	E
4,4´-DDT	**5.4**	1.0	mg/kg	EPA 8081A	
Toxaphene	**210**	10	mg/kg	EPA 8081A	

Sample ID: T13-SURF **Laboratory ID:** T202322-49

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDT	**0.52**	0.50	mg/kg	EPA 8081A	
Toxaphene	**3.0**	2.0	mg/kg	EPA 8081A	

Sample ID: T13-1 **Laboratory ID:** T202322-50

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.48**	0.050	mg/kg	EPA 8081A	
Dieldrin	**0.060**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**1.0**	0.050	mg/kg	EPA 8081A	E
4,4´-DDT	**4.2**	0.050	mg/kg	EPA 8081A	E
Toxaphene	**140**	4.0	mg/kg	EPA 8081A	E

Sample ID: T14-SURF **Laboratory ID:** T202322-53

Analyte	Result	Reporting Limit	Units	Method	Notes
Heptachlor	**0.014**	0.0050	mg/kg	EPA 8081A	
gamma-Chlordane	**0.058**	0.050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.044**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.24**	0.10	mg/kg	EPA 8081A	
Dieldrin	**0.39**	0.10	mg/kg	EPA 8081A	
4,4´-DDT	**0.15**	0.050	mg/kg	EPA 8081A	
Toxaphene	**5.9**	0.40	mg/kg	EPA 8081A	

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Sample ID: T14-1 **Laboratory ID:** T202322-54

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.042**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.013**	0.0050	mg/kg	EPA 8081A	
Dieldrin	**0.013**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.017**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.043**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.050**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.82**	0.20	mg/kg	EPA 8081A	

Sample ID: T15-SURF **Laboratory ID:** T202322-57

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**88**	1.0	mg/kg	EPA 6010b	
Chromium	**12**	2.0	mg/kg	EPA 6010b	
Cobalt	**4.4**	2.0	mg/kg	EPA 6010b	
Copper	**42**	1.0	mg/kg	EPA 6010b	
Lead	**11**	3.0	mg/kg	EPA 6010b	
Nickel	**11**	2.0	mg/kg	EPA 6010b	
Vanadium	**22**	5.0	mg/kg	EPA 6010b	
Zinc	**45**	1.0	mg/kg	EPA 6010b	
alpha-BHC	**0.010**	0.0050	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**0.016**	0.0050	mg/kg	EPA 8081A	
Heptachlor	**0.086**	0.0050	mg/kg	EPA 8081A	
Aldrin	**0.11**	0.0050	mg/kg	EPA 8081A	E
gamma-Chlordane	**0.88**	0.0050	mg/kg	EPA 8081A	E
alpha-Chlordane	**0.58**	0.0050	mg/kg	EPA 8081A	E
Endosulfan I	**1.9**	0.0050	mg/kg	EPA 8081A	E
4,4´-DDE	**3.7**	0.0050	mg/kg	EPA 8081A	E
Dieldrin	**1.1**	0.0050	mg/kg	EPA 8081A	E
4,4´-DDD	**3.6**	0.0050	mg/kg	EPA 8081A	E
Endosulfan II	**2.9**	0.0050	mg/kg	EPA 8081A	E
4,4´-DDT	**19**	0.0050	mg/kg	EPA 8081A	E
Toxaphene	**130**	0.020	mg/kg	EPA 8081A	E

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Sample ID: T15-1 **Laboratory ID:** T202322-58

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**17**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**53**	10	mg/kg	EPA 8015B	
gamma-Chlordane	**0.42**	0.050	mg/kg	EPA 8081A	
4,4´-DDE	**4.3**	0.50	mg/kg	EPA 8081A	
Dieldrin	**0.84**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**2.0**	0.50	mg/kg	EPA 8081A	
Endosulfan II	**1.4**	0.050	mg/kg	EPA 8081A	E
4,4´-DDT	**18**	5.0	mg/kg	EPA 8081A	
Toxaphene	**110**	20	mg/kg	EPA 8081A	

Sample ID: T16-SURF **Laboratory ID:** T202322-61

Analyte	Result	Reporting Limit	Units	Method	Notes
C13-C28 (DRO)	**22**	10	mg/kg	EPA 8015B	
C29-C40 (MORO)	**33**	10	mg/kg	EPA 8015B	
Barium	**110**	1.0	mg/kg	EPA 6010b	
Chromium	**17**	2.0	mg/kg	EPA 6010b	
Cobalt	**10**	2.0	mg/kg	EPA 6010b	
Copper	**40**	1.0	mg/kg	EPA 6010b	
Lead	**7.3**	3.0	mg/kg	EPA 6010b	
Nickel	**28**	2.0	mg/kg	EPA 6010b	
Vanadium	**26**	5.0	mg/kg	EPA 6010b	
Zinc	**55**	1.0	mg/kg	EPA 6010b	
alpha-BHC	**0.024**	0.0050	mg/kg	EPA 8081A	
beta-BHC	**0.031**	0.0050	mg/kg	EPA 8081A	
gamma-Chlordane	**0.51**	0.050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.43**	0.0050	mg/kg	EPA 8081A	E
Endosulfan I	**2.1**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**0.78**	0.50	mg/kg	EPA 8081A	
4,4´-DDD	**8.4**	2.5	mg/kg	EPA 8081A	
Endosulfan II	**1.1**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**7.4**	2.5	mg/kg	EPA 8081A	
Endrin ketone	**0.39**	0.050	mg/kg	EPA 8081A	
Toxaphene	**65**	10	mg/kg	EPA 8081A	
n-Propylbenzene	**0.0026**	0.0025	mg/kg	EPA 8260B	
1,3,5-Trimethylbenzene	**0.0034**	0.0025	mg/kg	EPA 8260B	

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Sample ID: T16-SURF **Laboratory ID:** T202322-61

Analyte	Result	Reporting Limit	Units	Method	Notes
1,2,4-Trimethylbenzene	**0.015**	0.0025	mg/kg	EPA 8260B	
Toluene	**0.0031**	0.0025	mg/kg	EPA 8260B	
m,p-Xylene	**0.0068**	0.0050	mg/kg	EPA 8260B	

Sample ID: T16-1 **Laboratory ID:** T202322-62

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**120**	1.0	mg/kg	EPA 6010b	
Chromium	**17**	2.0	mg/kg	EPA 6010b	
Cobalt	**7.1**	2.0	mg/kg	EPA 6010b	
Copper	**13**	1.0	mg/kg	EPA 6010b	
Lead	**4.2**	3.0	mg/kg	EPA 6010b	
Nickel	**25**	2.0	mg/kg	EPA 6010b	
Vanadium	**26**	5.0	mg/kg	EPA 6010b	
Zinc	**31**	1.0	mg/kg	EPA 6010b	
gamma-Chlordane	**0.011**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.011**	0.0050	mg/kg	EPA 8081A	
Endosulfan I	**0.38**	0.25	mg/kg	EPA 8081A	
4,4´-DDE	**0.029**	0.0050	mg/kg	EPA 8081A	
Endrin	**0.013**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.073**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.057**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.67**	0.25	mg/kg	EPA 8081A	
Endrin ketone	**0.039**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**2.8**	1.0	mg/kg	EPA 8081A	

Sample ID: T16-2 **Laboratory ID:** T202322-63

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.31**	0.10	mg/kg	EPA 8081A	
Dieldrin	**0.0073**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.044**	0.0050	mg/kg	EPA 8081A	
Endrin ketone	**0.036**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.47**	0.40	mg/kg	EPA 8081A	

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Sample ID: T17-SURF **Laboratory ID:** T202322-65

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**100**	1.0	mg/kg	EPA 6010b	
Cadmium	**4.7**	2.0	mg/kg	EPA 6010b	
Chromium	**28**	2.0	mg/kg	EPA 6010b	
Cobalt	**5.8**	2.0	mg/kg	EPA 6010b	
Copper	**35**	1.0	mg/kg	EPA 6010b	
Lead	**90**	3.0	mg/kg	EPA 6010b	
Nickel	**67**	2.0	mg/kg	EPA 6010b	
Vanadium	**25**	5.0	mg/kg	EPA 6010b	
Zinc	**81**	1.0	mg/kg	EPA 6010b	
gamma-Chlordane	**0.068**	0.050	mg/kg	EPA 8081A	
Endosulfan I	**0.11**	0.050	mg/kg	EPA 8081A	
4,4´-DDE	**0.40**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**0.24**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.15**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**0.063**	0.050	mg/kg	EPA 8081A	
Toxaphene	**3.5**	0.20	mg/kg	EPA 8081A	E

Sample ID: T17-1 **Laboratory ID:** T202322-66

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.46**	0.20	mg/kg	EPA 8081A	

Sample ID: T18-SURF **Laboratory ID:** T202322-69

Analyte	Result	Reporting Limit	Units	Method	Notes
Heptachlor epoxide	**0.0080**	0.0050	mg/kg	EPA 8081A	
gamma-Chlordane	**0.043**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.031**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.18**	0.050	mg/kg	EPA 8081A	
Dieldrin	**0.026**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.022**	0.0050	mg/kg	EPA 8081A	

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Sample ID: T18-1 **Laboratory ID:** T202322-70

No Results Detected

Sample ID: T19-SURF **Laboratory ID:** T202322-73

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**2.0**	0.50	mg/kg	EPA 8081A	
alpha-Chlordane	**1.6**	0.50	mg/kg	EPA 8081A	
Endosulfan I	**18**	5.0	mg/kg	EPA 8081A	
4,4´-DDE	**3.2**	0.50	mg/kg	EPA 8081A	
4,4´-DDD	**5.4**	5.0	mg/kg	EPA 8081A	
Endosulfan II	**9.7**	5.0	mg/kg	EPA 8081A	
4,4´-DDT	**22**	5.0	mg/kg	EPA 8081A	
Methoxychlor	**8.4**	5.0	mg/kg	EPA 8081A	
Toxaphene	**160**	100	mg/kg	EPA 8081A	

Sample ID: T19-1 **Laboratory ID:** T202322-74

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**2.0**	0.50	mg/kg	EPA 8081A	
gamma-BHC (Lindane)	**3.3**	0.50	mg/kg	EPA 8081A	
delta-BHC	**2.0**	0.50	mg/kg	EPA 8081A	
Heptachlor	**8.1**	5.0	mg/kg	EPA 8081A	
gamma-Chlordane	**46**	5.0	mg/kg	EPA 8081A	
alpha-Chlordane	**32**	5.0	mg/kg	EPA 8081A	
Endosulfan I	**82**	25	mg/kg	EPA 8081A	
4,4´-DDE	**68**	5.0	mg/kg	EPA 8081A	E
4,4´-DDD	**93**	5.0	mg/kg	EPA 8081A	E
Endosulfan II	**28**	25	mg/kg	EPA 8081A	
4,4´-DDT	**46**	25	mg/kg	EPA 8081A	
Methoxychlor	**76**	25	mg/kg	EPA 8081A	
Toxaphene	**5400**	1000	mg/kg	EPA 8081A	

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Sample ID: T19-2 **Laboratory ID:** T202322-75

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.61**	0.050	mg/kg	EPA 8081A	E
Endosulfan I	**3.4**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**0.93**	0.50	mg/kg	EPA 8081A	
Dieldrin	**0.85**	0.50	mg/kg	EPA 8081A	
4,4´-DDD	**14**	2.5	mg/kg	EPA 8081A	
Endosulfan II	**2.6**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**0.50**	0.050	mg/kg	EPA 8081A	
Endrin ketone	**1.0**	0.050	mg/kg	EPA 8081A	
Toxaphene	**110**	2.0	mg/kg	EPA 8081A	E

Sample ID: T20-SURF **Laboratory ID:** T202322-77

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**110**	0.91	mg/kg	EPA 6010b	
Chromium	**19**	1.8	mg/kg	EPA 6010b	
Cobalt	**7.1**	1.8	mg/kg	EPA 6010b	
Copper	**20**	0.91	mg/kg	EPA 6010b	
Lead	**6.3**	2.7	mg/kg	EPA 6010b	
Nickel	**27**	1.8	mg/kg	EPA 6010b	
Vanadium	**28**	4.5	mg/kg	EPA 6010b	
Zinc	**45**	0.91	mg/kg	EPA 6010b	
Endosulfan I	**62**	5.0	mg/kg	EPA 8081A	E
4,4´-DDE	**52**	5.0	mg/kg	EPA 8081A	
4,4´-DDD	**0.98**	0.50	mg/kg	EPA 8081A	
Endosulfan II	**3.6**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**75**	5.0	mg/kg	EPA 8081A	E
Endosulfan sulfate	**2.4**	0.50	mg/kg	EPA 8081A	
Toxaphene	**490**	20	mg/kg	EPA 8081A	E

Sample ID: T20-1 **Laboratory ID:** T202322-78

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.011**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.0070**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.0051**	0.0050	mg/kg	EPA 8081A	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Sample ID: T20-1 **Laboratory ID:** T202322-78

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDT	**0.0074**	0.0050	mg/kg	EPA 8081A	

Sample ID: T21-SURF **Laboratory ID:** T202322-81

Analyte	Result	Reporting Limit	Units	Method	Notes
Heptachlor	**2.3**	0.50	mg/kg	EPA 8081A	
gamma-Chlordane	**12**	5.0	mg/kg	EPA 8081A	
Endosulfan I	**280**	50	mg/kg	EPA 8081A	
4,4´-DDE	**7.4**	5.0	mg/kg	EPA 8081A	
Endosulfan II	**140**	50	mg/kg	EPA 8081A	
4,4´-DDT	**4.2**	0.50	mg/kg	EPA 8081A	
Endosulfan sulfate	**9.7**	5.0	mg/kg	EPA 8081A	
Methoxychlor	**19**	5.0	mg/kg	EPA 8081A	
Toxaphene	**780**	20	mg/kg	EPA 8081A	E

Sample ID: T21-1 **Laboratory ID:** T202322-82

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.013**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.011**	0.0050	mg/kg	EPA 8081A	
Endosulfan I	**0.21**	0.050	mg/kg	EPA 8081A	
4,4´-DDE	**0.13**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.15**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**0.015**	0.0050	mg/kg	EPA 8081A	
Endosulfan sulfate	**0.029**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.98**	0.20	mg/kg	EPA 8081A	

Sample ID: T22-SURF **Laboratory ID:** T202322-85

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**100**	1.0	mg/kg	EPA 6010b	
Chromium	**16**	2.0	mg/kg	EPA 6010b	
Cobalt	**4.9**	2.0	mg/kg	EPA 6010b	
Copper	**88**	1.0	mg/kg	EPA 6010b	

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Sample ID: T22-SURF **Laboratory ID:** T202322-85

Analyte	Result	Reporting Limit	Units	Method	Notes
Lead	**10**	3.0	mg/kg	EPA 6010b	
Nickel	**20**	2.0	mg/kg	EPA 6010b	
Vanadium	**27**	5.0	mg/kg	EPA 6010b	
Zinc	**52**	1.0	mg/kg	EPA 6010b	
Endosulfan I	**2.8**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**0.82**	0.50	mg/kg	EPA 8081A	
Endosulfan II	**4.5**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**1.1**	0.50	mg/kg	EPA 8081A	
Endosulfan sulfate	**0.51**	0.50	mg/kg	EPA 8081A	
Toxaphene	**27**	2.0	mg/kg	EPA 8081A	

Sample ID: T22-1 **Laboratory ID:** T202322-86

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.032**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.0083**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.040**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.011**	0.0050	mg/kg	EPA 8081A	
Endosulfan sulfate	**0.014**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.25**	0.020	mg/kg	EPA 8081A	

Sample ID: T23-SURF **Laboratory ID:** T202322-89

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDT	**0.073**	0.050	mg/kg	EPA 8081A	
Toxaphene	**0.58**	0.20	mg/kg	EPA 8081A	

Sample ID: T23-1 **Laboratory ID:** T202322-90

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.054**	0.020	mg/kg	EPA 8081A	

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Sample ID: T24-SURF **Laboratory ID:** T202322-93

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**130**	1.0	mg/kg	EPA 6010b	
Chromium	**16**	2.0	mg/kg	EPA 6010b	
Cobalt	**5.8**	2.0	mg/kg	EPA 6010b	
Copper	**20**	1.0	mg/kg	EPA 6010b	
Lead	**6.0**	3.0	mg/kg	EPA 6010b	
Nickel	**24**	2.0	mg/kg	EPA 6010b	
Vanadium	**32**	5.0	mg/kg	EPA 6010b	
Zinc	**36**	1.0	mg/kg	EPA 6010b	
Endosulfan I	**0.92**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**0.52**	0.50	mg/kg	EPA 8081A	
Endosulfan II	**1.9**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**1.1**	0.50	mg/kg	EPA 8081A	

Sample ID: T24-1 **Laboratory ID:** T202322-94

No Results Detected

Sample ID: S1 **Laboratory ID:** T202322-97

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**77**	1.0	mg/kg	EPA 6010b	
Chromium	**24**	2.0	mg/kg	EPA 6010b	
Cobalt	**150**	2.0	mg/kg	EPA 6010b	
Copper	**220**	1.0	mg/kg	EPA 6010b	
Lead	**6.1**	3.0	mg/kg	EPA 6010b	
Nickel	**15**	2.0	mg/kg	EPA 6010b	
Vanadium	**20**	5.0	mg/kg	EPA 6010b	
Zinc	**13000**	1.0	mg/kg	EPA 6010b	

Sample ID: S2 **Laboratory ID:** T202322-98

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**180**	0.91	mg/kg	EPA 6010b	

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Sample ID: S2 **Laboratory ID:** T202322-98

Analyte	Result	Reporting Limit	Units	Method	Notes
Cadmium	**3.3**	1.8	mg/kg	EPA 6010b	
Chromium	**27**	1.8	mg/kg	EPA 6010b	
Cobalt	**7.9**	1.8	mg/kg	EPA 6010b	
Copper	**100**	0.91	mg/kg	EPA 6010b	
Lead	**330**	2.7	mg/kg	EPA 6010b	
Nickel	**23**	1.8	mg/kg	EPA 6010b	
Vanadium	**30**	4.5	mg/kg	EPA 6010b	
Zinc	**5000**	0.91	mg/kg	EPA 6010b	

Sample ID: S3 **Laboratory ID:** T202322-99

Analyte	Result	Reporting Limit	Units	Method	Notes
Barium	**310**	1.0	mg/kg	EPA 6010b	
Cadmium	**21**	2.0	mg/kg	EPA 6010b	
Chromium	**70**	2.0	mg/kg	EPA 6010b	
Cobalt	**7.9**	2.0	mg/kg	EPA 6010b	
Copper	**740**	1.0	mg/kg	EPA 6010b	
Lead	**1400**	3.0	mg/kg	EPA 6010b	
Nickel	**29**	2.0	mg/kg	EPA 6010b	
Vanadium	**23**	5.0	mg/kg	EPA 6010b	
Zinc	**2000**	1.0	mg/kg	EPA 6010b	
Mercury	**0.13**	0.10	mg/kg	EPA 7471A Soil	

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T1-SURF

T202322-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**89**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	05/26/20	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**14**	2.0	"	"	"	"	"	"	
Cobalt	**5.0**	2.0	"	"	"	"	"	"	
Copper	**16**	1.0	"	"	"	"	"	"	
Lead	**4.8**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**19**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**23**	5.0	"	"	"	"	"	"	
Zinc	**28**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	1.0	mg/kg	200	0052118	05/21/20	05/28/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	1.0	"	"	"	"	"	"	R-07
beta-BHC	ND	1.0	"	"	"	"	"	"	R-07
delta-BHC	ND	1.0	"	"	"	"	"	"	R-07
Heptachlor	ND	1.0	"	"	"	"	"	"	R-07
Aldrin	ND	1.0	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	1.0	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	1.0	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	1.0	"	"	"	"	"	"	R-07
Endosulfan I	**5.5**	1.0	"	"	"	"	"	"	
4,4´-DDE	**1.5**	1.0	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	R-07

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T1-SURF

T202322-01 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	1.0	mg/kg	200	0052118	05/21/20	05/28/20	EPA 8081A	R-07
4,4´-DDD	ND	1.0	"	"	"	"	"	"	R-07
Endosulfan II	**6.8**	1.0	"	"	"	"	"	"	
4,4´-DDT	**2.2**	1.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.0	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	1.0	"	"	"	"	"	"	R-07
Methoxychlor	ND	1.0	"	"	"	"	"	"	R-07
Endrin ketone	ND	1.0	"	"	"	"	"	"	R-07
Toxaphene	**44**	4.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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T1-1

T202322-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/21/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*76.3 %*	*65-135*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	06/02/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.056**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.043**	0.0050	"	"	"	"	"	"	
Dieldrin	**0.028**	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.0096**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.091**	0.0050	"	"	"	"	"	"	E
4,4´-DDT	**0.053**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.086**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*92.6 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*87.2 %*	*35-140*		"	"	"	"	

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T1-1

T202322-02 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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T1-1

T202322-02 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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T1-1

T202322-02 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 4-Bromofluorobenzene	*103 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*102 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*98.9 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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T2-SURF

T202322-05 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**100**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	05/26/20	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**16**	2.0	"	"	"	"	"	"	
Cobalt	**6.4**	2.0	"	"	"	"	"	"	
Copper	**17**	1.0	"	"	"	"	"	"	
Lead	**5.7**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**20**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**24**	5.0	"	"	"	"	"	"	
Zinc	**31**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0052118	05/21/20	06/02/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.60**	0.050	"	"	"	"	"	"	E
4,4´-DDE	**0.15**	0.050	"	"	"	"	"	"	
Dieldrin	**0.091**	0.050	"	"	"	"	"	"	

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T2-SURF

T202322-05 (Soil)

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Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.050	mg/kg	10	0052118	05/21/20	06/02/20	EPA 8081A	R-07
4,4´-DDD	**0.12**	0.050	"	"	"	"	"	"	
Endosulfan II	**0.19**	0.050	"	"	"	"	"	"	
4,4´-DDT	**0.30**	0.050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	**0.70**	0.050	"	"	"	"	"	"	E
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**5.4**	1.0	"	50	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*101 %*	*35-140*		"	"	"	"	

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T2-1

T202322-06 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/21/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*80.3 %*	*65-135*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	06/02/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.12**	0.0050	"	"	"	"	"	"	E
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.011**	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.081**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*92.6 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*90.9 %*	*35-140*		"	"	"	"	

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T2-2

T202322-07 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.037**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*124 %*	*35-140*		"	"	"	"	

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T3-SURF

T202322-09 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0052118	05/21/20	06/02/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.14**	0.050	"	"	"	"	"	"	
alpha-Chlordane	**0.11**	0.050	"	"	"	"	"	"	
Endosulfan I	**9.1**	0.050	"	"	"	"	"	"	E
4,4´-DDE	**0.68**	0.050	"	"	"	"	"	"	
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.21**	0.050	"	"	"	"	"	"	
Endosulfan II	**1.9**	0.050	"	"	"	"	"	"	E
4,4´-DDT	**0.77**	0.050	"	"	"	"	"	"	E
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	**1.1**	0.050	"	"	"	"	"	"	E
Endrin ketone	**0.15**	0.050	"	"	"	"	"	"	
Toxaphene	**1.8**	1.0	"	50	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*94.0 %*	*35-140*		*"*	*"*	*"*	*"*	

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T3-1

T202322-10 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.010	mg/kg	2	0052118	05/21/20	05/28/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.010	"	"	"	"	"	"	R-07
beta-BHC	ND	0.010	"	"	"	"	"	"	R-07
delta-BHC	ND	0.010	"	"	"	"	"	"	R-07
Heptachlor	ND	0.010	"	"	"	"	"	"	R-07
Aldrin	ND	0.010	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.010	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.010	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.010	"	"	"	"	"	"	R-07
Endosulfan I	**0.082**	0.010	"	"	"	"	"	"	
4,4´-DDE	**0.024**	0.010	"	"	"	"	"	"	
Dieldrin	ND	0.010	"	"	"	"	"	"	R-07
Endrin	ND	0.010	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.010	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.010	"	"	"	"	"	"	R-07
4,4´-DDT	**0.017**	0.010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.010	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.010	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.010	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.010	"	"	"	"	"	"	R-07
Toxaphene	**0.17**	0.040	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*92.6 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*101 %*		*35-140*	"	"	"	"	

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T3-2

T202322-11 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.0093**	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.063**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*104 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*102 %*	*35-140*		"	"	"	"	

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T4-SURF

T202322-13 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0052118	05/21/20	05/28/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**4.4**	2.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*105 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*102 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T4-1

T202322-14 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/21/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*75.4 %*		*65-135*	"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.014**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.019**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.18**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*97.2 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*102 %*		*35-140*	"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T4-1

T202322-14 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T4-1

T202322-14 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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T4-1

T202322-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Volatile Organic Compounds by EPA Method 8260B									
Surrogate: 4-Bromofluorobenzene	*101 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*100 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*99.1 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T5-SURF

T202322-17 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	2.7	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	1.8	"	"	"	"	"	"	
Arsenic	ND	4.5	"	"	"	"	"	"	
Barium	**150**	0.91	"	"	"	"	"	"	
Beryllium	ND	0.91	"	"	"	"	"	"	
Cadmium	ND	1.8	"	"	"	"	"	"	
Chromium	**23**	1.8	"	"	"	"	"	"	
Cobalt	**5.0**	1.8	"	"	"	"	"	"	
Copper	**75**	0.91	"	"	"	"	"	"	
Lead	**21**	2.7	"	"	"	"	"	"	
Molybdenum	ND	4.5	"	"	"	"	"	"	
Nickel	**16**	1.8	"	"	"	"	"	"	
Selenium	ND	4.5	"	"	"	"	"	"	
Thallium	ND	4.5	"	"	"	"	"	"	
Vanadium	**28**	4.5	"	"	"	"	"	"	
Zinc	**110**	0.91	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	**0.28**	0.050	mg/kg	10	0052118	05/21/20	06/02/20	EPA 8081A	
gamma-BHC (Lindane)	**0.53**	0.50	"	100	"	"	"	"	
beta-BHC	**0.63**	0.050	"	10	"	"	"	"	E
delta-BHC	**0.65**	0.50	"	100	"	"	"	"	
Heptachlor	**0.84**	0.050	"	10	"	"	"	"	E
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**5.9**	0.50	"	100	"	"	"	"	
alpha-Chlordane	**4.2**	0.50	"	"	"	"	"	"	
Endosulfan I	**23**	5.0	"	1000	"	"	"	"	
4,4´-DDE	**13**	5.0	"	"	"	"	"	"	
Dieldrin	ND	0.050	"	10	"	"	"	"	R-07

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T5-SURF

T202322-17 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.050	mg/kg	10	0052118	05/21/20	06/02/20	EPA 8081A	R-07
4,4´-DDD	**40**	5.0	"	1000	"	"	"	"	
Endosulfan II	**30**	5.0	"	"	"	"	"	"	
4,4´-DDT	**230**	25	"	5000	"	"	"	"	
Endrin aldehyde	ND	0.050	"	10	"	"	"	"	R-07
Endosulfan sulfate	**3.7**	0.50	"	100	"	"	"	"	
Methoxychlor	**32**	5.0	"	1000	"	"	"	"	
Endrin ketone	**10**	5.0	"	"	"	"	"	"	
Toxaphene	**1100**	100	"	5000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*135 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*190 %*	*35-140*		"	"	"	"	*S-GC*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T5-1

T202322-18 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/21/20	EPA 8015B	
C13-C28 (DRO)	**87**	10	"	"	"	"	"	"	
C29-C40 (MORO)	**210**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*85.7 %*		*65-135*	"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	**0.20**	0.050	mg/kg	10	0052118	05/21/20	06/02/20	EPA 8081A	
gamma-BHC (Lindane)	**0.45**	0.050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	1	"	"	"	"	
delta-BHC	**0.70**	0.0050	"	"	"	"	"	"	E
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**1.5**	0.50	"	100	"	"	"	"	
alpha-Chlordane	**1.3**	0.0050	"	1	"	"	"	"	E
Endosulfan I	**15**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**2.1**	0.50	"	100	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**11**	0.0050	"	"	"	"	"	"	
Endosulfan II	**10**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**17**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	**9.4**	0.0050	"	"	"	"	"	"	E
Endrin ketone	**4.2**	0.50	"	100	"	"	"	"	
Toxaphene	**2400**	20	"	1000	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*100 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*20.1 %*		*35-140*	"	"	"	"	*S-GC*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T5-2

T202322-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	**0.027**	0.0050	mg/kg	1	0052118	05/21/20	06/03/20	EPA 8081A	
gamma-BHC (Lindane)	**0.052**	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.23**	0.050	"	10	"	"	"	"	
alpha-Chlordane	**0.18**	0.050	"	"	"	"	"	"	
Endosulfan I	**3.4**	0.50	"	100	"	"	"	"	
4,4´-DDE	**0.32**	0.050	"	10	"	"	"	"	
Dieldrin	**0.13**	0.050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	1	"	"	"	"	
4,4´-DDD	**1.2**	0.50	"	100	"	"	"	"	
Endosulfan II	**1.8**	0.50	"	"	"	"	"	"	
4,4´-DDT	**7.4**	0.50	"	"	"	"	"	"	E
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	**1.3**	0.50	"	100	"	"	"	"	
Endrin ketone	**0.72**	0.50	"	"	"	"	"	"	
Toxaphene	**34**	10	"	500	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*94.1 %*	*35-140*		"	"	"	"	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T5-2

T202322-19 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Carbon tetrachloride	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T5-2

T202322-19 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Styrene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*81.9-128*		"	"	"	"	
Surrogate: Dibromofluoromethane		*103 %*	*73-126*		"	"	"	"	
Surrogate: Toluene-d8		*98.6 %*	*80.4-121*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T6-SURF

T202322-21 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.023**	0.0050	mg/kg	1	0052118	05/21/20	06/03/20	EPA 8081A	
gamma-BHC (Lindane)	**0.051**	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	05/29/20	"	
delta-BHC	**0.043**	0.0050	"	"	"	"	06/03/20	"	
Heptachlor	ND	0.0050	"	"	"	"	05/29/20	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**2.5**	0.50	"	100	"	"	06/03/20	"	
alpha-Chlordane	**2.1**	0.50	"	"	"	"	"	"	
Endosulfan I	**4.4**	0.50	"	"	"	"	"	"	
4,4´-DDE	**16**	2.5	"	500	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	05/29/20	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**9.6**	2.5	"	500	"	"	06/03/20	"	
Endosulfan II	**0.056**	0.0050	"	1	"	"	"	"	
4,4´-DDT	**130**	2.5	"	500	"	"	05/29/20	"	E
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**590**	10	"	500	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*105 %*	*35-140*		*"*	*"*	*06/03/20*	*"*	
Surrogate: Decachlorobiphenyl		*822 %*	*35-140*		*"*	*"*	*"*	*"*	*S-GC*

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T6-1

T202322-22 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.68**	0.50	mg/kg	100	0052118	05/21/20	06/03/20	EPA 8081A	
gamma-BHC (Lindane)	**0.69**	0.50	"	"	"	"	"	"	
beta-BHC	ND	0.050	"	10	"	"	05/29/20	"	
delta-BHC	ND	0.050	"	"	"	"	"	"	
Heptachlor	**3.6**	0.50	"	100	"	"	06/03/20	"	
Aldrin	ND	0.050	"	10	"	"	05/29/20	"	
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	
gamma-Chlordane	**25**	5.0	"	1000	"	"	06/03/20	"	
alpha-Chlordane	**22**	5.0	"	"	"	"	"	"	
Endosulfan I	**440**	5.0	"	"	"	"	05/29/20	"	E
4,4´-DDE	**29**	5.0	"	"	"	"	"	"	
Dieldrin	ND	0.050	"	10	"	"	"	"	
Endrin	ND	0.050	"	"	"	"	"	"	
4,4´-DDD	**0.011**	0.0050	"	1	"	"	"	"	
Endosulfan II	**220**	5.0	"	1000	"	"	06/03/20	"	E
4,4´-DDT	**0.026**	0.0050	"	1	"	"	05/29/20	"	
Endrin aldehyde	ND	0.050	"	10	"	"	"	"	
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	
Methoxychlor	**250**	5.0	"	1000	"	"	06/03/20	"	E
Endrin ketone	ND	0.0050	"	1	"	"	05/29/20	"	
Toxaphene	**4100**	200	"	10000	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*214 %*	*35-140*		*"*	*"*	*06/03/20*	*"*	*S-02*
Surrogate: Decachlorobiphenyl		*9640 %*	*35-140*		*"*	*"*	*"*	*"*	*S-02*

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T6-2

T202322-23 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	06/03/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**7.3**	0.50	"	100	"	"	"	"	E
4,4´-DDE	**0.65**	0.50	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**3.0**	0.50	"	100	"	"	"	"	
Endosulfan II	ND	0.0050	"	1	"	"	"	"	
4,4´-DDT	**23**	0.50	"	100	"	"	"	"	E
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**120**	10	"	500	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*98.2 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*545 %*	*35-140*		"	"	"	"	*S-GC*

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T7-SURF

T202322-25 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**120**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**160**	2.0	"	"	"	"	"	"	
Cobalt	**14**	2.0	"	"	"	"	"	"	
Copper	**91**	1.0	"	"	"	"	"	"	
Lead	**16**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**250**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**27**	5.0	"	"	"	"	"	"	
Zinc	**260**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0052118	05/21/20	05/28/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T7-SURF

T202322-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
Endrin	ND	0.50	mg/kg	100	0052118	05/21/20	05/28/20	EPA 8081A	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.64**	0.50	"	"	"	"	"	"	
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**4.7**	2.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T7-1

T202322-26 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*74.3 %*		*65-135*	"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0052118	05/21/20	05/28/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.055**	0.050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.25**	0.050	"	"	"	"	"	"	
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.23**	0.050	"	"	"	"	"	"	
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*112 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*117 %*		*35-140*	"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T7-1

T202322-26 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T7-1

T202322-26 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T7-1

T202322-26 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 4-Bromofluorobenzene	*103 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*102 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*99.3 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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T8-SURF

T202322-29 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	06/03/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.020**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.0062**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.14**	0.050	"	10	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.098**	0.050	"	10	"	"	"	"	
Endosulfan II	ND	0.0050	"	1	"	"	"	"	
4,4´-DDT	**0.096**	0.050	"	10	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**1.5**	0.20	"	10	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*106 %*	*35-140*		"	"	"	"	

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T8-1

T202322-30 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052118	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.0059**	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.028**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*120 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*115 %*	*35-140*		"	"	"	"	

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T9-SURF

T202322-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	05/26/20	"	
Arsenic	ND	5.0	"	"	"	"	05/26/20	"	
Barium	**150**	1.0	"	"	"	"	05/26/20	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**17**	2.0	"	"	"	"	05/26/20	"	
Cobalt	**3.3**	2.0	"	"	"	"	05/26/20	"	
Copper	**74**	1.0	"	"	"	"	05/26/20	"	
Lead	**14**	3.0	"	"	"	"	05/26/20	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**9.7**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**27**	5.0	"	"	"	"	05/26/20	"	
Zinc	**42**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0052119	05/21/20	06/03/20	EPA 8081A	
gamma-BHC (Lindane)	**1.1**	0.50	"	"	"	"	"	"	
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	**1.2**	0.50	"	"	"	"	"	"	
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**4.6**	0.50	"	"	"	"	"	"	
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**32**	25	"	5000	"	"	"	"	
4,4´-DDE	ND	0.50	"	100	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07

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T9-SURF

T202322-33 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
Endrin	ND	0.50	mg/kg	100	0052119	05/21/20	06/03/20	EPA 8081A	R-07
4,4´-DDD	**57**	25	"	5000	"	"	"	"	
Endosulfan II	**26**	25	"	"	"	"	"	"	
4,4´-DDT	**260**	25	"	"	"	"	"	"	
Endrin aldehyde	ND	0.50	"	100	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**1400**	100	"	5000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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T9-1

T202322-34 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	**15**	10	"	"	"	"	"	"	
C29-C40 (MORO)	**22**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*80.0 %*	*65-135*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	**0.080**	0.050	mg/kg	10	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	**0.18**	0.050	"	"	"	"	"	"	
beta-BHC	**0.018**	0.0050	"	1	"	"	"	"	E
delta-BHC	**0.043**	0.0050	"	"	"	"	"	"	
Heptachlor	**0.20**	0.050	"	10	"	"	"	"	
Aldrin	ND	0.0050	"	1	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.34**	0.050	"	10	"	"	"	"	
alpha-Chlordane	**0.30**	0.050	"	"	"	"	"	"	
Endosulfan I	**41**	5.0	"	1000	"	"	"	"	
4,4´-DDE	**25**	5.0	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**13**	5.0	"	1000	"	"	"	"	
Endosulfan II	**45**	5.0	"	"	"	"	"	"	
4,4´-DDT	**89**	10	"	2000	"	"	"	"	
Endrin aldehyde	**30**	5.0	"	1000	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	1	"	"	"	"	
Methoxychlor	**13**	0.0050	"	"	"	"	"	"	E
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**410**	40	"	2000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*100 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*1650 %*	*35-140*		"	"	"	"	*S-01*

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T9-1

T202322-34 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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T9-1

T202322-34 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T9-1

T202322-34 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Volatile Organic Compounds by EPA Method 8260B									
Surrogate: 4-Bromofluorobenzene		*100 %*	*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane		*101 %*	*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8		*99.1 %*	*80.4-121*		*"*	*"*	*"*	*"*	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T9-2

T202322-35 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0083**	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	**0.019**	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	**0.0061**	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.0075**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.0059**	0.0050	"	"	"	"	"	"	
Endosulfan I	**1.6**	0.25	"	50	"	"	"	"	
4,4´-DDE	**0.034**	0.0050	"	1	"	"	"	"	
Dieldrin	**0.017**	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**5.3**	5.0	"	1000	"	"	"	"	
Endosulfan II	**0.11**	0.10	"	20	"	"	"	"	
4,4´-DDT	**0.35**	0.10	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	**24**	5.0	"	1000	"	"	"	"	
Endrin ketone	ND	0.0050	"	1	"	"	"	"	
Toxaphene	**2.4**	0.40	"	20	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*113 %*	*35-140*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T10-SURF

T202322-37 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**260**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	05/26/20	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**16**	2.0	"	"	"	"	"	"	
Cobalt	**2.8**	2.0	"	"	"	"	"	"	
Copper	**120**	1.0	"	"	"	"	"	"	
Lead	**130**	3.0	"	"	"	"	"	"	
Molybdenum	**5.0**	5.0	"	"	"	"	"	"	
Nickel	**7.0**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**18**	5.0	"	"	"	"	"	"	
Zinc	**64**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0052119	05/21/20	06/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**1.4**	0.50	"	"	"	"	"	"	
alpha-Chlordane	**1.1**	0.50	"	"	"	"	"	"	
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**18**	0.50	"	"	"	"	"	"	E
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T10-SURF

T202322-37 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.50	mg/kg	100	0052119	05/21/20	06/04/20	EPA 8081A	R-07
4,4´-DDD	**7.3**	0.50	"	"	"	"	"	"	E
Endosulfan II	**8.8**	0.50	"	"	"	"	"	"	E
4,4´-DDT	**52**	25	"	5000	"	"	"	"	
Endrin aldehyde	ND	0.50	"	100	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	**29**	25	"	5000	"	"	"	"	
Endrin ketone	ND	0.50	"	100	"	"	"	"	R-07
Toxaphene	**490**	100	"	5000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*		*35-140*	"	"	"	"	*S-01*
Surrogate: Decachlorobiphenyl		*%*		*35-140*	"	"	"	"	*S-01*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T10-1

T202322-38 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*77.3 %*		*65-135*	"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**1.2**	0.25	"	50	"	"	"	"	
4,4´-DDE	**0.053**	0.0050	"	1	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.026**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.17**	0.050	"	10	"	"	"	"	
4,4´-DDT	**0.058**	0.050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	**0.023**	0.0050	"	"	"	"	"	"	
Toxaphene	**1.3**	0.20	"	10	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*110 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*107 %*		*35-140*	"	"	"	"	

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T10-1

T202322-38 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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T202322-38 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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T10-1

T202322-38 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 4-Bromofluorobenzene	*103 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*102 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*99.0 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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T10-2

T202322-39 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.024**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.022**	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.57**	0.25	"	50	"	"	"	"	
4,4´-DDE	**0.060**	0.0050	"	1	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.056**	0.050	"	10	"	"	"	"	
Endosulfan II	**0.20**	0.10	"	20	"	"	"	"	
4,4´-DDT	**0.26**	0.25	"	50	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	**0.45**	0.25	"	50	"	"	"	"	
Endrin ketone	ND	0.0050	"	1	"	"	"	"	
Toxaphene	**4.6**	1.0	"	50	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*127 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*107 %*	*35-140*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T11-SURF

T202322-41 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0052119	05/21/20	06/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.66**	0.50	"	"	"	"	"	"	
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**7.2**	5.0	"	1000	"	"	"	"	
Dieldrin	**1.2**	0.50	"	100	"	"	"	"	
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**2.9**	0.50	"	"	"	"	"	"	
Endosulfan II	**2.9**	0.50	"	"	"	"	"	"	
4,4´-DDT	**15**	5.0	"	1000	"	"	"	"	
Endrin aldehyde	ND	0.50	"	100	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**200**	20	"	1000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T11-1

T202322-42 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.017**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.010**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.17**	0.050	"	10	"	"	"	"	
Dieldrin	**0.035**	0.0050	"	1	"	"	"	"	
Endrin	**0.021**	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.033**	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.20**	0.050	"	10	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**3.1**	0.20	"	10	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*104 %*	*35-140*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T12-SURF

T202322-45 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**220**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	05/26/20	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**22**	2.0	"	"	"	"	"	"	
Cobalt	**6.2**	2.0	"	"	"	"	"	"	
Copper	**140**	1.0	"	"	"	"	"	"	
Lead	**28**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**22**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**28**	5.0	"	"	"	"	"	"	
Zinc	**470**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0052119	05/21/20	06/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**5.4**	2.5	"	500	"	"	"	"	
Dieldrin	ND	0.50	"	100	"	"	"	"	R-07

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T12-SURF

T202322-45 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.50	mg/kg	100	0052119	05/21/20	06/04/20	EPA 8081A	R-07
4,4´-DDD	ND	2.5	"	500	"	"	"	"	R-07
Endosulfan II	**2.9**	2.5	"	"	"	"	"	"	
4,4´-DDT	**14**	2.5	"	"	"	"	"	"	
Endrin aldehyde	ND	0.50	"	100	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**36**	0.20	"	10	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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T12-1

T202322-46 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	**12**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*76.1 %*		*65-135*		*"*	*"*	*"*	*"*	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.25**	0.0050	"	"	"	"	"	"	E
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.66**	0.0050	"	"	"	"	"	"	E
4,4´-DDE	**1.9**	1.0	"	200	"	"	"	"	
Dieldrin	**0.73**	0.0050	"	1	"	"	"	"	E
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**5.4**	1.0	"	200	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**210**	10	"	500	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*112 %*		*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*320 %*		*35-140*		*"*	*"*	*"*	*"*	*S-GC*

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T12-1

T202322-46 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T12-1

T202322-46 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T12-1

T202322-46 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 4-Bromofluorobenzene	*102 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*102 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*98.0 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T13-SURF

T202322-49 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0052119	05/21/20	06/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.52**	0.50	"	"	"	"	"	"	
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**3.0**	2.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T13-1

T202322-50 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.48**	0.050	"	10	"	"	"	"	
Dieldrin	**0.060**	0.050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	1	"	"	"	"	
4,4´-DDD	**1.0**	0.050	"	10	"	"	"	"	E
Endosulfan II	ND	0.0050	"	1	"	"	"	"	
4,4´-DDT	**4.2**	0.050	"	10	"	"	"	"	E
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**140**	4.0	"	200	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*105 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*104 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T14-SURF

T202322-53 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	**0.014**	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.058**	0.050	"	10	"	"	"	"	
alpha-Chlordane	**0.044**	0.0050	"	1	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.24**	0.10	"	20	"	"	"	"	
Dieldrin	**0.39**	0.10	"	"	"	"	"	"	
Endrin	ND	0.0050	"	1	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.15**	0.050	"	10	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**5.9**	0.40	"	20	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*121 %*	*35-140*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T14-1

T202322-54 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.042**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.013**	0.0050	"	"	"	"	"	"	
Dieldrin	**0.013**	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.017**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.043**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.050**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.82**	0.20	"	10	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*104 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*108 %*	*35-140*		"	"	"	"	

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T15-SURF

T202322-57 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**88**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**12**	2.0	"	"	"	"	"	"	
Cobalt	**4.4**	2.0	"	"	"	"	"	"	
Copper	**42**	1.0	"	"	"	"	"	"	
Lead	**11**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**11**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**22**	5.0	"	"	"	"	"	"	
Zinc	**45**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	**0.010**	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	**0.016**	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	**0.086**	0.0050	"	"	"	"	"	"	
Aldrin	**0.11**	0.0050	"	"	"	"	"	"	E
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.88**	0.0050	"	"	"	"	"	"	E
alpha-Chlordane	**0.58**	0.0050	"	"	"	"	"	"	E
Endosulfan I	**1.9**	0.0050	"	"	"	"	"	"	E
4,4´-DDE	**3.7**	0.0050	"	"	"	"	"	"	E
Dieldrin	**1.1**	0.0050	"	"	"	"	"	"	E

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T15-SURF

T202322-57 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
4,4´-DDD	**3.6**	0.0050	"	"	"	"	"	"	E
Endosulfan II	**2.9**	0.0050	"	"	"	"	"	"	E
4,4´-DDT	**19**	0.0050	"	"	"	"	"	"	E
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**130**	0.020	"	"	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*98.7 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*337 %*	*35-140*		"	"	"	"	*S-GC*

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T15-1

T202322-58 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	**17**	10	"	"	"	"	"	"	
C29-C40 (MORO)	**53**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*78.4 %*		*65-135*	"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0052119	05/21/20	05/28/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.42**	0.050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**4.3**	0.50	"	100	"	"	"	"	
Dieldrin	**0.84**	0.050	"	10	"	"	"	"	
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**2.0**	0.50	"	100	"	"	"	"	
Endosulfan II	**1.4**	0.050	"	10	"	"	"	"	E
4,4´-DDT	**18**	5.0	"	1000	"	"	"	"	
Endrin aldehyde	ND	0.050	"	10	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**110**	20	"	1000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*92.0 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*117 %*		*35-140*	"	"	"	"	

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T15-1

T202322-58 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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T15-1

T202322-58 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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T15-1

T202322-58 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 4-Bromofluorobenzene	*103 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*101 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*98.7 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T16-SURF

T202322-61 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	**22**	10	"	"	"	"	"	"	
C29-C40 (MORO)	**33**	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*79.9 %*	*65-135*		"	"	"	"	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**110**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**17**	2.0	"	"	"	"	"	"	
Cobalt	**10**	2.0	"	"	"	"	"	"	
Copper	**40**	1.0	"	"	"	"	"	"	
Lead	**7.3**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**28**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**26**	5.0	"	"	"	"	"	"	
Zinc	**55**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T16-SURF

T202322-61 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	**0.024**	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	**0.031**	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.51**	0.050	"	10	"	"	"	"	
alpha-Chlordane	**0.43**	0.0050	"	1	"	"	"	"	E
Endosulfan I	**2.1**	0.50	"	100	"	"	"	"	
4,4´-DDE	**0.78**	0.50	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**8.4**	2.5	"	500	"	"	"	"	
Endosulfan II	**1.1**	0.50	"	100	"	"	"	"	
4,4´-DDT	**7.4**	2.5	"	500	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	**0.39**	0.050	"	10	"	"	"	"	
Toxaphene	**65**	10	"	500	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96.0 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*158 %*	*35-140*		"	"	"	"	*S-GC*
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	

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T202322-61 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Carbon tetrachloride	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	**0.0026**	0.0025	"	"	"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

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T202322-61 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Styrene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	**0.0034**	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	**0.015**	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	**0.0031**	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	**0.0068**	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*81.9-128*		"	"	"	"	
Surrogate: Dibromofluoromethane		*102 %*	*73-126*		"	"	"	"	
Surrogate: Toluene-d8		*98.9 %*	*80.4-121*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T16-1

T202322-62 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*78.5 %*		*65-135*	"	"	"	"	
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**120**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**17**	2.0	"	"	"	"	"	"	
Cobalt	**7.1**	2.0	"	"	"	"	"	"	
Copper	**13**	1.0	"	"	"	"	"	"	
Lead	**4.2**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**25**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**26**	5.0	"	"	"	"	"	"	
Zinc	**31**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	

SunStar Laboratories, Inc.



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T16-1

T202322-62 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.011**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.011**	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.38**	0.25	"	50	"	"	"	"	
4,4´-DDE	**0.029**	0.0050	"	1	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	**0.013**	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.073**	0.050	"	10	"	"	"	"	
Endosulfan II	**0.057**	0.0050	"	1	"	"	"	"	
4,4´-DDT	**0.67**	0.25	"	50	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	**0.039**	0.0050	"	"	"	"	"	"	
Toxaphene	**2.8**	1.0	"	50	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*119 %*	*35-140*		*"*	*"*	*"*	*"*	
Volatile Organic Compounds by EPA Method 8260B									
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	

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T16-1

T202322-62 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Carbon tetrachloride	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	

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T16-1

T202322-62 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Styrene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*81.9-128*		"	"	"	"	
Surrogate: Dibromofluoromethane		*101 %*	*73-126*		"	"	"	"	
Surrogate: Toluene-d8		*99.6 %*	*80.4-121*		"	"	"	"	

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T16-2

T202322-63 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052119	05/21/20	05/28/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.31**	0.10	"	20	"	"	"	"	
4,4´-DDE	ND	0.0050	"	1	"	"	"	"	
Dieldrin	**0.0073**	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.044**	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	**0.036**	0.0050	"	"	"	"	"	"	
Toxaphene	**0.47**	0.40	"	20	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*119 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*118 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T17-SURF

T202322-65 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	05/26/20	"	
Arsenic	ND	5.0	"	"	"	"	05/26/20	"	
Barium	**100**	1.0	"	"	"	"	05/26/20	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	**4.7**	2.0	"	"	"	"	05/26/20	"	
Chromium	**28**	2.0	"	"	"	"	05/26/20	"	
Cobalt	**5.8**	2.0	"	"	"	"	05/26/20	"	
Copper	**35**	1.0	"	"	"	"	05/26/20	"	
Lead	**90**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	05/26/20	"	
Nickel	**67**	2.0	"	"	"	"	05/26/20	"	
Selenium	ND	5.0	"	"	"	"	05/26/20	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**25**	5.0	"	"	"	"	05/26/20	"	
Zinc	**81**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0052119	05/21/20	05/28/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.068**	0.050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.11**	0.050	"	"	"	"	"	"	
4,4´-DDE	**0.40**	0.050	"	"	"	"	"	"	
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T17-SURF

T202322-65 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.050	mg/kg	10	0052119	05/21/20	05/28/20	EPA 8081A	R-07
4,4´-DDD	**0.24**	0.050	"	"	"	"	"	"	
Endosulfan II	**0.15**	0.050	"	"	"	"	"	"	
4,4´-DDT	**0.063**	0.050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**3.5**	0.20	"	"	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*104 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*107 %*	*35-140*		"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T17-1

T202322-66 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*74.4 %*	*65-135*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.46**	0.20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*128 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*133 %*	*35-140*		"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T17-1

T202322-66 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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T17-1

T202322-66 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T17-1

T202322-66 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 4-Bromofluorobenzene	*102 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*102 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*99.5 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T18-SURF

T202322-69 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	**0.0080**	0.0050	"	"	"	"	05/29/20	"	
gamma-Chlordane	**0.043**	0.0050	"	"	"	"	05/27/20	"	
alpha-Chlordane	**0.031**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.18**	0.050	"	10	"	"	"	"	
Dieldrin	**0.026**	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.022**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*84.7 %*	*35-140*		"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T18-1

T202322-70 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Extractable Petroleum Hydrocarbons by 8015B									
C6-C12 (GRO)	ND	10	mg/kg	1	0052117	05/21/20	05/22/20	EPA 8015B	
C13-C28 (DRO)	ND	10	"	"	"	"	"	"	
C29-C40 (MORO)	ND	10	"	"	"	"	"	"	
Surrogate: p-Terphenyl		*76.5 %*	*65-135*		"	"	"	"	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0050	mg/kg	1	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*100 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*97.7 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T18-1

T202322-70 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Bromobenzene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
Bromochloromethane	ND	0.0025	"	"	"	"	"	"	
Bromodichloromethane	ND	0.0025	"	"	"	"	"	"	
Bromoform	ND	0.0025	"	"	"	"	"	"	
Bromomethane	ND	0.0025	"	"	"	"	"	"	
n-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.0025	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.0025	"	"	"	"	"	"	
Chlorobenzene	ND	0.0025	"	"	"	"	"	"	
Chloroethane	ND	0.0025	"	"	"	"	"	"	
Chloroform	ND	0.0025	"	"	"	"	"	"	
Chloromethane	ND	0.0025	"	"	"	"	"	"	
2-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
4-Chlorotoluene	ND	0.0025	"	"	"	"	"	"	
Dibromochloromethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	0.0050	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.0025	"	"	"	"	"	"	
Dibromomethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.0025	"	"	"	"	"	"	
Dichlorodifluoromethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.0025	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.0025	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.0025	"	"	"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T18-1

T202322-70 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
cis-1,3-Dichloropropene	ND	0.0025	mg/kg	1	0052114	05/21/20	05/21/20	EPA 8260B	
trans-1,3-Dichloropropene	ND	0.0025	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.0025	"	"	"	"	"	"	
Isopropylbenzene	ND	0.0025	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.0025	"	"	"	"	"	"	
Methylene chloride	ND	0.010	"	"	"	"	"	"	
Naphthalene	ND	0.0025	"	"	"	"	"	"	
n-Propylbenzene	ND	0.0025	"	"	"	"	"	"	
Styrene	ND	0.0025	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.0025	"	"	"	"	"	"	
Tetrachloroethene	ND	0.0015	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.0025	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.0025	"	"	"	"	"	"	
Trichloroethene	ND	0.0015	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.0025	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.0025	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0025	"	"	"	"	"	"	
Vinyl chloride	ND	0.0025	"	"	"	"	"	"	
Benzene	ND	0.0025	"	"	"	"	"	"	
Toluene	ND	0.0025	"	"	"	"	"	"	
Ethylbenzene	ND	0.0025	"	"	"	"	"	"	
m,p-Xylene	ND	0.0050	"	"	"	"	"	"	
o-Xylene	ND	0.0025	"	"	"	"	"	"	
Tert-amyl methyl ether	ND	0.010	"	"	"	"	"	"	
Tert-butyl alcohol	ND	0.025	"	"	"	"	"	"	
Di-isopropyl ether	ND	0.010	"	"	"	"	"	"	
Ethyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.010	"	"	"	"	"	"	

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T18-1

T202322-70 (Soil)

SunStar Laboratories, Inc.

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 4-Bromofluorobenzene	*101 %*		*81.9-128*		*0052114*	*05/21/20*	*05/21/20*	*EPA 8260B*	
Surrogate: Dibromofluoromethane	*101 %*		*73-126*		*"*	*"*	*"*	*"*	
Surrogate: Toluene-d8	*99.4 %*		*80.4-121*		*"*	*"*	*"*	*"*	

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T19-SURF

T202322-73 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**2.0**	0.50	"	"	"	"	"	"	
alpha-Chlordane	**1.6**	0.50	"	"	"	"	"	"	
Endosulfan I	**18**	5.0	"	1000	"	"	"	"	
4,4´-DDE	**3.2**	0.50	"	100	"	"	"	"	
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**5.4**	5.0	"	1000	"	"	"	"	
Endosulfan II	**9.7**	5.0	"	"	"	"	"	"	
4,4´-DDT	**22**	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	0.50	"	100	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	**8.4**	5.0	"	1000	"	"	"	"	
Endrin ketone	ND	0.50	"	100	"	"	"	"	R-07
Toxaphene	**160**	100	"	5000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T19-1

T202322-74 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**2.0**	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	**3.3**	0.50	"	"	"	"	"	"	
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	**2.0**	0.50	"	"	"	"	"	"	
Heptachlor	**8.1**	5.0	"	1000	"	"	"	"	
Aldrin	ND	0.50	"	100	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**46**	5.0	"	1000	"	"	"	"	
alpha-Chlordane	**32**	5.0	"	"	"	"	"	"	
Endosulfan I	**82**	25	"	5000	"	"	"	"	
4,4´-DDE	**68**	5.0	"	1000	"	"	"	"	E
Dieldrin	ND	0.50	"	100	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**93**	5.0	"	1000	"	"	"	"	E
Endosulfan II	**28**	25	"	5000	"	"	"	"	
4,4´-DDT	**46**	25	"	"	"	"	"	"	
Endrin aldehyde	ND	25	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.50	"	100	"	"	"	"	R-07
Methoxychlor	**76**	25	"	5000	"	"	"	"	
Endrin ketone	ND	0.50	"	100	"	"	"	"	R-07
Toxaphene	**5400**	1000	"	50000	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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T19-2

T202322-75 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.61**	0.050	"	"	"	"	"	"	E
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**3.4**	0.50	"	100	"	"	"	"	
4,4´-DDE	**0.93**	0.50	"	"	"	"	"	"	
Dieldrin	**0.85**	0.50	"	"	"	"	"	"	
Endrin	ND	0.050	"	10	"	"	"	"	R-07
4,4´-DDD	**14**	2.5	"	500	"	"	"	"	
Endosulfan II	**2.6**	0.50	"	100	"	"	"	"	
4,4´-DDT	**0.50**	0.050	"	10	"	"	"	"	
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	**1.0**	0.050	"	"	"	"	"	"	
Toxaphene	**110**	2.0	"	100	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*123 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*99.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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T20-SURF

T202322-77 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	2.7	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	1.8	"	"	"	"	"	"	
Arsenic	ND	4.5	"	"	"	"	"	"	
Barium	**110**	0.91	"	"	"	"	"	"	
Beryllium	ND	0.91	"	"	"	"	05/26/20	"	
Cadmium	ND	1.8	"	"	"	"	05/26/20	"	
Chromium	**19**	1.8	"	"	"	"	"	"	
Cobalt	**7.1**	1.8	"	"	"	"	"	"	
Copper	**20**	0.91	"	"	"	"	"	"	
Lead	**6.3**	2.7	"	"	"	"	"	"	
Molybdenum	ND	4.5	"	"	"	"	"	"	
Nickel	**27**	1.8	"	"	"	"	"	"	
Selenium	ND	4.5	"	"	"	"	"	"	
Thallium	ND	4.5	"	"	"	"	"	"	
Vanadium	**28**	4.5	"	"	"	"	"	"	
Zinc	**45**	0.91	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**62**	5.0	"	1000	"	"	"	"	E
4,4´-DDE	**52**	5.0	"	"	"	"	"	"	
Dieldrin	ND	0.50	"	100	"	"	"	"	R-07

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T20-SURF

T202322-77 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
4,4´-DDD	**0.98**	0.50	"	"	"	"	"	"	
Endosulfan II	**3.6**	0.50	"	"	"	"	"	"	
4,4´-DDT	**75**	5.0	"	1000	"	"	"	"	E
Endrin aldehyde	ND	0.50	"	100	"	"	"	"	R-07
Endosulfan sulfate	**2.4**	0.50	"	"	"	"	"	"	
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**490**	20	"	1000	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T20-1

T202322-78 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.011**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.0070**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.0051**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.0074**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*106 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T21-SURF

T202322-81 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	**2.3**	0.50	"	"	"	"	"	"	
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**12**	5.0	"	1000	"	"	"	"	
alpha-Chlordane	ND	50	"	10000	"	"	"	"	R-07
Endosulfan I	**280**	50	"	"	"	"	"	"	
4,4´-DDE	**7.4**	5.0	"	1000	"	"	"	"	
Dieldrin	ND	0.50	"	100	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**140**	50	"	10000	"	"	"	"	
4,4´-DDT	**4.2**	0.50	"	100	"	"	"	"	
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	**9.7**	5.0	"	1000	"	"	"	"	
Methoxychlor	**19**	5.0	"	"	"	"	"	"	
Endrin ketone	ND	0.50	"	100	"	"	"	"	R-07
Toxaphene	**780**	20	"	1000	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T21-1

T202322-82 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.013**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.011**	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.21**	0.050	"	10	"	"	"	"	
4,4´-DDE	**0.13**	0.050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.15**	0.050	"	10	"	"	"	"	
4,4´-DDT	**0.015**	0.0050	"	1	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	**0.029**	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.98**	0.20	"	10	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*102 %*	*35-140*		"	"	"	"	

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T22-SURF

T202322-85 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**100**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	05/26/20	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**16**	2.0	"	"	"	"	"	"	
Cobalt	**4.9**	2.0	"	"	"	"	"	"	
Copper	**88**	1.0	"	"	"	"	"	"	
Lead	**10**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**20**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**27**	5.0	"	"	"	"	"	"	
Zinc	**52**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**2.8**	0.50	"	"	"	"	"	"	
4,4´-DDE	**0.82**	0.50	"	"	"	"	"	"	
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07

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T22-SURF

T202322-85 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**4.5**	0.50	"	"	"	"	"	"	
4,4´-DDT	**1.1**	0.50	"	"	"	"	"	"	
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	**0.51**	0.50	"	"	"	"	"	"	
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**27**	2.0	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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T22-1

T202322-86 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	05/28/20	"	
Endosulfan I	**0.032**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.0083**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	05/27/20	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	05/28/20	"	
Endosulfan II	**0.040**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.011**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	05/27/20	"	
Endosulfan sulfate	**0.014**	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.25**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*79.7 %*	*35-140*		*"*	*"*	*05/28/20*	*"*	
Surrogate: Decachlorobiphenyl		*72.5 %*	*35-140*		*"*	*"*	*"*	*"*	

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T23-SURF

T202322-89 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.073**	0.050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.58**	0.20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*105 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*105 %*		*35-140*	"	"	"	"	

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T23-1

T202322-90 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0052120	05/21/20	05/27/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.054**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*94.7 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*96.3 %*	*35-140*		"	"	"	"	

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T24-SURF

T202322-93 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**130**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	05/26/20	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**16**	2.0	"	"	"	"	"	"	
Cobalt	**5.8**	2.0	"	"	"	"	"	"	
Copper	**20**	1.0	"	"	"	"	"	"	
Lead	**6.0**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**24**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**32**	5.0	"	"	"	"	"	"	
Zinc	**36**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.92**	0.50	"	"	"	"	"	"	
4,4´-DDE	**0.52**	0.50	"	"	"	"	"	"	
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07

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T24-SURF

T202322-93 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Endrin	ND	0.50	mg/kg	100	0052120	05/21/20	05/27/20	EPA 8081A	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**1.9**	0.50	"	"	"	"	"	"	
4,4´-DDT	**1.1**	0.50	"	"	"	"	"	"	
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*S-01*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

T24-1

T202322-94 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0052120	05/21/20	05/27/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	05/28/20	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	05/27/20	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	05/28/20	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	05/27/20	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	05/28/20	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	05/27/20	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*73.2 %*		*35-140*	*"*	*"*	*05/28/20*	*"*	
Surrogate: Decachlorobiphenyl		*92.4 %*		*35-140*	*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

S1

T202322-97 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**77**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	05/26/20	"	
Cadmium	ND	2.0	"	"	"	"	05/26/20	"	
Chromium	**24**	2.0	"	"	"	"	"	"	
Cobalt	**150**	2.0	"	"	"	"	"	"	
Copper	**220**	1.0	"	"	"	"	"	"	
Lead	**6.1**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**15**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**20**	5.0	"	"	"	"	"	"	
Zinc	**13000**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

S2

T202322-98 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	2.7	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	1.8	"	"	"	"	"	"	
Arsenic	ND	4.5	"	"	"	"	"	"	
Barium	**180**	0.91	"	"	"	"	"	"	
Beryllium	ND	0.91	"	"	"	"	05/26/20	"	
Cadmium	**3.3**	1.8	"	"	"	"	05/26/20	"	
Chromium	**27**	1.8	"	"	"	"	"	"	
Cobalt	**7.9**	1.8	"	"	"	"	"	"	
Copper	**100**	0.91	"	"	"	"	"	"	
Lead	**330**	2.7	"	"	"	"	"	"	
Molybdenum	ND	4.5	"	"	"	"	"	"	
Nickel	**23**	1.8	"	"	"	"	"	"	
Selenium	ND	4.5	"	"	"	"	"	"	
Thallium	ND	4.5	"	"	"	"	"	"	
Vanadium	**30**	4.5	"	"	"	"	"	"	
Zinc	**5000**	0.91	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

S3

T202322-99 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	0052206	05/22/20	05/26/20	EPA 6010b	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**310**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	**21**	2.0	"	"	"	"	"	"	
Chromium	**70**	2.0	"	"	"	"	"	"	
Cobalt	**7.9**	2.0	"	"	"	"	"	"	
Copper	**740**	1.0	"	"	"	"	"	"	
Lead	**1400**	3.0	"	"	"	"	"	"	
Molybdenum	ND	5.0	"	"	"	"	"	"	
Nickel	**29**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	5.0	"	"	"	"	"	"	
Vanadium	**23**	5.0	"	"	"	"	"	"	
Zinc	**2000**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	**0.13**	0.10	mg/kg	1	0052205	05/22/20	05/26/20	EPA 7471A Soil	

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PO Box 332	Project Number: 194-006	**Reported:**
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Extractable Petroleum Hydrocarbons by 8015B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052117 - EPA 3550B GC										
Blank (0052117-BLK1)				Prepared & Analyzed: 05/21/20						
C6-C12 (GRO)	ND	10	mg/kg							
C13-C28 (DRO)	ND	10	"							
C29-C40 (MORO)	ND	10	"							
Surrogate: p-Terphenyl	*87.7*		*"*	*98.0*		*89.4*	*65-135*			
LCS (0052117-BS1)				Prepared & Analyzed: 05/21/20						
C13-C28 (DRO)	470	10	mg/kg	490		95.9	75-125			
Surrogate: p-Terphenyl	*85.6*		*"*	*98.0*		*87.3*	*65-135*			
Matrix Spike (0052117-MS1)	**Source: T202318-02**			Prepared & Analyzed: 05/21/20						
C13-C28 (DRO)	470	10	mg/kg	500	ND	93.7	75-125			
Surrogate: p-Terphenyl	*84.2*		*"*	*100*		*84.2*	*65-135*			
Matrix Spike Dup (0052117-MSD1)	**Source: T202318-02**			Prepared & Analyzed: 05/21/20						
C13-C28 (DRO)	480	10	mg/kg	490	ND	98.6	75-125	3.02	20	
Surrogate: p-Terphenyl	*87.0*		*"*	*98.0*		*88.7*	*65-135*			

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052206 - EPA 3050B										
Blank (0052206-BLK1)				Prepared: 05/22/20 Analyzed: 05/26/20						
Antimony	ND	3.0	mg/kg							
Silver	ND	2.0	"							
Arsenic	ND	5.0	"							
Barium	ND	1.0	"							
Beryllium	ND	1.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	2.0	"							
Cobalt	ND	2.0	"							
Copper	ND	1.0	"							
Lead	ND	3.0	"							
Molybdenum	ND	5.0	"							
Nickel	ND	2.0	"							
Selenium	ND	5.0	"							
Thallium	ND	5.0	"							
Vanadium	ND	5.0	"							
Zinc	ND	1.0	"							
LCS (0052206-BS1)				Prepared: 05/22/20 Analyzed: 05/26/20						
Arsenic	95.6	5.0	mg/kg	100		95.6	75-125			
Barium	94.9	1.0	"	100		94.9	75-125			
Cadmium	94.8	2.0	"	100		94.8	75-125			
Chromium	95.0	2.0	"	100		95.0	75-125			
Lead	95.0	3.0	"	100		95.0	75-125			
Matrix Spike (0052206-MS1)	**Source: T202322-01**			Prepared: 05/22/20 Analyzed: 05/26/20						
Arsenic	69.3	5.0	mg/kg	97.1	0.924	70.4	75-125			QM-05
Barium	179	1.0	"	97.1	88.6	93.1	75-125			
Cadmium	67.9	2.0	"	97.1	0.312	69.6	75-125			QM-05
Chromium	85.2	2.0	"	97.1	14.0	73.4	75-125			QM-05
Lead	69.2	3.0	"	97.1	4.80	66.3	75-125			QM-05

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052206 - EPA 3050B										
Matrix Spike Dup (0052206-MSD1)	**Source: T202322-01**			Prepared: 05/22/20 Analyzed: 05/26/20						
Arsenic	65.7	4.5	mg/kg	90.9	0.924	71.2	75-125	5.38	20	QM-05
Barium	157	0.91	"	90.9	88.6	75.6	75-125	12.9	20	
Cadmium	60.8	1.8	"	90.9	0.312	66.5	75-125	11.1	20	QM-05
Chromium	78.3	1.8	"	90.9	14.0	70.7	75-125	8.51	20	QM-05
Lead	66.1	2.7	"	90.9	4.80	67.4	75-125	4.60	20	QM-05

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Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052205 - EPA 7471A Soil										
Blank (0052205-BLK1)				Prepared: 05/22/20 Analyzed: 05/26/20						
Mercury	ND	0.10	mg/kg							
LCS (0052205-BS1)				Prepared: 05/22/20 Analyzed: 05/26/20						
Mercury	0.384	0.10	mg/kg	0.403		95.1	80-120			
Matrix Spike (0052205-MS1)	**Source: T202322-01**			Prepared: 05/22/20 Analyzed: 05/26/20						
Mercury	0.412	0.10	mg/kg	0.417	0.0307	91.5	75-125			
Matrix Spike Dup (0052205-MSD1)	**Source: T202322-01**			Prepared: 05/22/20 Analyzed: 05/26/20						
Mercury	0.407	0.10	mg/kg	0.410	0.0307	91.9	75-125	1.15	20	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052118 - EPA 3550 ECD/GCMS										
Blank (0052118-BLK1)				Prepared: 05/21/20 Analyzed: 05/28/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00855*		*"*	*0.0100*		*85.5*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00876*		*"*	*0.0100*		*87.6*	*35-140*			
LCS (0052118-BS1)				Prepared: 05/21/20 Analyzed: 05/28/20						
gamma-BHC (Lindane)	0.0348	0.0050	mg/kg	0.0400		86.9	40-120			
Heptachlor	0.0352	0.0050	"	0.0400		88.1	40-120			
Aldrin	0.0290	0.0050	"	0.0400		72.5	40-120			
Dieldrin	0.0356	0.0050	"	0.0400		89.0	40-120			
Endrin	0.0354	0.0050	"	0.0400		88.5	40-120			
4,4´-DDT	0.0283	0.0050	"	0.0400		70.8	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.00789*		*"*	*0.0100*		*78.9*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00783*		*"*	*0.0100*		*78.3*	*35-140*			

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052118 - EPA 3550 ECD/GCMS										
Matrix Spike (0052118-MS1)	**Source: T202322-01**			Prepared: 05/21/20 Analyzed: 05/28/20						
gamma-BHC (Lindane)	ND	1.0	mg/kg	0.0400	ND		30-120			QM-07
Heptachlor	ND	1.0	"	0.0400	ND		30-120			QM-07
Aldrin	ND	1.0	"	0.0400	ND		30-120			QM-07
Dieldrin	ND	1.0	"	0.0400	ND		30-120			QM-07
Endrin	0.498	1.0	"	0.0400	0.361	342	30-120			QM-07
4,4´-DDT	2.01	1.0	"	0.0400	2.22	NR	30-120			QM-07
Surrogate: Tetrachloro-meta-xylene	*0.00*		*"*	*0.0100*			*35-140*			*S-01*
Surrogate: Decachlorobiphenyl	*0.00*		*"*	*0.0100*			*35-140*			*S-01*
Matrix Spike Dup (0052118-MSD1)	**Source: T202322-01**			Prepared: 05/21/20 Analyzed: 05/28/20						
gamma-BHC (Lindane)	ND	1.0	mg/kg	0.0396	ND		30-120		30	QM-07
Heptachlor	ND	1.0	"	0.0396	ND		30-120		30	QM-07
Aldrin	ND	1.0	"	0.0396	ND		30-120		30	QM-07
Dieldrin	ND	1.0	"	0.0396	ND		30-120		30	QM-07
Endrin	0.548	1.0	"	0.0396	0.361	473	30-120	32.0	30	QM-07
4,4´-DDT	2.40	1.0	"	0.0396	2.22	439	30-120	NR	30	QM-07
Surrogate: Tetrachloro-meta-xylene	*0.00*		*"*	*0.00990*			*35-140*			*S-01*
Surrogate: Decachlorobiphenyl	*0.00*		*"*	*0.00990*			*35-140*			*S-01*
Batch 0052119 - EPA 3550 ECD/GCMS										
Blank (0052119-BLK1)				Prepared: 05/21/20 Analyzed: 06/03/20						
alpha-BHC	ND	0.00050	mg/kg							
gamma-BHC (Lindane)	ND	0.00050	"							
beta-BHC	ND	0.00050	"							
delta-BHC	ND	0.00050	"							
Heptachlor	ND	0.00050	"							
Aldrin	ND	0.00050	"							
Heptachlor epoxide	ND	0.00050	"							
gamma-Chlordane	ND	0.00050	"							
alpha-Chlordane	ND	0.00050	"							
Endosulfan I	ND	0.00050	"							
4,4´-DDE	ND	0.00050	"							
Dieldrin	ND	0.00050	"							
Endrin	ND	0.00050	"							
4,4´-DDD	ND	0.00050	"							

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052119 - EPA 3550 ECD/GCMS										
Blank (0052119-BLK1)				Prepared: 05/21/20 Analyzed: 06/03/20						
Endosulfan II	ND	0.00050	mg/kg							
4,4´-DDT	ND	0.00050	"							
Endrin aldehyde	ND	0.00050	"							
Endosulfan sulfate	ND	0.00050	"							
Methoxychlor	ND	0.00050	"							
Endrin ketone	ND	0.00050	"							
Toxaphene	ND	0.0020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00104*		"	*0.00100*		*104*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00112*		"	*0.00100*		*112*	*35-140*			
LCS (0052119-BS1)				Prepared: 05/21/20 Analyzed: 06/03/20						
gamma-BHC (Lindane)	0.00395	0.00050	mg/kg	0.00400		98.7	40-120			
Heptachlor	0.00392	0.00050	"	0.00400		97.9	40-120			
Aldrin	0.00258	0.00050	"	0.00400		64.4	40-120			
Dieldrin	0.00408	0.00050	"	0.00400		102	40-120			
Endrin	0.00399	0.00050	"	0.00400		99.8	40-120			
4,4´-DDT	0.00356	0.00050	"	0.00400		89.1	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.000863*		"	*0.00100*		*86.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.000917*		"	*0.00100*		*91.7*	*35-140*			
Matrix Spike (0052119-MS1)	**Source: T202322-33**			Prepared: 05/21/20 Analyzed: 06/03/20						
gamma-BHC (Lindane)	0.282	0.050	mg/kg	0.00400	1.14	NR	30-120			QM-01
Heptachlor	0.292	0.050	"	0.00400	1.19	NR	30-120			QM-01
Aldrin	ND	0.050	"	0.00400	ND		30-120			QM-01
Dieldrin	1.20	0.050	"	0.00400	ND	NR	30-120			QM-01
Endrin	ND	0.050	"	0.00400	ND		30-120			QM-01
4,4´-DDT	131	0.050	"	0.00400	256	NR	30-120			QM-01
Surrogate: Tetrachloro-meta-xylene	*0.00*		"	*0.00100*			*35-140*			*S-01*
Surrogate: Decachlorobiphenyl	*0.00*		"	*0.00100*			*35-140*			*S-01*

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052119 - EPA 3550 ECD/GCMS										
Matrix Spike Dup (0052119-MSD1)	**Source: T202322-33**			Prepared: 05/21/20 Analyzed: 06/03/20						
gamma-BHC (Lindane)	0.352	0.050	mg/kg	0.00400	1.14	NR	30-120	NR	30	QM-01
Heptachlor	0.457	0.050	"	0.00400	1.19	NR	30-120	NR	30	QM-01
Aldrin	ND	0.050	"	0.00400	ND		30-120		30	QM-01
Dieldrin	ND	0.050	"	0.00400	ND		30-120		30	QM-01
Endrin	ND	0.050	"	0.00400	ND		30-120		30	QM-01
4,4´-DDT	138	0.050	"	0.00400	256	NR	30-120	NR	30	QM-01
Surrogate: Tetrachloro-meta-xylene	*0.00*		*"*	*0.00100*			*35-140*			*S-01*
Surrogate: Decachlorobiphenyl	*0.00*		*"*	*0.00100*			*35-140*			*S-01*
Batch 0052120 - EPA 3550 ECD/GCMS										
Blank (0052120-BLK1)				Prepared: 05/21/20 Analyzed: 05/27/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.0118*		*"*	*0.0101*		*117*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0115*		*"*	*0.0101*		*114*	*35-140*			

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052120 - EPA 3550 ECD/GCMS										
LCS (0052120-BS1)				Prepared: 05/21/20 Analyzed: 05/27/20						
gamma-BHC (Lindane)	0.0391	0.0050	mg/kg	0.0404		96.7	40-120			
Heptachlor	0.0390	0.0050	"	0.0404		96.5	40-120			
Aldrin	0.0301	0.0050	"	0.0404		74.6	40-120			
Dieldrin	0.0398	0.0050	"	0.0404		98.5	40-120			
Endrin	0.0392	0.0050	"	0.0404		97.1	40-120			
4,4´-DDT	0.0343	0.0050	"	0.0404		85.0	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.00865*		*"*	*0.0101*		*85.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00847*		*"*	*0.0101*		*83.9*	*35-140*			
Matrix Spike (0052120-MS1)		**Source: T202322-66**		Prepared: 05/21/20 Analyzed: 05/27/20						
gamma-BHC (Lindane)	0.0505	0.050	mg/kg	0.0404	ND	125	30-120			
Heptachlor	0.0550	0.050	"	0.0404	ND	136	30-120			QM-01
Aldrin	0.0459	0.050	"	0.0404	ND	114	30-120			QM-01
Dieldrin	0.0882	0.050	"	0.0404	0.0124	188	30-120			
Endrin	0.0541	0.050	"	0.0404	ND	134	30-120			QM-01
4,4´-DDT	0.121	0.050	"	0.0404	0.0164	259	30-120			QM-01
Surrogate: Tetrachloro-meta-xylene	*0.0121*		*"*	*0.0101*		*120*	*35-140*			QM-01
Surrogate: Decachlorobiphenyl	*0.0150*		*"*	*0.0101*		*148*	*35-140*			*QM-01*
Matrix Spike Dup (0052120-MSD1)		**Source: T202322-66**		Prepared: 05/21/20 Analyzed: 05/27/20						
gamma-BHC (Lindane)	0.0470	0.050	mg/kg	0.0404	ND	116	30-120	7.04	30	
Heptachlor	0.0502	0.050	"	0.0404	ND	124	30-120	9.25	30	QM-01
Aldrin	0.0415	0.050	"	0.0404	ND	103	30-120	10.0	30	
Dieldrin	0.0659	0.050	"	0.0404	0.0124	132	30-120	34.6	30	QM-01
Endrin	0.0512	0.050	"	0.0404	ND	127	30-120	5.52	30	QM-01
4,4´-DDT	0.0609	0.050	"	0.0404	0.0164	110	30-120	80.8	30	QM-01
Surrogate: Tetrachloro-meta-xylene	*0.0110*		*"*	*0.0101*		*109*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0122*		*"*	*0.0101*		*121*	*35-140*			

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052114 - EPA 5030 GCMS										
Blank (0052114-BLK1)				Prepared & Analyzed: 05/21/20						
Bromobenzene	ND	0.0025	mg/kg							
Bromochloromethane	ND	0.0025	"							
Bromodichloromethane	ND	0.0025	"							
Bromoform	ND	0.0025	"							
Bromomethane	ND	0.0025	"							
n-Butylbenzene	ND	0.0025	"							
sec-Butylbenzene	ND	0.0025	"							
tert-Butylbenzene	ND	0.0025	"							
Carbon tetrachloride	ND	0.0025	"							
Chlorobenzene	ND	0.0025	"							
Chloroethane	ND	0.0025	"							
Chloroform	ND	0.0025	"							
Chloromethane	ND	0.0025	"							
2-Chlorotoluene	ND	0.0025	"							
4-Chlorotoluene	ND	0.0025	"							
Dibromochloromethane	ND	0.0025	"							
1,2-Dibromo-3-chloropropane	ND	0.0050	"							
1,2-Dibromoethane (EDB)	ND	0.0025	"							
Dibromomethane	ND	0.0025	"							
1,2-Dichlorobenzene	ND	0.0025	"							
1,3-Dichlorobenzene	ND	0.0025	"							
1,4-Dichlorobenzene	ND	0.0025	"							
Dichlorodifluoromethane	ND	0.0025	"							
1,1-Dichloroethane	ND	0.0025	"							
1,2-Dichloroethane	ND	0.0025	"							
1,1-Dichloroethene	ND	0.0025	"							
cis-1,2-Dichloroethene	ND	0.0025	"							
trans-1,2-Dichloroethene	ND	0.0025	"							
1,2-Dichloropropane	ND	0.0025	"							
1,3-Dichloropropane	ND	0.0025	"							
2,2-Dichloropropane	ND	0.0025	"							
1,1-Dichloropropene	ND	0.0025	"							
cis-1,3-Dichloropropene	ND	0.0025	"							
trans-1,3-Dichloropropene	ND	0.0025	"							
Hexachlorobutadiene	ND	0.0025	"							
Isopropylbenzene	ND	0.0025	"							

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052114 - EPA 5030 GCMS										
Blank (0052114-BLK1)				Prepared & Analyzed: 05/21/20						
p-Isopropyltoluene	ND	0.0025	mg/kg							
Methylene chloride	ND	0.010	"							
Naphthalene	ND	0.0025	"							
n-Propylbenzene	ND	0.0025	"							
Styrene	ND	0.0025	"							
1,1,2,2-Tetrachloroethane	ND	0.0025	"							
1,1,1,2-Tetrachloroethane	ND	0.0025	"							
Tetrachloroethene	ND	0.0015	"							
1,2,3-Trichlorobenzene	ND	0.0025	"							
1,2,4-Trichlorobenzene	ND	0.0025	"							
1,1,2-Trichloroethane	ND	0.0025	"							
1,1,1-Trichloroethane	ND	0.0025	"							
Trichloroethene	ND	0.0015	"							
Trichlorofluoromethane	ND	0.0025	"							
1,2,3-Trichloropropane	ND	0.0025	"							
1,3,5-Trimethylbenzene	ND	0.0025	"							
1,2,4-Trimethylbenzene	ND	0.0025	"							
Vinyl chloride	ND	0.0025	"							
Benzene	ND	0.0025	"							
Toluene	ND	0.0025	"							
Ethylbenzene	ND	0.0025	"							
m,p-Xylene	ND	0.0050	"							
o-Xylene	ND	0.0025	"							
Tert-amyl methyl ether	ND	0.010	"							
Tert-butyl alcohol	ND	0.025	"							
Di-isopropyl ether	ND	0.010	"							
Ethyl tert-butyl ether	ND	0.010	"							
Methyl tert-butyl ether	ND	0.010	"							
Surrogate: 4-Bromofluorobenzene	*0.0508*		"	*0.0500*		*102*	*81.9-128*			
Surrogate: Dibromofluoromethane	*0.0488*		"	*0.0500*		*97.5*	*73-126*			
Surrogate: Toluene-d8	*0.0490*		"	*0.0500*		*98.0*	*80.4-121*			

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Volatile Organic Compounds by EPA Method 8260B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052114 - EPA 5030 GCMS										
LCS (0052114-BS1)				Prepared & Analyzed: 05/21/20						
Chlorobenzene	0.0453	0.0025	mg/kg	0.0500		90.6	65.2-124			
1,1-Dichloroethene	0.0469	0.0025	"	0.0500		93.7	60.9-131			
Trichloroethene	0.0454	0.0015	"	0.0500		90.7	62.1-126			
Benzene	0.0460	0.0025	"	0.0500		91.9	65.3-127			
Toluene	0.0442	0.0025	"	0.0500		88.3	64.3-122			
Surrogate: 4-Bromofluorobenzene	*0.0500*		*"*	*0.0500*		*100*	*81.9-128*			
Surrogate: Dibromofluoromethane	*0.0492*		*"*	*0.0500*		*98.3*	*73-126*			
Surrogate: Toluene-d8	*0.0502*		*"*	*0.0500*		*100*	*80.4-121*			
Matrix Spike (0052114-MS1)		**Source: T202322-02**		Prepared & Analyzed: 05/21/20						
Chlorobenzene	0.0243	0.0025	mg/kg	0.0495	ND	49.1	65.2-125			QM-07
1,1-Dichloroethene	0.0265	0.0025	"	0.0495	ND	53.5	60.9-131			QM-07
Trichloroethene	0.0250	0.0015	"	0.0495	ND	50.5	62.1-126			QM-07
Benzene	0.0250	0.0025	"	0.0495	ND	50.4	65.3-127			QM-07
Toluene	0.0240	0.0025	"	0.0495	ND	48.4	64.3-125			QM-07
Surrogate: 4-Bromofluorobenzene	*0.0499*		*"*	*0.0495*		*101*	*81.9-128*			
Surrogate: Dibromofluoromethane	*0.0515*		*"*	*0.0495*		*104*	*73-126*			
Surrogate: Toluene-d8	*0.0491*		*"*	*0.0495*		*99.1*	*80.4-121*			
Matrix Spike Dup (0052114-MSD1)		**Source: T202322-02**		Prepared & Analyzed: 05/21/20						
Chlorobenzene	0.0203	0.0025	mg/kg	0.0492	ND	41.2	65.2-125	18.1	20	QM-07
1,1-Dichloroethene	0.0238	0.0025	"	0.0492	ND	48.4	60.9-131	10.5	20	QM-07
Trichloroethene	0.0214	0.0015	"	0.0492	ND	43.5	62.1-126	15.4	20	QM-07
Benzene	0.0215	0.0025	"	0.0492	ND	43.6	65.3-127	15.1	20	QM-07
Toluene	0.0203	0.0025	"	0.0492	ND	41.3	64.3-125	16.4	20	QM-07
Surrogate: 4-Bromofluorobenzene	*0.0504*		*"*	*0.0492*		*102*	*81.9-128*			
Surrogate: Dibromofluoromethane	*0.0519*		*"*	*0.0492*		*105*	*73-126*			
Surrogate: Toluene-d8	*0.0491*		*"*	*0.0492*		*99.8*	*80.4-121*			

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Mike Jaroudi, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/04/20 16:41

Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
QM-07	The spike recovery and or RPD was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to possible matrix interference. The LCS was within acceptance criteria. The data is acceptable as no negative impact on data is expected.
QM-01	The % recovery is outside of established control limits due to matrix interference and/or sample dilution due to matrix effect. The batch was accepted based on acceptable LCS recovery.
E	The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 1 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202822 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
01	T1-SURF	5/19/20		SOIL	JAR									X		XX					1
02	T1-1						X						X			X					1
03	T1-2						[redacted]													HOLD	1
04	T1-3																			HOLD	1
05	T2-SURF													X		X					1
06	T2-1												X			XX					1
07	T2-2															XX					1
08	T2-3																			HOLD	1
09	T3-SURF															X					1
10	T3-1															XX					1
11	T3-2															X					1
12	T3-3																			HOLD	1
13	T4-SURF															X					1
14	T4-1						X						X			X					1
15	T4-2																			HOLD	1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers	
Chain of Custody seals Y/N/NA	
Seals intact? Y/N/NA	
Received good condition/cold	4.2 / 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
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Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 2 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
16	T4-3	5/19/20		SOIL	JAR															HOLD	1
17	T5-SURF													X		X					1
18	T5-1												X			X					1
19	T5-2						X									X					1
20	T5-3																			HOLD	1
21	T6-SURF															X					1
22	T6-1															X					1
23	T6-2															X					1
24	T6-3																			HOLD	1
25	T7-SURF													X		X					1
26	T7-1						X						X			X					1
27	T7-2																			HOLD	1
28	T7-3																			HOLD	1
29	T8-SURF															X					1
30	T8-1															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 - 11:00	Ed Duero	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers:
Chain of Custody seals: Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold: 4.2 °C

Turn around time: NORMAL

Notes

Sample disposal instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 3 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: I202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	~~8020 ICP-MS Metals~~	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
31	T9-2	5/19/20		SOIL	JAR															HOLD	1
32	T9-3																			HOLD	1
33	T9-SURF													X	X	X					1
34	T9-1						X						X			X					1
35	T9-2															X					1
36	T9-3																			HOLD	1
37	T10-SURF													X	X	X					1
38	T10-1						X						X			X					1
39	T10-2															X					1
40	T10-3																			HOLD	1
41	T11-SURF															X					1
42	T11-1															X					1
43	T11-2																			HOLD	1
44	T11-3																			HOLD	1
45	T12-SURF													X	X	X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20; 11:00	Ed Stevens	5/20/20 1100
GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers	
Chain of Custody seals Y/N/NA	
Seals intact? Y/N/NA	
Received good condition/cold	4.2 / 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 4 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
46	T12 - 1	5/19/20		SOIL	JAR		X						X			X					1
47	T12 - 2																			HOLD	1
48	T12 - 3																			HOLD	1
49	T13 - SURF															X					1
50	T13 - 1															X					1
51	T13 - 2																			HOLD	1
52	T13 - 3																			HOLD	1
53	T14 - SURF															X					1
54	T14 - 1															X					1
55	T14 - 2																			HOLD	1
56	T14 - 3																			HOLD	1
57	T15 - SURF													X		X					1
58	T15 - 1						X						X			X					1
59	T15 - 2																			HOLD	1
60	T15 - 3																			HOLD	1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	5/20/20 - 11:00	Ed Stevens	5/20/20 1100
GLS	5/21/20 900		5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO Box 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 5 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
61	T16 - SURF	5/19/20		SOIL	JAR		X						X	X		X					1
62	T16 - 1						X						X	X		X					1
63	T16 - 2															X					1
64	T16 - 3																			HOLD	1
65	T17 - SURF													X		X					1
66	T17 - 1						X						X			X					1
67	T17 - 2																			HOLD	1
68	T17 - 3																			HOLD	1
69	T18 - SURF															X					1
70	T18 - 1						X						X			X					1
71	T18 - 2																			HOLD	1
72	T18 - 3																			HOLD	1
73	T19 - SURF															X					1
74	T19 - 1															X					1
75	T19 - 2															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	5/20/20 11:00	Ed Stevens	5/20/20 1100
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
GLS	5/21/20 900		5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 19274

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO Box 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 6 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
76	T19-3	5/19/20		SOIL	JAR															HOLD	1
77	T20-SURF													X		X					1
78	T20-1															X					1
79	T20-2																			HOLD	1
80	T20-3																			HOLD	1
81	T21-SURF															X					1
82	T21-1															X					1
83	T21-2																			HOLD	1
84	T21-3																			HOLD	1
85	T22-SURF													X		X					1
86	T22-1															X					1
87	T22-2																			HOLD	1
88	T22-3																			HOLD	1
89	T23-SURF															X					1
90	T23-1															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19274

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 7 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type (SOIL)	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
91	T23-2	5/19/20		~~JAR~~ SOIL	JAR															HOLD	1
92	T23-3			SOIL																HOLD	1
93	T24-SURF													X		X					1
94	T24-1															X					1
95	T24-2																			HOLD	1
96	T24-3																			HOLD	1
97	S1													X							1
98	S2													X							1
99	S3													X							1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20; 11:00	Ed Stevens	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 9
Chain of Custody seals Y/N/NA:
Seals intact? Y/N/NA:
Received good condition/cold: 9.2

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19274

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

12 June 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 05/21/20 09:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T5-3	T202322-20	Soil	05/19/20 00:00	05/21/20 09:00
T6-3	T202322-24	Soil	05/19/20 00:00	05/21/20 09:00
T9-3	T202322-36	Soil	05/19/20 00:00	05/21/20 09:00
T10-3	T202322-40	Soil	05/19/20 00:00	05/21/20 09:00
T11-2	T202322-43	Soil	05/19/20 00:00	05/21/20 09:00
T12-2	T202322-47	Soil	05/19/20 00:00	05/21/20 09:00
T12-3	T202322-48	Soil	05/19/20 00:00	05/21/20 09:00
T13-2	T202322-51	Soil	05/19/20 00:00	05/21/20 09:00
T13-3	T202322-52	Soil	05/19/20 00:00	05/21/20 09:00
T15-2	T202322-59	Soil	05/19/20 00:00	05/21/20 09:00
T15-3	T202322-60	Soil	05/19/20 00:00	05/21/20 09:00
T19-3	T202322-76	Soil	05/19/20 00:00	05/21/20 09:00

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

DETECTIONS SUMMARY

Sample ID: T5-3 **Laboratory ID:** T202322-20

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.15**	0.050	mg/kg	EPA 8081A	O-05
alpha-Chlordane	**0.13**	0.050	mg/kg	EPA 8081A	O-05
Endosulfan I	**4.2**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDE	**0.050**	0.050	mg/kg	EPA 8081A	O-05
Dieldrin	**0.065**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDD	**0.080**	0.050	mg/kg	EPA 8081A	O-05
Endosulfan II	**0.61**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDT	**0.17**	0.050	mg/kg	EPA 8081A	O-05
Methoxychlor	**0.075**	0.050	mg/kg	EPA 8081A	O-05
Endrin ketone	**0.17**	0.050	mg/kg	EPA 8081A	O-05

Sample ID: T6-3 **Laboratory ID:** T202322-24

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.011**	0.0050	mg/kg	EPA 8081A	O-05
alpha-Chlordane	**0.0079**	0.0050	mg/kg	EPA 8081A	O-05
Endosulfan I	**1.9**	0.25	mg/kg	EPA 8081A	O-05
4,4´-DDE	**0.11**	0.050	mg/kg	EPA 8081A	O-05
Dieldrin	**0.049**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDD	**0.082**	0.050	mg/kg	EPA 8081A	O-05
Endosulfan II	**0.24**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDT	**1.0**	0.25	mg/kg	EPA 8081A	O-05
Toxaphene	**13**	1.0	mg/kg	EPA 8081A	O-05

Sample ID: T9-3 **Laboratory ID:** T202322-36

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-BHC (Lindane)	**0.0057**	0.0050	mg/kg	EPA 8081A	O-05
Endosulfan I	**1.3**	0.25	mg/kg	EPA 8081A	O-05
Endosulfan II	**0.0082**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDT	**0.0086**	0.0050	mg/kg	EPA 8081A	O-05

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

Sample ID: T9-3 **Laboratory ID:** T202322-36

Analyte	Result	Reporting Limit	Units	Method	Notes
Endrin ketone	**0.012**	0.0050	mg/kg	EPA 8081A	O-05

Sample ID: T10-3 **Laboratory ID:** T202322-40

No Results Detected

Sample ID: T11-2 **Laboratory ID:** T202322-43

Analyte	Result	Reporting Limit	Units	Method	Notes
Heptachlor epoxide	**0.0089**	0.0050	mg/kg	EPA 8081A	O-05
gamma-Chlordane	**0.037**	0.0050	mg/kg	EPA 8081A	O-05
alpha-Chlordane	**0.010**	0.0050	mg/kg	EPA 8081A	O-05
Endosulfan I	**0.057**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDE	**0.23**	0.0050	mg/kg	EPA 8081A	E, O-05
Endrin	**0.063**	0.0050	mg/kg	EPA 8081A	E, O-05
4,4´-DDD	**0.079**	0.0050	mg/kg	EPA 8081A	E, O-05
4,4´-DDT	**0.94**	0.25	mg/kg	EPA 8081A	O-05
Toxaphene	**10**	1.0	mg/kg	EPA 8081A	O-05

Sample ID: T12-2 **Laboratory ID:** T202322-47

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.55**	0.10	mg/kg	EPA 8081A	O-05
4,4´-DDE	**0.010**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDD	**0.0058**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDT	**0.040**	0.0050	mg/kg	EPA 8081A	O-05
Toxaphene	**1.0**	0.40	mg/kg	EPA 8081A	O-05

Sample ID: T12-3 **Laboratory ID:** T202322-48

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.013**	0.0050	mg/kg	EPA 8081A	O-05

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

Sample ID: T12-3 **Laboratory ID:** T202322-48

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.0080**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDT	**0.091**	0.025	mg/kg	EPA 8081A	O-05
Toxaphene	**0.72**	0.10	mg/kg	EPA 8081A	O-05

Sample ID: T13-2 **Laboratory ID:** T202322-51

No Results Detected

Sample ID: T13-3 **Laboratory ID:** T202322-52

No Results Detected

Sample ID: T15-2 **Laboratory ID:** T202322-59

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.057**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDE	**0.42**	0.050	mg/kg	EPA 8081A	O-05
Dieldrin	**0.097**	0.050	mg/kg	EPA 8081A	O-05
Endrin	**0.085**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDD	**0.18**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDT	**1.2**	0.25	mg/kg	EPA 8081A	O-05
Toxaphene	**7.7**	1.0	mg/kg	EPA 8081A	O-05

Sample ID: T15-3 **Laboratory ID:** T202322-60

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.081**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDE	**0.61**	0.50	mg/kg	EPA 8081A	O-05
Dieldrin	**0.14**	0.0050	mg/kg	EPA 8081A	O-05
4,4´-DDD	**0.33**	0.25	mg/kg	EPA 8081A	O-05
4,4´-DDT	**4.2**	0.50	mg/kg	EPA 8081A	O-05

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

Sample ID: T15-3 **Laboratory ID:** T202322-60

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**20**	2.0	mg/kg	EPA 8081A	O-05

Sample ID: T19-3 **Laboratory ID:** T202322-76

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-BHC (Lindane)	**0.0079**	0.0050	mg/kg	EPA 8081A	O-05
gamma-Chlordane	**0.044**	0.0050	mg/kg	EPA 8081A	O-05
alpha-Chlordane	**0.040**	0.0050	mg/kg	EPA 8081A	O-05
Endosulfan I	**0.79**	0.10	mg/kg	EPA 8081A	O-05
4,4´-DDE	**0.061**	0.050	mg/kg	EPA 8081A	O-05
Dieldrin	**0.061**	0.050	mg/kg	EPA 8081A	O-05
4,4´-DDD	**0.42**	0.050	mg/kg	EPA 8081A	O-05
Endosulfan II	**0.55**	0.10	mg/kg	EPA 8081A	O-05
4,4´-DDT	**0.16**	0.050	mg/kg	EPA 8081A	O-05
Methoxychlor	**0.10**	0.0050	mg/kg	EPA 8081A	E, O-05
Endrin ketone	**0.13**	0.050	mg/kg	EPA 8081A	O-05
Toxaphene	**9.4**	1.0	mg/kg	EPA 8081A	O-05

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T5-3

T202322-20 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0061211	06/12/20	06/12/20	EPA 8081A	O-05, R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	O-05, R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	O-05, R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	O-05, R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	O-05, R-07
Aldrin	ND	0.050	"	"	"	"	"	"	O-05, R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	O-05, R-07
gamma-Chlordane	**0.15**	0.050	"	"	"	"	"	"	O-05
alpha-Chlordane	**0.13**	0.050	"	"	"	"	"	"	O-05
Endosulfan I	**4.2**	0.050	"	"	"	"	"	"	O-05
4,4´-DDE	**0.050**	0.050	"	"	"	"	"	"	O-05
Dieldrin	**0.065**	0.050	"	"	"	"	"	"	O-05
Endrin	ND	0.050	"	"	"	"	"	"	O-05, R-07
4,4´-DDD	**0.080**	0.050	"	"	"	"	"	"	O-05
Endosulfan II	**0.61**	0.050	"	"	"	"	"	"	O-05
4,4´-DDT	**0.17**	0.050	"	"	"	"	"	"	O-05
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	O-05, R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	O-05, R-07
Methoxychlor	**0.075**	0.050	"	"	"	"	"	"	O-05
Endrin ketone	**0.17**	0.050	"	"	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*90.1 %*	*35-140*		"	"	"	"	*O-05*
Surrogate: Decachlorobiphenyl		*102 %*	*35-140*		"	"	"	"	*O-05*

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T6-3

T202322-24 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	**0.011**	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	**0.0079**	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	**1.9**	0.25	"	50	"	"	"	"	O-05
4,4´-DDE	**0.11**	0.050	"	10	"	"	"	"	O-05
Dieldrin	**0.049**	0.0050	"	1	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	**0.082**	0.050	"	10	"	"	"	"	O-05
Endosulfan II	**0.24**	0.050	"	"	"	"	"	"	O-05
4,4´-DDT	**1.0**	0.25	"	50	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	**13**	1.0	"	50	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*83.9 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*
Surrogate: Decachlorobiphenyl		*87.1 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T9-3

T202322-36 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	**0.0057**	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	**1.3**	0.25	"	50	"	"	"	"	O-05
4,4´-DDE	ND	0.0050	"	1	"	"	"	"	O-05
Dieldrin	ND	0.0050	"	"	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan II	**0.0082**	0.0050	"	"	"	"	"	"	O-05
4,4´-DDT	**0.0086**	0.0050	"	"	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	**0.012**	0.0050	"	"	"	"	"	"	O-05
Toxaphene	ND	0.020	"	"	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*98.2 %*	*35-140*		"	"	"	"	*O-05*
Surrogate: Decachlorobiphenyl		*94.5 %*	*35-140*		"	"	"	"	*O-05*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T10-3

T202322-40 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	O-05
Dieldrin	ND	0.0050	"	"	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan II	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	ND	0.020	"	"	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*95.7 %*		*35-140*	"	"	"	"	*O-05*
Surrogate: Decachlorobiphenyl		*98.8 %*		*35-140*	"	"	"	"	*O-05*

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T11-2

T202322-43 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	**0.0089**	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	**0.037**	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	**0.010**	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	**0.057**	0.0050	"	"	"	"	"	"	O-05
4,4´-DDE	**0.23**	0.0050	"	"	"	"	"	"	E, O-05
Dieldrin	ND	0.0050	"	"	"	"	"	"	O-05
Endrin	**0.063**	0.0050	"	"	"	"	"	"	E, O-05
4,4´-DDD	**0.079**	0.0050	"	"	"	"	"	"	E, O-05
Endosulfan II	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDT	**0.94**	0.25	"	50	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	**10**	1.0	"	50	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*89.8 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*
Surrogate: Decachlorobiphenyl		*92.9 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T12-2

T202322-47 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	**0.55**	0.10	"	20	"	"	"	"	O-05
4,4´-DDE	**0.010**	0.0050	"	1	"	"	"	"	O-05
Dieldrin	ND	0.0050	"	"	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	**0.0058**	0.0050	"	"	"	"	"	"	O-05
Endosulfan II	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDT	**0.040**	0.0050	"	"	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	**1.0**	0.40	"	20	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*95.2 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*
Surrogate: Decachlorobiphenyl		*94.9 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T12-3

T202322-48 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	**0.013**	0.0050	"	"	"	"	"	"	O-05
4,4´-DDE	**0.0080**	0.0050	"	"	"	"	"	"	O-05
Dieldrin	ND	0.0050	"	"	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan II	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDT	**0.091**	0.025	"	5	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	**0.72**	0.10	"	5	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*82.6 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*
Surrogate: Decachlorobiphenyl		*84.7 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T13-2

T202322-51 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	O-05
Dieldrin	ND	0.0050	"	"	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan II	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	ND	0.020	"	"	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*93.3 %*		*35-140*	"	"	"	"	*O-05*
Surrogate: Decachlorobiphenyl		*93.5 %*		*35-140*	"	"	"	"	*O-05*

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T13-3

T202322-52 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	O-05
Dieldrin	ND	0.0050	"	"	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan II	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	ND	0.020	"	"	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*81.7 %*		*35-140*	*"*	*"*	*"*	*"*	*O-05*
Surrogate: Decachlorobiphenyl		*91.3 %*		*35-140*	*"*	*"*	*"*	*"*	*O-05*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Providing Quality Analytical Services Nationwide

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T15-2

T202322-59 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/08/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	**0.057**	0.050	"	10	"	"	"	"	O-05
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	O-05
Endosulfan I	ND	0.0050	"	1	"	"	"	"	O-05
4,4´-DDE	**0.42**	0.050	"	10	"	"	"	"	O-05
Dieldrin	**0.097**	0.050	"	"	"	"	"	"	O-05
Endrin	**0.085**	0.050	"	"	"	"	"	"	O-05
4,4´-DDD	**0.18**	0.050	"	"	"	"	"	"	O-05
Endosulfan II	ND	0.0050	"	1	"	"	"	"	O-05
4,4´-DDT	**1.2**	0.25	"	50	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	**7.7**	1.0	"	50	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*87.0 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*
Surrogate: Decachlorobiphenyl		*81.6 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T15-3

T202322-60 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/09/20	EPA 8081A	O-05
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	**0.081**	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDE	**0.61**	0.50	"	100	"	"	"	"	O-05
Dieldrin	**0.14**	0.0050	"	1	"	"	"	"	O-05
Endrin	ND	0.0050	"	"	"	"	"	"	O-05
4,4´-DDD	**0.33**	0.25	"	50	"	"	"	"	O-05
Endosulfan II	ND	0.0050	"	1	"	"	"	"	O-05
4,4´-DDT	**4.2**	0.50	"	100	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	ND	0.0050	"	"	"	"	"	"	O-05
Endrin ketone	ND	0.0050	"	"	"	"	"	"	O-05
Toxaphene	**20**	2.0	"	100	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*95.3 %*		*35-140*	"	"	"	"	*O-05*
Surrogate: Decachlorobiphenyl		*100 %*		*35-140*	"	"	"	"	*O-05*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

T19-3

T202322-76 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0060826	06/08/20	06/09/20	EPA 8081A	O-05
gamma-BHC (Lindane)	**0.0079**	0.0050	"	"	"	"	"	"	O-05
beta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
delta-BHC	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor	ND	0.0050	"	"	"	"	"	"	O-05
Aldrin	ND	0.0050	"	"	"	"	"	"	O-05
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	O-05
gamma-Chlordane	**0.044**	0.0050	"	"	"	"	"	"	O-05
alpha-Chlordane	**0.040**	0.0050	"	"	"	"	"	"	O-05
Endosulfan I	**0.79**	0.10	"	20	"	"	"	"	O-05
4,4´-DDE	**0.061**	0.050	"	10	"	"	"	"	O-05
Dieldrin	**0.061**	0.050	"	"	"	"	"	"	O-05
Endrin	ND	0.0050	"	1	"	"	"	"	O-05
4,4´-DDD	**0.42**	0.050	"	10	"	"	"	"	O-05
Endosulfan II	**0.55**	0.10	"	20	"	"	"	"	O-05
4,4´-DDT	**0.16**	0.050	"	10	"	"	"	"	O-05
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	O-05
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	O-05
Methoxychlor	**0.10**	0.0050	"	"	"	"	"	"	E, O-05
Endrin ketone	**0.13**	0.050	"	10	"	"	"	"	O-05
Toxaphene	**9.4**	1.0	"	50	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*80.1 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*
Surrogate: Decachlorobiphenyl		*114 %*	*35-140*		*"*	*"*	*"*	*"*	*O-05*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0060826 - EPA 3550 ECD/GCMS										
Blank (0060826-BLK1)				Prepared & Analyzed: 06/08/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00927*		*"*	*0.0100*		*92.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00944*		*"*	*0.0100*		*94.4*	*35-140*			
LCS (0060826-BS1)				Prepared & Analyzed: 06/08/20						
gamma-BHC (Lindane)	0.0406	0.0050	mg/kg	0.0400		101	40-120			
Heptachlor	0.0416	0.0050	"	0.0400		104	40-120			
Aldrin	0.0307	0.0050	"	0.0400		76.8	40-120			
Dieldrin	0.0416	0.0050	"	0.0400		104	40-120			
Endrin	0.0420	0.0050	"	0.0400		105	40-120			
4,4´-DDT	0.0377	0.0050	"	0.0400		94.4	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.00917*		*"*	*0.0100*		*91.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00985*		*"*	*0.0100*		*98.5*	*35-140*			

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0060826 - EPA 3550 ECD/GCMS										
LCS Dup (0060826-BSD1)				Prepared & Analyzed: 06/08/20						
gamma-BHC (Lindane)	0.0429	0.0050	mg/kg	0.0400		107	40-120	5.49	30	
Heptachlor	0.0437	0.0050	"	0.0400		109	40-120	4.87	30	
Aldrin	0.0342	0.0050	"	0.0400		85.6	40-120	10.9	30	
Dieldrin	0.0433	0.0050	"	0.0400		108	40-120	3.94	30	
Endrin	0.0431	0.0050	"	0.0400		108	40-120	2.61	30	
4,4´-DDT	0.0386	0.0050	"	0.0400		96.5	33-147	2.22	30	
Surrogate: Tetrachloro-meta-xylene	*0.00967*		*"*	*0.0100*		*96.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00983*		*"*	*0.0100*		*98.3*	*35-140*			
Batch 0061211 - EPA 3550 ECD/GCMS										
Blank (0061211-BLK1)				Prepared & Analyzed: 06/12/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00936*		*"*	*0.0100*		*93.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0103*		*"*	*0.0100*		*103*	*35-140*			

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0061211 - EPA 3550 ECD/GCMS										
LCS (0061211-BS1)				Prepared & Analyzed: 06/12/20						
gamma-BHC (Lindane)	0.0355	0.0050	mg/kg	0.0400		88.8	40-120			
Heptachlor	0.0366	0.0050	"	0.0400		91.6	40-120			
Aldrin	0.0300	0.0050	"	0.0400		75.0	40-120			
Dieldrin	0.0378	0.0050	"	0.0400		94.4	40-120			
Endrin	0.0371	0.0050	"	0.0400		92.8	40-120			
4,4´-DDT	0.0340	0.0050	"	0.0400		85.0	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.0102*		*"*	*0.0100*		*102*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0105*		*"*	*0.0100*		*105*	*35-140*			
LCS Dup (0061211-BSD1)				Prepared & Analyzed: 06/12/20						
gamma-BHC (Lindane)	0.0303	0.0050	mg/kg	0.0400		75.7	40-120	15.9	30	
Heptachlor	0.0313	0.0050	"	0.0400		78.2	40-120	15.8	30	
Aldrin	0.0255	0.0050	"	0.0400		63.7	40-120	16.3	30	
Dieldrin	0.0317	0.0050	"	0.0400		79.3	40-120	17.4	30	
Endrin	0.0313	0.0050	"	0.0400		78.3	40-120	17.0	30	
4,4´-DDT	0.0286	0.0050	"	0.0400		71.4	33-147	17.4	30	
Surrogate: Tetrachloro-meta-xylene	*0.00850*		*"*	*0.0100*		*85.0*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00856*		*"*	*0.0100*		*85.6*	*35-140*			

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	06/12/20 15:50

Notes and Definitions

R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
O-05	This sample was extracted outside of the EPA recommended holding time.
E	The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 1 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202822 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
01	T1-SURF	5/19/20		SOIL	JAR									X		XX					1
02	T1-1						X						X			X					1
03	T1-2						[redacted]													HOLD	1
04	T1-3																			HOLD	1
05	T2-SURF													X		X					1
06	T2-1												X			XX					1
07	T2-2															XX					1
08	T2-3																			HOLD	1
09	T3-SURF															X					1
10	T3-1															XX					1
11	T3-2															X					1
12	T3-3																			HOLD	1
13	T4-SURF															X					1
14	T4-1						X						X			X					1
15	T4-2																			HOLD	1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers	
Chain of Custody seals Y/N/NA	
Seals intact? Y/N/NA	
Received good condition/cold	4.2 / 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 2 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
16	T4-3	5/19/20		SOIL	JAR															HOLD	1
17	T5-SURF													X		X					1
18	T5-1												X			X					1
19	T5-2						X									X					1
20	T5-3																			HOLD	1
21	T6-SURF															X					1
22	T6-1															X					1
23	T6-2															X					1
24	T6-3																			HOLD	1
25	T7-SURF													X		X					1
26	T7-1						X						X			X					1
27	T7-2																			HOLD	1
28	T7-3																			HOLD	1
29	T8-SURF															X					1
30	T8-1															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	5/20/20 - 11:00	Ed Duero	5/20/20 1100
GLS	5/21/20 900		5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers:
Chain of Custody seals: Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold: 4.2 °C

Turn around time: NORMAL

Notes

Sample disposal instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 3 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: I202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	~~8020 ICP-MS Metals~~	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
31	T9-2	5/19/20		SOIL	JAR															HOLD	1
32	T9-3																			HOLD	1
33	T9-SURF													X	X	X					1
34	T9-1						X						X			X					1
35	T9-2															X					1
36	T9-3																			HOLD	1
37	T10-SURF													X	X	X					1
38	T10-1						X						X			X					1
39	T10-2															X					1
40	T10-3																			HOLD	1
41	T11-SURF															X					1
42	T11-1															X					1
43	T11-2																			HOLD	1
44	T11-3																			HOLD	1
45	T12-SURF													X	X	X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20; 11:00	Ed Stevens	5/20/20 1100
GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 4 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
46	T12 - 1	5/19/20		SOIL	JAR		X						X			X					1
47	T12 - 2																			HOLD	1
48	T12 - 3																			HOLD	1
49	T13 - SURF															X					1
50	T13 - 1															X					1
51	T13 - 2																			HOLD	1
52	T13 - 3																			HOLD	1
53	T14 - SURF															X					1
54	T14 - 1															X					1
55	T14 - 2																			HOLD	1
56	T14 - 3																			HOLD	1
57	T15 - SURF													X		X					1
58	T15 - 1						X						X			X					1
59	T15 - 2																			HOLD	1
60	T15 - 3																			HOLD	1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 - 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO Box 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 5 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
61	T16 - SURF	5/19/20		SOIL	JAR		X						X	X		X					1
62	T16 - 1						X						X	X		X					1
63	T16 - 2															X					1
64	T16 - 3																			HOLD	1
65	T17 - SURF													X		X					1
66	T17 - 1						X						X			X					1
67	T17 - 2																			HOLD	1
68	T17 - 3																			HOLD	1
69	T18 - SURF															X					1
70	T18 - 1						X						X			X					1
71	T18 - 2																			HOLD	1
72	T18 - 3																			HOLD	1
73	T19 - SURF															X					1
74	T19 - 1															X					1
75	T19 - 2															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	5/20/20 1100	Ed Stevens	5/20/20 1100
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
GLS	5/21/20 900		5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 19274

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO Box 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 6 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
76	T19-3	5/19/20		SOIL	JAR															HOLD	1
77	T20-SURF													X		X					1
78	T20-1															X					1
79	T20-2																			HOLD	1
80	T20-3																			HOLD	1
81	T21-SURF															X					1
82	T21-1															X					1
83	T21-2																			HOLD	1
84	T21-3																			HOLD	1
85	T22-SURF													X		X					1
86	T22-1															X					1
87	T22-2																			HOLD	1
88	T22-3																			HOLD	1
89	T23-SURF															X					1
90	T23-1															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19274

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 7 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type (SOIL)	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
91	T23-2	5/19/20		~~JAR~~ SOIL	JAR															HOLD	1
92	T23-3			SOIL																HOLD	1
93	T24-SURF													X		X					1
94	T24-1															X					1
95	T24-2																			HOLD	1
96	T24-3																			HOLD	1
97	S1													X							1
98	S2													X							1
99	S3													X							1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20; 11:00	Ed Stevens	5/20/20 1100
[signature]	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 9
Chain of Custody seals Y/N/NA:
Seals intact? Y/N/NA:
Received good condition/cold: 9.2

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19274

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

02 July 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 05/21/20 09:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T1-SURF	T202322-01	Soil	05/19/20 00:00	05/21/20 09:00
T2-SURF	T202322-05	Soil	05/19/20 00:00	05/21/20 09:00
T5-SURF	T202322-17	Soil	05/19/20 00:00	05/21/20 09:00
T5-1	T202322-18	Soil	05/19/20 00:00	05/21/20 09:00
T5-2	T202322-19	Soil	05/19/20 00:00	05/21/20 09:00
T6-SURF	T202322-21	Soil	05/19/20 00:00	05/21/20 09:00
T6-1	T202322-22	Soil	05/19/20 00:00	05/21/20 09:00
T7-SURF	T202322-25	Soil	05/19/20 00:00	05/21/20 09:00
T9-SURF	T202322-33	Soil	05/19/20 00:00	05/21/20 09:00
T11-3	T202322-44	Soil	05/19/20 00:00	05/21/20 09:00
T12-SURF	T202322-45	Soil	05/19/20 00:00	05/21/20 09:00
T12-1	T202322-46	Soil	05/19/20 00:00	05/21/20 09:00
T13-SURF	T202322-49	Soil	05/19/20 00:00	05/21/20 09:00
T13-1	T202322-50	Soil	05/19/20 00:00	05/21/20 09:00
T15-SURF	T202322-57	Soil	05/19/20 00:00	05/21/20 09:00
T15-2	T202322-59	Soil	05/19/20 00:00	05/21/20 09:00
T16-SURF	T202322-61	Soil	05/19/20 00:00	05/21/20 09:00
T16-1	T202322-62	Soil	05/19/20 00:00	05/21/20 09:00
T17-SURF	T202322-65	Soil	05/19/20 00:00	05/21/20 09:00
T19-SURF	T202322-73	Soil	05/19/20 00:00	05/21/20 09:00
T19-1	T202322-74	Soil	05/19/20 00:00	05/21/20 09:00
T19-2	T202322-75	Soil	05/19/20 00:00	05/21/20 09:00
T21-SURF	T202322-81	Soil	05/19/20 00:00	05/21/20 09:00
T22-SURF	T202322-85	Soil	05/19/20 00:00	05/21/20 09:00
T24-SURF	T202322-93	Soil	05/19/20 00:00	05/21/20 09:00

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
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949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

DETECTIONS SUMMARY

Sample ID: T1-SURF **Laboratory ID:** T202322-01

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.0011**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.0018**	0.0010	mg/l	TCLP EPA 8081A	

Sample ID: T2-SURF **Laboratory ID:** T202322-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.029**	0.010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.0014**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.0013**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.0026**	0.0010	mg/l	TCLP EPA 8081A	

Sample ID: T5-SURF **Laboratory ID:** T202322-17

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0025**	0.0010	mg/l	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0063**	0.0010	mg/l	TCLP EPA 8081A	
delta-BHC	**0.0028**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.55**	0.10	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.0067**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.013**	0.010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.047**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.078**	0.010	mg/l	TCLP EPA 8081A	
Methoxychlor	**0.020**	0.020	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.035**	0.010	mg/l	TCLP EPA 8081A	

Sample ID: T5-1 **Laboratory ID:** T202322-18

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0028**	0.0010	mg/l	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0073**	0.0010	mg/l	TCLP EPA 8081A	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Sample ID: T5-1 **Laboratory ID:** T202322-18

Analyte	Result	Reporting Limit	Units	Method	Notes
delta-BHC	**0.0045**	0.0010	mg/l	TCLP EPA 8081A	
gamma-Chlordane	**0.0030**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.040**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.0039**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.023**	0.020	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.038**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.025**	0.020	mg/l	TCLP EPA 8081A	
Endosulfan sulfate	**0.0013**	0.0010	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.024**	0.020	mg/l	TCLP EPA 8081A	

Sample ID: T5-2 **Laboratory ID:** T202322-19

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0020**	0.0010	mg/l	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0050**	0.0010	mg/l	TCLP EPA 8081A	
delta-BHC	**0.0050**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.069**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.0032**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.011**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.059**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.049**	0.020	mg/l	TCLP EPA 8081A	
Methoxychlor	**0.020**	0.020	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.041**	0.020	mg/l	TCLP EPA 8081A	

Sample ID: T6-SURF **Laboratory ID:** T202322-21

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.097**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.0024**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.0051**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.011**	0.010	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.022**	0.010	mg/l	TCLP EPA 8081A	
Endosulfan sulfate	**0.0022**	0.0010	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.017**	0.010	mg/l	TCLP EPA 8081A	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Sample ID: T6-1 **Laboratory ID:** T202322-22

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0035**	0.0010	mg/l	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0036**	0.0010	mg/l	TCLP EPA 8081A	
delta-BHC	**0.0011**	0.0010	mg/l	TCLP EPA 8081A	
Heptachlor	**0.0013**	0.0010	mg/l	TCLP EPA 8081A	
gamma-Chlordane	**0.011**	0.010	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.26**	0.050	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.019**	0.010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.066**	0.050	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.22**	0.050	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.25**	0.050	mg/l	TCLP EPA 8081A	
Methoxychlor	**0.15**	0.040	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.071**	0.020	mg/l	TCLP EPA 8081A	

Sample ID: T7-SURF **Laboratory ID:** T202322-25

No Results Detected

Sample ID: T9-SURF **Laboratory ID:** T202322-33

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0070**	0.0010	mg/l	TCLP EPA 8081A	
delta-BHC	**0.017**	0.010	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.0061**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.019**	0.010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.069**	0.010	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.12**	0.020	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.047**	0.010	mg/l	TCLP EPA 8081A	

Sample ID: T11-3 **Laboratory ID:** T202322-44

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**340**	60	mg/kg	EPA 8081A	O-05

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Sample ID: T12-SURF **Laboratory ID:** T202322-45

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.011**	0.0010	mg/l	TCLP EPA 8081A	E
4,4´-DDE	**0.014**	0.010	mg/l	TCLP EPA 8081A	
Dieldrin	**0.0044**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.026**	0.010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.11**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.078**	0.020	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.033**	0.010	mg/l	TCLP EPA 8081A	

Sample ID: T12-1 **Laboratory ID:** T202322-46

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.032**	0.010	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.0010**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.0089**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.0060**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan sulfate	**0.0058**	0.0010	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.0034**	0.0010	mg/l	TCLP EPA 8081A	

Sample ID: T13-SURF **Laboratory ID:** T202322-49

No Results Detected

Sample ID: T13-1 **Laboratory ID:** T202322-50

No Results Detected

Sample ID: T15-SURF **Laboratory ID:** T202322-57

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.0035**	0.0010	mg/l	TCLP EPA 8081A	
Dieldrin	**0.0032**	0.0010	mg/l	TCLP EPA 8081A	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Sample ID: T15-SURF **Laboratory ID:** T202322-57

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDD	**0.0020**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.012**	0.0050	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.0088**	0.0050	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.031**	0.010	mg/l	TCLP EPA 8081A	
Toxaphene	**0.31**	0.20	mg/l	TCLP EPA 8081A	

Sample ID: T15-2 **Laboratory ID:** T202322-59

Analyte	Result	Reporting Limit	Units	Method	Notes
Endrin ketone	**0.0010**	0.0010	mg/l	TCLP EPA 8081A	
Toxaphene	**0.033**	0.020	mg/l	TCLP EPA 8081A	E

Sample ID: T16-SURF **Laboratory ID:** T202322-61

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-Chlordane	**0.0016**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.013**	0.0010	mg/l	TCLP EPA 8081A	E
4,4´-DDD	**0.0065**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan sulfate	**0.0014**	0.0010	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.0057**	0.0010	mg/l	TCLP EPA 8081A	

Sample ID: T16-1 **Laboratory ID:** T202322-62

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.023**	0.0050	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.0014**	0.0010	mg/l	TCLP EPA 8081A	

Sample ID: T17-SURF **Laboratory ID:** T202322-65

No Results Detected

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Sample ID: T19-SURF **Laboratory ID:** T202322-73

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0015**	0.0010	mg/l	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0044**	0.0010	mg/l	TCLP EPA 8081A	
delta-BHC	**0.0036**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.27**	0.020	mg/l	TCLP EPA 8081A	E
4,4´-DDE	**0.0043**	0.0010	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.011**	0.010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.072**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDT	**0.021**	0.020	mg/l	TCLP EPA 8081A	
Endosulfan sulfate	**0.0064**	0.0010	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.024**	0.010	mg/l	TCLP EPA 8081A	

Sample ID: T19-1 **Laboratory ID:** T202322-74

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.0012**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.092**	0.020	mg/l	TCLP EPA 8081A	
4,4´-DDE	**0.0040**	0.0010	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.064**	0.020	mg/l	TCLP EPA 8081A	
Endosulfan sulfate	**0.0077**	0.0010	mg/l	TCLP EPA 8081A	
Methoxychlor	**0.055**	0.040	mg/l	TCLP EPA 8081A	

Sample ID: T19-2 **Laboratory ID:** T202322-75

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.0061**	0.0050	mg/l	TCLP EPA 8081A	
4,4´-DDD	**0.0091**	0.0050	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.011**	0.0050	mg/l	TCLP EPA 8081A	
Endrin ketone	**0.0094**	0.0050	mg/l	TCLP EPA 8081A	

Sample ID: T21-SURF **Laboratory ID:** T202322-81

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-Chlordane	**0.0054**	0.0050	mg/l	TCLP EPA 8081A	
Endosulfan I	**0.024**	0.010	mg/l	TCLP EPA 8081A	

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Sample ID: T21-SURF **Laboratory ID:** T202322-81

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan II	**0.013**	0.010	mg/l	TCLP EPA 8081A	R-07

Sample ID: T22-SURF **Laboratory ID:** T202322-85

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.0088**	0.0050	mg/l	TCLP EPA 8081A	
Endosulfan II	**0.0022**	0.0010	mg/l	TCLP EPA 8081A	

Sample ID: T24-SURF **Laboratory ID:** T202322-93

No Results Detected

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T1-SURF

T202322-01 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.0011**	0.0010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	"	"	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.0018**	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96.6 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*104 %*	*35-140*		*"*	*"*	*"*	*"*	

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T2-SURF

T202322-05 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.029**	0.010	"	10	"	"	"	"	
4,4´-DDE	ND	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.0014**	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.0013**	0.0010	"	"	"	"	"	"	
4,4´-DDT	**0.0026**	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.020	"	10	"	"	"	"	
Endrin ketone	ND	0.0010	"	1	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*94.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*98.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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T5-SURF

T202322-17 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0025**	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0063**	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	**0.0028**	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.55**	0.10	"	100	"	"	"	"	
4,4´-DDE	**0.0067**	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.013**	0.010	"	10	"	"	"	"	
Endosulfan II	**0.047**	0.020	"	20	"	"	"	"	
4,4´-DDT	**0.078**	0.010	"	10	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	**0.020**	0.020	"	10	"	"	"	"	
Endrin ketone	**0.035**	0.010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*102 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*93.4 %*	*35-140*		"	"	"	"	

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T5-1

T202322-18 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0028**	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0073**	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	**0.0045**	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	**0.0030**	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.040**	0.020	"	20	"	"	"	"	
4,4´-DDE	**0.0039**	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.023**	0.020	"	20	"	"	"	"	
Endosulfan II	**0.038**	0.020	"	"	"	"	"	"	
4,4´-DDT	**0.025**	0.020	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	**0.0013**	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.020	"	10	"	"	"	"	
Endrin ketone	**0.024**	0.020	"	20	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*84.5 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*84.7 %*		*35-140*	"	"	"	"	

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T5-2

T202322-19 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0020**	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0050**	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	**0.0050**	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.069**	0.020	"	20	"	"	"	"	
4,4´-DDE	**0.0032**	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.011**	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.059**	0.020	"	20	"	"	"	"	
4,4´-DDT	**0.049**	0.020	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	**0.020**	0.020	"	10	"	"	"	"	
Endrin ketone	**0.041**	0.020	"	20	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*82.4 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*78.6 %*		*35-140*	"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

T6-SURF

T202322-21 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.097**	0.020	"	20	"	"	"	"	
4,4´-DDE	**0.0024**	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.0051**	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.011**	0.010	"	10	"	"	"	"	
4,4´-DDT	**0.022**	0.010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	**0.0022**	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.017**	0.010	"	10	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*93.8 %*	*35-140*		*"*	*"*	*"*	*"*	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

T6-1

T202322-22 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0035**	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0036**	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	**0.0011**	0.0010	"	"	"	"	"	"	
Heptachlor	**0.0013**	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	**0.011**	0.010	"	10	"	"	"	"	
alpha-Chlordane	ND	0.010	"	"	"	"	"	"	
Endosulfan I	**0.26**	0.050	"	50	"	"	"	"	
4,4´-DDE	**0.019**	0.010	"	10	"	"	"	"	
Dieldrin	ND	0.0010	"	1	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.066**	0.050	"	50	"	"	"	"	
Endosulfan II	**0.22**	0.050	"	"	"	"	"	"	
4,4´-DDT	**0.25**	0.050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	**0.15**	0.040	"	20	"	"	"	"	
Endrin ketone	**0.071**	0.020	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*99.8 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*116 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

T7-SURF

T202322-25 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.010	mg/l	10	0062313	06/23/20	06/30/20	TCLP EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.010	"	"	"	"	"	"	R-07
beta-BHC	ND	0.010	"	"	"	"	"	"	R-07
delta-BHC	ND	0.010	"	"	"	"	"	"	R-07
Heptachlor	ND	0.010	"	"	"	"	"	"	R-07
Aldrin	ND	0.010	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.010	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.010	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.010	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.010	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.010	"	"	"	"	"	"	R-07
Dieldrin	ND	0.010	"	"	"	"	"	"	R-07
Endrin	ND	0.010	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.010	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.010	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.010	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.010	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.010	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.020	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.010	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*89.1 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*91.6 %*		*35-140*	"	"	"	"	

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T9-SURF

T202322-33 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0070**	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.010	"	10	"	"	"	"	
beta-BHC	ND	0.0010	"	1	"	"	"	"	
delta-BHC	**0.017**	0.010	"	10	"	"	"	"	
Heptachlor	ND	0.0010	"	1	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	"	"	"	"	"	"	
4,4´-DDE	**0.0061**	0.0010	"	"	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.019**	0.010	"	10	"	"	"	"	
Endosulfan II	**0.069**	0.010	"	"	"	"	"	"	
4,4´-DDT	**0.12**	0.020	"	20	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.047**	0.010	"	10	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*87.9 %*		*35-140*	*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*92.3 %*		*35-140*	*"*	*"*	*"*	*"*	

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T11-3

T202322-44 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	15	mg/kg	3000	0062231	06/22/20	06/25/20	EPA 8081A	O-05, R-07
gamma-BHC (Lindane)	ND	15	"	"	"	"	"	"	O-05, R-07
beta-BHC	ND	15	"	"	"	"	"	"	O-05, R-07
delta-BHC	ND	15	"	"	"	"	"	"	R-07, O-05
Heptachlor	ND	15	"	"	"	"	"	"	O-05, R-07
Aldrin	ND	15	"	"	"	"	"	"	O-05, R-07
Heptachlor epoxide	ND	15	"	"	"	"	"	"	O-05, R-07
gamma-Chlordane	ND	15	"	"	"	"	"	"	O-05, R-07
alpha-Chlordane	ND	15	"	"	"	"	"	"	O-05, R-07
Endosulfan I	ND	15	"	"	"	"	"	"	O-05, R-07
4,4´-DDE	ND	15	"	"	"	"	"	"	O-05, R-07
Dieldrin	ND	15	"	"	"	"	"	"	O-05, R-07
Endrin	ND	15	"	"	"	"	"	"	O-05, R-07
4,4´-DDD	ND	15	"	"	"	"	"	"	O-05, R-07
Endosulfan II	ND	15	"	"	"	"	"	"	O-05, R-07
4,4´-DDT	ND	15	"	"	"	"	"	"	O-05, R-07
Endrin aldehyde	ND	15	"	"	"	"	"	"	O-05, R-07
Endosulfan sulfate	ND	15	"	"	"	"	"	"	O-05, R-07
Methoxychlor	ND	15	"	"	"	"	"	"	O-05, R-07
Endrin ketone	ND	15	"	"	"	"	"	"	O-05, R-07
Toxaphene	**340**	60	"	"	"	"	"	"	O-05
Surrogate: Tetrachloro-meta-xylene		*%*	*35-140*		*"*	*"*	*"*	*"*	*O-05, S-01*
Surrogate: Decachlorobiphenyl		*%*	*35-140*		*"*	*"*	*"*	*"*	*O-05, S-01*

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T12-SURF

T202322-45 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.011**	0.0010	"	"	"	"	"	"	E
4,4´-DDE	**0.014**	0.010	"	10	"	"	"	"	
Dieldrin	**0.0044**	0.0010	"	1	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.026**	0.010	"	10	"	"	"	"	
Endosulfan II	**0.11**	0.020	"	20	"	"	"	"	
4,4´-DDT	**0.078**	0.020	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.033**	0.010	"	10	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*99.1 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*99.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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T12-1

T202322-46 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.032**	0.010	"	10	"	"	"	"	
4,4´-DDE	**0.0010**	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.0089**	0.0010	"	"	"	"	"	"	
4,4´-DDT	**0.0060**	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	**0.0058**	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.0034**	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.40	"	20	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*87.9 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*85.3 %*	*35-140*		*"*	*"*	*"*	*"*	

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T13-SURF

T202322-49 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	"	"	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*98.7 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*99.7 %*		*35-140*	"	"	"	"	

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T13-1

T202322-50 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	"	"	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*87.5 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*90.3 %*		*35-140*	"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

T15-SURF

T202322-57 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.0035**	0.0010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	"	"	"	"	"	"	
Dieldrin	**0.0032**	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.0020**	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.012**	0.0050	"	5	"	"	"	"	
4,4´-DDT	**0.0088**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.031**	0.010	"	10	"	"	"	"	
Toxaphene	**0.31**	0.20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*95.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*94.7 %*	*35-140*		*"*	*"*	*"*	*"*	

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Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

T15-2

T202322-59 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	"	"	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.0010**	0.0010	"	"	"	"	"	"	
Toxaphene	**0.033**	0.020	"	"	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*85.7 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*94.1 %*		*35-140*	"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

T16-SURF

T202322-61 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	**0.0016**	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.013**	0.0010	"	"	"	"	"	"	E
4,4´-DDE	ND	0.0010	"	"	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.0065**	0.0010	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	**0.0014**	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.0057**	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*81.1 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*95.9 %*		*35-140*	"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

T16-1

T202322-62 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.023**	0.0050	"	5	"	"	"	"	
4,4´-DDE	ND	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.0014**	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*79.8 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*93.1 %*		*35-140*	"	"	"	"	

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T17-SURF

T202322-65 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	ND	0.0010	"	"	"	"	"	"	
4,4´-DDE	ND	0.0010	"	"	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	ND	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*85.4 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*96.9 %*		*35-140*	"	"	"	"	

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T19-SURF

T202322-73 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0015**	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	**0.0044**	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	**0.0036**	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.27**	0.020	"	20	"	"	"	"	E
4,4´-DDE	**0.0043**	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.011**	0.010	"	10	"	"	"	"	
Endosulfan II	**0.072**	0.020	"	20	"	"	"	"	
4,4´-DDT	**0.021**	0.020	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	**0.0064**	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.020	"	10	"	"	"	"	
Endrin ketone	**0.024**	0.010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*86.6 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*82.4 %*		*35-140*	"	"	"	"	

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T19-1

T202322-74 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.0012**	0.0010	mg/l	1	0062313	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.092**	0.020	"	20	"	"	"	"	
4,4´-DDE	**0.0040**	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.064**	0.020	"	20	"	"	"	"	
4,4´-DDT	ND	0.020	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	1	"	"	"	"	
Endosulfan sulfate	**0.0077**	0.0010	"	"	"	"	"	"	
Methoxychlor	**0.055**	0.040	"	20	"	"	"	"	
Endrin ketone	ND	0.020	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*89.5 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*105 %*		*35-140*	"	"	"	"	

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T19-2

T202322-75 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062328	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.0061**	0.0050	"	5	"	"	"	"	
4,4´-DDE	ND	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	**0.0091**	0.0050	"	5	"	"	"	"	
Endosulfan II	**0.011**	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	1	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	**0.0094**	0.0050	"	5	"	"	"	"	
Toxaphene	ND	0.020	"	1	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88.6 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*104 %*	*35-140*		*"*	*"*	*"*	*"*	

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T21-SURF

T202322-81 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/l	5	0062328	06/23/20	06/30/20	TCLP EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.0050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.0050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.0050	"	"	"	"	"	"	R-07
Aldrin	ND	0.0050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	R-07
alpha-Chlordane	**0.0054**	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.024**	0.010	"	10	"	"	"	"	
4,4´-DDE	ND	0.0050	"	5	"	"	"	"	R-07
Dieldrin	ND	0.0050	"	"	"	"	"	"	R-07
Endrin	ND	0.0050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	R-07
Endosulfan II	**0.013**	0.010	"	10	"	"	"	"	R-07
4,4´-DDT	ND	0.0050	"	5	"	"	"	"	R-07
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.010	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.0050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.10	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*82.9 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*111 %*		*35-140*	"	"	"	"	

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T22-SURF

T202322-85 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0010	mg/l	1	0062328	06/23/20	06/30/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	0.0010	"	"	"	"	"	"	
beta-BHC	ND	0.0010	"	"	"	"	"	"	
delta-BHC	ND	0.0010	"	"	"	"	"	"	
Heptachlor	ND	0.0010	"	"	"	"	"	"	
Aldrin	ND	0.0010	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0010	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0010	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0010	"	"	"	"	"	"	
Endosulfan I	**0.0088**	0.0050	"	5	"	"	"	"	
4,4´-DDE	ND	0.0010	"	1	"	"	"	"	
Dieldrin	ND	0.0010	"	"	"	"	"	"	
Endrin	ND	0.0010	"	"	"	"	"	"	
4,4´-DDD	ND	0.0010	"	"	"	"	"	"	
Endosulfan II	**0.0022**	0.0010	"	"	"	"	"	"	
4,4´-DDT	ND	0.0010	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0010	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0010	"	"	"	"	"	"	
Methoxychlor	ND	0.0020	"	"	"	"	"	"	
Endrin ketone	ND	0.0010	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*87.8 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*111 %*		*35-140*	"	"	"	"	

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T24-SURF

T202322-93 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/l	5	0062328	06/23/20	06/30/20	TCLP EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.0050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.0050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.0050	"	"	"	"	"	"	R-07
Aldrin	ND	0.0050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.0050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.0050	"	"	"	"	"	"	R-07
Endrin	ND	0.0050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.0050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.010	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.0050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.10	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*83.1 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*97.4 %*		*35-140*	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0062231 - EPA 3550 ECD/GCMS										
Blank (0062231-BLK1)				Prepared: 06/22/20 Analyzed: 06/25/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.0119*		*"*	*0.0100*		*119*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0129*		*"*	*0.0100*		*129*	*35-140*			
LCS (0062231-BS1)				Prepared: 06/22/20 Analyzed: 06/25/20						
gamma-BHC (Lindane)	0.0422	0.0050	mg/kg	0.0400		106	40-120			
Heptachlor	0.0445	0.0050	"	0.0400		111	40-120			
Aldrin	0.0321	0.0050	"	0.0400		80.4	40-120			
Dieldrin	0.0462	0.0050	"	0.0400		116	40-120			
Endrin	0.0469	0.0050	"	0.0400		117	40-120			
4,4´-DDT	0.0419	0.0050	"	0.0400		105	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.0109*		*"*	*0.0100*		*109*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0121*		*"*	*0.0100*		*121*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
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949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0062231 - EPA 3550 ECD/GCMS										
LCS Dup (0062231-BSD1)				Prepared: 06/22/20 Analyzed: 06/25/20						
gamma-BHC (Lindane)	0.0424	0.0050	mg/kg	0.0400		106	40-120	0.487	30	
Heptachlor	0.0449	0.0050	"	0.0400		112	40-120	0.903	30	
Aldrin	0.0330	0.0050	"	0.0400		82.5	40-120	2.65	30	
Dieldrin	0.0478	0.0050	"	0.0400		119	40-120	3.31	30	
Endrin	0.0479	0.0050	"	0.0400		120	40-120	2.06	30	
4,4´-DDT	0.0444	0.0050	"	0.0400		111	33-147	5.68	30	
Surrogate: Tetrachloro-meta-xylene	*0.0108*		*"*	*0.0100*		*108*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0121*		*"*	*0.0100*		*121*	*35-140*			
Batch 0062313 - TCLP Metals										
Blank (0062313-BLK1)				Prepared: 06/23/20 Analyzed: 06/30/20						
alpha-BHC	ND	0.0010	mg/l							
gamma-BHC (Lindane)	ND	0.0010	"							
beta-BHC	ND	0.0010	"							
delta-BHC	ND	0.0010	"							
Heptachlor	ND	0.0010	"							
Aldrin	ND	0.0010	"							
Heptachlor epoxide	ND	0.0010	"							
gamma-Chlordane	ND	0.0010	"							
alpha-Chlordane	ND	0.0010	"							
Endosulfan I	ND	0.0010	"							
4,4´-DDE	ND	0.0010	"							
Dieldrin	ND	0.0010	"							
Endrin	ND	0.0010	"							
4,4´-DDD	ND	0.0010	"							
Endosulfan II	ND	0.0010	"							
4,4´-DDT	ND	0.0010	"							
Endrin aldehyde	ND	0.0010	"							
Endosulfan sulfate	ND	0.0010	"							
Methoxychlor	ND	0.0020	"							
Endrin ketone	ND	0.0010	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.000874*		*"*	*0.00100*		*87.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.000922*		*"*	*0.00100*		*92.2*	*35-140*			

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0062313 - TCLP Metals										
LCS (0062313-BS1)				Prepared: 06/23/20 Analyzed: 06/30/20						
gamma-BHC (Lindane)	0.00346	0.0010	mg/l	0.00400		86.4	40-120			
Heptachlor	0.00357	0.0010	"	0.00400		89.4	40-120			
Aldrin	0.00324	0.0010	"	0.00400		81.0	40-120			
Dieldrin	0.00373	0.0010	"	0.00400		93.2	40-120			
Endrin	0.00385	0.0010	"	0.00400		96.2	40-120			
4,4´-DDT	0.00377	0.0010	"	0.00400		94.3	40-120			
Surrogate: Tetrachloro-meta-xylene	*0.000807*		*"*	*0.00100*		*80.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.000855*		*"*	*0.00100*		*85.5*	*35-140*			
LCS Dup (0062313-BSD1)				Prepared: 06/23/20 Analyzed: 06/30/20						
gamma-BHC (Lindane)	0.00438	0.0010	mg/l	0.00400		109	40-120	23.6	30	
Heptachlor	0.00450	0.0010	"	0.00400		112	40-120	22.9	30	
Aldrin	0.00350	0.0010	"	0.00400		87.4	40-120	7.65	30	
Dieldrin	0.00452	0.0010	"	0.00400		113	40-120	19.3	30	
Endrin	0.00467	0.0010	"	0.00400		117	40-120	19.4	30	
4,4´-DDT	0.00451	0.0010	"	0.00400		113	40-120	17.8	30	
Surrogate: Tetrachloro-meta-xylene	*0.00102*		*"*	*0.00100*		*102*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00106*		*"*	*0.00100*		*106*	*35-140*			
Batch 0062328 - TCLP Metals										
Blank (0062328-BLK1)				Prepared: 06/23/20 Analyzed: 06/30/20						
alpha-BHC	ND	0.0010	mg/l							
gamma-BHC (Lindane)	ND	0.0010	"							
beta-BHC	ND	0.0010	"							
delta-BHC	ND	0.0010	"							
Heptachlor	ND	0.0010	"							
Aldrin	ND	0.0010	"							
Heptachlor epoxide	ND	0.0010	"							
gamma-Chlordane	ND	0.0010	"							
alpha-Chlordane	ND	0.0010	"							
Endosulfan I	ND	0.0010	"							
4,4´-DDE	ND	0.0010	"							
Dieldrin	ND	0.0010	"							
Endrin	ND	0.0010	"							
4,4´-DDD	ND	0.0010	"							

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Providing Quality Analytical Services Nationwide

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0062328 - TCLP Metals										
Blank (0062328-BLK1)				Prepared: 06/23/20 Analyzed: 06/30/20						
Endosulfan II	ND	0.0010	mg/l							
4,4´-DDT	ND	0.0010	"							
Endrin aldehyde	ND	0.0010	"							
Endosulfan sulfate	ND	0.0010	"							
Methoxychlor	ND	0.0020	"							
Endrin ketone	ND	0.0010	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.000954*		"	*0.00100*		*95.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00107*		"	*0.00100*		*107*	*35-140*			
LCS (0062328-BS1)				Prepared: 06/23/20 Analyzed: 06/30/20						
gamma-BHC (Lindane)	0.00382	0.0010	mg/l	0.00400		95.6	40-120			
Heptachlor	0.00399	0.0010	"	0.00400		99.7	40-120			
Aldrin	0.00310	0.0010	"	0.00400		77.5	40-120			
Dieldrin	0.00421	0.0010	"	0.00400		105	40-120			
Endrin	0.00481	0.0010	"	0.00400		120	40-120			
4,4´-DDT	0.00431	0.0010	"	0.00400		108	40-120			
Surrogate: Tetrachloro-meta-xylene	*0.000944*		"	*0.00100*		*94.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00101*		"	*0.00100*		*101*	*35-140*			
LCS Dup (0062328-BSD1)				Prepared: 06/23/20 Analyzed: 06/30/20						
gamma-BHC (Lindane)	0.00394	0.0010	mg/l	0.00400		98.6	40-120	3.14	30	
Heptachlor	0.00421	0.0010	"	0.00400		105	40-120	5.47	30	
Aldrin	0.00326	0.0010	"	0.00400		81.4	40-120	4.90	30	
Dieldrin	0.00444	0.0010	"	0.00400		111	40-120	5.38	30	
Endrin	0.00448	0.0010	"	0.00400		112	40-120	7.09	30	
4,4´-DDT	0.00461	0.0010	"	0.00400		115	40-120	6.65	30	
Surrogate: Tetrachloro-meta-xylene	*0.000933*		"	*0.00100*		*93.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00113*		"	*0.00100*		*113*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	07/02/20 13:47

Notes and Definitions

S-01	The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference's.
R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
O-05	This sample was extracted outside of the EPA recommended holding time.
E	The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 1 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202822 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
01	T1-SURF	5/19/20		SOIL	JAR									X		XX					1
02	T1-1						X						X			X					1
03	T1-2						[redacted]													HOLD	1
04	T1-3																			HOLD	1
05	T2-SURF													X		X					1
06	T2-1												X			XX					1
07	T2-2															XX					1
08	T2-3																			HOLD	1
09	T3-SURF															X					1
10	T3-1															XX					1
11	T3-2															X					1
12	T3-3																			HOLD	1
13	T4-SURF															X					1
14	T4-1						X						X			X					1
15	T4-2																			HOLD	1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers	
Chain of Custody seals Y/N/NA	
Seals intact? Y/N/NA	
Received good condition/cold	4.2 / 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 2 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
16	T4-3	5/19/20		SOIL	JAR															HOLD	1
17	T5-SURF													X		X					1
18	T5-1												X			X					1
19	T5-2						X									X					1
20	T5-3																			HOLD	1
21	T6-SURF															X					1
22	T6-1															X					1
23	T6-2															X					1
24	T6-3																			HOLD	1
25	T7-SURF													X		X					1
26	T7-1						X						X			X					1
27	T7-2																			HOLD	1
28	T7-3																			HOLD	1
29	T8-SURF															X					1
30	T8-1															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 - 11:00	Ed Duero	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers:
Chain of Custody seals: Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold: 4.2 °C

Turn around time: NORMAL

Notes

Sample disposal instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 3 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: I202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	~~8020 ICP-MS Metals~~	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
31	T9-2	5/19/20		SOIL	JAR															HOLD	1
32	T9-3																			HOLD	1
33	T9-SURF													X	X	X					1
34	T9-1						X						X			X					1
35	T9-2															X					1
36	T9-3																			HOLD	1
37	T10-SURF													X	X	X					1
38	T10-1						X						X			X					1
39	T10-2															X					1
40	T10-3																			HOLD	1
41	T11-SURF															X					1
42	T11-1															X					1
43	T11-2																			HOLD	1
44	T11-3																			HOLD	1
45	T12-SURF													X	X	X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20; 11:00	Ed Stevens	5/20/20 1100
GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers:
Chain of Custody seals Y/N/NA:
Seals intact? Y/N/NA:
Received good condition/cold: 4.2 / 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 4 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
46	T12 - 1	5/19/20		SOIL	JAR		X						X			X					1
47	T12 - 2																			HOLD	1
48	T12 - 3																			HOLD	1
49	T13 - SURF															X					1
50	T13 - 1															X					1
51	T13 - 2																			HOLD	1
52	T13 - 3																			HOLD	1
53	T14 - SURF															X					1
54	T14 - 1															X					1
55	T14 - 2																			HOLD	1
56	T14 - 3																			HOLD	1
57	T15 - SURF													X		X					1
58	T15 - 1						X						X			X					1
59	T15 - 2																			HOLD	1
60	T15 - 3																			HOLD	1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 - 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19283

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO Box 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 5 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
61	T16 - SURF	5/19/20		SOIL	JAR		X						X	X		X					1
62	T16 - 1						X						X	X		X					1
63	T16 - 2															X					1
64	T16 - 3																			HOLD	1
65	T17 - SURF													X		X					1
66	T17 - 1						X						X			X					1
67	T17 - 2																			HOLD	1
68	T17 - 3																			HOLD	1
69	T18 - SURF															X					1
70	T18 - 1						X						X			X					1
71	T18 - 2																			HOLD	1
72	T18 - 3																			HOLD	1
73	T19 - SURF															X					1
74	T19 - 1															X					1
75	T19 - 2															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	5/20/20 11:00	Ed Stevens	5/20/20 1100
GLS	5/21/20 900		5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 19274

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO Box 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 6 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
76	T19-3	5/19/20		SOIL	JAR															HOLD	1
77	T20-SURF													X		X					1
78	T20-1															X					1
79	T20-2																			HOLD	1
80	T20-3																			HOLD	1
81	T21-SURF															X					1
82	T21-1															X					1
83	T21-2																			HOLD	1
84	T21-3																			HOLD	1
85	T22-SURF													X		X					1
86	T22-1															X					1
87	T22-2																			HOLD	1
88	T22-3																			HOLD	1
89	T23-SURF															X					1
90	T23-1															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20 11:00	[signature]	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.2 3.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19274

SunStar Laboratories, Inc.

PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax:
Project Manager: JOE BRUSCA

Date: 5/19/2020 Page: 7 Of 7
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T202322 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type (SOIL)	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	PESTICIDES EPA 8081A				Comments/Preservative	Total # of containers
91	T23-2	5/19/20		~~JAR~~ SOIL	JAR															HOLD	1
92	T23-3			SOIL																HOLD	1
93	T24-SURF													X		X					1
94	T24-1															X					1
95	T24-2																			HOLD	1
96	T24-3																			HOLD	1
97	S1													X							1
98	S2													X							1
99	S3													X							1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
[signature]	5/20/20; 11:00	Ed Stevens	5/20/20 1100
[signature] GLS	5/21/20 900	[signature]	5/21/20 900
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 9
Chain of Custody seals Y/N/NA:
Seals intact? Y/N/NA:
Received good condition/cold: 9.2

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 19274

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

08 September 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 08/28/20 09:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T25-SURF	T203167-01	Soil	08/26/20 00:00	08/28/20 09:10
T26-SURF	T203167-02	Soil	08/26/20 00:00	08/28/20 09:10
T27-SURF	T203167-03	Soil	08/26/20 00:00	08/28/20 09:10
T28-SURF	T203167-04	Soil	08/26/20 00:00	08/28/20 09:10
T29-SURF	T203167-05	Soil	08/26/20 00:00	08/28/20 09:10
T30-SURF	T203167-06	Soil	08/26/20 00:00	08/28/20 09:10
T31-SURF	T203167-07	Soil	08/26/20 00:00	08/28/20 09:10
T32-SURF	T203167-08	Soil	08/26/20 00:00	08/28/20 09:10
T33-SURF	T203167-09	Soil	08/26/20 00:00	08/28/20 09:10
T34-SURF	T203167-10	Soil	08/26/20 00:00	08/28/20 09:10
T35-SURF	T203167-11	Soil	08/26/20 00:00	08/28/20 09:10
T36-SURF	T203167-12	Soil	08/26/20 00:00	08/28/20 09:10
T37-SURF	T203167-13	Soil	08/26/20 00:00	08/28/20 09:10
T43-SURF	T203167-14	Soil	08/26/20 00:00	08/28/20 09:10
T44-SURF	T203167-15	Soil	08/26/20 00:00	08/28/20 09:10
T45-SURF	T203167-16	Soil	08/26/20 00:00	08/28/20 09:10
T46-SURF	T203167-17	Soil	08/26/20 00:00	08/28/20 09:10
T47-SURF	T203167-18	Soil	08/26/20 00:00	08/28/20 09:10
T48-SURF	T203167-19	Soil	08/26/20 00:00	08/28/20 09:10
T49-SURF	T203167-20	Soil	08/26/20 00:00	08/28/20 09:10
T50-SURF	T203167-21	Soil	08/26/20 00:00	08/28/20 09:10
T51-SURF	T203167-22	Soil	08/26/20 00:00	08/28/20 09:10
T52-SURF	T203167-23	Soil	08/26/20 00:00	08/28/20 09:10
T53-SURF	T203167-24	Soil	08/26/20 00:00	08/28/20 09:10
T54-SURF	T203167-25	Soil	08/26/20 00:00	08/28/20 09:10
T55-SURF	T203167-26	Soil	08/26/20 00:00	08/28/20 09:10
T56-SURF	T203167-27	Soil	08/26/20 00:00	08/28/20 09:10
T57-SURF	T203167-28	Soil	08/26/20 00:00	08/28/20 09:10
T58-SURF	T203167-29	Soil	08/26/20 00:00	08/28/20 09:10

SunStar Laboratories, Inc.

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T59-SURF	T203167-30	Soil	08/26/20 00:00	08/28/20 09:10
T60-SURF	T203167-31	Soil	08/26/20 00:00	08/28/20 09:10
T61-SURF	T203167-32	Soil	08/26/20 00:00	08/28/20 09:10
T62-SURF	T203167-33	Soil	08/26/20 00:00	08/28/20 09:10
T63-SURF	T203167-34	Soil	08/26/20 00:00	08/28/20 09:10
T64-SURF	T203167-35	Soil	08/26/20 00:00	08/28/20 09:10
T65-SURF	T203167-36	Soil	08/26/20 00:00	08/28/20 09:10
T66-SURF	T203167-37	Soil	08/26/20 00:00	08/28/20 09:10
T67-SURF	T203167-38	Soil	08/26/20 00:00	08/28/20 09:10
T68-SURF	T203167-39	Soil	08/26/20 00:00	08/28/20 09:10
T69-SURF	T203167-40	Soil	08/26/20 00:00	08/28/20 09:10
T70-SURF	T203167-41	Soil	08/26/20 00:00	08/28/20 09:10
T71-SURF	T203167-42	Soil	08/26/20 00:00	08/28/20 09:10
T72-SURF	T203167-43	Soil	08/26/20 00:00	08/28/20 09:10
T73-SURF	T203167-44	Soil	08/26/20 00:00	08/28/20 09:10
T74-SURF	T203167-45	Soil	08/26/20 00:00	08/28/20 09:10
T75-SURF	T203167-46	Soil	08/26/20 00:00	08/28/20 09:10
T76-SURF	T203167-47	Soil	08/26/20 00:00	08/28/20 09:10
T77-SURF	T203167-48	Soil	08/26/20 00:00	08/28/20 09:10
T78-SURF	T203167-49	Soil	08/26/20 00:00	08/28/20 09:10

Per client request, this report contains EPA 8081 QCs which are outside of acceptable tolerance on various samples. Affected samples have been notated. Analytical values for these samples are strictly estimated values to be used for R&D purposes and not for regulatory reporting.

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SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

DETECTIONS SUMMARY

Sample ID: T25-SURF **Laboratory ID:** T203167-01

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.31**	0.50	mg/kg	EPA 8081A	R-07, J
4,4´-DDT	**0.38**	0.50	mg/kg	EPA 8081A	R-07, J
Toxaphene	**6.5**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T26-SURF **Laboratory ID:** T203167-02

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.11**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.14**	0.50	mg/kg	EPA 8081A	R-07, J
Toxaphene	**3.7**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T27-SURF **Laboratory ID:** T203167-03

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.11**	0.50	mg/kg	EPA 8081A	J, R-07

Sample ID: T28-SURF **Laboratory ID:** T203167-04

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.081**	0.050	mg/kg	EPA 8081A	R-07
alpha-Chlordane	**0.082**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDE	**2.0**	0.050	mg/kg	EPA 8081A	E, R-07
Dieldrin	**0.077**	0.050	mg/kg	EPA 8081A	R-07
Endrin	**0.057**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.26**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.13**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**1.4**	0.050	mg/kg	EPA 8081A	E, R-07
Endrin ketone	**0.21**	0.050	mg/kg	EPA 8081A	R-07

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T28-SURF **Laboratory ID:** T203167-04

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**14**	0.20	mg/kg	EPA 8081A	E, R-07

Sample ID: T29-SURF **Laboratory ID:** T203167-05

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.060**	0.050	mg/kg	EPA 8081A	R-07
alpha-Chlordane	**0.055**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.56**	0.050	mg/kg	EPA 8081A	R-07
Dieldrin	**0.026**	0.050	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**0.14**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.062**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.41**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**6.0**	0.20	mg/kg	EPA 8081A	E, R-07

Sample ID: T30-SURF **Laboratory ID:** T203167-06

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**1.1**	0.50	mg/kg	EPA 8081A	R-07
alpha-Chlordane	**0.86**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**3.9**	0.50	mg/kg	EPA 8081A	R-07
Endrin	**0.18**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**1.2**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.56**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**7.2**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**53**	2.0	mg/kg	EPA 8081A	E, R-07

Sample ID: T31-SURF **Laboratory ID:** T203167-07

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.20**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDE	**0.23**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**1.3**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.16**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**5.8**	2.0	mg/kg	EPA 8081A	R-07

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T32-SURF **Laboratory ID:** T203167-08

No Results Detected

Sample ID: T33-SURF **Laboratory ID:** T203167-09

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**1.1**	2.0	mg/kg	EPA 8081A	J, R-07

Sample ID: T34-SURF **Laboratory ID:** T203167-10

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.37**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.17**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**3.8**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T35-SURF **Laboratory ID:** T203167-11

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDD	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07

Sample ID: T36-SURF **Laboratory ID:** T203167-12

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-BHC (Lindane)	**0.096**	0.50	mg/kg	EPA 8081A	R-07, J
Endosulfan I	**0.40**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDE	**2.7**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.15**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.94**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**1.7**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**59**	2.0	mg/kg	EPA 8081A	E, R-07

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T37-SURF **Laboratory ID:** T203167-13

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.13**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDE	**0.52**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.21**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.24**	0.50	mg/kg	EPA 8081A	R-07, J
Toxaphene	**4.9**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T43-SURF **Laboratory ID:** T203167-14

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.51**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.16**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.33**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**11**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T44-SURF **Laboratory ID:** T203167-15

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**2.6**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.64**	0.50	mg/kg	EPA 8081A	R-07
Dieldrin	**0.44**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**2.0**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**2.2**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.31**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**31**	2.0	mg/kg	EPA 8081A	E, R-07

Sample ID: T45-SURF **Laboratory ID:** T203167-16

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan I	**0.53**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.44**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**0.20**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.65**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.27**	0.50	mg/kg	EPA 8081A	J, R-07

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T45-SURF **Laboratory ID:** T203167-16

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**12**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T46-SURF **Laboratory ID:** T203167-17

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.14**	0.50	mg/kg	EPA 8081A	J, R-07

Sample ID: T47-SURF **Laboratory ID:** T203167-18

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.62**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.043**	0.050	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.072**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.27**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**6.3**	0.20	mg/kg	EPA 8081A	E, R-07

Sample ID: T48-SURF **Laboratory ID:** T203167-19

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDE	**0.75**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.27**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.44**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**6.9**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T49-SURF **Laboratory ID:** T203167-20

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.089**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**0.27**	0.50	mg/kg	EPA 8081A	J, R-07

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T50-SURF **Laboratory ID:** T203167-21

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**1.3**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.54**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.28**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**1.2**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.48**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**25**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T51-SURF **Laboratory ID:** T203167-22

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.051**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.020**	0.050	mg/kg	EPA 8081A	J, R-07
Toxaphene	**0.53**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T52-SURF **Laboratory ID:** T203167-23

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.19**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.11**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**5.1**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T53-SURF **Laboratory ID:** T203167-24

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**2.0**	0.50	mg/kg	EPA 8081A	R-07
alpha-Chlordane	**1.3**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan I	**93**	0.50	mg/kg	EPA 8081A	E, R-07
4,4´-DDE	**0.84**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**58**	0.50	mg/kg	EPA 8081A	E, R-07
4,4´-DDT	**1.8**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**260**	2.0	mg/kg	EPA 8081A	E, R-07

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T54-SURF **Laboratory ID:** T203167-25

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.18**	0.50	mg/kg	EPA 8081A	J, R-07
alpha-Chlordane	**0.11**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDE	**0.098**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**0.27**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.13**	0.50	mg/kg	EPA 8081A	J, R-07

Sample ID: T55-SURF **Laboratory ID:** T203167-26

No Results Detected

Sample ID: T56-SURF **Laboratory ID:** T203167-27

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.14**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**2.2**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T57-SURF **Laboratory ID:** T203167-28

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.32**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.36**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.19**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**14**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T58-SURF **Laboratory ID:** T203167-29

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.13**	0.50	mg/kg	EPA 8081A	J, R-07
alpha-Chlordane	**0.093**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan I	**5.1**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.48**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDD	**0.36**	0.50	mg/kg	EPA 8081A	J, R-07

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Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T58-SURF **Laboratory ID:** T203167-29

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan II	**6.2**	0.50	mg/kg	EPA 8081A	R-07
4,4′-DDT	**0.80**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**58**	2.0	mg/kg	EPA 8081A	E, R-07

Sample ID: T59-SURF **Laboratory ID:** T203167-30

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.13**	0.50	mg/kg	EPA 8081A	J, R-07
4,4′-DDE	**0.18**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.19**	0.50	mg/kg	EPA 8081A	J, R-07
4,4′-DDT	**0.29**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**4.7**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T60-SURF **Laboratory ID:** T203167-31

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4′-DDE	**0.024**	0.050	mg/kg	EPA 8081A	J, R-07
4,4′-DDT	**0.089**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**1.4**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T61-SURF **Laboratory ID:** T203167-32

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.11**	0.50	mg/kg	EPA 8081A	J, R-07
4,4′-DDE	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.17**	0.50	mg/kg	EPA 8081A	J, R-07
4,4′-DDT	**0.13**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**3.8**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T62-SURF **Laboratory ID:** T203167-33

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.35**	0.50	mg/kg	EPA 8081A	J, R-07

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Sample ID: T62-SURF **Laboratory ID:** T203167-33

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.13**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.62**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**15**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T63-SURF **Laboratory ID:** T203167-34

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**9.1**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**4.2**	0.50	mg/kg	EPA 8081A	R-07
Endrin	**22**	0.50	mg/kg	EPA 8081A	E, R-07
4,4´-DDD	**2.8**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**5.3**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**5.5**	0.50	mg/kg	EPA 8081A	R-07
Endrin ketone	**3.4**	0.50	mg/kg	EPA 8081A	R-07

Sample ID: T64-SURF **Laboratory ID:** T203167-35

No Results Detected

Sample ID: T65-SURF **Laboratory ID:** T203167-36

No Results Detected

Sample ID: T66-SURF **Laboratory ID:** T203167-37

No Results Detected

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T67-SURF **Laboratory ID:** T203167-38

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**3.0**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**4.5**	0.50	mg/kg	EPA 8081A	R-07
Endrin	**0.95**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDD	**8.3**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**2.0**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**7.0**	0.50	mg/kg	EPA 8081A	R-07
Endrin ketone	**0.32**	0.50	mg/kg	EPA 8081A	J, R-07

Sample ID: T68-SURF **Laboratory ID:** T203167-39

No Results Detected

Sample ID: T69-SURF **Laboratory ID:** T203167-40

No Results Detected

Sample ID: T70-SURF **Laboratory ID:** T203167-41

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**3.1**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T71-SURF **Laboratory ID:** T203167-42

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**2.9**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.19**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**2.7**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.26**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan sulfate	**0.21**	0.50	mg/kg	EPA 8081A	J, R-07

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Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Sample ID: T72-SURF **Laboratory ID:** T203167-43

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**3.7**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T73-SURF **Laboratory ID:** T203167-44

No Results Detected

Sample ID: T74-SURF **Laboratory ID:** T203167-45

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.47**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.20**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.24**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**10**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T75-SURF **Laboratory ID:** T203167-46

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.28**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.20**	0.50	mg/kg	EPA 8081A	J, R-07
4,4´-DDT	**0.37**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**6.1**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T76-SURF **Laboratory ID:** T203167-47

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.13**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan I	**11**	0.50	mg/kg	EPA 8081A	E, R-07
4,4´-DDE	**4.4**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.29**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**13**	0.50	mg/kg	EPA 8081A	E, R-07
4,4´-DDT	**6.5**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan sulfate	**2.0**	0.50	mg/kg	EPA 8081A	R-07

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Sample ID: T76-SURF **Laboratory ID:** T203167-47

Analyte	Result	Reporting Limit	Units	Method	Notes
Methoxychlor	**2.1**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**110**	2.0	mg/kg	EPA 8081A	E, R-07

Sample ID: T77-SURF **Laboratory ID:** T203167-48

No Results Detected

Sample ID: T78-SURF **Laboratory ID:** T203167-49

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.085**	0.50	mg/kg	EPA 8081A	J, R-07
Endosulfan II	**0.12**	0.50	mg/kg	EPA 8081A	J, R-07
Toxaphene	**3.0**	2.0	mg/kg	EPA 8081A	R-07

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T25-SURF

T203167-01(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.31**	0.078	0.50	"	"	"	"	"	"	R-07, J
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.38**	0.080	0.50	"	"	"	"	"	"	R-07, J
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**6.5**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*136 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*128 %*	*35-140*		"	"	"	"	*R-07*

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Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T26-SURF

T203167-02(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.11**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.14**	0.080	0.50	"	"	"	"	"	"	R-07, J
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**3.7**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*123 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*135 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T27-SURF

T203167-03(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.11**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*131 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*111 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T28-SURF

T203167-04(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0056	0.050	mg/kg	10	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.0096	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.014	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.0064	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.0059	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.0066	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.0098	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.081**	0.0093	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	**0.082**	0.0083	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.0081	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**2.0**	0.0078	0.050	"	"	"	"	"	"	E, R-07
Dieldrin	**0.077**	0.011	0.050	"	"	"	"	"	"	R-07
Endrin	**0.057**	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.26**	0.012	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.13**	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**1.4**	0.0080	0.050	"	"	"	"	"	"	E, R-07
Endrin aldehyde	ND	0.017	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.0061	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.0040	0.050	"	"	"	"	"	"	R-07
Endrin ketone	**0.21**	0.013	0.050	"	"	"	"	"	"	R-07
Toxaphene	**14**	0.058	0.20	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*97.8 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*126 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T29-SURF

T203167-05(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0056	0.050	mg/kg	10	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.0096	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.014	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.0064	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.0059	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.0066	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.0098	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.060**	0.0093	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	**0.055**	0.0083	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.0081	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.56**	0.0078	0.050	"	"	"	"	"	"	R-07
Dieldrin	**0.026**	0.011	0.050	"	"	"	"	"	"	J, R-07
Endrin	ND	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.14**	0.012	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.062**	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.41**	0.0080	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.017	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.0061	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.0040	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.013	0.050	"	"	"	"	"	"	R-07
Toxaphene	**6.0**	0.058	0.20	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*96.4 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*123 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T30-SURF

T203167-06(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**1.1**	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	**0.86**	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**3.9**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	**0.18**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDD	**1.2**	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.56**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**7.2**	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**53**	0.58	2.0	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*128 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*123 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T31-SURF

T203167-07(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.20**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	**0.23**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**1.3**	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.16**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**5.8**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*%*	*35-140*		*"*	*"*	*"*	*"*	*R-07, S-06*
Surrogate: Decachlorobiphenyl			*118 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T32-SURF

T203167-08(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*110 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*120 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T33-SURF

T203167-09(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**1.1**	0.58	2.0	"	"	"	"	"	"	J, R-07
Surrogate: Tetrachloro-meta-xylene			*125 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*133 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T34-SURF

T203167-10(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.37**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.17**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**3.8**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*129 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*117 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T35-SURF

T203167-11(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.12**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*109 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*132 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T36-SURF

T203167-12(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	**0.096**	0.096	0.50	"	"	"	"	"	"	R-07, J
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.40**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	**2.7**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.15**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	**0.94**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**1.7**	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**59**	0.58	2.0	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*118 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*121 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T37-SURF

T203167-13(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.13**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	**0.52**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.21**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.24**	0.080	0.50	"	"	"	"	"	"	R-07, J
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**4.9**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*114 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*140 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T43-SURF

T203167-14(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.51**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.16**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.33**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**11**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*106 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*111 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T44-SURF

T203167-15(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**2.6**	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.64**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	**0.44**	0.11	0.50	"	"	"	"	"	"	J, R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**2.0**	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**2.2**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.31**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**31**	0.58	2.0	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*115 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*126 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T45-SURF

T203167-16(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.12**	0.093	0.50	"	"	"	"	"	"	J, R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.53**	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.44**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.20**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	**0.65**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.27**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**12**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*107 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*122 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T46-SURF

T203167-17(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.14**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*123 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*136 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T47-SURF

T203167-18(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0056	0.050	mg/kg	10	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.0096	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.014	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.0064	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.0059	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.0066	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.0098	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.0093	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.0083	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.0081	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.62**	0.0078	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.011	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.043**	0.012	0.050	"	"	"	"	"	"	J, R-07
Endosulfan II	**0.072**	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.27**	0.0080	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.017	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.0061	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.0040	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.013	0.050	"	"	"	"	"	"	R-07
Toxaphene	**6.3**	0.058	0.20	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*93.5 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*114 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T48-SURF

T203167-19(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.12**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	**0.75**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.27**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.44**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**6.9**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*118 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*126 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T49-SURF

T203167-20(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082822	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.089**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.27**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*118 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*114 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T50-SURF

T203167-21(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**1.3**	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.54**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.28**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	**1.2**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.48**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**25**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*101 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*111 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T51-SURF

T203167-22(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0056	0.050	mg/kg	10	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.0096	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.014	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.0064	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.0059	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.0066	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.0098	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.0093	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.0083	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.0081	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.051**	0.0078	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.011	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.012	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.020**	0.0080	0.050	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.017	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.0061	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.0040	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.013	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.53**	0.058	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*84.0 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*92.0 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T52-SURF

T203167-23(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.19**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.11**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.12**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**5.1**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*96.0 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*95.3 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T53-SURF

T203167-24(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**2.0**	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	**1.3**	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**93**	0.081	0.50	"	"	"	"	"	"	E, R-07
4,4´-DDE	**0.84**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**58**	0.11	0.50	"	"	"	"	"	"	E, R-07
4,4´-DDT	**1.8**	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**260**	0.58	2.0	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*80.5 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*70.5 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T54-SURF

T203167-25(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.18**	0.093	0.50	"	"	"	"	"	"	J, R-07
alpha-Chlordane	**0.11**	0.083	0.50	"	"	"	"	"	"	J, R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.098**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.27**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.13**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*80.8 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*80.0 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T55-SURF

T203167-26(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*78.8 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*125 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T56-SURF

T203167-27(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.14**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**2.2**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*83.2 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*104 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T57-SURF

T203167-28(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.32**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.36**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.19**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**14**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*98.4 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*103 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T58-SURF

T203167-29(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.13**	0.093	0.50	"	"	"	"	"	"	J, R-07
alpha-Chlordane	**0.093**	0.083	0.50	"	"	"	"	"	"	J, R-07
Endosulfan I	**5.1**	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.48**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.36**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	**6.2**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.80**	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**58**	0.58	2.0	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*82.4 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*223 %*	*35-140*		"	"	"	"	*R-07, S-GC*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T59-SURF

T203167-30(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.13**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	**0.18**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.19**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.29**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**4.7**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*70.1 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*80.5 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T60-SURF

T203167-31(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0056	0.050	mg/kg	10	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.0096	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.014	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.0064	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.0059	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.0066	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.0098	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.0093	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.0083	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.0081	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.024**	0.0078	0.050	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.011	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.012	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.011	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.089**	0.0080	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.017	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.0061	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.0040	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.013	0.050	"	"	"	"	"	"	R-07
Toxaphene	**1.4**	0.058	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*75.7 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*86.9 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T61-SURF

T203167-32(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.11**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	**0.12**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.17**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.13**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**3.8**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*86.8 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*79.9 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T62-SURF

T203167-33(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.35**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	**0.13**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.62**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.12**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**15**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*92.8 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*178 %*	*35-140*		"	"	"	"	*R-07, S-GC*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T63-SURF

T203167-34(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**9.1**	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**4.2**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	**22**	0.11	0.50	"	"	"	"	"	"	E, R-07
4,4´-DDD	**2.8**	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**5.3**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**5.5**	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	**3.4**	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*94.9 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*104 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T64-SURF

T203167-35(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*78.4 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*82.9 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T65-SURF

T203167-36(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*99.9 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*101 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T66-SURF

T203167-37(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*97.0 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*101 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T67-SURF

T203167-38(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**3.0**	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**4.5**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	**0.95**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**8.3**	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**2.0**	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**7.0**	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	**0.32**	0.13	0.50	"	"	"	"	"	"	J, R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*80.9 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*90.2 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T68-SURF

T203167-39(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*58.7 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*57.3 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T69-SURF

T203167-40(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082826	08/28/20	09/04/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*81.7 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*105 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T70-SURF

T203167-41(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.12**	0.078	0.50	"	"	"	"	09/03/20	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	09/03/20	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	09/03/20	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	09/03/20	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**3.1**	0.58	2.0	"	"	"	"	09/03/20	"	R-07
Surrogate: Tetrachloro-meta-xylene			*119 %*	*35-140*		"	"	*09/03/20*	"	*R-07*
Surrogate: Decachlorobiphenyl			*108 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T71-SURF

T203167-42(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**2.9**	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.19**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**2.7**	0.11	0.50	"	"	"	"	09/03/20	"	R-07
4,4´-DDT	**0.26**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	09/03/20	"	R-07
Endosulfan sulfate	**0.21**	0.061	0.50	"	"	"	"	"	"	J, R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.0058	0.020	"	1	"	"	09/03/20	"	R-07
Surrogate: Tetrachloro-meta-xylene			*81.8 %*	*35-140*		*"*	*"*	*09/03/20*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*64.6 %*	*35-140*		*"*	*"*	*09/03/20*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T72-SURF

T203167-43(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**3.7**	0.58	2.0	"	"	"	"	09/03/20	"	R-07
Surrogate: Tetrachloro-meta-xylene			*103 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*65.5 %*	*35-140*		*"*	*"*	*09/03/20*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T73-SURF

T203167-44(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.0058	0.020	"	1	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*100 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*113 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T74-SURF

T203167-45(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.47**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.20**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.24**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**10**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*90.0 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*89.0 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T75-SURF

T203167-46(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.28**	0.078	0.50	"	"	"	"	"	"	J, R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.20**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	**0.37**	0.080	0.50	"	"	"	"	"	"	J, R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**6.1**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*102 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*90.3 %*	*35-140*		"	"	"	"	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T76-SURF

T203167-47(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.13**	0.093	0.50	"	"	"	"	"	"	J, R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**11**	0.081	0.50	"	"	"	"	"	"	E, R-07
4,4´-DDE	**4.4**	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	**0.29**	0.12	0.50	"	"	"	"	"	"	J, R-07
Endosulfan II	**13**	0.11	0.50	"	"	"	"	"	"	E, R-07
4,4´-DDT	**6.5**	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	**2.0**	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	**2.1**	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**110**	0.58	2.0	"	"	"	"	"	"	E, R-07
Surrogate: Tetrachloro-meta-xylene			*76.6 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*81.9 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T77-SURF

T203167-48(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.081	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	0.0058	0.020	"	1	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*88.5 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl			*79.4 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

T78-SURF

T203167-49(Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.056	0.50	mg/kg	100	0082827	08/28/20	09/03/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.096	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.14	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.064	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.059	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.066	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.098	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.093	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.083	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.085**	0.081	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDE	ND	0.078	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.11	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.12	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.12**	0.11	0.50	"	"	"	"	"	"	J, R-07
4,4´-DDT	ND	0.080	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.17	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.061	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.040	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.13	0.50	"	"	"	"	"	"	R-07
Toxaphene	**3.0**	0.58	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene			*95.0 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl			*114 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0082822 - EPA 3550C ECD/GCMS											
Blank (0082822-BLK1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Surrogate: Tetrachloro-meta-xylene	*0.00965*			*mg/kg*	*0.0101*		*95.5*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0106*			*"*	*0.0101*		*105*	*35-140*			
alpha-BHC	ND	0.00056	0.0050	"							
gamma-BHC (Lindane)	ND	0.00096	0.0050	"							
beta-BHC	ND	0.0014	0.0050	"							
delta-BHC	ND	0.00064	0.0050	"							
Heptachlor	ND	0.00059	0.0050	"							
Aldrin	ND	0.00066	0.0050	"							
Heptachlor epoxide	ND	0.00098	0.0050	"							
gamma-Chlordane	ND	0.00093	0.0050	"							
alpha-Chlordane	ND	0.00083	0.0050	"							
Endosulfan I	ND	0.00081	0.0050	"							
4,4´-DDE	ND	0.00078	0.0050	"							
Dieldrin	ND	0.0011	0.0050	"							
Endrin	ND	0.0011	0.0050	"							
4,4´-DDD	ND	0.0012	0.0050	"							
Endosulfan II	ND	0.0011	0.0050	"							
4,4´-DDT	ND	0.00080	0.0050	"							
Endrin aldehyde	ND	0.0017	0.0050	"							
Endosulfan sulfate	ND	0.00061	0.0050	"							
Methoxychlor	ND	0.00040	0.0050	"							
Endrin ketone	ND	0.0013	0.0050	"							
Toxaphene	ND	0.0058	0.020	"							
LCS (0082822-BS1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Surrogate: Tetrachloro-meta-xylene	*0.00951*			*mg/kg*	*0.0101*		*94.1*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0106*			*"*	*0.0101*		*105*	*35-140*			
gamma-BHC (Lindane)	0.0374	0.00096	0.0050	"	0.0404		92.5	40-120			

SunStar Laboratories, Inc.

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SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0082822 - EPA 3550C ECD/GCMS											
LCS (0082822-BS1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Heptachlor	0.0398	0.00059	0.0050	mg/kg	0.0404		98.5	40-120			
Aldrin	0.0286	0.00066	0.0050	"	0.0404		70.7	40-120			
Dieldrin	0.0410	0.0011	0.0050	"	0.0404		101	40-120			
Endrin	0.0414	0.0011	0.0050	"	0.0404		102	40-120			
4,4´-DDT	0.0420	0.00080	0.0050	"	0.0404		104	33-147			
LCS Dup (0082822-BSD1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Surrogate: Tetrachloro-meta-xylene	*0.00944*			*mg/kg*	*0.0101*		*93.5*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.0106*			*"*	*0.0101*		*105*	*35-140*			
gamma-BHC (Lindane)	0.0377	0.00096	0.0050	"	0.0404		93.3	40-120	0.894	30	
Heptachlor	0.0400	0.00059	0.0050	"	0.0404		99.0	40-120	0.432	30	
Aldrin	0.0285	0.00066	0.0050	"	0.0404		70.6	40-120	0.181	30	
Dieldrin	0.0412	0.0011	0.0050	"	0.0404		102	40-120	0.424	30	
Endrin	0.0417	0.0011	0.0050	"	0.0404		103	40-120	0.688	30	
4,4´-DDT	0.0420	0.00080	0.0050	"	0.0404		104	33-147	0.0454	30	
Batch 0082826 - EPA 3550C ECD/GCMS											
Blank (0082826-BLK1)					Prepared: 08/28/20 Analyzed: 09/04/20						
Surrogate: Tetrachloro-meta-xylene	*0.00864*			*mg/kg*	*0.0100*		*86.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00897*			*"*	*0.0100*		*89.7*	*35-140*			
alpha-BHC	ND	0.00056	0.0050	"							
gamma-BHC (Lindane)	ND	0.00096	0.0050	"							
beta-BHC	ND	0.0014	0.0050	"							
delta-BHC	ND	0.00064	0.0050	"							
Heptachlor	ND	0.00059	0.0050	"							
Aldrin	ND	0.00066	0.0050	"							
Heptachlor epoxide	ND	0.00098	0.0050	"							
gamma-Chlordane	ND	0.00093	0.0050	"							

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0082826 - EPA 3550C ECD/GCMS											
Blank (0082826-BLK1)					Prepared: 08/28/20 Analyzed: 09/04/20						
alpha-Chlordane	ND	0.00083	0.0050	mg/kg							
Endosulfan I	ND	0.00081	0.0050	"							
4,4´-DDE	ND	0.00078	0.0050	"							
Dieldrin	ND	0.0011	0.0050	"							
Endrin	ND	0.0011	0.0050	"							
4,4´-DDD	ND	0.0012	0.0050	"							
Endosulfan II	ND	0.0011	0.0050	"							
4,4´-DDT	ND	0.00080	0.0050	"							
Endrin aldehyde	ND	0.0017	0.0050	"							
Endosulfan sulfate	ND	0.00061	0.0050	"							
Methoxychlor	ND	0.00040	0.0050	"							
Endrin ketone	ND	0.0013	0.0050	"							
Toxaphene	ND	0.0058	0.020	"							
LCS (0082826-BS1)					Prepared: 08/28/20 Analyzed: 09/04/20						
Surrogate: Tetrachloro-meta-xylene	*0.00911*			*mg/kg*	*0.0100*		*91.1*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00933*			*"*	*0.0100*		*93.3*	*35-140*			
gamma-BHC (Lindane)	0.0349	0.00096	0.0050	"	0.0400		87.3	40-120			
Heptachlor	0.0371	0.00059	0.0050	"	0.0400		92.7	40-120			
Aldrin	0.0284	0.00066	0.0050	"	0.0400		71.0	40-120			
Dieldrin	0.0365	0.0011	0.0050	"	0.0400		91.1	40-120			
Endrin	0.0377	0.0011	0.0050	"	0.0400		94.2	40-120			
4,4´-DDT	0.0374	0.00080	0.0050	"	0.0400		93.5	33-147			
LCS Dup (0082826-BSD1)					Prepared: 08/28/20 Analyzed: 09/04/20						
Surrogate: Tetrachloro-meta-xylene	*0.00865*			*mg/kg*	*0.0100*		*86.5*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00880*			*"*	*0.0100*		*88.0*	*35-140*			
gamma-BHC (Lindane)	0.0332	0.00096	0.0050	"	0.0400		83.0	40-120	5.03	30	
Heptachlor	0.0352	0.00059	0.0050	"	0.0400		87.9	40-120	5.25	30	

SunStar Laboratories, Inc.

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0082826 - EPA 3550C ECD/GCMS											
LCS Dup (0082826-BSD1)					Prepared: 08/28/20 Analyzed: 09/04/20						
Aldrin	0.0267	0.00066	0.0050	mg/kg	0.0400		66.8	40-120	6.08	30	
Dieldrin	0.0347	0.0011	0.0050	"	0.0400		86.7	40-120	4.97	30	
Endrin	0.0358	0.0011	0.0050	"	0.0400		89.6	40-120	4.95	30	
4,4´-DDT	0.0355	0.00080	0.0050	"	0.0400		88.7	33-147	5.31	30	
Batch 0082827 - EPA 3550C ECD/GCMS											
Blank (0082827-BLK1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Surrogate: Tetrachloro-meta-xylene	*0.00872*			*mg/kg*	*0.0100*		*87.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00962*			*"*	*0.0100*		*96.2*	*35-140*			
alpha-BHC	ND	0.00056	0.0050	"							
gamma-BHC (Lindane)	ND	0.00096	0.0050	"							
beta-BHC	ND	0.0014	0.0050	"							
delta-BHC	ND	0.00064	0.0050	"							
Heptachlor	ND	0.00059	0.0050	"							
Aldrin	ND	0.00066	0.0050	"							
Heptachlor epoxide	ND	0.00098	0.0050	"							
gamma-Chlordane	ND	0.00093	0.0050	"							
alpha-Chlordane	ND	0.00083	0.0050	"							
Endosulfan I	ND	0.00081	0.0050	"							
4,4´-DDE	ND	0.00078	0.0050	"							
Dieldrin	ND	0.0011	0.0050	"							
Endrin	ND	0.0011	0.0050	"							
4,4´-DDD	ND	0.0012	0.0050	"							
Endosulfan II	ND	0.0011	0.0050	"							
4,4´-DDT	ND	0.00080	0.0050	"							
Endrin aldehyde	ND	0.0017	0.0050	"							
Endosulfan sulfate	ND	0.00061	0.0050	"							
Methoxychlor	ND	0.00040	0.0050	"							

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0082827 - EPA 3550C ECD/GCMS											
Blank (0082827-BLK1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Endrin ketone	ND	0.0013	0.0050	mg/kg							
Toxaphene	ND	0.0058	0.020	"							
LCS (0082827-BS1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Surrogate: Tetrachloro-meta-xylene	*0.00854*			*mg/kg*	*0.0100*		*85.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00900*			*"*	*0.0100*		*90.0*	*35-140*			
gamma-BHC (Lindane)	0.0330	0.00096	0.0050	"	0.0400		82.4	40-120			
Heptachlor	0.0355	0.00059	0.0050	"	0.0400		88.9	40-120			
Aldrin	0.0241	0.00066	0.0050	"	0.0400		60.2	40-120			
Dieldrin	0.0357	0.0011	0.0050	"	0.0400		89.4	40-120			
Endrin	0.0366	0.0011	0.0050	"	0.0400		91.4	40-120			
4,4´-DDT	0.0371	0.00080	0.0050	"	0.0400		92.8	33-147			
LCS Dup (0082827-BSD1)					Prepared: 08/28/20 Analyzed: 09/03/20						
Surrogate: Tetrachloro-meta-xylene	*0.00743*			*mg/kg*	*0.0100*		*74.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00787*			*"*	*0.0100*		*78.7*	*35-140*			
gamma-BHC (Lindane)	0.0283	0.00096	0.0050	"	0.0400		70.8	40-120	15.2	30	
Heptachlor	0.0303	0.00059	0.0050	"	0.0400		75.9	40-120	15.8	30	
Aldrin	0.0207	0.00066	0.0050	"	0.0400		51.7	40-120	15.2	30	
Dieldrin	0.0305	0.0011	0.0050	"	0.0400		76.3	40-120	15.8	30	
Endrin	0.0312	0.0011	0.0050	"	0.0400		78.0	40-120	15.8	30	
4,4´-DDT	0.0310	0.00080	0.0050	"	0.0400		77.4	33-147	18.0	30	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/08/20 11:21

Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
J	Detected but below the Standard Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
E	The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the Method Detection Limit (MDL)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332 ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 8/26/2020 Page: 1 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
01	T25-SURF	8/26/20		SOIL	JAR											X					1
02	T26-SURF															X					1
03	T27-SURF															X					1
04	T28-SURF															X					1
05	T29-SURF															X					1
06	T30-SURF															X					1
07	T31-SURF															X					1
08	T32-SURF															X					1
09	T33-SURF															X					1
10	T34-SURF															X					1
11	T35-SURF															X					1
12	T36-SURF															X					1
13	T37-SURF															X					1
14	T43-SURF															X					1
15	T44-SURF															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20; 10:00	Ed Stevens	8/27/20 1000
GLS	8.28.20 9:10		8.28.20 9:10

Total # of containers: 15
Chain of Custody seals: Y/N/NA (8)
Seals intact? Y/N/NA 56 DS
Received good condition/cold 5.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191655

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax (916) 677-1471
Project Manager: JOE BRUSCA

Date: 8/26/2020 Page: 2 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
16	T45-SURF	8/26/20		SOIL	JAR											X					1
17	T46-SURF															X					1
18	T47-SURF															X					1
19	T48-SURF															X					1
20	T49-SURF															X					1
21	T50-SURF															X					1
22	T51-SURF															X					1
23	T52-SURF															X					1
24	T53-SURF															X					1
25	T54-SURF															X					1
26	T55-SURF															X					1
27	T56-SURF															X					1
28	T57-SURF															X					1
29	T58-SURF															X					1
30	T59-SURF															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20; 10:00	Ed Stevens	8/27/20 1000
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
GLS 8-28-20	9:10	[signature] 8-28-20	9:10
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals (Y)/N/NA
Seals intact? (Y)/N/NA
Received good condition/cold 5.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191656

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 8/26/20 Page: 3 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
31	T60 – SURF	8/26/20		SOIL	JAR											X					1
32	T61 – SURF															X					1
33	T62 – SURF															X					1
34	T63 – SURF															X					1
35	T64 – SURF															X					1
36	T65 – SURF															X					1
37	T66 – SURF															X					1
38	T67 – SURF															X					1
39	T68 – SURF															X					1
40	T69 – SURF															X					1
41	T70 – SURF															X					1
42	T71 – SURF															X					1
43	T72 – SURF															X					1
44	T73 – SURF															X					1
45	T74 – SURF															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20; 10:10	Ed Stevens	8/27/20 1000
GLS	8.28.20 9:10		8.28.20 9:10
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals: Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 5.9

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191657

SunStar Laboratories

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax (916) 677-1471
Project Manager: JON BRUSCA

Date: 8/26/2020 Page: 4 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES			Laboratory ID #	Comments/Preservative	Total # of containers
T75-SURF	8/26/20		SOIL	JAR											X			46		1
T76-SURF	"		"	"											X			47		1
T77-SURF	"		"	"											X			48		1
T78-SURF	"		"	"											X			49		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20 10:00	ED Stevens	8/27/20 1000
GLS	8.28.20 9:10		8.28.20 9:10

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 5.8

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 172773

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

11 September 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 08/28/20 09:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T71-SURF	T203167-42	Soil	08/26/20 00:00	08/28/20 09:10
T75-SURF	T203167-46	Soil	08/26/20 00:00	08/28/20 09:10
T76-SURF	T203167-47	Soil	08/26/20 00:00	08/28/20 09:10

Per client request, this report contains EPA 8081 QCs which are outside of acceptable tolerance on various samples. Affected samples have been notated. Analytical values for these samples are strictly estimated values to be used for R&D purposes and not for regulatory reporting.

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

DETECTIONS SUMMARY

Sample ID: T71-SURF **Laboratory ID:** T203167-42

No Results Detected

Sample ID: T75-SURF **Laboratory ID:** T203167-46

No Results Detected

Sample ID: T76-SURF **Laboratory ID:** T203167-47

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan II	**2.4**	1.0	ug/l	TCLP EPA 8081A	
Endosulfan sulfate	**1.5**	1.0	ug/l	TCLP EPA 8081A	

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

T71-SURF

T203167-42 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.0	ug/l	1	0090416	09/04/20	09/09/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	1.0	"	"	"	"	"	"	
beta-BHC	ND	1.0	"	"	"	"	"	"	
delta-BHC	ND	1.0	"	"	"	"	"	"	
Heptachlor	ND	1.0	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.0	"	"	"	"	"	"	
gamma-Chlordane	ND	1.0	"	"	"	"	"	"	
alpha-Chlordane	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.0	"	"	"	"	"	"	
4,4´-DDE	ND	1.0	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endrin	ND	1.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.0	"	"	"	"	"	"	
Endosulfan II	ND	1.0	"	"	"	"	"	"	
4,4´-DDT	ND	1.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.0	"	"	"	"	"	"	
Methoxychlor	ND	2.0	"	"	"	"	"	"	
Endrin ketone	ND	1.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*99.5 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

T75-SURF

T203167-46 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.0	ug/l	1	0090416	09/04/20	09/09/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	1.0	"	"	"	"	"	"	
beta-BHC	ND	1.0	"	"	"	"	"	"	
delta-BHC	ND	1.0	"	"	"	"	"	"	
Heptachlor	ND	1.0	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.0	"	"	"	"	"	"	
gamma-Chlordane	ND	1.0	"	"	"	"	"	"	
alpha-Chlordane	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.0	"	"	"	"	"	"	
4,4´-DDE	ND	1.0	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endrin	ND	1.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.0	"	"	"	"	"	"	
Endosulfan II	ND	1.0	"	"	"	"	"	"	
4,4´-DDT	ND	1.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	1.0	"	"	"	"	"	"	
Methoxychlor	ND	2.0	"	"	"	"	"	"	
Endrin ketone	ND	1.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*98.6 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*104 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

T76-SURF

T203167-47 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	1.0	ug/l	1	0090416	09/04/20	09/09/20	TCLP EPA 8081A	
gamma-BHC (Lindane)	ND	1.0	"	"	"	"	"	"	
beta-BHC	ND	1.0	"	"	"	"	"	"	
delta-BHC	ND	1.0	"	"	"	"	"	"	
Heptachlor	ND	1.0	"	"	"	"	"	"	
Aldrin	ND	1.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	1.0	"	"	"	"	"	"	
gamma-Chlordane	ND	1.0	"	"	"	"	"	"	
alpha-Chlordane	ND	1.0	"	"	"	"	"	"	
Endosulfan I	ND	1.0	"	"	"	"	"	"	
4,4´-DDE	ND	1.0	"	"	"	"	"	"	
Dieldrin	ND	1.0	"	"	"	"	"	"	
Endrin	ND	1.0	"	"	"	"	"	"	
4,4´-DDD	ND	1.0	"	"	"	"	"	"	
Endosulfan II	**2.4**	1.0	"	"	"	"	"	"	
4,4´-DDT	ND	1.0	"	"	"	"	"	"	
Endrin aldehyde	ND	1.0	"	"	"	"	"	"	
Endosulfan sulfate	**1.5**	1.0	"	"	"	"	"	"	
Methoxychlor	ND	2.0	"	"	"	"	"	"	
Endrin ketone	ND	1.0	"	"	"	"	"	"	
Toxaphene	ND	20	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96.8 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*113 %*	*35-140*		"	"	"	"	

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0090416 - TCLP Pesticides										
Blank (0090416-BLK1)				Prepared: 09/04/20 Analyzed: 09/09/20						
alpha-BHC	ND	1.0	ug/l							
gamma-BHC (Lindane)	ND	1.0	"							
beta-BHC	ND	1.0	"							
delta-BHC	ND	1.0	"							
Heptachlor	ND	1.0	"							
Aldrin	ND	1.0	"							
Heptachlor epoxide	ND	1.0	"							
gamma-Chlordane	ND	1.0	"							
alpha-Chlordane	ND	1.0	"							
Endosulfan I	ND	1.0	"							
4,4´-DDE	ND	1.0	"							
Dieldrin	ND	1.0	"							
Endrin	ND	1.0	"							
4,4´-DDD	ND	1.0	"							
Endosulfan II	ND	1.0	"							
4,4´-DDT	ND	1.0	"							
Endrin aldehyde	ND	1.0	"							
Endosulfan sulfate	ND	1.0	"							
Methoxychlor	ND	2.0	"							
Endrin ketone	ND	1.0	"							
Toxaphene	ND	20	"							
Surrogate: Tetrachloro-meta-xylene	*0.992*		*"*	*1.00*		*99.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*1.08*		*"*	*1.00*		*108*	*35-140*			
LCS (0090416-BS1)				Prepared: 09/04/20 Analyzed: 09/09/20						
gamma-BHC (Lindane)	3.66	1.0	ug/l	4.00		91.5	40-120			
Heptachlor	3.88	1.0	"	4.00		97.0	40-120			
Aldrin	3.05	1.0	"	4.00		76.3	40-120			
Dieldrin	4.02	1.0	"	4.00		101	40-120			
Endrin	3.98	1.0	"	4.00		99.6	40-120			
4,4´-DDT	4.07	1.0	"	4.00		102	40-120			
Surrogate: Tetrachloro-meta-xylene	*1.03*		*"*	*1.00*		*103*	*35-140*			
Surrogate: Decachlorobiphenyl	*1.11*		*"*	*1.00*		*111*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0090416 - TCLP Pesticides										
LCS Dup (0090416-BSD1)				Prepared: 09/04/20 Analyzed: 09/09/20						
gamma-BHC (Lindane)	3.52	1.0	ug/l	4.00		88.1	40-120	3.86	30	
Heptachlor	3.69	1.0	"	4.00		92.4	40-120	4.91	30	
Aldrin	2.94	1.0	"	4.00		73.5	40-120	3.83	30	
Dieldrin	3.85	1.0	"	4.00		96.2	40-120	4.44	30	
Endrin	3.87	1.0	"	4.00		96.8	40-120	2.88	30	
4,4´-DDT	3.93	1.0	"	4.00		98.2	40-120	3.62	30	
Surrogate: Tetrachloro-meta-xylene	*0.973*		*"*	*1.00*		*97.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*1.08*		*"*	*1.00*		*108*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/11/20 16:13

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332 ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 8/26/2020 Page: 1 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
01	T25-SURF	8/26/20		SOIL	JAR											X					1
02	T26-SURF															X					1
03	T27-SURF															X					1
04	T28-SURF															X					1
05	T29-SURF															X					1
06	T30-SURF															X					1
07	T31-SURF															X					1
08	T32-SURF															X					1
09	T33-SURF															X					1
10	T34-SURF															X					1
11	T35-SURF															X					1
12	T36-SURF															X					1
13	T37-SURF															X					1
14	T43-SURF															X					1
15	T44-SURF															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20; 10:00	Ed Stevens	8/27/20 1000
GLS	8.28.20 9:10		8.28.20 9:10

Total # of containers: 15
Chain of Custody seals: Y/N/NA 8
Seals intact? Y/N/NA 56 DS
Received good condition/cold 5.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 191655

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax (916) 677-1471
Project Manager: JOE BRUSCA

Date: 8/26/2020 Page: 2 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
16	T45-SURF	8/26/20		SOIL	JAR											X					1
17	T46-SURF															X					1
18	T47-SURF															X					1
19	T48-SURF															X					1
20	T49-SURF															X					1
21	T50-SURF															X					1
22	T51-SURF															X					1
23	T52-SURF															X					1
24	T53-SURF															X					1
25	T54-SURF															X					1
26	T55-SURF															X					1
27	T56-SURF															X					1
28	T57-SURF															X					1
29	T58-SURF															X					1
30	T59-SURF															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20; 10:00	Ed Stevens	8/27/20 1000
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
GLS 8-28-20	9:10	[signature] 8-28-20	9:10
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals (Y)/N/NA
Seals intact? (Y)/N/NA
Received good condition/cold 5.6

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191656

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 8/26/20 Page: 3 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
31	T60 – SURF	8/26/20		SOIL	JAR											X					1
32	T61 – SURF															X					1
33	T62 – SURF															X					1
34	T63 – SURF															X					1
35	T64 – SURF															X					1
36	T65 – SURF															X					1
37	T66 – SURF															X					1
38	T67 – SURF															X					1
39	T68 – SURF															X					1
40	T69 – SURF															X					1
41	T70 – SURF															X					1
42	T71 – SURF															X					1
43	T72 – SURF															X					1
44	T73 – SURF															X					1
45	T74 – SURF															X					1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20; 10:10	Ed Stevens	8/27/20 1000
GLS	8.28.20 9:10		8.28.20 9:10
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals: Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 5.8
Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191657

SunStar Laboratories

25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax (916) 677-1471
Project Manager: JON BRUSCA

Date: 8/26/2020 Page: 4 Of 4
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203167 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES			Laboratory ID #	Comments/Preservative	Total # of containers
T75-SURF	8/26/20		SOIL	JAR											X			46		1
T76-SURF	"		"	"											X			47		1
T77-SURF	"		"	"											X			48		1
T78-SURF	"		"	"											X			49		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	8/27/20 10:00	ED Stevens	8/27/20 1000
OLS	8.28.20 9:10		8.28.20 9:10

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 5.8

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 172773

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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29 September 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 09/22/20 09:23. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T38-SURF	T203357-01	Soil	09/18/20 00:00	09/22/20 09:23
T39-SURF	T203357-02	Soil	09/18/20 00:00	09/22/20 09:23
T41-SURF	T203357-03	Soil	09/18/20 00:00	09/22/20 09:23
T42-SURF	T203357-04	Soil	09/18/20 00:00	09/22/20 09:23
T79-SURF	T203357-05	Soil	09/18/20 00:00	09/22/20 09:23
T80-SURF	T203357-06	Soil	09/18/20 00:00	09/22/20 09:23
T81-SURF	T203357-07	Soil	09/18/20 00:00	09/22/20 09:23
T82-SURF	T203357-08	Soil	09/18/20 00:00	09/22/20 09:23
T83-SURF	T203357-09	Soil	09/18/20 00:00	09/22/20 09:23
T84-SURF	T203357-10	Soil	09/18/20 00:00	09/22/20 09:23
T85-SURF	T203357-11	Soil	09/18/20 00:00	09/22/20 09:23
T86-SURF	T203357-12	Soil	09/18/20 00:00	09/22/20 09:23
T87-SURF	T203357-13	Soil	09/18/20 00:00	09/22/20 09:23
T88-SURF	T203357-14	Soil	09/18/20 00:00	09/22/20 09:23
T89-SURF	T203357-15	Soil	09/18/20 00:00	09/22/20 09:23
T90-SURF	T203357-16	Soil	09/18/20 00:00	09/22/20 09:23

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

DETECTIONS SUMMARY

Sample ID: T38-SURF **Laboratory ID:** T203357-01

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.044**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.056**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**2.1**	0.50	mg/kg	EPA 8081A	
4,4´-DDD	**0.68**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.60**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**1.1**	0.50	mg/kg	EPA 8081A	

Sample ID: T39-SURF **Laboratory ID:** T203357-02

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.054**	0.050	mg/kg	EPA 8081A	R-07
alpha-Chlordane	**0.066**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan I	**0.46**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.96**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.13**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.58**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.46**	0.050	mg/kg	EPA 8081A	R-07
Methoxychlor	**0.42**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**23**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T41-SURF **Laboratory ID:** T203357-03

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**6.2**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**3.1**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**7.7**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**2.0**	0.50	mg/kg	EPA 8081A	R-07
Methoxychlor	**1.1**	0.50	mg/kg	EPA 8081A	R-07

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

Sample ID: T42-SURF **Laboratory ID:** T203357-04

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.18**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.064**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**3.8**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T79-SURF **Laboratory ID:** T203357-05

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**1.5**	0.50	mg/kg	EPA 8081A	
alpha-Chlordane	**1.1**	0.50	mg/kg	EPA 8081A	
4,4´-DDE	**20**	1.0	mg/kg	EPA 8081A	
4,4´-DDD	**6.3**	0.50	mg/kg	EPA 8081A	
4,4´-DDT	**29**	1.0	mg/kg	EPA 8081A	E
Toxaphene	**290**	4.0	mg/kg	EPA 8081A	E

Sample ID: T80-SURF **Laboratory ID:** T203357-06

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.47**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.19**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.13**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.64**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**12**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T81-SURF **Laboratory ID:** T203357-07

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.089**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.071**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**2.0**	0.10	mg/kg	EPA 8081A	
Dieldrin	**0.24**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**0.52**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**3.7**	0.25	mg/kg	EPA 8081A	
Toxaphene	**28**	2.0	mg/kg	EPA 8081A	

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Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

Sample ID: T82-SURF **Laboratory ID:** T203357-08

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.021**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.018**	0.0050	mg/kg	EPA 8081A	
Endosulfan I	**0.037**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**1.5**	0.10	mg/kg	EPA 8081A	
4,4´-DDD	**0.061**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.092**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.68**	0.10	mg/kg	EPA 8081A	
Toxaphene	**7.1**	1.0	mg/kg	EPA 8081A	

Sample ID: T83-SURF **Laboratory ID:** T203357-09

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.12**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.055**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**1.3**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T84-SURF **Laboratory ID:** T203357-10

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.076**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.85**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.16**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.30**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.50**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**12**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T85-SURF **Laboratory ID:** T203357-11

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.54**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**7.1**	2.0	mg/kg	EPA 8081A	R-07

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

Sample ID: T86-SURF **Laboratory ID:** T203357-12

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.85**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**1.0**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**1.8**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**1.0**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**29**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T87-SURF **Laboratory ID:** T203357-13

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.039**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.0053**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.0089**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.86**	0.10	mg/kg	EPA 8081A	

Sample ID: T88-SURF **Laboratory ID:** T203357-14

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.034**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.041**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.074**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.040**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**2.0**	0.20	mg/kg	EPA 8081A	

Sample ID: T89-SURF **Laboratory ID:** T203357-15

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDT	**0.054**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**0.87**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T90-SURF **Laboratory ID:** T203357-16

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.087**	0.050	mg/kg	EPA 8081A	R-07

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Sample ID: T90-SURF **Laboratory ID:** T203357-16

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.15**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.10**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.058**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**1.8**	0.20	mg/kg	EPA 8081A	R-07

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T38-SURF

T203357-01 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0092219	09/22/20	09/24/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.044**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.056**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**2.1**	0.50	"	100	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.68**	0.050	"	10	"	"	"	"	
Endosulfan II	**0.60**	0.050	"	"	"	"	"	"	
4,4´-DDT	**1.1**	0.50	"	100	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*58.6 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*77.1 %*	*35-140*		"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T39-SURF

T203357-02 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.054**	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	**0.066**	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.46**	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.96**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.13**	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.58**	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.46**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	**0.42**	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**23**	2.0	"	100	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*54.9 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*60.9 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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T41-SURF

T203357-03 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**6.2**	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**3.1**	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**7.7**	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**2.0**	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	**1.1**	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*56.8 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*83.1 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T42-SURF

T203357-04 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.18**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.064**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**3.8**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*58.5 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*61.6 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T79-SURF

T203357-05 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0092219	09/22/20	09/24/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**1.5**	0.50	"	100	"	"	"	"	
alpha-Chlordane	**1.1**	0.50	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	1	"	"	"	"	
4,4´-DDE	**20**	1.0	"	200	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**6.3**	0.50	"	100	"	"	"	"	
Endosulfan II	ND	0.0050	"	1	"	"	"	"	
4,4´-DDT	**29**	1.0	"	200	"	"	"	"	E
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**290**	4.0	"	200	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*67.7 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*76.5 %*		*35-140*	"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T80-SURF

T203357-06 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.47**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.19**	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.13**	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.64**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**12**	2.0	"	100	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*58.9 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*55.6 %*	*35-140*		"	"	"	"	*R-07*

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T81-SURF

T203357-07 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0092219	09/22/20	09/24/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.089**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.071**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**2.0**	0.10	"	20	"	"	"	"	
Dieldrin	**0.24**	0.050	"	10	"	"	"	"	
Endrin	ND	0.0050	"	1	"	"	"	"	
4,4´-DDD	**0.52**	0.050	"	10	"	"	"	"	
Endosulfan II	ND	0.0050	"	1	"	"	"	"	
4,4´-DDT	**3.7**	0.25	"	50	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**28**	2.0	"	100	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*59.1 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*67.7 %*	*35-140*		"	"	"	"	

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T82-SURF

T203357-08 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0092219	09/22/20	09/24/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.021**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.018**	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.037**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**1.5**	0.10	"	20	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.061**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.092**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.68**	0.10	"	20	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**7.1**	1.0	"	50	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*59.0 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*64.9 %*	*35-140*		"	"	"	"	

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T83-SURF

T203357-09 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.12**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.055**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**1.3**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*62.1 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*64.7 %*	*35-140*		"	"	"	"	*R-07*

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T84-SURF

T203357-10 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.076**	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.85**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.16**	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.30**	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.50**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**12**	2.0	"	100	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*61.7 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*74.8 %*	*35-140*		"	"	"	"	*R-07*

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Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T85-SURF

T203357-11 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**0.54**	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**7.1**	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*64.8 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*75.3 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T86-SURF

T203357-12 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	**0.85**	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**1.0**	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**1.8**	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**1.0**	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**29**	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*68.2 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*82.3 %*	*35-140*		"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T87-SURF

T203357-13 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0092219	09/22/20	09/24/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.039**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.0053**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.0089**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.86**	0.10	"	5	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*44.4 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*48.1 %*		*35-140*	"	"	"	"	

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Providing Quality Analytical Services Nationwide

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949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T88-SURF

T203357-14 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0092219	09/22/20	09/24/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.034**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.041**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.074**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.040**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**2.0**	0.20	"	10	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*65.3 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*67.3 %*	*35-140*		"	"	"	"	

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T89-SURF

T203357-15 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0092219	09/22/20	09/24/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.054**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.87**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*66.6 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*73.2 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

T90-SURF

T203357-16 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0092219	09/22/20	09/25/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.087**	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.15**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.10**	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.058**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**1.8**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*65.2 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*72.8 %*	*35-140*		"	"	"	"	*R-07*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092219 - EPA 3550C ECD/GCMS										
Blank (0092219-BLK1)				Prepared: 09/22/20 Analyzed: 09/24/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00670*		*"*	*0.0100*		*67.0*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00612*		*"*	*0.0100*		*61.2*	*35-140*			
LCS (0092219-BS1)				Prepared: 09/22/20 Analyzed: 09/24/20						
gamma-BHC (Lindane)	0.0299	0.0050	mg/kg	0.0400		74.7	40-120			
Heptachlor	0.0305	0.0050	"	0.0400		76.2	40-120			
Aldrin	0.0209	0.0050	"	0.0400		52.4	40-120			
Dieldrin	0.0307	0.0050	"	0.0400		76.8	40-120			
Endrin	0.0314	0.0050	"	0.0400		78.5	40-120			
4,4´-DDT	0.0286	0.0050	"	0.0400		71.6	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.00641*		*"*	*0.0100*		*64.1*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00602*		*"*	*0.0100*		*60.2*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092219 - EPA 3550C ECD/GCMS										
LCS Dup (0092219-BSD1)				Prepared: 09/22/20 Analyzed: 09/24/20						
gamma-BHC (Lindane)	0.0288	0.0050	mg/kg	0.0400		72.0	40-120	3.64	30	
Heptachlor	0.0295	0.0050	"	0.0400		73.7	40-120	3.33	30	
Aldrin	0.0200	0.0050	"	0.0400		50.0	40-120	4.68	30	
Dieldrin	0.0305	0.0050	"	0.0400		76.3	40-120	0.610	30	
Endrin	0.0311	0.0050	"	0.0400		77.7	40-120	0.980	30	
4,4´-DDT	0.0334	0.0050	"	0.0400		83.4	33-147	15.2	30	
Surrogate: Tetrachloro-meta-xylene	*0.00609*		*"*	*0.0100*		*60.9*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00581*		*"*	*0.0100*		*58.1*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	09/29/20 15:24

Notes and Definitions

R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
E	The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 9/19/2020 Page: 1 Of 2
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: I203357 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
01	T38-SURF	9/19/20		SOIL	JAR											X					
02	T39-SURF															X					
03	T41-SURF															X					
04	T42-SURF															X					
05	T79-SURF															X					
06	T80-SURF															X					
07	T81-SURF															X					
08	T82-SURF															X					
09	T83-SURF															X					
10	T84-SURF															X					
11	T85-SURF															X					
12	T86-SURF															X					
13	T87-SURF															X					
14	T88-SURF															X					
15	T89-SURF															X					

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	9/21/20 14:45		9/21/20 1445
VALS	9-22-20 9:23		9-22-20 9:23

Total # of containers
Chain of Custody seals (Y)N/NA
Seals intact? (Y)N/NA
Received good condition/cold 4.8

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191815

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 9/18/2020 Page: 2 Of 2
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	X ORGANOCHLORIN = PESTICIDES				Comments/Preservative	Total # of containers
16	T90-SURF	9/18/20		SOIL	JAR											X					

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	9/21/20; 14:45		9/21/20 1445
GLS	9-22-20 9:23		9-22-20 9:23
	Date / Time		Date / Time

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.8

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191814

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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13 October 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 10/03/20 09:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T25-1	T203481-01	Soil	10/01/20 00:00	10/03/20 09:00
T79-1	T203481-03	Soil	10/01/20 00:00	10/03/20 09:00
T29-1	T203481-05	Soil	10/01/20 00:00	10/03/20 09:00
T30-1	T203481-07	Soil	10/01/20 00:00	10/03/20 09:00
T31-1	T203481-09	Soil	10/01/20 00:00	10/03/20 09:00
T28-1	T203481-11	Soil	10/01/20 00:00	10/03/20 09:00
T80-1	T203481-13	Soil	10/01/20 00:00	10/03/20 09:00
T81-1	T203481-15	Soil	10/01/20 00:00	10/03/20 09:00
T92-SURF	T203481-17	Soil	10/01/20 00:00	10/03/20 09:00
T93-SURF	T203481-18	Soil	10/01/20 00:00	10/03/20 09:00
T94-SURF	T203481-19	Soil	10/01/20 00:00	10/03/20 09:00
T36-1	T203481-20	Soil	10/01/20 00:00	10/03/20 09:00
T82-1	T203481-22	Soil	10/01/20 00:00	10/03/20 09:00
T95-SURF	T203481-24	Soil	10/01/20 00:00	10/03/20 09:00
T41-1	T203481-25	Soil	10/01/20 00:00	10/03/20 09:00
T40-SURF	T203481-27	Soil	10/01/20 00:00	10/03/20 09:00
T39-1	T203481-30	Soil	10/01/20 00:00	10/03/20 09:00
T38-1	T203481-32	Soil	10/01/20 00:00	10/03/20 09:00
T96-SURF	T203481-34	Soil	10/01/20 00:00	10/03/20 09:00
T45-1	T203481-35	Soil	10/01/20 00:00	10/03/20 09:00
T44-1	T203481-37	Soil	10/01/20 00:00	10/03/20 09:00
T43-1	T203481-39	Soil	10/01/20 00:00	10/03/20 09:00
T84-1	T203481-41	Soil	10/01/20 00:00	10/03/20 09:00
T97-SURF	T203481-43	Soil	10/01/20 00:00	10/03/20 09:00
T50-1	T203481-44	Soil	10/01/20 00:00	10/03/20 09:00
T49-1	T203481-46	Soil	10/01/20 00:00	10/03/20 09:00

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T48-1	T203481-48	Soil	10/01/20 00:00	10/03/20 09:00
T47-1	T203481-50	Soil	10/01/20 00:00	10/03/20 09:00
T85-1	T203481-52	Soil	10/01/20 00:00	10/03/20 09:00
T98-SURF	T203481-54	Soil	10/01/20 00:00	10/03/20 09:00
T86-1	T203481-55	Soil	10/01/20 00:00	10/03/20 09:00
T52-1	T203481-57	Soil	10/01/20 00:00	10/03/20 09:00
T53-1	T203481-59	Soil	10/01/20 00:00	10/03/20 09:00
T57-1	T203481-61	Soil	10/01/20 00:00	10/03/20 09:00
T58-1	T203481-63	Soil	10/01/20 00:00	10/03/20 09:00
T62-1	T203481-65	Soil	10/01/20 00:00	10/03/20 09:00
T91-SURF	T203481-67	Soil	10/01/20 00:00	10/03/20 09:00
T74-1	T203481-68	Soil	10/01/20 00:00	10/03/20 09:00
T75-1	T203481-70	Soil	10/01/20 00:00	10/03/20 09:00
T76-1	T203481-72	Soil	10/01/20 00:00	10/03/20 09:00

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

DETECTIONS SUMMARY

Sample ID: T25-1 **Laboratory ID:** T203481-01

Analyte	Result	Reporting Limit	Units	Method	Notes
alpha-BHC	**0.084**	0.050	mg/kg	EPA 8081A	R-07
gamma-BHC (Lindane)	**0.058**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan I	**24**	2.5	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.68**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.65**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**12**	2.5	mg/kg	EPA 8081A	R-07
4,4´-DDT	**4.7**	2.5	mg/kg	EPA 8081A	R-07
Methoxychlor	**3.6**	2.5	mg/kg	EPA 8081A	R-07
Toxaphene	**76**	10	mg/kg	EPA 8081A	R-07

Sample ID: T79-1 **Laboratory ID:** T203481-03

No Results Detected

Sample ID: T29-1 **Laboratory ID:** T203481-05

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.67**	0.10	mg/kg	EPA 8081A	

Sample ID: T30-1 **Laboratory ID:** T203481-07

No Results Detected

Sample ID: T31-1 **Laboratory ID:** T203481-09

No Results Detected

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Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

Sample ID: T28-1 **Laboratory ID:** T203481-11

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.016**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**2.6**	0.50	mg/kg	EPA 8081A	
Dieldrin	**0.074**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.097**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.074**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**5.3**	0.50	mg/kg	EPA 8081A	
Toxaphene	**20**	2.0	mg/kg	EPA 8081A	

Sample ID: T80-1 **Laboratory ID:** T203481-13

No Results Detected

Sample ID: T81-1 **Laboratory ID:** T203481-15

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.080**	0.0050	mg/kg	EPA 8081A	
Dieldrin	**0.0058**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.0060**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.013**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.64**	0.020	mg/kg	EPA 8081A	

Sample ID: T92-SURF **Laboratory ID:** T203481-17

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.012**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.012**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.54**	0.050	mg/kg	EPA 8081A	
Dieldrin	**0.066**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.098**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.046**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.34**	0.050	mg/kg	EPA 8081A	
Toxaphene	**4.3**	0.20	mg/kg	EPA 8081A	E

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Sample ID: T93-SURF **Laboratory ID:** T203481-18

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.028**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.025**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.75**	0.10	mg/kg	EPA 8081A	
Dieldrin	**0.044**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.083**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.053**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.25**	0.10	mg/kg	EPA 8081A	
Toxaphene	**4.7**	0.40	mg/kg	EPA 8081A	

Sample ID: T94-SURF **Laboratory ID:** T203481-19

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.15**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDE	**1.9**	0.50	mg/kg	EPA 8081A	R-07
Dieldrin	**0.062**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.14**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.29**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**1.2**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**13**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T36-1 **Laboratory ID:** T203481-20

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.012**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.0051**	0.0050	mg/kg	EPA 8081A	

Sample ID: T82-1 **Laboratory ID:** T203481-22

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.030**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.0056**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.23**	0.020	mg/kg	EPA 8081A	

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Sample ID: T95-SURF **Laboratory ID:** T203481-24

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**1.5**	0.50	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.78**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.84**	0.50	mg/kg	EPA 8081A	R-07
Toxaphene	**17**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T41-1 **Laboratory ID:** T203481-25

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.029**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.028**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.0053**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.030**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.022**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**0.49**	0.10	mg/kg	EPA 8081A	

Sample ID: T40-SURF **Laboratory ID:** T203481-27

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.14**	0.050	mg/kg	EPA 8081A	R-07
alpha-Chlordane	**0.090**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan I	**2.0**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.37**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDD	**0.32**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**1.2**	0.50	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.26**	0.050	mg/kg	EPA 8081A	R-07
Methoxychlor	**0.32**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**8.5**	2.0	mg/kg	EPA 8081A	R-07

Sample ID: T39-1 **Laboratory ID:** T203481-30

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.0098**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.0090**	0.0050	mg/kg	EPA 8081A	
Endosulfan I	**0.13**	0.050	mg/kg	EPA 8081A	

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Sample ID: T39-1 **Laboratory ID:** T203481-30

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.088**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.020**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.42**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**0.075**	0.050	mg/kg	EPA 8081A	
Endosulfan sulfate	**0.15**	0.050	mg/kg	EPA 8081A	
Toxaphene	**2.0**	0.40	mg/kg	EPA 8081A	

Sample ID: T38-1 **Laboratory ID:** T203481-32

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.0092**	0.0050	mg/kg	EPA 8081A	

Sample ID: T96-SURF **Laboratory ID:** T203481-34

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.031**	0.0050	mg/kg	EPA 8081A	
alpha-Chlordane	**0.028**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.51**	0.050	mg/kg	EPA 8081A	
Dieldrin	**0.030**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.075**	0.050	mg/kg	EPA 8081A	
Endosulfan II	**0.086**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.30**	0.050	mg/kg	EPA 8081A	
Toxaphene	**4.5**	0.40	mg/kg	EPA 8081A	

Sample ID: T45-1 **Laboratory ID:** T203481-35

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.028**	0.0050	mg/kg	EPA 8081A	

Sample ID: T44-1 **Laboratory ID:** T203481-37

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.14**	0.050	mg/kg	EPA 8081A	

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Sample ID: T44-1 **Laboratory ID:** T203481-37

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDT	**0.0050**	0.0050	mg/kg	EPA 8081A	

Sample ID: T43-1 **Laboratory ID:** T203481-39

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.13**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**0.014**	0.0050	mg/kg	EPA 8081A	
4,4´-DDT	**0.054**	0.0050	mg/kg	EPA 8081A	
Toxaphene	**1.1**	0.10	mg/kg	EPA 8081A	

Sample ID: T84-1 **Laboratory ID:** T203481-41

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.0055**	0.0050	mg/kg	EPA 8081A	
Endosulfan I	**0.068**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.23**	0.050	mg/kg	EPA 8081A	
4,4´-DDD	**0.030**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.10**	0.050	mg/kg	EPA 8081A	
4,4´-DDT	**0.17**	0.050	mg/kg	EPA 8081A	
Toxaphene	**2.8**	0.20	mg/kg	EPA 8081A	

Sample ID: T97-SURF **Laboratory ID:** T203481-43

Analyte	Result	Reporting Limit	Units	Method	Notes
gamma-Chlordane	**0.25**	0.050	mg/kg	EPA 8081A	R-07
alpha-Chlordane	**0.19**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan I	**0.080**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDE	**0.66**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.21**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.39**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**11**	2.0	mg/kg	EPA 8081A	R-07

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Sample ID: T50-1 **Laboratory ID:** T203481-44

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.024**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.0059**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.016**	0.0050	mg/kg	EPA 8081A	
Methoxychlor	**0.0064**	0.0050	mg/kg	EPA 8081A	

Sample ID: T49-1 **Laboratory ID:** T203481-46

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.12**	0.020	mg/kg	EPA 8081A	

Sample ID: T48-1 **Laboratory ID:** T203481-48

Analyte	Result	Reporting Limit	Units	Method	Notes
4,4´-DDE	**0.078**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.082**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**0.65**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T47-1 **Laboratory ID:** T203481-50

No Results Detected

Sample ID: T85-1 **Laboratory ID:** T203481-52

No Results Detected

Sample ID: T98-SURF **Laboratory ID:** T203481-54

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**7.5**	2.0	mg/kg	EPA 8081A	R-07

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Sample ID: T86-1 **Laboratory ID:** T203481-55

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.59**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T52-1 **Laboratory ID:** T203481-57

No Results Detected

Sample ID: T53-1 **Laboratory ID:** T203481-59

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.18**	0.050	mg/kg	EPA 8081A	R-07
Endosulfan II	**0.16**	0.050	mg/kg	EPA 8081A	R-07
4,4´-DDT	**0.073**	0.050	mg/kg	EPA 8081A	R-07
Toxaphene	**1.2**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T57-1 **Laboratory ID:** T203481-61

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.51**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T58-1 **Laboratory ID:** T203481-63

No Results Detected

Sample ID: T62-1 **Laboratory ID:** T203481-65

No Results Detected

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Sample ID: T91-SURF **Laboratory ID:** T203481-67

No Results Detected

Sample ID: T74-1 **Laboratory ID:** T203481-68

Analyte	Result	Reporting Limit	Units	Method	Notes
Toxaphene	**0.34**	0.20	mg/kg	EPA 8081A	R-07

Sample ID: T75-1 **Laboratory ID:** T203481-70

No Results Detected

Sample ID: T76-1 **Laboratory ID:** T203481-72

No Results Detected

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T25-1

T203481-01 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	**0.084**	0.050	mg/kg	10	0100528	10/05/20	10/08/20	EPA 8081A	R-07
gamma-BHC (Lindane)	**0.058**	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**24**	2.5	"	500	"	"	"	"	R-07
4,4´-DDE	**0.68**	0.50	"	100	"	"	"	"	R-07
Dieldrin	ND	0.050	"	10	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.65**	0.50	"	100	"	"	"	"	R-07
Endosulfan II	**12**	2.5	"	500	"	"	"	"	R-07
4,4´-DDT	**4.7**	2.5	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	10	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	**3.6**	2.5	"	500	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	10	"	"	"	"	R-07
Toxaphene	**76**	10	"	500	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*95.3 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*910 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07, S-GC*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T79-1

T203481-03 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*94.8 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*86.5 %*		*35-140*	"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T29-1

T203481-05 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.67**	0.10	"	5	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*94.7 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*87.2 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T30-1

T203481-07 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*76.6 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*71.3 %*		*35-140*	"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T31-1

T203481-09 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88.4 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*85.2 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
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T28-1

T203481-11 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.016**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**2.6**	0.50	"	100	"	"	"	"	
Dieldrin	**0.074**	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.097**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.074**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**5.3**	0.50	"	100	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**20**	2.0	"	100	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*79.3 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*78.8 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T80-1

T203481-13 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*99.7 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*88.1 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T81-1

T203481-15 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.080**	0.0050	"	"	"	"	"	"	
Dieldrin	**0.0058**	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.0060**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.013**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.64**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*95.6 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*87.2 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T92-SURF

T203481-17 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.012**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.012**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.54**	0.050	"	10	"	"	"	"	
Dieldrin	**0.066**	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.098**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.046**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.34**	0.050	"	10	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**4.3**	0.20	"	10	"	"	"	"	E
Surrogate: Tetrachloro-meta-xylene		*96.9 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*82.5 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T93-SURF

T203481-18 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.028**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.025**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.75**	0.10	"	20	"	"	"	"	
Dieldrin	**0.044**	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.083**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.053**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.25**	0.10	"	20	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**4.7**	0.40	"	20	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*93.4 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*83.3 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T94-SURF

T203481-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0100528	10/05/20	10/08/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.15**	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**1.9**	0.50	"	100	"	"	"	"	R-07
Dieldrin	**0.062**	0.050	"	10	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.14**	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.29**	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**1.2**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**13**	2.0	"	100	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*90.9 %*		*35-140*	"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*101 %*		*35-140*	"	"	"	"	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T36-1

T203481-20 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.012**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.0051**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96.7 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*94.2 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T82-1

T203481-22 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.030**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.0056**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.23**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*71.0 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*70.7 %*	*35-140*		"	"	"	"	

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Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T95-SURF

T203481-24 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.50	mg/kg	100	0100528	10/05/20	10/08/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	**1.5**	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	**0.78**	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	**0.84**	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**17**	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*116 %*	*35-140*		"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*86.2 %*	*35-140*		"	"	"	"	*R-07*

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Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T41-1

T203481-25 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/08/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.029**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.028**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.0053**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.030**	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.022**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.49**	0.10	"	5	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*99.2 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*88.4 %*	*35-140*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T40-SURF

T203481-27 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0100528	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.14**	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	**0.090**	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**2.0**	0.50	"	100	"	"	"	"	R-07
4,4´-DDE	**0.37**	0.050	"	10	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	**0.32**	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**1.2**	0.50	"	100	"	"	"	"	R-07
4,4´-DDT	**0.26**	0.050	"	10	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	**0.32**	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**8.5**	2.0	"	100	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*82.4 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*83.8 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*

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Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T39-1

T203481-30 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/09/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.0098**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.0090**	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.13**	0.050	"	10	"	"	"	"	
4,4´-DDE	**0.088**	0.0050	"	1	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.020**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.42**	0.050	"	10	"	"	"	"	
4,4´-DDT	**0.075**	0.050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	**0.15**	0.050	"	10	"	"	"	"	
Methoxychlor	ND	0.0050	"	1	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**2.0**	0.40	"	20	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*90.5 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*75.1 %*	*35-140*		*"*	*"*	*"*	*"*	

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Brusca Associates Inc.	Project: Haley's Flying Service	
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Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T38-1

T203481-32 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/09/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.0092**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88.3 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*81.6 %*	*35-140*		"	"	"	"	

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T96-SURF

T203481-34 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/09/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.031**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	**0.028**	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.51**	0.050	"	10	"	"	"	"	
Dieldrin	**0.030**	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.075**	0.050	"	10	"	"	"	"	
Endosulfan II	**0.086**	0.0050	"	1	"	"	"	"	
4,4´-DDT	**0.30**	0.050	"	10	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**4.5**	0.40	"	20	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*89.9 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*82.4 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T45-1

T203481-35 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100528	10/05/20	10/09/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.028**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88.4 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*85.5 %*	*35-140*		"	"	"	"	

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T44-1

T203481-37 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100529	10/05/20	10/09/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.14**	0.050	"	10	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.0050**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88.3 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*87.1 %*	*35-140*		"	"	"	"	

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T43-1

T203481-39 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100529	10/05/20	10/12/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.13**	0.050	"	10	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.014**	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	**0.054**	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**1.1**	0.10	"	5	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*92.1 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*92.1 %*	*35-140*		"	"	"	"	

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T84-1

T203481-41 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100529	10/05/20	10/12/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	**0.0055**	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.068**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.23**	0.050	"	10	"	"	"	"	
Dieldrin	ND	0.0050	"	1	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.030**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.10**	0.050	"	10	"	"	"	"	
4,4´-DDT	**0.17**	0.050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	1	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**2.8**	0.20	"	10	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*89.1 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*82.7 %*	*35-140*		"	"	"	"	

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T97-SURF

T203481-43 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/12/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	**0.25**	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	**0.19**	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.080**	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.66**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.21**	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.39**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**11**	2.0	"	100	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*73.2 %*		*35-140*	"	"	"	"	*R-07*
Surrogate: Decachlorobiphenyl		*79.1 %*		*35-140*	"	"	"	"	*R-07*

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T50-1

T203481-44 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100529	10/05/20	10/12/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.024**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.0059**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.016**	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	**0.0064**	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*94.1 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*89.4 %*	*35-140*		"	"	"	"	

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T49-1

T203481-46 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100529	10/05/20	10/12/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	**0.12**	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*95.6 %*	*35-140*		"	"	"	"	
Surrogate: Decachlorobiphenyl		*86.2 %*	*35-140*		"	"	"	"	

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T48-1

T203481-48 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/12/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	**0.078**	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.082**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.65**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*91.1 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*92.5 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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T47-1

T203481-50 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*81.4 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*83.5 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T85-1

T203481-52 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*81.3 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*88.5 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*

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Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T98-SURF

T203481-54 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	**7.5**	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*79.6 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*70.1 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T86-1

T203481-55 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.59**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*91.7 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*97.0 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T52-1

T203481-57 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*94.4 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*102 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*

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PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T53-1

T203481-59 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	**0.18**	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	**0.16**	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	**0.073**	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**1.2**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*87.1 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*93.7 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T57-1

T203481-61 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.51**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*82.2 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*87.1 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T58-1

T203481-63 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*81.2 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*88.5 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T62-1

T203481-65 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*86.6 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*96.0 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T91-SURF

T203481-67 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.50	mg/kg	100	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.50	"	"	"	"	"	"	R-07
beta-BHC	ND	0.50	"	"	"	"	"	"	R-07
delta-BHC	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor	ND	0.50	"	"	"	"	"	"	R-07
Aldrin	ND	0.50	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.50	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.50	"	"	"	"	"	"	R-07
Dieldrin	ND	0.50	"	"	"	"	"	"	R-07
Endrin	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.50	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.50	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.50	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.50	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.50	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.50	"	"	"	"	"	"	R-07
Toxaphene	ND	2.0	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*88.7 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*81.8 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T74-1

T203481-68 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	**0.34**	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*96.0 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*102 %*	*35-140*		*"*	*"*	*"*	*"*	*R-07*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T75-1

T203481-70 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*83.1 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*91.2 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

T76-1

T203481-72 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.050	mg/kg	10	0100529	10/05/20	10/09/20	EPA 8081A	R-07
gamma-BHC (Lindane)	ND	0.050	"	"	"	"	"	"	R-07
beta-BHC	ND	0.050	"	"	"	"	"	"	R-07
delta-BHC	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor	ND	0.050	"	"	"	"	"	"	R-07
Aldrin	ND	0.050	"	"	"	"	"	"	R-07
Heptachlor epoxide	ND	0.050	"	"	"	"	"	"	R-07
gamma-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
alpha-Chlordane	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan I	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDE	ND	0.050	"	"	"	"	"	"	R-07
Dieldrin	ND	0.050	"	"	"	"	"	"	R-07
Endrin	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDD	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan II	ND	0.050	"	"	"	"	"	"	R-07
4,4´-DDT	ND	0.050	"	"	"	"	"	"	R-07
Endrin aldehyde	ND	0.050	"	"	"	"	"	"	R-07
Endosulfan sulfate	ND	0.050	"	"	"	"	"	"	R-07
Methoxychlor	ND	0.050	"	"	"	"	"	"	R-07
Endrin ketone	ND	0.050	"	"	"	"	"	"	R-07
Toxaphene	ND	0.20	"	"	"	"	"	"	R-07
Surrogate: Tetrachloro-meta-xylene		*71.9 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*
Surrogate: Decachlorobiphenyl		*78.4 %*		*35-140*	*"*	*"*	*"*	*"*	*R-07*

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100528 - EPA 3550C ECD/GCMS										
Blank (0100528-BLK1)				Prepared: 10/05/20 Analyzed: 10/08/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00813*		*"*	*0.0102*		*79.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00856*		*"*	*0.0102*		*83.9*	*35-140*			
LCS (0100528-BS1)				Prepared: 10/05/20 Analyzed: 10/08/20						
gamma-BHC (Lindane)	0.0443	0.0050	mg/kg	0.0396		112	40-120			
Heptachlor	0.0453	0.0050	"	0.0396		114	40-120			
Aldrin	0.0350	0.0050	"	0.0396		88.5	40-120			
Dieldrin	0.0477	0.0050	"	0.0396		120	40-120			
Endrin	0.0467	0.0050	"	0.0396		118	40-120			
4,4´-DDT	0.0494	0.0050	"	0.0396		125	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.00835*		*"*	*0.00990*		*84.3*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00927*		*"*	*0.00990*		*93.6*	*35-140*			

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100528 - EPA 3550C ECD/GCMS										
LCS Dup (0100528-BSD1)				Prepared: 10/05/20 Analyzed: 10/08/20						
gamma-BHC (Lindane)	0.0434	0.0050	mg/kg	0.0396		110	40-120	1.86	30	
Heptachlor	0.0440	0.0050	"	0.0396		111	40-120	2.89	30	
Aldrin	0.0342	0.0050	"	0.0396		86.4	40-120	2.39	30	
Dieldrin	0.0466	0.0050	"	0.0396		118	40-120	2.40	30	
Endrin	0.0457	0.0050	"	0.0396		115	40-120	2.28	30	
4,4´-DDT	0.0489	0.0050	"	0.0396		123	33-147	1.13	30	
Surrogate: Tetrachloro-meta-xylene	*0.00813*		*"*	*0.00990*		*82.1*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00847*		*"*	*0.00990*		*85.6*	*35-140*			
Batch 0100529 - EPA 3550C ECD/GCMS										
Blank (0100529-BLK1)				Prepared: 10/05/20 Analyzed: 10/09/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00878*		*"*	*0.0101*		*86.9*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00852*		*"*	*0.0101*		*84.3*	*35-140*			

SunStar Laboratories, Inc.



Mike Jaroudi, Project Manager

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PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100529 - EPA 3550C ECD/GCMS										
LCS (0100529-BS1)				Prepared: 10/05/20 Analyzed: 10/09/20						
gamma-BHC (Lindane)	0.0459	0.0050	mg/kg	0.0396		116	40-120			
Heptachlor	0.0459	0.0050	"	0.0396		116	40-120			
Aldrin	0.0344	0.0050	"	0.0396		86.8	40-120			
Dieldrin	0.0495	0.0050	"	0.0396		125	40-120			QM-14
Endrin	0.0492	0.0050	"	0.0396		124	40-120			QM-14
4,4´-DDT	0.0481	0.0050	"	0.0396		122	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.00859*		*"*	*0.00990*		*86.7*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00838*		*"*	*0.00990*		*84.6*	*35-140*			
LCS Dup (0100529-BSD1)				Prepared: 10/05/20 Analyzed: 10/09/20						
gamma-BHC (Lindane)	0.0464	0.0050	mg/kg	0.0396		117	40-120	1.25	30	
Heptachlor	0.0462	0.0050	"	0.0396		117	40-120	0.715	30	
Aldrin	0.0352	0.0050	"	0.0396		89.0	40-120	2.51	30	
Dieldrin	0.0500	0.0050	"	0.0396		126	40-120	1.05	30	QM-14
Endrin	0.0494	0.0050	"	0.0396		125	40-120	0.450	30	QM-14
4,4´-DDT	0.0477	0.0050	"	0.0396		120	33-147	0.961	30	
Surrogate: Tetrachloro-meta-xylene	*0.00855*		*"*	*0.00990*		*86.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00848*		*"*	*0.00990*		*85.6*	*35-140*			

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/13/20 13:17

Notes and Definitions

S-GC	Surrogate recovery outside of established control limits. The data was accepted based on valid recovery of the remaining surrogate(s).
R-07	Reporting limit for this compound(s) has been raised to account for dilution necessary due to high levels of interfering compound(s) and/or matrix affect.
QM-14	The LCS and LCSD were above acceptance criteria. The method blank and sample were ND for the analyte in question. The CCV was within acceptance criteria. No negative impact on data is expected.
E	The concentration indicated for this analyte is above the calibration range of the instrument. This value should be considered as an estimate as the actual value may be higher.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 1 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORIDE PESTICIDES				Comments/Preservative	Total # of containers
01	T25-1	10/1/20		SOIL	JAR											X					
02	T25-2																			HOLD	
03	T79-1															X					
04	T79-2																			HOLD	
05	T29-1															X					
06	T29-2																			HOLD	
07	T30-1															X					
08	T30-2																			HOLD	
09	T31-1															X					
10	T31-2																			HOLD	
11	T28-1															X					
12	T28-2																			HOLD	
13	T30-1															X					
14	T30-2																			HOLD	
15	T31-1															X					

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20 10:20	EQ Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191735

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 2 Of 5
Project Name: JALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
16	T81-2	10/1/20		SOIL	JAR															HOLD	
17	T92-SURF															X					
18	T93-SURF															X					
19	T94-SURF															X					
20	T36-1															X					
21	T36-2																			HOLD	
22	T82-1															X					
23	T92-2																			HOLD	
24	T95-SURF															X					
25	T41-1															X					
26	T41-2																			HOLD	
27	T40-SURF															X					
28	T40-1																			HOLD	
29	T40-2																			HOLD	
30	T39-1															X					

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20; 10:20	EQ Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191734

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 3 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
31	T39-2	10/1/20		Soil	JAR											X				HOLD	
32	T38-1															X					
33	T38-2																			HOLD	
34	T96-SURF															X					
35	T45-1															X					
36	T45-2																			HOLD	
37	T44-1															X					
38	T44-2																			HOLD	
39	T43-1															X					
40	T43-2																			HOLD	
41	T94-1															X					
42	T94-2																			HOLD	
43	T97-SURF															X					
44	T50-1															X					
45	T50-2																			HOLD	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20; 10:20	Ed Stevens	10/2/20 1020
GLS	10-3-20 09:00		09:00 10-3-20

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191733

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 4 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
46	T49-1	10/1/20		SOIL	JAR											X					
47	T49-2																			HOLD	
48	T48-1															X					
49	T48-2																			HOLD	
50	T47-1															X					
51	T47-2																			HOLD	
52	T45-1															X					
53	T45-2																			HOLD	
54	T48-SURF															X					
55	T46-1															X					
56	T46-2																			HOLD	
57	T52-1															X					
58	T52-2																			HOLD	
59	T53-1															X					
60	T53-2																			HOLD	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20 10:20	Ed Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191732

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO Box 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/20 Page: 5 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
61	T57-1	10/1/20		SOIL	JAR											X					
62	T57-2																			HOLD	
63	T58-1															X					
64	T58-2																			HOLD	
65	T62-1															X					
66	T62-2																			HOLD	
67	T91-SURF															XX					
68	T74-1															X					
69	T74-2																			HOLD	
70	T75-1															X					
71	T75-2																			HOLD	
72	T76-1															X					
73	T76-2																			HOLD	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20 10:20	Ed Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers
Chain of Custody seals (Y/N/NA)
Seals intact? (Y/N/NA)
Received good condition/cold 43

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191736

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

15 October 2020

Joe Brusca
Brusca Associates Inc.
PO Box 332
Roseville, CA 95661

RE: Haley's Flying Service

Enclosed are the results of analyses for samples received by the laboratory on 10/03/20 09:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mike Jaroudi
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
T25-2	T203481-02	Soil	10/01/20 00:00	10/03/20 09:00
T28-2	T203481-12	Soil	10/01/20 00:00	10/03/20 09:00
T40-1	T203481-28	Soil	10/01/20 00:00	10/03/20 09:00

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

DETECTIONS SUMMARY

Sample ID: T25-2 **Laboratory ID:** T203481-02

No Results Detected

Sample ID: T28-2 **Laboratory ID:** T203481-12

No Results Detected

Sample ID: T40-1 **Laboratory ID:** T203481-28

Analyte	Result	Reporting Limit	Units	Method	Notes
Endosulfan I	**0.038**	0.0050	mg/kg	EPA 8081A	
4,4´-DDE	**0.0056**	0.0050	mg/kg	EPA 8081A	
4,4´-DDD	**0.0054**	0.0050	mg/kg	EPA 8081A	
Endosulfan II	**0.027**	0.0050	mg/kg	EPA 8081A	
Methoxychlor	**0.0089**	0.0050	mg/kg	EPA 8081A	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

T25-2

T203481-02 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100823	10/12/20	10/13/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*65.9 %*	*35-140*		*"*	*"*	*"*	*"*	
Surrogate: Decachlorobiphenyl		*76.1 %*	*35-140*		*"*	*"*	*"*	*"*	

SunStar Laboratories, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
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949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

T28-2

T203481-12 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100823	10/12/20	10/13/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	ND	0.0050	"	"	"	"	"	"	
4,4´-DDE	ND	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	ND	0.0050	"	"	"	"	"	"	
Endosulfan II	ND	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	ND	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*79.2 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*89.4 %*		*35-140*	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

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Lake Forest, California 92630
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Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

T40-1

T203481-28 (Soil)

SunStar Laboratories, Inc.

Organochlorine Pesticides by EPA Method 8081A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
alpha-BHC	ND	0.0050	mg/kg	1	0100823	10/12/20	10/13/20	EPA 8081A	
gamma-BHC (Lindane)	ND	0.0050	"	"	"	"	"	"	
beta-BHC	ND	0.0050	"	"	"	"	"	"	
delta-BHC	ND	0.0050	"	"	"	"	"	"	
Heptachlor	ND	0.0050	"	"	"	"	"	"	
Aldrin	ND	0.0050	"	"	"	"	"	"	
Heptachlor epoxide	ND	0.0050	"	"	"	"	"	"	
gamma-Chlordane	ND	0.0050	"	"	"	"	"	"	
alpha-Chlordane	ND	0.0050	"	"	"	"	"	"	
Endosulfan I	**0.038**	0.0050	"	"	"	"	"	"	
4,4´-DDE	**0.0056**	0.0050	"	"	"	"	"	"	
Dieldrin	ND	0.0050	"	"	"	"	"	"	
Endrin	ND	0.0050	"	"	"	"	"	"	
4,4´-DDD	**0.0054**	0.0050	"	"	"	"	"	"	
Endosulfan II	**0.027**	0.0050	"	"	"	"	"	"	
4,4´-DDT	ND	0.0050	"	"	"	"	"	"	
Endrin aldehyde	ND	0.0050	"	"	"	"	"	"	
Endosulfan sulfate	ND	0.0050	"	"	"	"	"	"	
Methoxychlor	**0.0089**	0.0050	"	"	"	"	"	"	
Endrin ketone	ND	0.0050	"	"	"	"	"	"	
Toxaphene	ND	0.020	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*71.9 %*		*35-140*	"	"	"	"	
Surrogate: Decachlorobiphenyl		*79.0 %*		*35-140*	"	"	"	"	

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100823 - EPA 3550C ECD/GCMS										
Blank (0100823-BLK1)				Prepared: 10/08/20 Analyzed: 10/13/20						
alpha-BHC	ND	0.0050	mg/kg							
gamma-BHC (Lindane)	ND	0.0050	"							
beta-BHC	ND	0.0050	"							
delta-BHC	ND	0.0050	"							
Heptachlor	ND	0.0050	"							
Aldrin	ND	0.0050	"							
Heptachlor epoxide	ND	0.0050	"							
gamma-Chlordane	ND	0.0050	"							
alpha-Chlordane	ND	0.0050	"							
Endosulfan I	ND	0.0050	"							
4,4´-DDE	ND	0.0050	"							
Dieldrin	ND	0.0050	"							
Endrin	ND	0.0050	"							
4,4´-DDD	ND	0.0050	"							
Endosulfan II	ND	0.0050	"							
4,4´-DDT	ND	0.0050	"							
Endrin aldehyde	ND	0.0050	"							
Endosulfan sulfate	ND	0.0050	"							
Methoxychlor	ND	0.0050	"							
Endrin ketone	ND	0.0050	"							
Toxaphene	ND	0.020	"							
Surrogate: Tetrachloro-meta-xylene	*0.00749*		*"*	*0.00990*		*75.6*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00831*		*"*	*0.00990*		*83.9*	*35-140*			
LCS (0100823-BS1)				Prepared: 10/08/20 Analyzed: 10/13/20						
gamma-BHC (Lindane)	0.0430	0.0050	mg/kg	0.0396		109	40-120			
Heptachlor	0.0422	0.0050	"	0.0396		107	40-120			
Aldrin	0.0297	0.0050	"	0.0396		75.0	40-120			
Dieldrin	0.0463	0.0050	"	0.0396		117	40-120			
Endrin	0.0451	0.0050	"	0.0396		114	40-120			
4,4´-DDT	0.0465	0.0050	"	0.0396		117	33-147			
Surrogate: Tetrachloro-meta-xylene	*0.00786*		*"*	*0.00990*		*79.4*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00873*		*"*	*0.00990*		*88.1*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0100823 - EPA 3550C ECD/GCMS										
LCS Dup (0100823-BSD1)				Prepared: 10/08/20 Analyzed: 10/13/20						
gamma-BHC (Lindane)	0.0427	0.0050	mg/kg	0.0396		108	40-120	0.798	30	
Heptachlor	0.0415	0.0050	"	0.0396		105	40-120	1.66	30	
Aldrin	0.0277	0.0050	"	0.0396		69.9	40-120	7.08	30	
Dieldrin	0.0461	0.0050	"	0.0396		116	40-120	0.490	30	
Endrin	0.0449	0.0050	"	0.0396		113	40-120	0.475	30	
4,4´-DDT	0.0494	0.0050	"	0.0396		125	33-147	5.97	30	
Surrogate: Tetrachloro-meta-xylene	*0.00775*		*"*	*0.00990*		*78.2*	*35-140*			
Surrogate: Decachlorobiphenyl	*0.00827*		*"*	*0.00990*		*83.5*	*35-140*			

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Brusca Associates Inc.	Project: Haley's Flying Service	
PO Box 332	Project Number: 194-006	**Reported:**
Roseville CA, 95661	Project Manager: Joe Brusca	10/15/20 10:16

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

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Mike Jaroudi, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 1 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORIDE PESTICIDES				Comments/Preservative	Total # of containers
01	T25-1	10/1/20		SOIL	JAR											X					
02	T25-2																			HOLD	
03	T79-1															X					
04	T79-2																			HOLD	
05	T29-1															X					
06	T29-2																			HOLD	
07	T30-1															X					
08	T30-2																			HOLD	
09	T31-1															X					
10	T31-2																			HOLD	
11	T28-1															X					
12	T28-2																			HOLD	
13	T30-1															X					
14	T30-2																			HOLD	
15	T31-1															X					

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20 10:20	EQ Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191735

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 2 Of 5
Project Name: VALLEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
16	T81-2	10/1/20		SOIL	JAR															HOLD	
17	T92-SURF															X					
18	T93-SURF															X					
19	T94-SURF															X					
20	T36-1															X					
21	T36-2																			HOLD	
22	T82-1															X					
23	T92-2																			HOLD	
24	T95-SURF															X					
25	T41-1															X					
26	T41-2																			HOLD	
27	T40-SURF															X					
28	T40-1																			HOLD	
29	T40-2																			HOLD	
30	T39-1															X					

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20; 10:20	EQ Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191734

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 3 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
31	T39-2	10/1/20		Soil	JAR															HOLD	
32	T38-1															X					
33	T38-2																			HOLD	
34	T96-SURF															X					
35	T45-1															X					
36	T45-2																			HOLD	
37	T44-1															X					
38	T44-2																			HOLD	
39	T43-1															X					
40	T43-2																			HOLD	
41	T94-1															X					
42	T94-2																			HOLD	
43	T97-SURF															X					
44	T50-1															X					
45	T50-2																			HOLD	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20; 10:20	Ed Stevens	10/2/20 1020
GLS	10-3-20 09:00		09:00 10-3-20

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191733

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/2020 Page: 4 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194-006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
46	T49-1	10/1/20		SOIL	JAR											X					
47	T49-2																			HOLD	
48	T48-1															X					
49	T48-2																			HOLD	
50	T47-1															X					
51	T47-2																			HOLD	
52	T45-1															X					
53	T45-2																			HOLD	
54	T48-SURF															X					
55	T46-1															X					
56	T46-2																			HOLD	
57	T52-1															X					
58	T52-2																			HOLD	
59	T53-1															X					
60	T53-2																			HOLD	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20 10:20	Ed Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00

Total # of containers
Chain of Custody seals Y/N/NA
Seals intact? Y/N/NA
Received good condition/cold 4.3

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191732

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE
25712 Commercentre Drive, Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: BRUSCA ASSOCIATES, INC.
Address: PO BOX 332, ROSEVILLE, CA 95661
Phone: (916) 677-1470 Fax: (916) 677-1471
Project Manager: JOE BRUSCA

Date: 10/1/20 Page: 5 Of 5
Project Name: HALEY'S FLYING SERVICE
Collector: BRUSCA Client Project #: 194006
Batch #: T203481 EDF #:

Laboratory ID #	Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	6020 ICP-MS Metals	ORGANOCHLORINE PESTICIDES				Comments/Preservative	Total # of containers
61	T57-1	10/1/20		SOIL	JAR											X					
62	T57-2																			HOLD	
63	T58-1															X					
64	T58-2																			HOLD	
65	T62-1															X					
66	T62-2																			HOLD	
67	T91-SURF															XX					
68	T74-1															X					
69	T74-2																			HOLD	
70	T75-1															X					
71	T75-2																			HOLD	
72	T76-1															X					
73	T76-2																			HOLD	

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
	10/2/20 10:20	Ed Stevens	10/2/20 1020
GLS	10-3-20 09:00		10-3-20 09:00
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 43
Chain of Custody seals (Y/N/NA)
Seals intact? (Y/N/NA)
Received good condition/cold

Turn around time: NORMAL

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

COC 191736

APPENDIX E

Soil Removal Workplan

Brusca Associates, Inc.
Environmental Engineering Geology

July 17, 2023

Hartman King PC
Attention: Jennifer Hartman King
2150 River Plaza Drive, Suite 320
Sacramento, CA 95833

SCOPE OF WORK/SOIL REMOVAL WORKPLAN
FORMER HALEY'S FLYING SERVICE PROPERTY
APN 213-060-13
2395 East Pescadero Avenue
Tracy, San Joaquin County, California
Brusca Reference No. 194-006

INTRODUCTION

Our firm has prepared this draft *Scope of Work/Soil Removal Workplan* to remediate pesticide impacted soils at the subject property. Past investigations at the property, including fairly extensive soil sampling and testing by our firm in 2020, revealed sizable areas on the property where surface and shallow soils contain elevated concentrations of organochlorine pesticides (primarily toxaphene, DDD, DDE, and DDT).[1] The pesticide impacts at the site are considered attributable to past onsite crop dusting facility/airstrip activities. At isolated locations at the site, elevated concentrations of metals (lead and zinc) also were identified in limited burn debris materials that exist on the property. This *Scope of Work/Soil Removal Workplan* includes: background information regarding the property; a description of the site characterization work that has been completed at the site; various site maps and tabulations of the available soil analytical data; descriptions of appropriate site access, staging, and security for the remedial soil removal work; soil excavation and stockpiling procedures; dust control measures; stockpile profiling, landfill acceptance and soil off-haul procedures; a description of clearance soil sampling and testing procedures; decontamination and generalized personal protection/safety procedures; and, a description of the reporting process. We have engaged in discussions with the Central Valley Regional Water Quality Control Board (CVRWQCB) regarding the environmental conditions at the site, and the CVRWQCB will be the lead agency for oversight of remediation at the property. This *Scope of Work/Soil Removal Workplan* will be submitted to CVRWQCB for review and approval prior to performance of the remedial work.

[1] Brusca Associates, Inc.; "Phase II Environmental Site Assessment – Soil Investigation and Geophysical Survey, Former Haley's Flying Service Property, APN 213-060-13, 2100 Paradise Road and 2395 East Pescadero Avenue, Tracy, San Joaquin County, California"; October 30, 2020.

A *Vicinity Map* showing the location of the property is presented as Plate 1 and an aerial photograph showing the layout of the entire subject property is presented as Plate 2. Plate 3 is a detail map showing the layout of the former Haley's Flying Service crop-dusting facility on the far easterly portion of the property. Plate 4 is a *Reference Site Map* showing the coverage areas for the detailed site maps (Plates 5 through 9) that depict the past soil sampling locations at the property. Plates 10 through 12 show the planned remedial excavation areas for impacted site soils. Organochlorine pesticide soil analytical data from site characterization work are summarized on Table I, and petroleum hydrocarbon, volatile organic compound (VOC), and metals data are summarized on Table II. The results of soluble pesticides laboratory testing via the Toxicity Characteristic Leaching Procedure (TCLP) performed on some of the collected soil samples are presented on Table III.

SITE DESCRIPTION AND BACKGROUND

Site Description

The approximate ten-acre subject site is located northwesterly of the intersection of Paradise Road and Pescadero Avenue in a mixed agricultural and commercial/light industrial area of Tracy, San Joaquin County, California (see Plates 1 and 2). The subject property is addressed as 2395 Pescadero Avenue and is identified by the San Joaquin County Assessor's Office as parcel number (APN) 213-060-13. It is indicated that the address of 21000 Paradise Road was historically associated with the property. The subject site currently is vacant and unused. Portions of the property generally are void of vegetation and other portions support low to medium-high volunteer vegetation/grasses; vegetation on portions of the site appears to have burned in the past. The far easterly portion of the property supports a number of remnant concrete slabs and other concrete structures (including a raised platform/former loading dock and depressed "washout pit") that apparently were associated with a previous onsite agricultural air strip/crop dusting facility (referred to as Haley's Flying Service). A narrow strip of remnant pavement generally traverses the property from east to west; this feature evidently is the former airstrip used by Haley's Flying Service. Portions of the airstrip (primarily on the far westerly portion of the site) are highly dilapidated and/or removed.

Site History

Research conducted in conjunction with a 2020 *Phase I Environmental Site Assessment* of the property indicates that the subject property historically consisted of vacant farmland until around 1950 when the former Haley's Flying Service facility was constructed on the easterly portion of the property and the former airstrip was constructed across the entire site in an east-west orientation.[2] The former Haley's Flying Service operated an agricultural airstrip and crop-dusting facility on the subject property from 1951 until about 1989. The onsite facility included hangar buildings, an office, a concrete-lined washout pit (where aircraft agricultural chemical tanks were rinsed), a loading dock (to facilitate the loading of agricultural chemicals into crop dusting aircraft), and a concrete-paved area where agricultural pesticides were stored and

[2] Brusca Associates, Inc.; "Phase I Environmental Site Assessment, Former Haley's Flying Service Property, APN 213-060-13, 21000 Paradise Road and 2395 East Pescadero Avenue, Tracy, San Joaquin County, California"; January 7, 2020.

handled. Former features associated with the crop-dusting facility on the far easterly portion of the site are shown on Plate 3. Subsequent to the 1980s, the property reportedly was occupied by various businesses, including a trucking company (Continental Express), a tomato packing company, and a truck repair business. It is indicated that one or more of the buildings on the property were destroyed by fire in 2018, and the remaining structures were razed thereafter. The site apparently has been vacant and generally unused since 2018.

PAST SITE INVESTIGATIONS

General

Environmental investigations and regulatory agency site inspections have taken place at the subject property dating back to the 1970s. Most of the available environmental documentation pertaining to the property is related to inspections and investigative work performed to evaluate the area of the former onsite agricultural air strip/crop dusting facility (Haley's Flying Service) and associated hazardous materials use and storage practices. Past soil and groundwater sampling at the site performed in conjunction with a *Preliminary Endangerment Assessment* (PEA) and a PEA *Addendum* in 2006 revealed significant pesticide impact on the property; the PEA work was performed with the oversight of the California Department of Toxic Substances Control (DTSC). Additionally, past site investigations were performed to evaluate site impact from former underground fuel storage tank usage at the Haley's Flying Service facility. In 2020, our firm performed a *Phase I Environmental Site Assessment* of the property, and follow-up Phase II work that included a groundwater investigation, a geophysical survey, and fairly extensive soil sampling/characterization work. Past site investigations are summarized below.

2006 Preliminary Endangerment Assessment

As mentioned above, a PEA performed at the site in 2006 identified significant pesticide impact to soils on the property. The PEA included shallow soil sampling at a number of locations within the area of the former onsite crop-dusting facility, including near the aircraft loading pad, near the loading dock, near the washout pit, near the hangars, and near the runway. The locations of soil samples collected in conjunction with the 2006 PEA are shown on Plates 5 through 9 along with the locations of the samples collected by our firm in 2020. The soil samples collected during the PEA generally were collected at depths ranging from the surface to a depth of 12 inches. Nearly all of the soil samples were analyzed for organochlorine pesticides. A limited number of soil samples also were tested for organo-phosphorous herbicides/pesticides, chlorinated herbicides, n-methyl carbamate pesticides, petroleum hydrocarbons, and/or VOCs.

The results of the analytical laboratory testing of the soil samples obtained during the 2006 PEA are summarized on the attached Tables I and II; the laboratory testing revealed high concentrations of contaminants (primarily the organochlorine pesticides DDT, DDD, DDE, and toxaphene) at a number of locations, including within the vicinities of the aircraft loading dock, the surrounding loading pad, and the washout pad. The PEA report characterized the soils in these areas as "severely contaminated" and the associated health risks as "extremely high." The report suggested that the data demonstrated vertical attenuation of the detected contaminants in soils; however, neither the full vertical nor lateral extent of site impact was characterized. The

pesticide soil impact was primarily identified on the far easterly portion of the property, although some impact was identified along the runway at some distance to the west. The PEA soil sampling/testing did not reveal petroleum hydrocarbon or VOC impact; however, very few soil samples were tested for those analytes. Additionally, it does not appear that the 2006 PEA included analysis of soil samples for metals. The PEA generally concluded that further site investigation and remedial action were warranted.

2020 Phase I Environmental Site Assessment

Our referenced *Phase I Environmental Site Assessment* completed in 2020 identified the following *recognized environmental conditions* in connection with the subject property:

- Past site inspections by regulatory agencies revealed a number of violations with respect to historical onsite hazardous materials and wastewater handling practices (primarily during the time that the former Haley's Flying Service operated on the property). Additionally, soil and groundwater sampling performed in conjunction with the 2006 PEA revealed significant pesticide contamination conditions on the property. It does not appear that further investigative or remedial work regarding these conditions has been performed since the time of the 2006 PEA. Our review suggests that the past investigative work was not sufficient to characterize the site contamination conditions; the extent of pesticide impact to soils and groundwater was not determined, the past sampling did not include evaluation of metals, and the extent of testing for petroleum hydrocarbons and VOCs was minimal. Additionally, it does not appear that the area of the onsite septic system was specifically targeted during past investigation. The known site contamination conditions and potential yet unidentified contamination conditions attributable to past site activities are considered a *recognized environmental condition.*

- Our site observations revealed a number of areas of burned debris on the property. Additionally, it is indicated that a structure fire occurred on the property around 2018. In our experience, burned debris and ash from structure fires can contain contaminants, including elevated concentrations of metals. The potential for site contamination conditions attributable to past fires on the property and burned debris is considered a *recognized environmental condition*.

- Two underground fuel storage tanks (USTs) were removed from the property in 1990. Subsequent site investigations reportedly revealed only minor petroleum hydrocarbon impact to soil and groundwater attributable to one of the removed USTs. Based on the data, the UST case received regulatory agency closure in 1998. Given the closed agency status, the past UST case at the site is considered a *historical recognized environmental condition* that does not require further environmental work. However, our research indicates that additional USTs may have been located at the site (beyond the two that were removed in 1990). It is reported that the San Joaquin County Environmental Health Department (SJCEHD) received payment for a total of four USTs in 1986; additionally, a complaint record on file with the SJCEHD dated 2001 noted the potential of remnant USTs at the site. The potential for remnant USTs at the site (and the associated potential for contamination conditions attributable to any such USTs) is considered a *recognized environmental condition.*

2020 Geophysical Survey

In early May 2020 we directed a geophysical survey on the far easterly portion of the property within the area of the former Haley's Flying Service facility. The geophysical survey included magnetic methods to identify any anomalies that could be indicative of any remnant USTs beneath this portion of the property. No significant geophysical anomalies were identified within the immediate vicinity of the former Haley's Flying Service Facility structures, loading dock, or washout pit; however, two relatively weak anomalies were detected beneath the remnant airstrip pavement to the west of the former hangars/office building; the location of the geophysical anomalies are shown on Plate 6. These anomalies both measured about 15 feet square and were situated about seven feet apart.

To evaluate the identified geophysical anomalies beneath the former runway, we advanced two backhoe test trenches across the anomalies on May 19, 2020. The test trenches completely traversed the anomalies in a north-south direction and extended to a depth of about four feet. The trenches engaged undisturbed native soils below the runway pavement; no evidence of USTs, fill, or debris was observed in the trenches.

As a part of the geophysical survey work at the site, we attempted to identify the location of the septic system that was associated with the former Haley's Flying Service facility. No evidence was obtained to indicate the location of the former septic system.

Groundwater Investigation

As mentioned above, pesticide groundwater impact was identified at the site during performance of the PEA in 2006. In 2020 our firm performed additional groundwater assessment and those results were presented in a report dated June 8, 2020.[3] In general, the results of our 2020 groundwater investigation indicate that the area of groundwater beneath the site containing elevated concentrations of organochlorine pesticides is relatively small, fairly well defined, and limited to the immediate vicinity of the former crop dusting facility on the easterly portion of property. The referenced groundwater investigation report was submitted to the CVRWQCB, and the CVRWQCB has indicated that neither further assessment nor remedial action with respect to groundwater is necessary.

2020 Soil Characterization

In 2020, our firm implemented fairly extensive soil sampling/characterization work at the subject site to further evaluate the nature and extent of previously identified pesticide impact to site soils at the property and to evaluate whether near-surface site soils contain other potential contaminants of concern, including petroleum hydrocarbons, VOCs, and metals. Our scope of work included: performance of backhoe test pits; collection of soil samples from the site surface and from various depths within the test pits; laboratory analysis of the collected samples; and, evaluation of the results. Initial soil sampling and testing by our firm was conducted in May

[3] Brusca Associates, Inc.; "Phase II Environmental Site Assessment – Groundwater Investigation, Former Haley's Flying Service Property, APN 213-060-13, 21000 Paradise Road and 2395 East Pescadero Avenue, Tracy, San Joaquin County, California"; June 8, 2020.

2020; based on those results, additional episodes of soil sampling were performed through early October 2020 to further define the extent of pesticide soil impacts at the site. The soil sampling locations, along with plotted analytical data from various depths, are shown on Plates 5 through 9.

At a number of soil sampling locations within the area of the former facility on the far easterly portion of the property concrete pavements and slabs were present at the surface; the thickness of the concrete flatwork generally varied from about four to six inches. At the sampling locations within the remnant airstrip, the asphaltic concrete pavement thickness generally ranged from about two to six inches. "Surface" soils collected in the areas of flatwork were collected directly below the lower surface of the pavement/slab. As mentioned earlier in this report, the airstrip pavement was highly dilapidated and/or absent within areas on the westerly portion of the property; where the pavement was absent, varying amounts of asphaltic concrete rubble was observed within surface soils.

At the surface and beneath remnant flatwork in much of the area within the former facility on the far easterly portion of the site, gravel and gravel-soil mixtures were encountered in our test pits extending to depths ranging from a few inches to about one foot. Beneath these gravelly surface materials in the area of the former facility, and at the surface on other portions of the site, the test pits generally encountered alluvial deposits comprised of silty clays and clayey silts, with varying amounts of sand. In the area of the remnant washout pit of the far northeasterly portion of the property, some of the soils encountered exhibited orange staining and a strong chemical odor. Subsurface water was not encountered in any of the test pits.

At location test pit T15, loose gravelly soil materials were encountered to the termination depth of the test pit (about 3.5 feet); these materials appeared to be fill. It is likely that the T15 location is the site of one of the former underground fuel tanks that was removed from the property in the past, and the materials encountered in this test pit likely are disturbed backfill materials placed in the tank removal excavation.

The soil samples collected during the 2020 site characterization work were submitted to a State-certified laboratory (Sunstar Laboratories, Inc.; ELAP No. 2250) for analysis. Nearly all of the soil samples were tested for organochlorine pesticides by EPA Method 8081A; these results are summarized on Table I. A number of soil samples from the area of the former crop-dusting facility on the easterly portion of the property were tested for other potential analytes of concern, including: gasoline-, diesel-, and motor oil-range petroleum hydrocarbons by EPA Method 8015B; VOCs by EPA Method 8260B; and/or, CAM17 metals by EPA Method 6010/200.7; the results of these analyses are summarized on Table II. Further, a number of soil samples from the site (including soil samples with the highest concentrations of organochlorine pesticides) were tested for soluble pesticides by the Toxicity Characteristic Leaching Procedure (TCLP) to evaluate whether these soils would be characterized as a Federal (RCRA) hazardous waste; the TCLP results are summarized on Table III.

The results of the soil characterization work are summarized below in the *Nature and Extent of Soil Contamination* section.

NATURE AND EXTENT OF SOIL CONTAMINATION

Organochlorine Pesticides Impacts

As shown on Table I and on Plates 5 through 9, most of the soil samples collected from the subject property contained some of the organochlorine pesticides tested at concentrations above the laboratory reporting limits. To evaluate the significance of the concentrations of pesticides detected in site soils, we have compared the analytical results to Environmental Screening Levels (ESLs) published by the San Francisco Bay Regional Water Quality Control Board; the ESL values are presented on Table I along with the soil analytical data.[4] Because commercial/light-industrial development of the property is contemplated, we have considered ESLs published for commercial/industrial sites. Additionally, we have considered California Title 22 Total Threshold Limit Concentration (TTLC) hazardous waste levels for the detected pesticides in site soils; those values also are presented on Table I. As shown, a substantial percentage of the soil samples collected from the subject property contained one or more organochlorine pesticides at concentrations above the ESL values, and many of these concentrations also exceed California hazardous waste TTLC values. The most significantly elevated and pervasive pesticides in soils at the site would appear to be DDD, DDE, DDT, and toxaphene.

DDD was detected in soil samples collected by our firm at concentrations as high as 93 milligrams per kilogram (mg/kg), and as high as 3,000 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (12 mg/kg).

DDE was detected in soil samples collected by our firm at concentrations as high as 68 mg/kg, and as high as 530 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (8.3 mg/kg).

DDT was detected in soil samples collected by our firm at concentrations as high as 260 mg/kg, and as high as 19,000 mg/kg during soil sampling conducted during the 2006 PEA. These concentrations are substantially higher than the commercial ESL (8.5 mg/kg).

The combined DDD, DDE, and DDT California hazardous waste TTLC value is 1.0 mg/kg; many of the soil samples collected at the site contained these pesticides at concentrations above the TTLC value.

Toxaphene appears to be the most pervasive elevated pesticide detected in soils at the subject property. Toxaphene was detected in soil samples collected by our firm at concentrations as high as 5,400 mg/kg, and as high as 24,000 mg/kg during soil sampling conducted during the 2006 PEA. Nearly one-half of the soil samples collected from the subject property contained toxaphene at concentrations above the ESL and/or TTLC value (2.2 mg/kg and 5.0 mg/kg, respectively).

[4] San Francisco Bay Regional Water Quality Control Board; "Environmental Screening Levels"; July 2019.

Limited occurrences of other organochlorine pesticides were detected in site soils at concentrations above their respective ESL and/or hazardous waste TTLC values, including heptachlor, chlordane, dieldrin, and endrin. Soil samples containing elevated concentrations of these pesticides also contained elevated concentrations of DDD, DDE, DDT, and/or toxaphene (suggesting that it would be appropriate to regard DDD, DDE, DDT, and toxaphene as indicators for remedial action/soil removal).

The detected concentrations of DDD, DDE, DDT, and toxaphene in site soil samples are plotted on site maps and presented on Plates 5 through 9. The most pervasive and highest concentrations of these pesticides were detected on the easterly portion of the site in the area of the former crop-dusting facility (see Plates 5 and 6); the most severe impact in this area would appear to be in the vicinity of the washout pit and loading dock along the northerly margin of the former facility. However, as shown on Plates 7 through 9, elevated concentrations of pesticides (primarily toxaphene) were detected at numerous locations beneath and near the former airstrip extending across the property.

Along the runway and within some portions of the former crop-dusting facility on the easterly portion of the property, the vertical extent pesticide soil impact appears to be limited to near surface soils and generally does not appear to extend to a depth of one foot; this limited degree of vertical impact is somewhat typical for organochlorine pesticides in soils. However, within sizable portions of the former crop-dusting facility on the easterly portion of the site, the soil impact extends deeper (to depths of at least one to three feet). At certain limited locations (primarily along the northerly margin of the former crop-dusting facility in the areas of the washout pit and loading dock), the vertical extent of pesticide soil impact is not entirely defined by the available sampling data; however, in general vertical attenuation of contaminant concentrations is indicated at these locations and it appears unlikely that the pesticide impact would extend significantly deeper than about three feet within sizable areas.

As mentioned above, a substantial number of the soil samples collected from the subject property contained organochlorine pesticides at concentrations above California hazardous waste TTLC values. To evaluate whether site soils may be characterized as a Federal (RCRA) hazardous waste, a number of soil samples (including soil samples with the highest concentrations of total pesticides) were subjected to soluble organochlorine analyses by the TCLP method; the results are presented on Table III. As shown on Table III, none of the tested soil samples contained soluble pesticides at concentrations above Federal (RCRA) hazardous waste levels.

Other Potential Contaminants of Concern

Selected soil samples from the area of the former onsite crop-dusting facility and one sample of burn debris collected on the central portion of the site along the former airstrip were tested for other potential contaminants of concern, including petroleum hydrocarbons, VOCs, and metals. As shown on Table II, a few of the tested soil samples from the area of the former crop-dusting facility contained very low concentrations of diesel- and/or motor oil-range petroleum hydrocarbons, and one soil sample (collected within the former washout pit) contained very low concentrations of VOCs, including toluene and xylenes. The detected concentrations of

petroleum hydrocarbons and VOCs in site soil samples are well below commercial/industrial ESL values, and, as such, are not considered a significant environmental concern.

As shown on Table II, all of the soil samples tested for metals contained some metals at concentrations above the laboratory reporting limits. The vast majority of the metals concentrations detected in the soil samples are considered very low, within typical background (naturally-occurring) soils metals concentrations in the region, and are below ESL and California TTLC hazardous waste levels. However, it is noted that the three samples collected from burn debris on the property (S1, S2, and S3) contained elevated concentrations of lead and/or zinc. The zinc concentration detected in sample S1 (13,000 mg/kg) exceeds the TTLC value of 5,000 mg/kg. The lead concentrations in samples S2 and S3 (330 mg/kg and 1,400 mg/kg, respectively) exceed the ESL value of 320 mg/kg. The lead concentration in sample S3 also exceeds the California hazardous waste TTLC value of 1,000 mg/kg. However, in general the extent of burn debris on the property appears very minimal compared to the extent of pesticide impacted soils, and the planned removal of pesticide impact soils will result in the removal of the mentioned burn debris and identified metals impacted soils.

PROPOSED SITE REDEVELOPMENT

Commercial/light industrial development of the subject property is planned. The planned development includes the adjoining approximate 42-acre property to the north and is envisioned to include several warehouse-type buildings and associated pavements. As a part of planned site development, nearby roadways will be reconfigured and the existing adjoining alignments of Pescadero Road and Paradise Road will be abandoned. A new arterial roadway is planned to be constructed across the easterly property area (area of the former crop dusting facility where the greatest soil impacts have been identified); that roadway will extend to the north and connect with new on-/off-ramps to Interstate 205. No sensitive uses (such as residential, school, hospital, etc.) are planned for property. Additionally, the water service for the planned development will be provided by the municipal supply and no water wells are planned for the property. As a part of site redevelopment work, the existing irrigation canal along the northerly margin of the subject property will be reconfigured to be piped underground.

REMEDIAL OBJECTIVES AND APPROACH

As indicated above, commercial/light-industrial development of the subject property is planned. Due to the elevated and pervasive organochlorine pesticide impact to soils at the site, remedial action is warranted prior to site development. As described herein, a limited degree of metals impact to soils/burn debris at the property is indicated; however, the metals impact conditions appear to be nominal compared to the pesticides soil impact, will be addressed by remedial action to mitigate the soil pesticides impact. An objective of the planned remedial soil removal is to establish site conditions that are protective of construction workers and future occupants of the property such that future maintenance or controls are unnecessary (other than deed restriction provisions that limit site usage to commercial/industrial activities and prohibit drinking water well installation). As such, excavation/removal of all site soils containing organochlorine pesticides and/or metals at concentrations above commercial/industrial ESL values has been

selected at the remedial approach for the project (those values are presented on Tables I and II). The excavated soils will be hauled from the property for proper landfill disposal.

PLANNED SOIL REMOVAL ACTIVITIES

General/Planned Excavation Areas

Remedial soil excavation is planned for the sizable areas of identified soil impacts at the site as shown on Plates 10 through 12; the planned excavation areas generally encompass areas where organochlorine pesticide and metals concentrations in site soils exceed commercial/industrial ESL values. Plates 10 through 12 also show various proposed depths of remedial excavation, ranging from one foot to three feet (as denoted by different shading colors). It is noted that the base of the washout pit within the northerly portion of the former crop-dusting facility is depressed up to about four feet with respect to surrounding grades; as such, the three-foot-deep excavation shown at this structure would extend up to seven feet below surrounding ground surfaces. Following excavation, soil samples will be collected from the lateral and vertical limits for confirmation testing. In the event that confirmation soil samples contain concentrations above commercial/industrial ESL values, further excavation will be implemented. Excavated soils will be removed from the property for proper landfill disposal. The remedial work will be performed by a licensed hazardous materials contractor and in accordance with all applicable laws and regulations. Applicable laws and regulations relevant to the excavation and disposal of contaminated soils include, but are not limited to: 27 California Code of Regulations (CCR) 20200 (a) and (c); 27 CCR 20210; 27 CCR 20220 (b); and, 23 CCR 2520 and 2521. The remedial soil excavation and related confirmation soil sampling at the site will be overseen by a qualified environmental professional(s) under the direction of a Professional Geologist.

Permitting and Notification

Prior to the remedial soil excavation work, the property owner or remediation contractor will obtain any required permits for the work, including a grading permit if necessary. Additionally, if required, the property owner or contractor will obtain and implement a Stormwater Pollution Prevention Plan specific to the planned work, and implement the provisions of that plan during the remedial activities.

The San Joaquin Valley Air Pollution Control District (SJVAPCD) requires that a Dust Control Plan is filed for any non-residential developments of five or more acres of disturbed area, or for relocation of more than 2,500 cubic yards per day of materials on at least three days of the project. The areas of planned remedial excavation shown on Plates 10 through 12 encompass approximately four acres; however, areas outside of the planned excavation areas may be disturbed for equipment staging and stockpiling of excavated soils. Additionally, depending on the results of clearance soil sampling, the final excavation areas may be larger than the areas shown on Plates 10 through 12. The remediation contractor will determine whether a Dust Control Plan is required for the planned work and will process a Dust Control Plan with the SJVAPCD if necessary.

In addition to any notifications required by the above-mentioned permits/plans, the lead oversight environmental agency (the CVRWQCB) will be notified at least 72 hours prior to remedial soil excavation activities.

Utility Clearance

The remediation contractor will contact Underground Service Alert prior to planned soil excavation work to clear the areas of underground utilities. Any active utilities within the planned excavation areas will be protected during the work. It also may be necessary to implement engineering measures to protect the elevated irrigation canal along the northerly margin of the site during the work; such measures will be the responsibility of the property owner and remediation contractor.

Site Access, Staging, and Site Security

Prior to the remedial work, appropriate site access routes for equipment, trucks, etc. will be determined. Additionally, onsite areas for the temporary storage/stockpiling of excavated soils will be identified. Fencing, barricades or other measures should be used to prevent the general public from entering work areas containing open excavations or where impacted soils are exposed and/or stored.

Excavation Areas Layout

Prior to the planned excavation work, the limits of remedial excavation areas will be marked to match the areas shown on Plates 10 through 12. The layout of the marked areas will be confirmed by the qualified environmental professional overseeing the work. It is noted that certain property limits/boundaries near areas of identified site soil impacts are not precisely evident via site features (particularly along the right-of-ways for Paradise Road and East Pescadero Avenue). As such, we recommend that the property boundaries be surveyed and marked by a licensed land survey prior to the remedial excavation work. If it is determined that it is necessary to remediate any offsite impacted areas (such as along the northerly margin of East Pescadero Avenue or westerly margin of Paradise Road), appropriate agreements (e.g., access agreements) should be obtained for any such work that extends beyond the boundaries of the subject parcel.

Excavation and Stockpiling

Soils within the planned remedial excavation areas shown on Plates 10 through 12 will be excavated to the indicated depths with suitable earthwork equipment. The soil excavation work will require the removal of some of the concrete slabs/flatwork on the easterly portion of the site and the removal of the asphalt pavement along portions of the remnant airstrip that traverses the property in and east-west orientation. If the removed concrete and asphalt materials are planned to be handled and disposed separately from the excavated soil materials, the concrete and asphalt should be removed in a manner such that no visible soil adheres to the concrete and asphalt fragments, and those materials should be stockpiled separately for profiling/disposal evaluation.

The planned remedial soil excavation work will encroach on portions of the raised embankment associated with the irrigation canal situated along the northerly margin of the property (that irrigation canal is elevated several feet with respect to site grades). The property owner or remediation contractor will determine and implement appropriate measures of protecting or re-routing the irrigation canal during the work such that the canal is not breached or compromised, and such that the planned work does not adversely affect canal flow or water quality.

The excavated soils will be placed within the designated onsite stockpile area(s). Materials should be transported from the removal areas to the designated stockpile area(s) in a manner that prevents spillage onto site surfaces. The stockpiled materials should be covered with plastic sheeting (6 mill minimum) and the plastic sheeting should be secured as necessary to prevent wind disturbance. Appropriate measures should be implemented to prevent storm water contact and erosion of stockpiled materials; such measures could include the berming of stockpiled areas if warranted by site conditions. It is recommended that the excavation work at the site be planned for a time when significant rainfall is not expected.

Dust Control

Dust control measures should be implemented during excavation to limit or prevent airborne particles during the remedial work. An effective dust control measure is the wetting of exposed soils to limit airborne soil particles. Wetting can be accomplished via liberal sprinkling of exposed soils with a garden hose, water truck, or other suitable means. The actual methods used for dust control should depend on the nature of the soil disturbance activity, the size of the area(s) disturbed, soil moisture content, and weather conditions. As a general rule, measures should be implemented so that no visible dust is generated during site activities. Additionally, all dust control work should conform to the Dust Control Plan, if it is determined that a Dust Control Plan is necessary per SJVAPCD requirements.

Storm Water Control

Storm water control measures will be implemented as necessary to prevent any surface water or storm water that contacts exposed impacted soils from discharging from the work site or from entering storm drain or sewer systems. It is recommended that the excavation work at the site be planned for a time when significant rainfall is not expected.

Confirmation Soil Sampling/Analysis

Following the remedial excavation, soil samples will be collected from the limits of the soil excavation areas to verify that soils at the limits of the excavation do not contain contaminants above the clean-up levels established herein. Confirmation soil samples will be collected from the lateral margins of the excavation areas at a maximum of 50 lineal foot intervals, and at least one confirmation soil sample will be collected from the base of the excavation areas for each 2,500 square feet of excavation area. Additionally, at least two soil samples will be collected from the lateral limits of each wall of each of the distinct depth-specific excavation areas (i.e., different shaded areas shown on Plates 10 through 12), and at least two samples will be collected from the bases of each of those areas. Given these sampling parameters and the planned excavation areas shown on Plates 10 through 12, a total of about 160 confirmation soil samples

is planned. All sampling and sample handling will be performed by a qualified environmental professional in accord with standard environmental protocols and will be thoroughly documented; scaled site maps showing the numbering of the confirmation sampling locations will be prepared. The soil samples will be retrieved in laboratory-provided glass jars or stainless-steel sleeves capped with Teflon tape and plastic end caps. The samples will be immediately placed on ice and transported to a State-certified analytical laboratory under chain-of-custody for analysis.

The confirmation soil samples from the limits of the remedial excavation areas will be analyzed for organochlorine pesticides by EPA Method 8081A. The results of the analytical laboratory testing of the confirmation soil samples will be reviewed and compared to commercial/industrial ESL values. In the event that any of the confirmation soil samples contain organochlorine pesticides in excess of these levels, further excavation will ensue in the area(s) of any such samples and thereafter resampling/retesting will be performed in any such area(s) as described above for confirmation purposes.

Stockpile Sampling, Landfill Acceptance, and Off-Haul

Following remedial excavation and stockpiling, the stockpiled soils will be sampled and tested to determine appropriate disposal. One four-part composite sample will be collected from each 250-cubic yard section of the stockpiles. Prior to the sampling, the stockpiles will be accurately measured, and 250-cubic yard sections of the stockpiles will be identified and marked. All sampling and sample handling will be performed in accord with standard environmental protocol and will be thoroughly documented. Samples of the stockpiled soils will be retrieved in laboratory-provided glass jars or stainless-steel sleeves capped with Teflon tape and plastic end caps. The samples will be immediately placed on ice and transported to a State-certified analytical laboratory under chain-of-custody for analysis. The samples of the stockpiled waste materials will be analyzed for potential contaminants at the site as determined during the site characterization work, including:

- Organochlorine pesticides by EPA Method 8081A; Soluble Thresh Limit Concentration (STLC) to be analyzed for any samples with TTLC exceeding 10 times the STLC; Toxicity Characteristic Leaching Procedure (TCLP) to be analyzed for any samples exceeding STLC hazardous waste criteria per Code of Regulations Title 22

- Title 22 Metals by EPA Method 6010/200.7; STLC to be analyzed for any metals with TTLC exceeding 10 times the STLC; Toxicity Characteristic Leaching Procedure (TCLP) to be analyzed for any metals exceeding STLC hazardous waste criteria per Code of Regulations Title 22

The permitted landfill facility or facilities selected for eventual disposal of the stockpiled materials may require additional analyses for acceptance purposes. The contractor will arrange for acceptance of the excavated/stockpiled materials at an appropriate permitted landfill facility or facilities. Following acceptance, the stockpiled materials will be completely removed from the property and properly hauled to the accepting landfill facility or facilities.

The stockpiled materials should be loaded into transport vehicles in a manner that prevents the spilling or tracking of materials. Any material that spills or falls onto the ground should be immediately placed into the truck or in its original stockpile, and the affected area should be immediately cleaned up. Transport and disposal should be performed by a properly licensed contractor at an appropriate pre-approved facility or facilities in accordance with all applicable environmental laws and regulations. Transport manifests and disposal documentation will be maintained.

Excavation Backfilling

The extent of future backfilling of the remedial excavations is unknown at this time and will depend to some degree on the grading details of the future development project (and much of the excavation area is anticipated to be only one-foot-deep and may not necessitate backfilling). At a minimum, it is anticipated that the deeper excavated areas will be backfilled for safety reasons upon completion of the remedial work. Backfill materials to be used within the excavated areas will be evaluated, tested, and approved prior to placement. The details of the backfill materials evaluation and testing program will depend on the quantity and source of the backfill materials. At a minimum, any backfill materials placed within the excavated areas will be tested for organochlorine pesticides. Prior to any backfilling, a *Backfill Materials Evaluation Plan* will be prepared and submitted to the CVRWQCB for review and approval. The *Backfill Materials Evaluation Plan* will identify the areas to be backfilled, the quantity of backfill materials to be placed, the planned source of the backfill materials, the sampling and laboratory testing program to be implemented to evaluate the backfill materials prior to placement, and the acceptance parameters for the backfill materials.

Decontamination

All equipment that has come in contact with impacted site soils should be decontaminated prior to demobilization from the site. Decontamination methods should depend on the project specifics and equipment. Accumulations of soils on equipment should be removed by scraping with a shovel or similar tool and, where appropriate, by brushing with stiff bristle brushes and brooms. Decontamination should be performed within a pre-determined decontamination area with secondary containment. Any rinse water generated during decontamination should be collected and disposed at an appropriate disposal facility in accordance with all applicable environmental laws.

Personal Protection/Safety Procedures

The contractor(s) will be responsible for the health and safety of their employees during the course of construction activities. Additionally, contractors performing work that will disturb contaminated soil will be required to develop their own *Health and Safety Plan* specific to their work; elements of the *Health and Safety Plan* should include worker environmental safety measures for activities that include contact with site soils. It will also be the contractor's responsibility to implement the environmental and physical safety measures to protect on-site workers during the work, and to ensure that workers have appropriate hazardous materials safety training to conduct the work.

Due to the known soil contamination at the site, contractors performing earthwork activities, will be responsible for operating in accordance with the most current requirements of Title 8, California Code of Regulations, Section 5192 (8 CCR 5192) and Title 29, Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120), Standards for Hazardous Waste Operations and Emergency Response (HAZWOPER). On-site personnel are responsible for operating in accordance with all applicable regulations of the Occupational Safety and Health Administration (OSHA) outlined in 8 CCR General Industry and Construction Safety Orders and 29 CFR 1910 and 29 CFR 1926, Construction Industry Standards, as well as other applicable federal, state and local laws and regulations. All personnel shall operate in compliance with all California OSHA requirements.

Personal protective equipment (PPE) is required at the site to protect personnel from potential exposure to contaminated soil and physical hazards. The level of PPE that will be required depends not only on existing site conditions and hazards but also on the specific task or operation to be performed. The minimum level of protection deemed appropriate for this Site is Level D; however, a contractor-specific *Health and Safety Plan* may determine that a higher level of PPE is necessary for their work. Level D PPE used at the site will consist of hard hat; reflective safety vest or shirt; protective footwear; safety glasses or goggles; hearing protection (when necessary), gloves, and long pants.

All personnel in contact with contaminated materials during the remedial soil removal work will be instructed to wash their hands, face, neck, and arms at the end of the workday. No eating, drinking, smoking, or chewing of gum or tobacco will be permitted in the work area.

Dust control measures will be implemented to limit or prevent airborne particles during activities that involve solid waste and soil disturbance. An effective dust control measure is the wetting of exposed materials to limit airborne soil particles. Wetting can be accomplished via liberal sprinkling of exposed materials with a hose, water truck, or other suitable means. The actual methods used for dust control will depend on the nature of the soil disturbance activity, the size of the area disturbed, soil moisture content, and weather conditions. As a general rule, measures will be implemented so that no visible dust is generated during site activities.

Reporting

Following the remedial activities at the site, a summary report will be prepared including: a description of the remedial work completed; drawings showing the limits of remedial excavation and clearance soil sampling locations; the results of the clearance soil and stockpile sampling/analytical testing; and, soil disposal manifests. The remedial report will be submitted to the CVRWQCB for review and approval.

POST REMEDIATION MAINTENANCE AND LAND USE

Based on the planned remedial soil removal work described herein, it is anticipated that remaining onsite soils will not contain the chemicals of concern at concentrations above commercial/industrial ESL values. As such, no ongoing maintenance at the site would be considered necessary following the successful completion of the soil remediation. However, it is

expected that a Land Use Covenant will be developed and recorded for the property that prohibits certain future sensitive uses of the property and the installation of any future drinking water supply within the area of impacted groundwater at the site.

CLOSING

This *Scope of Work/Soil Removal Workplan* will be submitted to the CVRWQCB for review and approval prior to implementing the remedial work. If you have any questions or require additional information, please contact the undersigned at (916) 677-1470.

Sincerely,

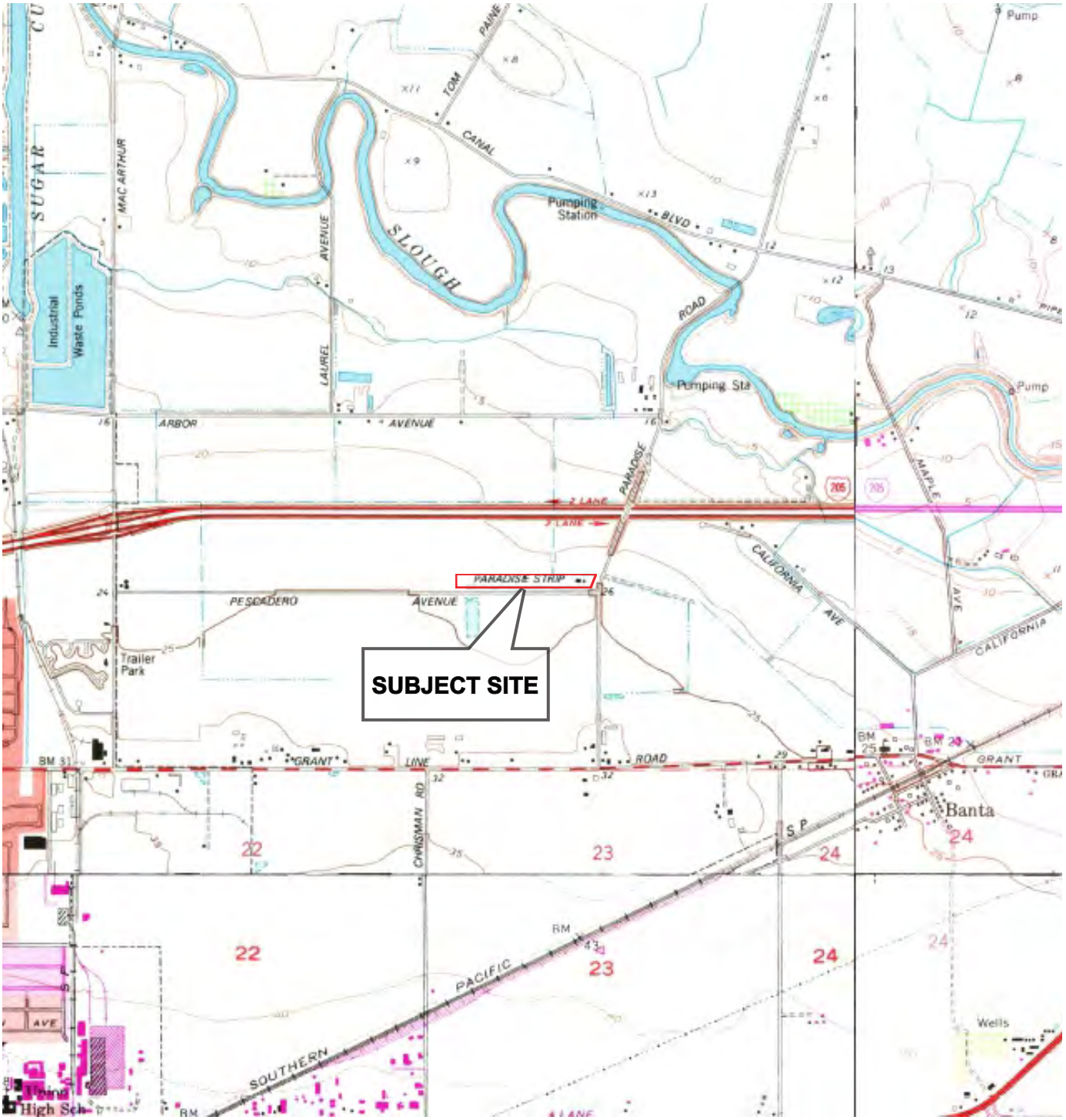
BRUSCA ASSOCIATES, INC.



Joe Brusca
Principal Engineering Geologist
Certified Engineering Geologist No. 1948

Attachments: Plate 1, *Vicinity Map*
Plate 2, *Site Map*
Plate 3, *Former Haley's Flying Service Facility*
Plate 4, *Reference Site Map*
Plate 5, *Soil Sampling Locations – Former Washout Pit and Loading Area*
Plate 6, *Soil Sampling Locations – Former Hangars Area*
Plate 7, *Soil Sampling Locations -Central Property Area*
Plate 8, *Soil Sampling Locations -West and Central Property Areas*
Plate 9, *Soil Sampling Locations -West Property Area*
Plate 10, *Proposed Remedial Excavation Area – East Property Area*
Plate 11, *Proposed Remedial Excavation Area – Central Property Area*
Plate 12, *Proposed Remedial Excavation Area – West Property Area*

Table I – Summary of Soil Analytical Data – Organochlorine Pesticides
Table II – Summary of Soil Analytical Data – Petroleum Hydrocarbons, VOCs, and Metals
Table III – Summary of Soil Analytical Data – Organochlorine Pesticides TCLP Testing



SOURCE: U.S.G.S. 7.5-minute Union Island Quadrangle, California, 1978
Scale 1:24,000

N

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SOIL REMOVAL WORKPLAN
FORMER HALEY'S FLYING SERVICE PROPERTY

2395 East Pescadero Avenue
Tracy, California

Brusca Project No. 194-006

VICINITY MAP

PLATE 1



Approximate boundary of subject property

All features and locations are approximate only

0 380

APPROXIMATE SCALE IN FEET

N

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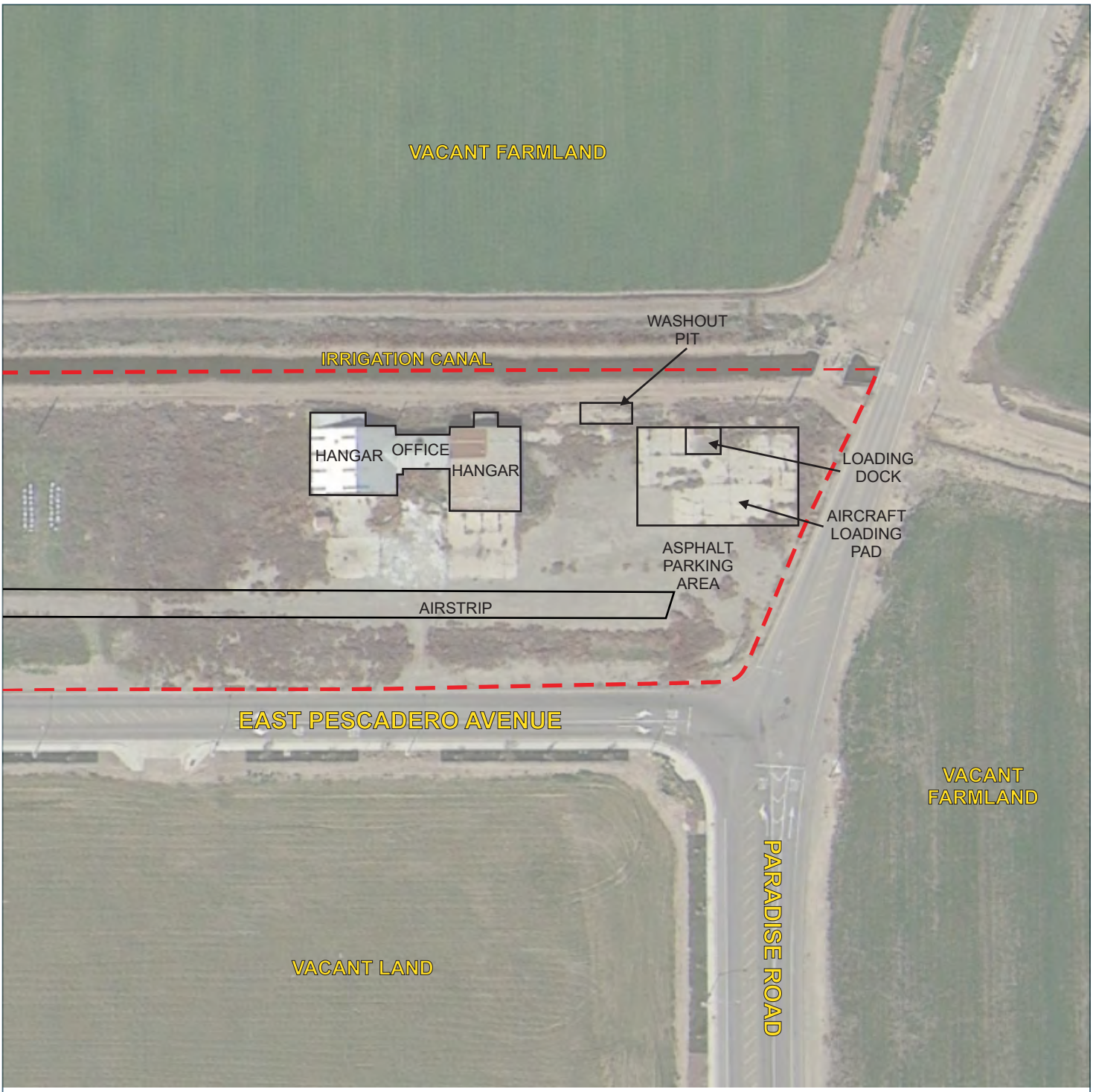
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SITE MAP

PLATE 2



Approximate boundary of subject property

0 100

APPROXIMATE SCALE IN FEET

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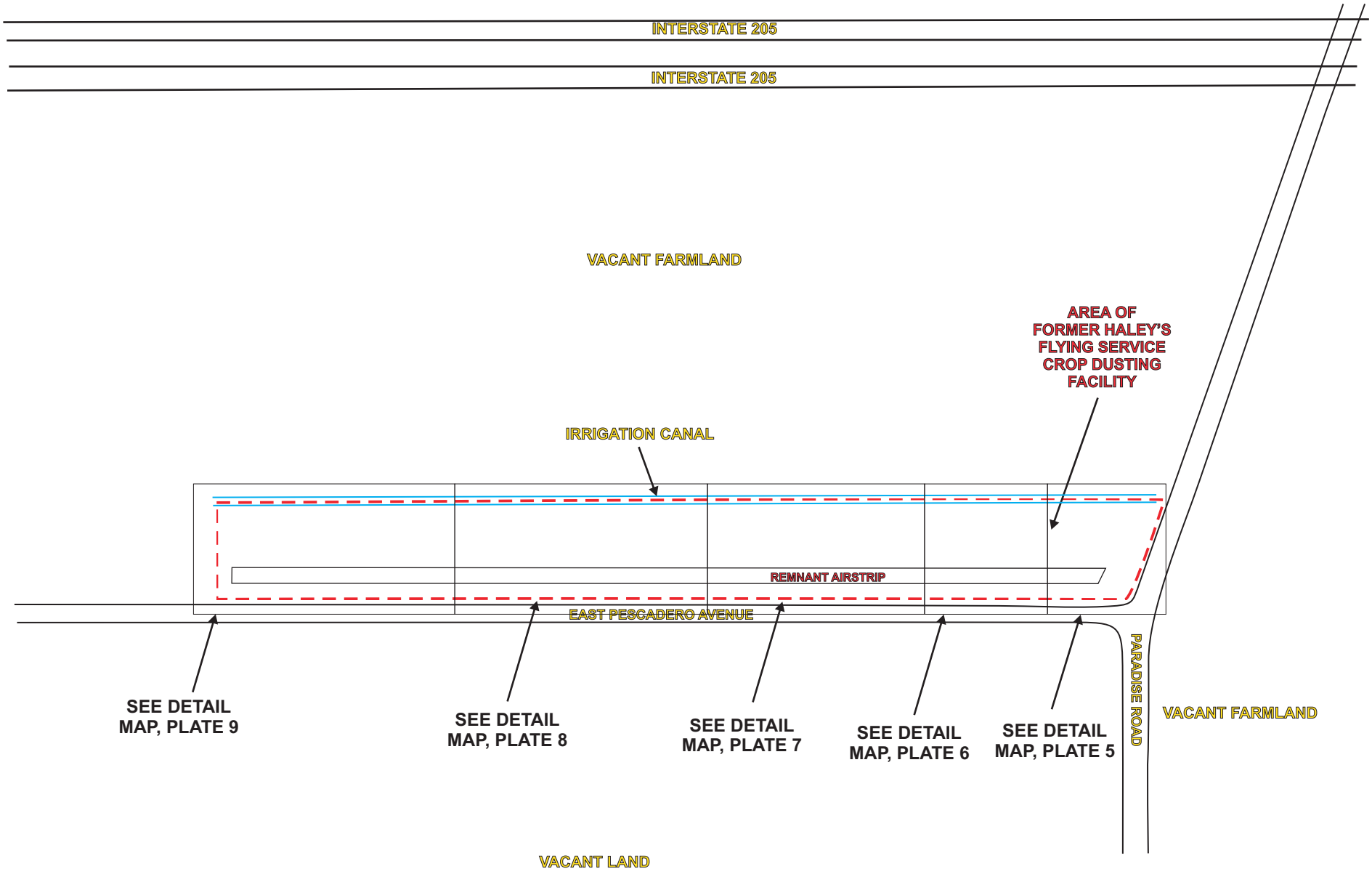
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FORMER HALEY'S FLYING SERVICE FACILITY

PLATE 3



Approximate boundary of subject property

0 300
APPROXIMATE SCALE IN FEET

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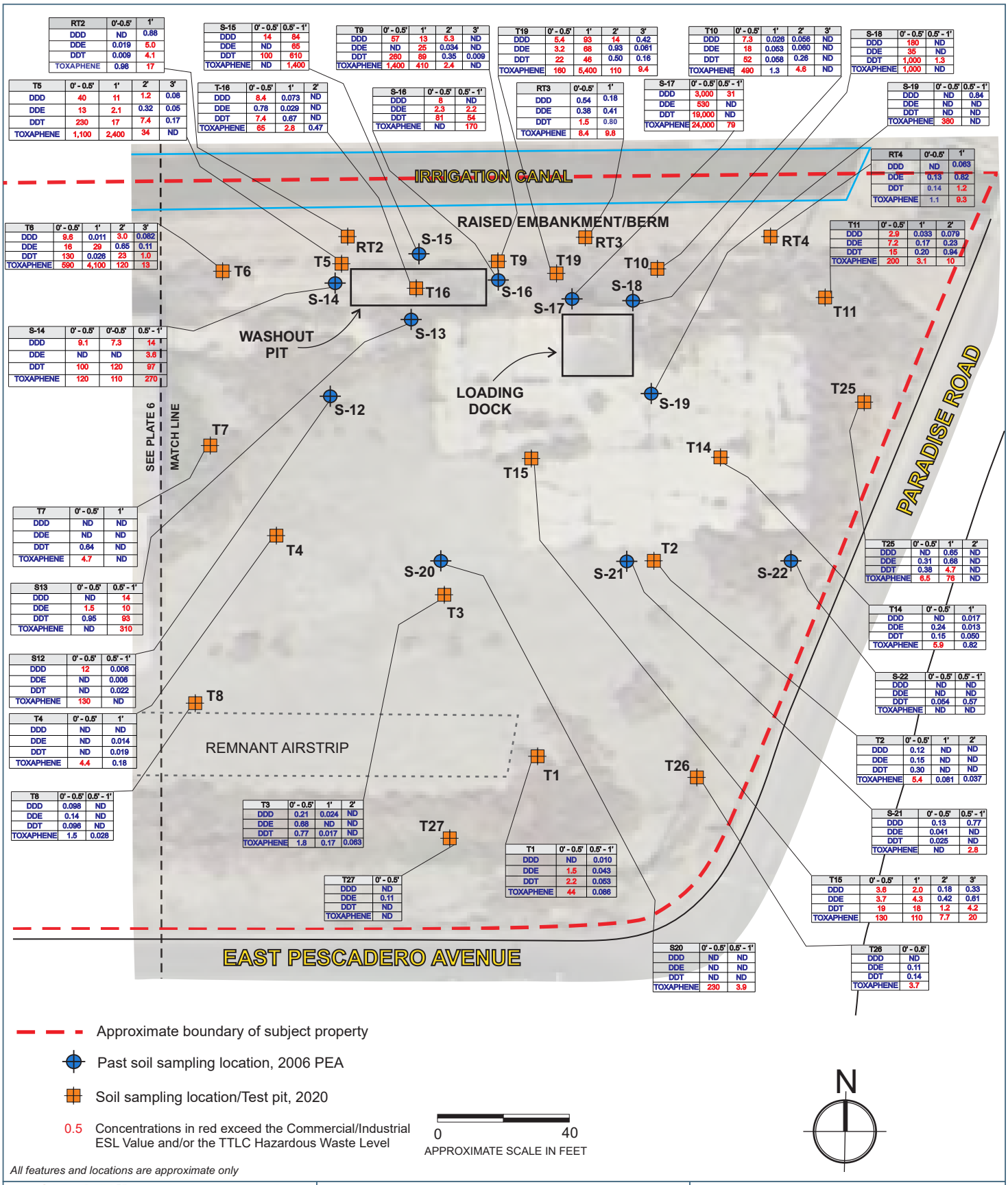
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REFERENCE SITE MAP

PLATE 4



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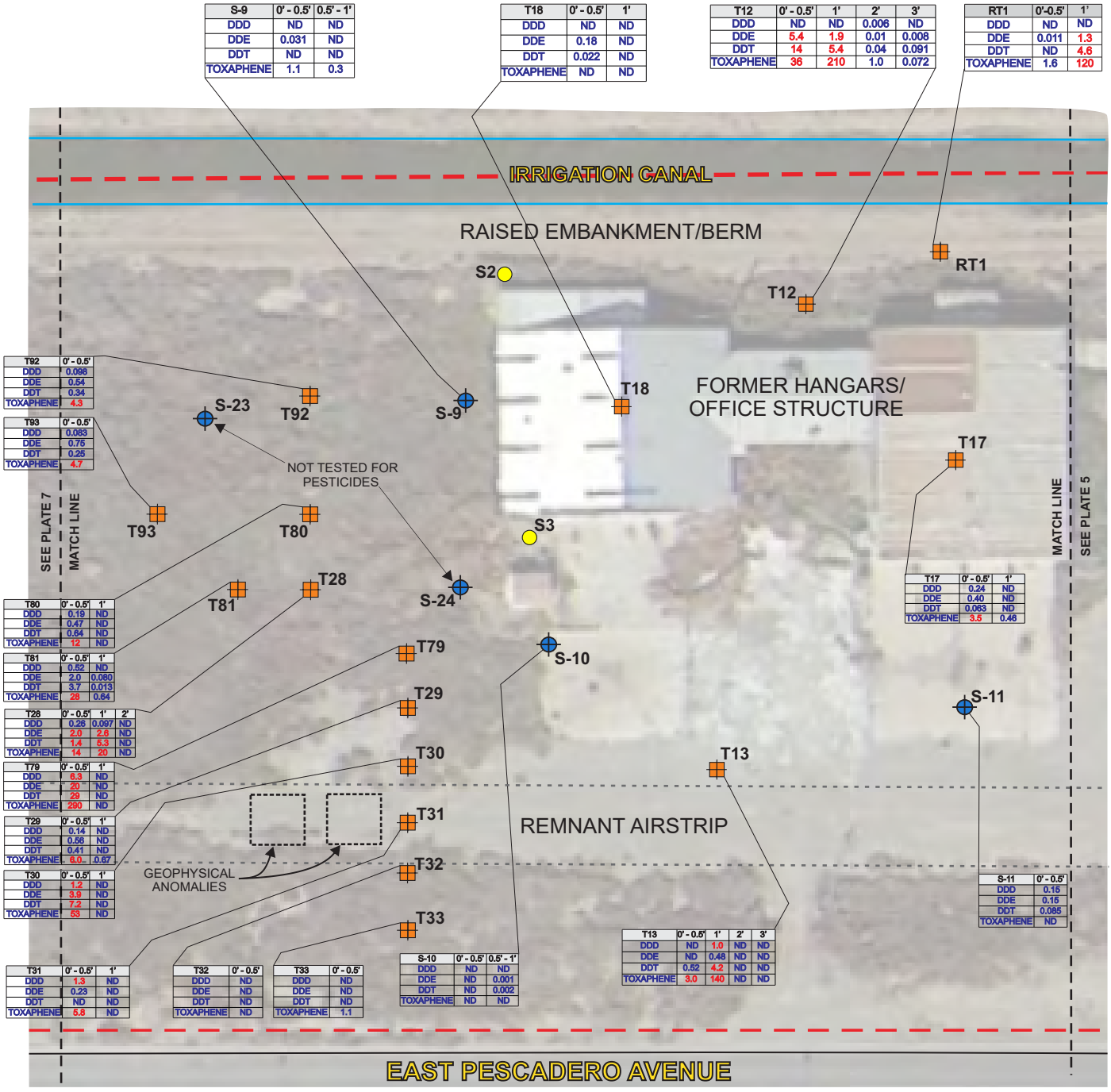
SOIL REMOVAL WORKPLAN
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SOIL SAMPLING LOCATIONS- FORMER WASHOUT PIT AND LOADING AREA

PLATE 5



S-9	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.031	ND
DDT	ND	ND
TOXAPHENE	1.1	0.3

T18	0' - 0.5'	1'
DDD	ND	ND
DDE	0.18	ND
DDT	0.022	ND
TOXAPHENE	ND	ND

T12	0' - 0.5'	1'	2'	3'
DDD	ND	ND	0.006	ND
DDE	5.4	1.9	0.01	0.008
DDT	14	5.4	0.04	0.091
TOXAPHENE	36	210	1.0	0.072

RT1	0'-0.5'	1'
DDD	ND	ND
DDE	0.011	1.3
DDT	ND	4.6
TOXAPHENE	1.6	120

T92	0' - 0.5'
DDD	0.098
DDE	0.54
DDT	0.34
TOXAPHENE	4.3

T93	0' - 0.5'
DDD	0.083
DDE	0.75
DDT	0.25
TOXAPHENE	4.7

T80	0' - 0.5'	1'
DDD	0.19	ND
DDE	0.47	ND
DDT	0.84	ND
TOXAPHENE	12	ND

T81	0' - 0.5'	1'
DDD	0.52	ND
DDE	2.0	0.080
DDT	3.7	0.013
TOXAPHENE	28	0.64

T28	0' - 0.5'	1'	2'
DDD	0.26	0.097	ND
DDE	2.0	2.6	ND
DDT	1.4	5.3	ND
TOXAPHENE	14	20	ND

T79	0' - 0.5'	1'
DDD	6.3	ND
DDE	20	ND
DDT	29	ND
TOXAPHENE	290	ND

T29	0' - 0.5'	1'
DDD	0.14	ND
DDE	0.56	ND
DDT	0.41	ND
TOXAPHENE	6.0	0.67

T30	0' - 0.5'	1'
DDD	1.2	ND
DDE	3.9	ND
DDT	7.2	ND
TOXAPHENE	53	ND

T31	0' - 0.5'	1'
DDD	1.3	ND
DDE	0.23	ND
DDT	ND	ND
TOXAPHENE	5.8	ND

T32	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	ND

T33	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	1.1

S-10	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	0.001
DDT	ND	0.002
TOXAPHENE	ND	ND

T13	0' - 0.5'	1'	2'	3'
DDD	ND	1.0	ND	ND
DDE	ND	0.48	ND	ND
DDT	0.52	4.2	ND	ND
TOXAPHENE	3.0	140	ND	ND

T17	0' - 0.5'	1'
DDD	0.24	ND
DDE	0.40	ND
DDT	0.083	ND
TOXAPHENE	3.5	0.46

S-11	0' - 0.5'
DDD	0.15
DDE	0.15
DDT	0.085
TOXAPHENE	ND

Approximate boundary of subject property

Past soil sampling location, 2006 PEA

Soil sampling location/Test pit, 2020

Surface soil/burn debris sample, May 2020

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

0 40

APPROXIMATE SCALE IN FEET

N

All features and locations are approximate only

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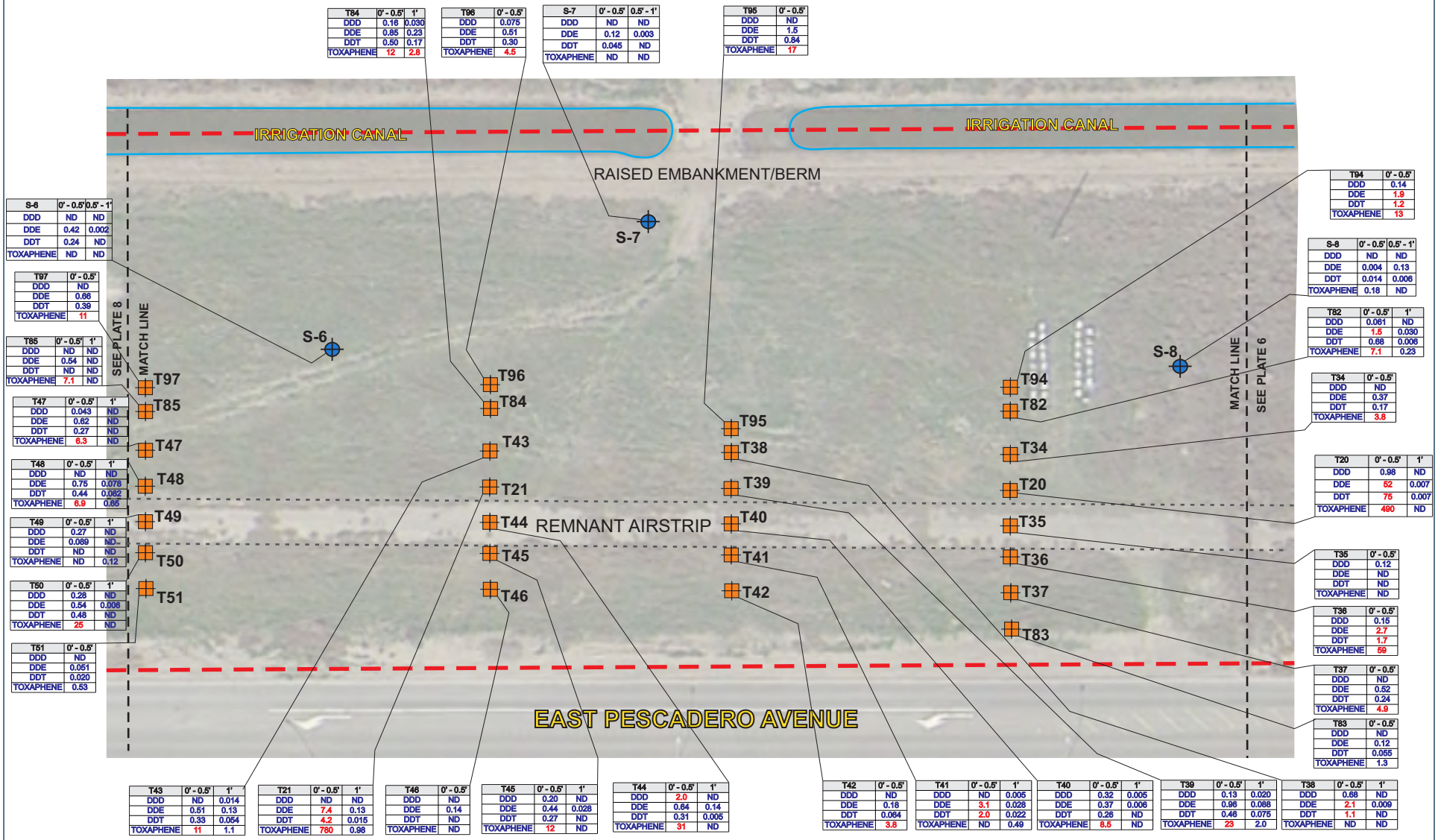
SOIL REMOVAL WORKPLAN
FORMER HALEY'S FLYING SERVICE PROPERTY

2395 East Pescadero Avenue
Tracy, California

Brusca Project No. 194-006

SOIL SAMPLING LOCATIONS- FORMER HANGERS AREA

PLATE 6



T84	0' - 0.5'	1'
DDD	0.16	0.030
DDE	0.85	0.23
DDT	0.50	0.17
TOXAPHENE	12	2.8

T96	0' - 0.5'
DDD	0.075
DDE	0.51
DDT	0.30
TOXAPHENE	4.5

S-7	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.12	0.003
DDT	0.045	ND
TOXAPHENE	ND	ND

T95	0' - 0.5'
DDD	ND
DDE	1.5
DDT	0.84
TOXAPHENE	17

T94	0' - 0.5'
DDD	0.14
DDE	1.9
DDT	1.2
TOXAPHENE	13

S-8	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.004	0.13
DDT	0.014	0.006
TOXAPHENE	0.18	ND

T82	0' - 0.5'	1'
DDD	0.061	ND
DDE	1.5	0.030
DDT	0.68	0.006
TOXAPHENE	7.1	0.23

T34	0' - 0.5'
DDD	ND
DDE	0.37
DDT	0.17
TOXAPHENE	3.8

T20	0' - 0.5'	1'
DDD	0.98	ND
DDE	52	0.007
DDT	75	0.007
TOXAPHENE	490	ND

T35	0' - 0.5'
DDD	0.12
DDE	ND
DDT	ND
TOXAPHENE	ND

T36	0' - 0.5'
DDD	0.15
DDE	2.7
DDT	1.7
TOXAPHENE	59

T37	0' - 0.5'
DDD	ND
DDE	0.52
DDT	0.24
TOXAPHENE	4.9

T83	0' - 0.5'
DDD	ND
DDE	0.12
DDT	0.055
TOXAPHENE	1.3

S-6	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	0.42	0.002
DDT	0.24	ND
TOXAPHENE	ND	ND

T97	0' - 0.5'
DDD	ND
DDE	0.66
DDT	0.39
TOXAPHENE	11

T85	0' - 0.5'	1'
DDD	ND	ND
DDE	0.54	ND
DDT	ND	ND
TOXAPHENE	7.1	ND

T47	0' - 0.5'	1'
DDD	0.043	ND
DDE	0.62	ND
DDT	0.27	ND
TOXAPHENE	6.3	ND

T48	0' - 0.5'	1'
DDD	ND	ND
DDE	0.75	0.078
DDT	0.44	0.052
TOXAPHENE	6.9	0.65

T49	0' - 0.5'	1'
DDD	0.27	ND
DDE	0.089	ND
DDT	ND	ND
TOXAPHENE	ND	0.12

T50	0' - 0.5'	1'
DDD	0.28	ND
DDE	0.54	0.008
DDT	0.48	ND
TOXAPHENE	25	ND

T51	0' - 0.5'
DDD	ND
DDE	0.051
DDT	0.020
TOXAPHENE	0.53

T43	0' - 0.5'	1'
DDD	ND	0.014
DDE	0.51	0.13
DDT	0.33	0.054
TOXAPHENE	11	1.1

T21	0' - 0.5'	1'
DDD	ND	ND
DDE	7.4	0.13
DDT	4.2	0.015
TOXAPHENE	780	0.98

T46	0' - 0.5'
DDD	ND
DDE	0.14
DDT	ND
TOXAPHENE	ND

T45	0' - 0.5'	1'
DDD	0.20	ND
DDE	0.44	0.028
DDT	0.27	ND
TOXAPHENE	12	ND

T44	0' - 0.5'	1'
DDD	2.0	ND
DDE	0.84	0.14
DDT	0.31	0.005
TOXAPHENE	31	ND

T42	0' - 0.5'
DDD	ND
DDE	0.18
DDT	0.064
TOXAPHENE	3.8

T41	0' - 0.5'	1'
DDD	ND	0.005
DDE	3.1	0.028
DDT	2.0	0.022
TOXAPHENE	ND	0.49

T40	0' - 0.5'	1'
DDD	0.32	0.005
DDE	0.37	0.006
DDT	0.26	ND
TOXAPHENE	8.5	ND

T39	0' - 0.5'	1'
DDD	0.13	0.020
DDE	0.96	0.088
DDT	0.46	0.075
TOXAPHENE	23	2.0

T38	0' - 0.5'	1'
DDD	0.68	ND
DDE	2.1	0.009
DDT	1.1	ND
TOXAPHENE	ND	ND

Approximate boundary of subject property

Soil sampling location/Test pit, 2020

Past soil sampling location, 2006 PEA

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

All features and locations are approximate only

0 60
APPROXIMATE SCALE IN FEET

N

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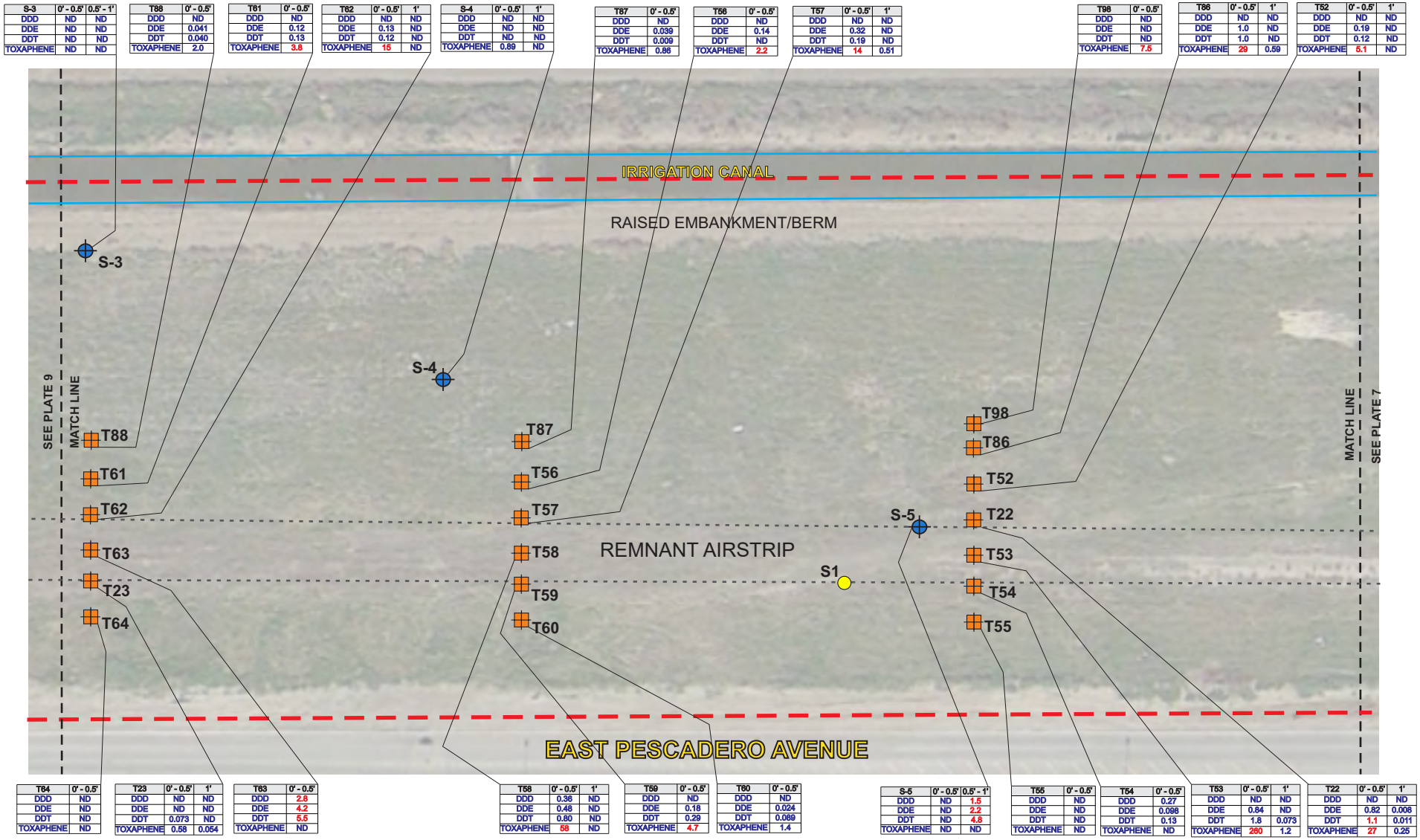
SOIL REMOVAL WORKPLAN
FORMER HALEY'S FLYING
SERVICE PROPERTY

21000 Paradise Road and
2395 East Pescadero Avenue

Brusca Project No. 194-006

SOIL SAMPLING LOCATIONS - CENTRAL PROPERTY AREA

PLATE 7



S-3	0' - 0.5'	0.5' - 1'
DDD	ND	ND
DDE	ND	ND
DDT	ND	ND
TOXAPHENE	ND	ND

T88	0' - 0.5'
DDD	ND
DDE	0.041
DDT	0.040
TOXAPHENE	2.0

T61	0' - 0.5'
DDD	ND
DDE	0.12
DDT	0.13
TOXAPHENE	3.8

T62	0' - 0.5'	1'
DDD	ND	ND
DDE	0.13	ND
DDT	0.12	ND
TOXAPHENE	15	ND

S-4	0' - 0.5'	1'
DDD	ND	ND
DDE	ND	ND
DDT	ND	ND
TOXAPHENE	0.89	ND

T87	0' - 0.5'
DDD	ND
DDE	0.039
DDT	0.009
TOXAPHENE	0.86

T56	0' - 0.5'
DDD	ND
DDE	0.14
DDT	ND
TOXAPHENE	2.2

T57	0' - 0.5'	1'
DDD	ND	ND
DDE	0.32	ND
DDT	0.19	ND
TOXAPHENE	14	0.51

T98	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	7.5

T86	0' - 0.5'	1'
DDD	ND	ND
DDE	1.0	ND
DDT	1.0	ND
TOXAPHENE	29	0.59

T52	0' - 0.5'	1'
DDD	ND	ND
DDE	0.19	ND
DDT	0.12	ND
TOXAPHENE	5.1	ND

T64	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	ND

T23	0' - 0.5'	1'
DDD	ND	ND
DDE	ND	ND
DDT	0.073	ND
TOXAPHENE	0.58	0.054

T63	0' - 0.5'
DDD	2.8
DDE	4.2
DDT	5.5
TOXAPHENE	ND

T58	0' - 0.5'	1'
DDD	0.36	ND
DDE	0.48	ND
DDT	0.80	ND
TOXAPHENE	58	ND

T59	0' - 0.5'
DDD	ND
DDE	0.18
DDT	0.29
TOXAPHENE	4.7

T60	0' - 0.5'
DDD	ND
DDE	0.024
DDT	0.069
TOXAPHENE	1.4

S-5	0' - 0.5'	0.5' - 1'
DDD	ND	1.5
DDE	ND	2.2
DDT	ND	4.8
TOXAPHENE	ND	ND

T55	0' - 0.5'
DDD	ND
DDE	ND
DDT	ND
TOXAPHENE	ND

T54	0' - 0.5'
DDD	0.27
DDE	0.098
DDT	0.13
TOXAPHENE	ND

T53	0' - 0.5'	1'
DDD	ND	ND
DDE	0.84	ND
DDT	1.8	0.073
TOXAPHENE	260	1.2

T22	0' - 0.5'	1'
DDD	ND	ND
DDE	0.82	0.006
DDT	1.1	0.011
TOXAPHENE	27	0.25

Approximate boundary of subject property

Soil sampling location/Test pit, 2020

Past soil sampling location, 2006 PEA

Surface soil/burn debris sample, May 2020

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

All features and locations are approximate only

0 60

APPROXIMATE SCALE IN FEET

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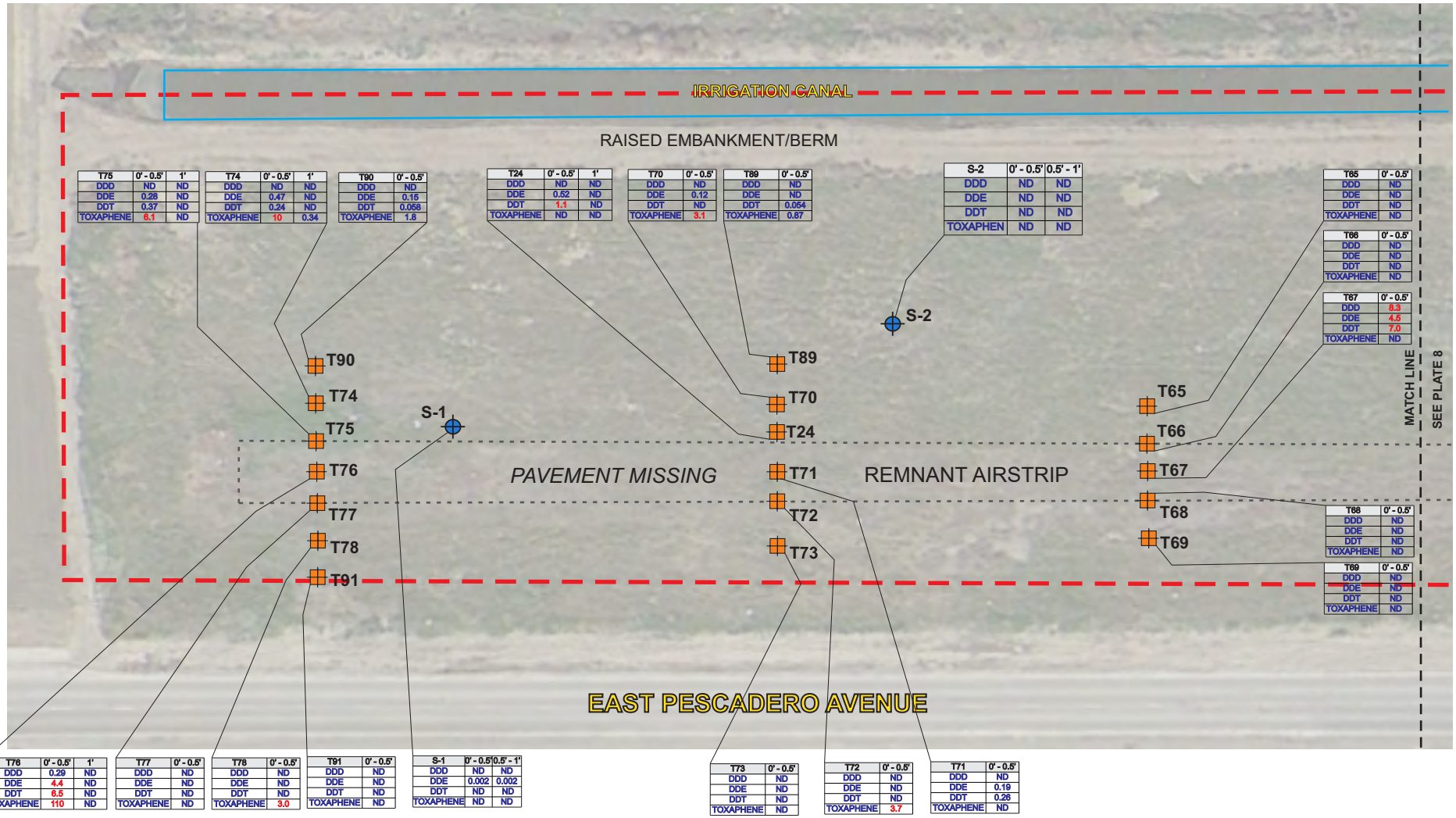
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FORMER HALEY'S FLYING
SERVICE PROPERTY

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Tracy, California

Brusca Project No. 194-006

SOIL SAMPLING LOCATIONS - WEST AND CENTRAL PROPERTY AREAS

PLATE 8



Approximate boundary of subject property

Soil sampling location/Test pit, 2020

Past soil sampling location, 2006 PEA

0.5 Concentrations in red exceed the Commercial/Industrial ESL Value and/or the TTLC Hazardous Waste Level

All features and locations are approximate only

0 60
APPROXIMATE SCALE IN FEET

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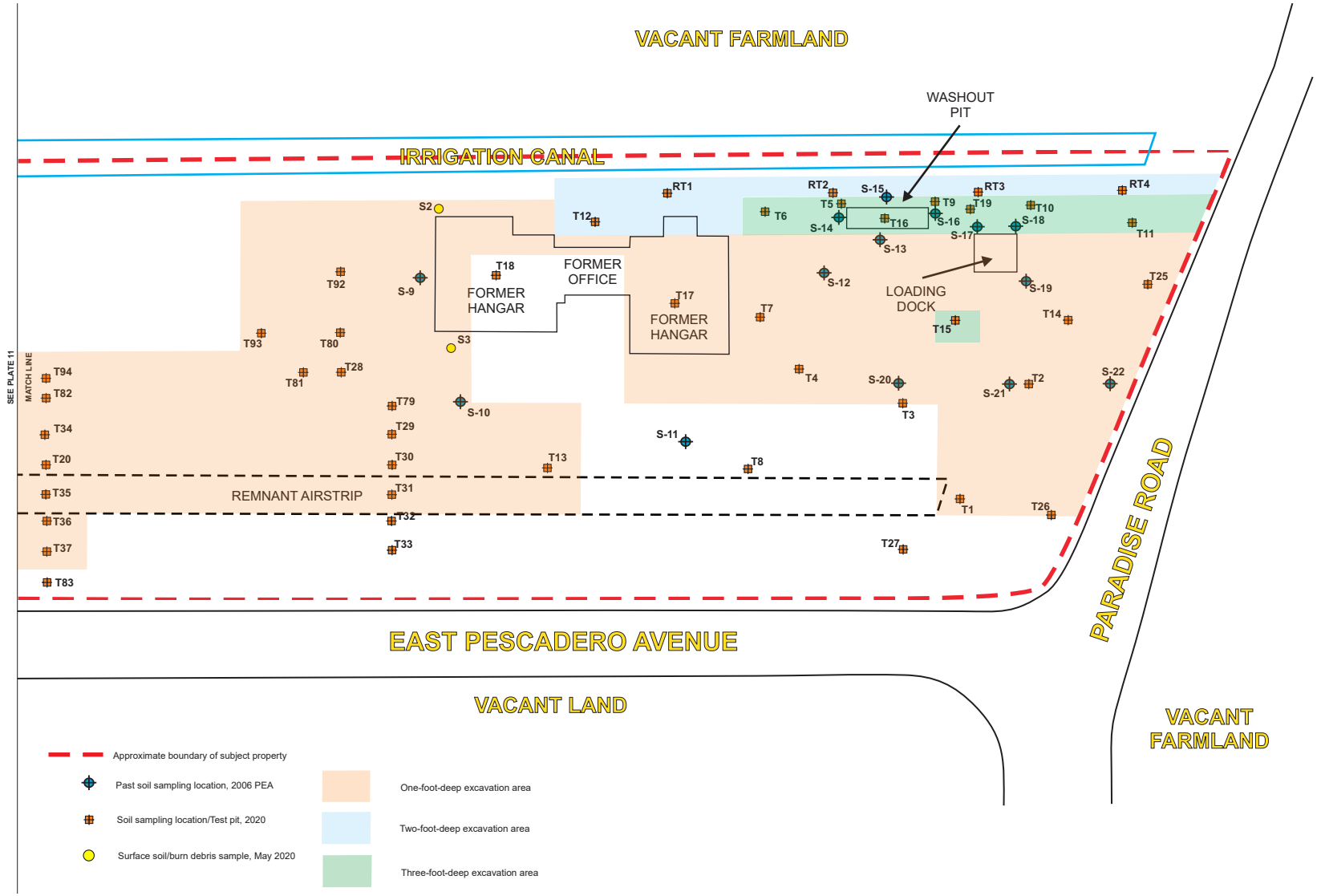
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SERVICE PROPERTY

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Tracy, California

Brusca Project No. 194-006

SOIL SAMPLING LOCATIONS - WEST PROPERTY AREA

PLATE 9



0 80

APPROXIMATE SCALE IN FEET

N

All features and locations are approximate only

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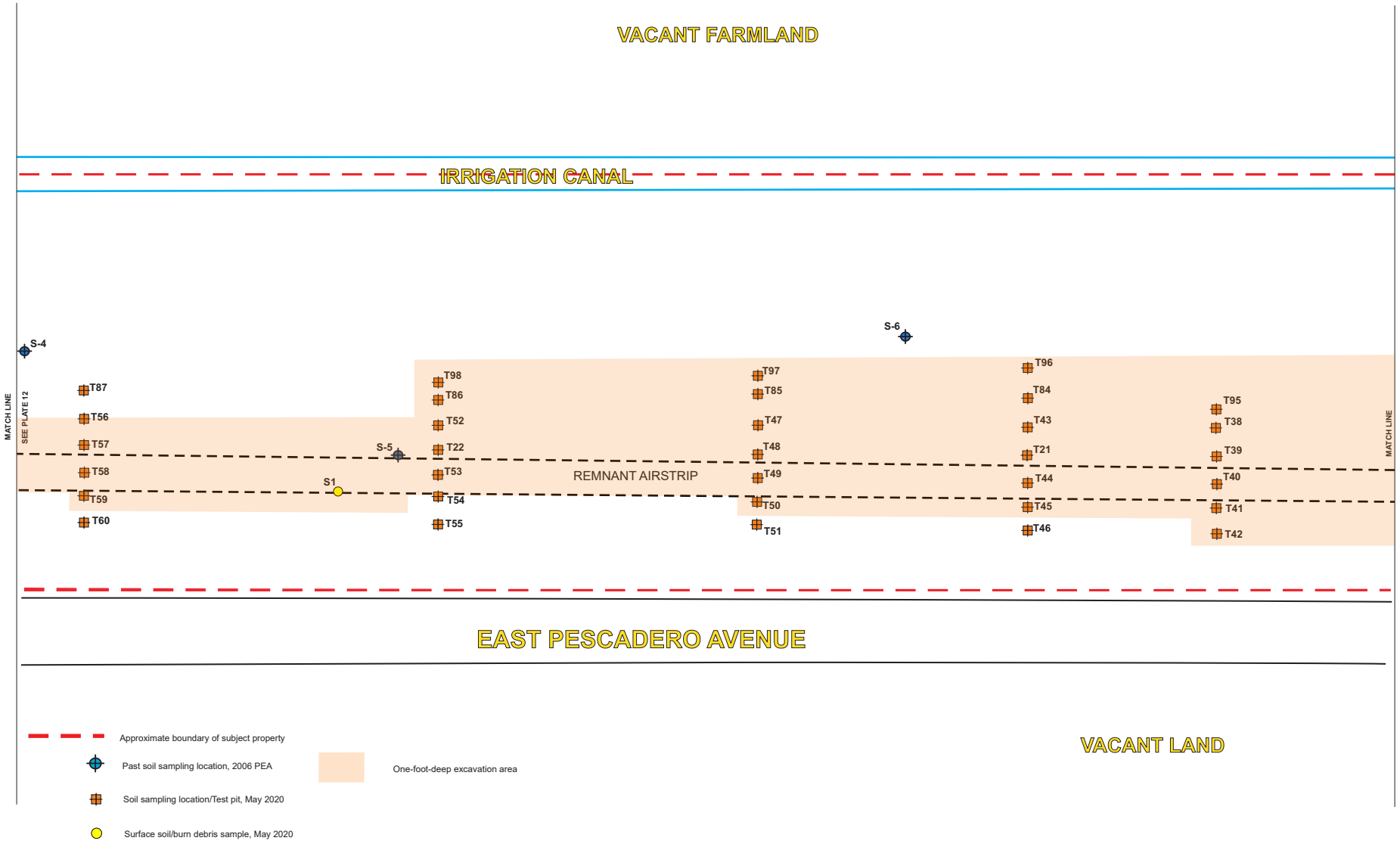
SOIL REMOVAL WORKPLAN
FORMER HALEY'S FLYING SERVICE PROPERTY

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Tracy, California

Brusca Project No. 194-006

PLANNED REMEDIAL EXCAVATION AREA -EAST PROPERTY AREA

PLATE 10



All features and locations are approximate only

0 80

APPROXIMATE SCALE IN FEET

N

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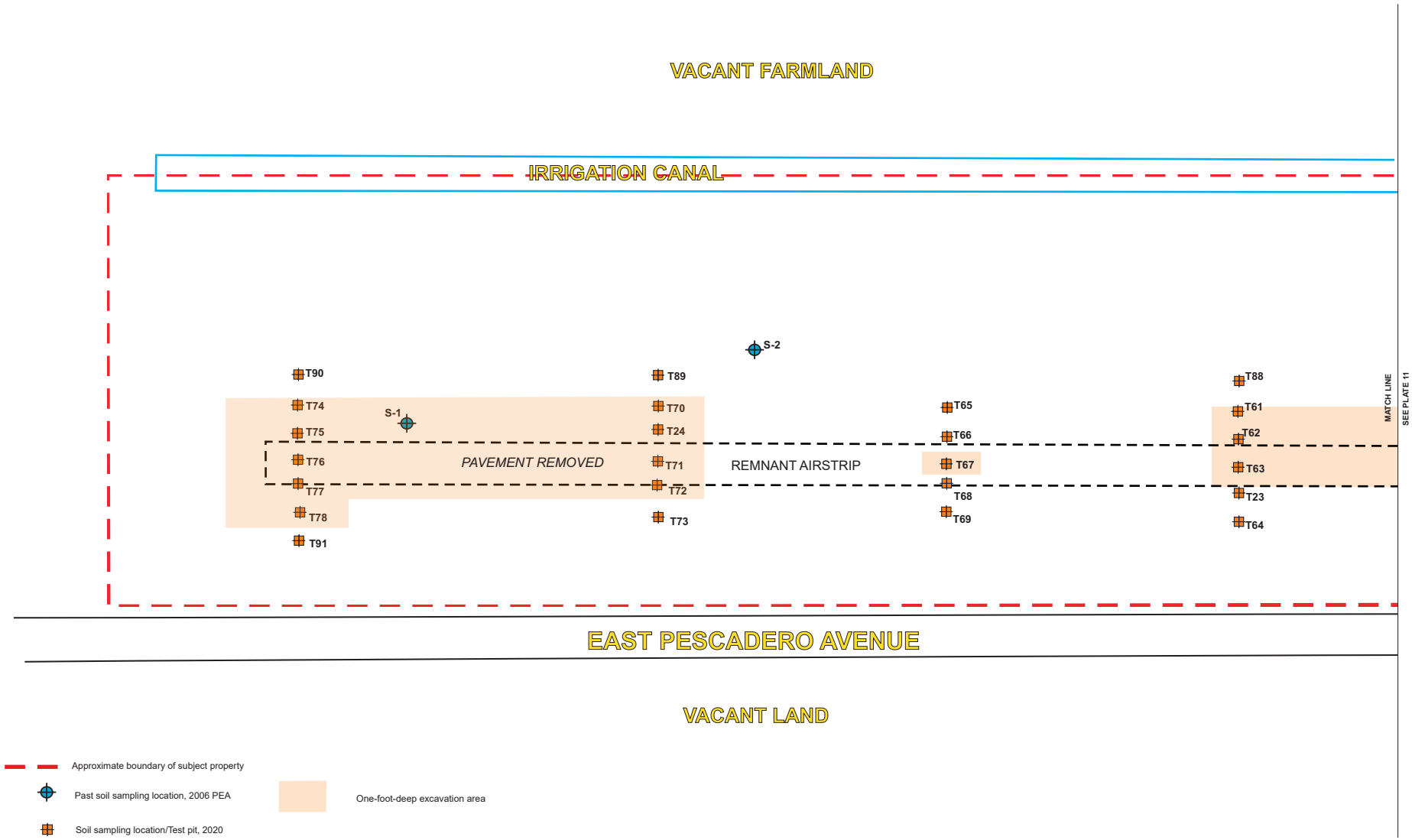
SOIL REMOVAL WORKPLAN
FORMER HALEY'S FLYING
SERVICE PROPERTY

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Brusca Project No. 194-006

PLANNED REMEDIAL EXCAVATION AREA -CENTRAL PROPERTY AREA

PLATE 11



0 80

APPROXIMATE SCALE IN FEET

N

All features and locations are approximate only

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SOIL REMOVAL WORKPLAN
FORMER HALEY'S FLYING SERVICE PROPERTY

2395 East Pescadero Avenue
Tracy, California

Brusca Project No. 194-006

PLANNED REMEDIAL EXCAVATION AREA -WEST PROPERTY AREA

PLATE 12

TABLE I
SUMMARY OF SOIL ANALYTICAL DATA - ORGANOCHLORINE PESTICIDES
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
Geo-Phase	S-1A	S-1	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-1B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-2A	S-2	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-2B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-3A	S-3	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-3B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-4A	S-4	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.89
Geo-Phase	S-4B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-5A	S-5	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.9	ND	ND	ND	ND	ND
Geo-Phase	S-5B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	1.5	2.2	4.8	ND	15	ND	ND	ND	ND	ND
Geo-Phase	S-6A	S-6	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	0.75	ND	0.42	0.24	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-6B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-7A	S-7	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.045	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-7B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-8A	S-8	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.004	0.014	ND	ND	ND	ND	ND	ND	0.18
Geo-Phase	S-8B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13	0.006	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-9A	S-9	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.031	ND	ND	0.77	ND	ND	ND	0.2	1.1
Geo-Phase	S-9B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.27	ND	ND	ND	ND	0.3
Geo-Phase	S-10A	S-10	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-10B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.001	0.002	ND	0.003	ND	ND	ND	ND	ND
Geo-Phase	S-11	S-11	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	0.15	0.15	0.085	ND	0.108	ND	ND	ND	ND	ND
Geo-Phase	S-12A	S-12	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	1.8	ND	ND	ND	ND	130
Geo-Phase	S-12B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.006	0.022	0.004	ND	ND	ND	ND	ND	ND
Geo-Phase	S-13A	S-13	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	0.82	ND	1.5	0.95	ND	32.6	ND	ND	ND	ND	ND
Geo-Phase	S-13B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	8.5	14	10	93	3.8	273	10	ND	ND	ND	310
Geo-Phase	S-14A	S-14	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	9.1	ND	100	ND	51	ND	ND	ND	ND	120
Geo-Phase	S-14A-X2		0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	7.3	ND	120	ND	57	ND	ND	ND	ND	110
Geo-Phase	S-14-B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	14	3.6	97	ND	97	ND	ND	ND	24	270
Geo-Phase	S-15A	S-15	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	14	ND	100	ND	122	ND	ND	ND	ND	ND
Geo-Phase	S-15B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	17	84	65	610	ND	880	40	ND	ND	260	1,400
Geo-Phase	S-16A	S-16	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	8.0	2.3	81	ND	57	ND	ND	ND	ND	ND
Geo-Phase	S-16B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	1.1	ND	2.2	54	ND	47	ND	ND	ND	ND	170
Geo-Phase	S-17A	S-17	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	3,000	530	19,000	ND	1,850	ND	ND	ND	ND	24,000
Geo-Phase	S-17B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	31	ND	ND	ND	ND	ND	ND	ND	ND	79
Geo-Phase	S-18A	S18	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	180	35	1,000	ND	630	31	ND	ND	ND	1,000
Geo-Phase	S-18B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	0.90	ND	ND	ND	ND	ND
Geo-Phase	S-19A	S-19	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	380
Geo-Phase	S-19B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	0.84	ND	ND	ND	ND	ND	ND	ND	ND	ND
Geo-Phase	S-20A	S-20	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	230
Geo-Phase	S-20B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.9
Geo-Phase	S-21A	S-21	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	0.13	0.041	0.025	ND	0.048	ND	ND	ND	0.015	ND
Geo-Phase	S-21B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	0.77	ND	ND	ND	0.23	ND	ND	ND	ND	2.8
Geo-Phase	S-22A	S-22	0 - 0.5	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.054	ND	0.054	ND	ND	ND	ND	ND
Geo-Phase	S-22B		0.5 - 1.0	Aug. 2005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.57	ND	2.53	ND	ND	ND	ND	ND
Brusca Associates, Inc.	T1-surf	T1	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	2.2	ND	12.3	ND	ND	ND	ND	44
	T1-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.010	0.043	0.053	0.028	0.15	ND	ND	ND	ND	0.086
	T2-surf	T2	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.15	0.30	0.091	0.79	ND	ND	ND	0.70	5.4
	T2-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13	ND	ND	ND	ND	0.081
	T2-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.037
	T3-surf	T3	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.25	0.21	0.68	0.77	ND	11	ND	0.15	ND	1.1	1.8
	T3-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.024	ND	0.017	ND	0.082	ND	ND	ND	ND	0.17
	T3-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	ND	ND	0.063
	T4-surf	T4	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.4
	T4-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.014	0.019	ND	ND	ND	ND	ND	ND	0.18
	T5-surf	T5	0 - 0.5	5/19/2020	0.28	0.53	0.63	0.65	0.84	ND	ND	10.1	40	13	230	ND	53	ND	10	ND	32	1,100
	T5-1		1	5/19/2020	0.20	0.45	ND	0.70	ND	ND	ND	2.8	11	2.1	17	ND	25	ND	4.2	ND	9.4	2,400
	T5-2		2	5/19/2020	0.027	0.052	ND	ND	ND	ND	ND	0.41	1.2	0.32	7.4	0.13	5.2	ND	0.72	ND	1.3	34
	T5-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.28	0.08	0.05	0.17	0.065	4.8	ND	0.17	ND	0.075	ND
	T6-surf	T6	0 - 0.5	5/19/2020	0.023	0.051	ND	0.043	ND	ND	ND	4.6	9.6	16	130	ND	4.5	ND	ND	ND	ND	590
	T6-1		1	5/19/2020	0.68	0.69	ND	ND	3.6	ND	ND	47	0.011	29	0.026	ND	660	ND	ND	ND	250	4,100
	T6-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	3.0	0.65	23	ND	7.3	ND	ND	ND	ND	120
	T6-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.019	0.082	0.11	1.0	0.049	2.14	ND	ND	ND	ND	13
	T7-surf	T7	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.64	ND	ND	ND	ND	ND	ND	4.7
	T7-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.055	ND	ND	ND	ND	0.48	ND	ND	ND	ND	ND

TABLE I
SUMMARY OF SOIL ANALYTICAL DATA - ORGANOCHLORINE PESTICIDES
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
	T8-surf	T8	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.026	0.098	0.14	0.096	ND	ND	ND	ND	ND	ND	1.5
	T8-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	ND	ND	0.028
Brusca Associates, Inc.	T9-surf	T9	0 - 0.5	5/19/2020	ND	1.1	ND	ND	1.2	ND	ND	4.6	57	ND	260	ND	58	ND	ND	ND	ND	1,400
	T9-1		1	5/19/2020	0.08	0.18	0.018	0.043	0.2	ND	ND	0.64	13	25	89	ND	86	ND	ND	30	13	410
	T9-2		2	5/19/2020	0.008	0.019	ND	ND	0.006	ND	ND	0.013	5.3	0.034	0.35	0.017	1.7	ND	ND	ND	24	2.4
	T9-3		3	5/19/2020	ND	0.006	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	1.3	ND	0.012	ND	ND	ND
	T10-surf	T10	0 - 0.5	5/19/2020	ND	1.4	ND	ND	ND	ND	ND	2.5	7.3	18	52	ND	8.8	ND	ND	ND	29	490
	T10-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.026	0.053	0.058	ND	1.4	ND	0.023	ND	ND	1.3
	T10-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.046	0.056	0.060	0.26	ND	0.77	ND	ND	ND	0.45	4.6
	T10-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T11-surf	T11	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.66	2.9	7.2	15	1.2	2.9	ND	ND	ND	ND	200
	T11-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.027	0.033	0.17	0.20	0.035	ND	0.21	ND	ND	ND	3.1
	T11-2		2	5/19/2020	ND	ND	ND	ND	ND	0.009	ND	0.047	0.079	0.23	0.94	ND	0.057	0.063	ND	ND	ND	10
	T12-surf	T12	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	14	ND	2.9	ND	ND	ND	ND	36
	T12-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.25	ND	1.9	5.4	0.73	0.66	ND	ND	ND	ND	210
	T12-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.006	0.01	0.04	ND	0.55	ND	ND	ND	ND	1.0
	T12-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	0.091	ND	0.013	ND	ND	ND	ND	0.072
	T13-surf	T13	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	ND	ND	ND	ND	ND	ND	3.0
	T13-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	1.0	0.48	4.2	0.06	ND	ND	ND	ND	ND	140
	T13-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T13-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T14-surf	T14	0 - 0.5	5/19/2020	ND	ND	ND	ND	0.014	ND	ND	0.10	ND	0.24	0.15	0.39	ND	ND	ND	ND	ND	5.9
	T14-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.017	0.013	0.050	0.013	0.085	ND	ND	ND	ND	0.82
	T15-surf	T15	0 - 0.5	5/19/2020	0.010	0.016	ND	ND	0.086	ND	0.11	1.5	3.6	3.7	19	1.1	4.8	ND	ND	ND	ND	130
	T15-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.42	2.0	4.3	18	0.84	1.4	ND	ND	ND	ND	110
	T15-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.057	0.18	0.42	1.2	0.097	ND	0.085	ND	ND	ND	7.7
	T15-3		3	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.081	0.33	0.61	4.2	0.14	ND	ND	ND	ND	ND	20
	T16-surf	T16	0 - 0.5	5/19/2020	0.024	ND	0.031	ND	ND	ND	ND	0.94	8.4	0.78	7.4	ND	3.2	ND	0.39	ND	ND	65
	T16-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.022	0.073	0.029	0.67	ND	0.44	0.013	0.039	ND	ND	2.8
	T16-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	0.35	ND	0.036	ND	ND	0.47
	T17-surf	T17	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.068	0.24	0.40	0.063	ND	0.26	ND	ND	ND	ND	3.5
	T17-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.46
	T18-surf	T18	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	0.008	ND	0.74	ND	0.18	0.022	0.026	ND	ND	ND	ND	ND	ND
	T18-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T19-surf	T19	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	3.6	5.4	3.2	22	ND	28	ND	ND	ND	8.4	160
	T19-1		1	5/19/2020	2.0	3.3	ND	2.0	8.1	ND	ND	78	93	68	46	ND	110	ND	ND	ND	76	5,400
	T19-2		2	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.61	14	0.93	0.50	0.85	6.0	ND	1.0	ND	ND	110
	T19-3		3	5/19/2020	ND	0.008	ND	ND	ND	ND	ND	0.084	0.42	0.061	0.16	0.061	1.34	ND	0.13	ND	0.10	9.4
	T20-surf	T20	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.98	52	75	ND	68	ND	ND	ND	ND	490
	T20-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.007	0.007	ND	0.016	ND	ND	ND	ND	ND
	T21-surf	T21	0 - 0.5	5/19/2020	ND	ND	ND	ND	2.3	ND	ND	12	ND	7.4	4.2	ND	430	ND	ND	ND	19	780
	T21-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	0.024	ND	0.13	0.015	ND	0.39	ND	ND	ND	ND	0.98
	T22-surf	T22	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.82	1.1	ND	7.8	ND	ND	ND	ND	27
	T22-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.008	0.011	ND	0.086	ND	ND	ND	ND	0.25
	T23-surf	T23	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.073	ND	ND	ND	ND	ND	ND	0.58
	T23-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.054
	T24-surf	T24	0 - 0.5	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	1.1	ND	2.8	ND	ND	ND	ND	ND
	T24-1		1	5/19/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T25-surf	T25	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.31	0.38	ND	ND	ND	ND	ND	ND	6.5
	T25-1	T25	1	10/1/2020	0.084	0.058	ND	ND	ND	ND	ND	ND	0.65	0.68	4.7	ND	36	ND	ND	ND	3.6	76
	T25-2	T25	2	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T26-surf	T26	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	0.14	ND	ND	ND	ND	ND	ND	3.7
	T27-surf	T27	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND	ND	ND	ND	ND	ND	ND	ND

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Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
Brusca Associates, Inc.	T28-surf	T28	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.163	0.26	2.0	1.4	0.077	0.13	0.057	0.21	ND	ND	14
	T28-1	T28	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	0.016	0.097	2.6	5.3	0.074	0.074	ND	ND	ND	ND	20
	T28-2	T28	2	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T29-surf	T29	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.115	0.14	0.56	0.41	0.026	0.062	ND	ND	ND	ND	6.0
	T29-1	T29	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.67
	T30-surf	T30	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	1.96	1.2	3.9	7.2	ND	0.56	0.18	ND	ND	ND	53
	T30-1	T30	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T31-surf	T31	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	1.3	0.23	ND	ND	0.36	ND	ND	ND	ND	5.8
	T31-1	T31	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T32-surf	T32	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T33-surf	T33	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.1
	T34-surf	T34	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.37	0.17	ND	ND	ND	ND	ND	ND	3.8
	T35-surf	T35	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T36-surf	T36	0 - 0.5	8/26/2020	ND	0.096	ND	ND	ND	ND	ND	ND	0.15	2.7	1.7	ND	1.34	ND	ND	ND	ND	59
	T36-1	T36	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.012	0.005	ND	ND	ND	ND	ND	ND	ND
	T37-surf	T37	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.52	0.24	ND	0.34	ND	ND	ND	ND	4.9
	T38-surf	T38	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	0.1	0.68	2.1	1.1	ND	0.60	ND	ND	ND	ND	ND
	T38-1	T38	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.009	ND	ND	ND	ND	ND	ND	ND	ND
	T39-surf	T39	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	0.12	0.13	0.96	0.46	ND	1.04	ND	ND	ND	0.42	23
	T39-1	T38	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	0.0188	0.020	0.088	0.075	ND	0.7	ND	ND	ND	ND	2.0
	T40-surf	T40	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	0.23	0.32	0.37	0.26	ND	3.2	ND	ND	ND	0.32	8.5
	T40-1	T40	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.006	ND	ND	0.065	ND	ND	ND	0.009	ND
	T41-surf	T41	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.1	2.0	ND	13.9	ND	ND	ND	1.1	ND
	T41-1	T41	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.028	0.022	ND	0.059	ND	ND	ND	ND	0.49
	T42-surf	T42	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.064	ND	ND	ND	ND	ND	ND	3.8
	T43-surf	T43	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51	0.33	ND	0.16	ND	ND	ND	ND	11
	T43-1	T43	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.014	0.13	0.054	ND	ND	ND	ND	ND	ND	1.1
	T44-surf	T44	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	2.0	0.64	0.31	0.44	4.8	ND	ND	ND	ND	31
	T44-1	T44	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14	0.005	ND	ND	ND	ND	ND	ND	ND
	T45-surf	T45	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.12	0.20	0.44	0.27	ND	1.18	ND	ND	ND	ND	12
	T45-1	T45	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.028	ND	ND	ND	ND	ND	ND	ND	ND
	T46-surf	T46	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14	ND	ND	ND	ND	ND	ND	ND	ND
	T47-surf	T47	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.043	0.62	0.27	ND	0.072	ND	ND	ND	ND	6.3
	T47-1	T47	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T48-surf	T48	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.75	0.44	ND	0.39	ND	ND	ND	ND	6.9
	T48-1	T48	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.078	0.082	ND	ND	ND	ND	ND	ND	0.65
	T49-surf	T49	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.27	0.089	ND	ND	ND	ND	ND	ND	ND	ND
	T49-1	T49	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12
	T50-surf	T50	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.28	0.54	0.48	ND	2.5	ND	ND	ND	ND	25
	T50-1	T50	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.040	ND	ND	ND	0.006	ND
	T51-surf	T51	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.051	0.020	ND	ND	ND	ND	ND	ND	0.53
	T52-surf	T52	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19	0.12	ND	0.11	ND	ND	ND	ND	5.1
	T52-1	T52	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T53-surf	T53	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	3.3	ND	0.84	1.8	ND	151	ND	ND	ND	ND	260
	T53-1	T53	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.073	ND	0.34	ND	ND	ND	ND	1.2
	T54-surf	T54	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.29	0.27	0.098	0.13	ND	ND	ND	ND	ND	ND	ND
	T55-surf	T55	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T56-surf	T56	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.14	ND	ND	ND	ND	ND	ND	ND	2.2
	T57-surf	T57	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.32	0.19	ND	0.36	ND	ND	ND	ND	14
	T57-1	T57	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.51
	T58-surf	T58	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.223	0.36	0.48	0.80	ND	11.3	ND	ND	ND	ND	58
	T58-1	T58	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T59-surf	T59	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.18	0.29	ND	0.32	ND	ND	ND	ND	4.7
	T60-surf	T60	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.024	0.089	ND	ND	ND	ND	ND	ND	1.4
	T61-surf	T61	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.13	ND	0.28	ND	ND	ND	ND	3.8
	T62-surf	T62	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13	0.12	ND	0.97	ND	ND	ND	ND	15
	T62-1	T62	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T63-surf	T63	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	2.8	4.2	5.5	ND	14.4	22	3.4	ND	ND	ND
	T64-surf	T64	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T65-surf	T65	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T66-surf	T66	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE I
SUMMARY OF SOIL ANALYTICAL DATA - ORGANOCHLORINE PESTICIDES
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Collected by	Sample ID	Sample Location	Depth (feet)	Date	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Heptachlor epoxide	Aldrin	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin	Endrin ketone	Endrin aldehyde	Methoxychlor	Toxaphene
Brusca Associates, Inc.	T67-surf	T67	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	8.3	4.5	7.0	ND	5.0	0.95	0.32	ND	ND	ND
	T68-surf	T68	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T69-surf	T69	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T70-surf	T70	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND	3.1
	T71-surf	T71	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.19	0.26	ND	5.81	ND	ND	ND	ND	ND
	T72-surf	T72	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7
	T73-surf	T73	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T74-surf	T74	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.47	0.24	ND	0.20	ND	ND	ND	ND	10
	T74-1	T74	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.34
	T75-surf	T75	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28	0.37	ND	0.20	ND	ND	ND	ND	6.1
	T75-1	T75	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T76-surf	T76	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.13	0.29	4.4	6.5	ND	26	ND	ND	ND	2.1	110
	T76-1	T76	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T77-surf	T77	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T78-surf	T78	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.205	ND	ND	ND	ND	3.0
	T79-surf	T79	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	2.6	6.3	20	29	ND	ND	ND	ND	ND	ND	290
	T79-1	T79	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T80-surf	T80	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.19	0.47	0.64	ND	0.13	ND	ND	ND	ND	12
	T80-1	T80	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T81-surf	T81	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	0.16	0.52	2.0	3.7	0.24	ND	ND	ND	ND	ND	28
	T81-1	T81	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.080	0.013	0.006	0.006	ND	ND	ND	ND	0.64
	T82-surf	T82	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	0.039	0.061	1.5	0.68	ND	0.129	ND	ND	ND	ND	7.1
	T82-1	T82	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.030	0.006	ND	ND	ND	ND	ND	ND	0.23
	T83-surf	T83	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12	0.055	ND	ND	ND	ND	ND	ND	1.3
	T84-surf	T84	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.16	0.85	0.50	ND	0.376	ND	ND	ND	ND	12
	T84-1	T84	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	0.006	0.030	0.23	0.17	ND	0.168	ND	ND	ND	ND	2.8
	T85-surf	T85	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.54	ND	ND	ND	ND	ND	ND	ND	7.1
	T85-1	T85	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T86-surf	T86	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	1.0	ND	2.65	ND	ND	ND	ND	29
	T86-1	T86	1	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.59
	T87-surf	T87	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.039	0.009	ND	0.005	ND	ND	ND	ND	0.86
	T88-surf	T88	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.041	0.040	ND	0.108	ND	ND	ND	ND	2.0
	T89-surf	T89	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.054	ND	ND	ND	ND	ND	ND	0.87
	T90-surf	T90	0 - 0.5	9/18/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.15	0.058	ND	0.187	ND	ND	ND	ND	1.8
	T91-surf	T91	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	T92-surf	T92	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	0.024	0.098	0.54	0.34	0.066	0.046	ND	ND	ND	ND	4.3
	T93-surf	T93	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	0.053	0.083	0.75	0.25	0.044	0.053	ND	ND	ND	ND	4.7
	T94-surf	T94	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.14	1.9	1.2	0.062	0.44	ND	ND	ND	ND	13
	T95-surf	T95	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	0.84	ND	0.78	ND	ND	ND	ND	17
	T96-surf	T96	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	0.059	0.075	0.51	0.30	0.030	0.086	ND	ND	ND	ND	4.5
	T97-surf	T97	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	0.44	ND	0.66	0.39	ND	0.29	ND	ND	ND	ND	11
	T98-surf	T98	0 - 0.5	10/1/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.5
	RT1-surf	RT1	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.011	ND	ND	ND	ND	ND	ND	ND	1.6
	RT1-1	RT1	1	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.3	4.6	ND	8.2	ND	ND	ND	3.8	120
	RT2-surf	RT2	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.019	0.009	ND	0.033	ND	ND	ND	ND	0.98
	RT2-1	RT2	1	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	0.88	5.0	4.1	0.31	8.5	ND	ND	ND	6.2	17
	RT3-surf	RT3	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	0.014	0.058	0.54	0.38	1.5	0.048	0.066	ND	ND	ND	ND	8.4
	RT3-1	RT3	1	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.030	0.18	0.41	0.80	0.049	0.13	ND	ND	ND	ND	9.8
	RT4-surf	RT4	0 - 0.5	8/26/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13	0.14	ND	ND	ND	ND	ND	ND	1.1
	RT4-1	RT4	1	8/26/2020	ND	ND	ND	ND	ND	ND	ND	0.024	0.063	0.82	1.2	ND	0.075	ND	ND	ND	ND	9.3
SCREENING LEVELS																						
ESLs, Commercial/industrial[3]					N/A	2.5	N/A	N/A	0.53	0.28	0.15	2.2	12	8.3	8.5	0.16	5,800	290	N/A	N/A	4,800	2.2
California Hazardous Waste Levels[4]					N/A	4.0	N/A	N/A	4.7	4.7	1.4	2.5	1.0	1.0	1.0	8.0	N/A	0.2	N/A	N/A	100	5.0

Notes:

1. All concentrations expressed in milligrams per kilogram (mg/kg).
2. ND = Not detected at a concentration above the laboratory reporting limit.
3. SFRWQCB Environmental Screening Levels; Commercial/industrial, shallow soil exposure; July 2019.
4. California Title 22 Total Threshold Limit Concentration (TTLC).
5. N/A = level not established.
6.. Concentrations in red exceed the ESL value and/or the cited hazardous waste level.

TABLE II
SUMMARY OF SOIL ANALYTICAL DATA - PETROLEUM HYDROCARBONS, VOCs AND METALS
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

					PETROLEUM HYDROCARBONS			VOLATILE ORGANIC COMPOUNDS						METALS											
Collected by	**Sample ID**	**Sample Location**	**Depth (feet)**	**Date**	**Gasoline Range**	**Diesel Range**	**Motor Oil Range**	**n-Propylbenzene**	**1,3,5-Trimethylbenzene**	**1,2,4-Trimethylbenzene**	**Toluene**	**Xylenes**	**Other VOCs (see lab report)**	**Barium**	**Cadmium**	**Chromium**	**Cobalt**	**Copper**	**Lead**	**Molybdenum**	**Nickel**	**Vanadium**	**Zinc**	**Mercury**	**Other Metals (see lab report)**
Geo-Phase	S9-A	S9	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S9-B		0.5 - 1.0	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S10-A	S10	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S10-B		0.5 - 1.0	Aug. 2005	NT	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S23	S23	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	S24	S24	0 - 0.5	Aug. 2005	NT	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Brusca Associates, Inc.	T1-surf	T1	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**89**	ND	**14**	**5.0**	**16**	**4.8**	ND	**19**	**23**	**28**	ND	ND
	T1-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T2-surf	T2	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**	ND	**16**	**6.4**	**17**	**5.7**	ND	**20**	**24**	**31**	ND	ND
	T2-1		1	5/10/2020	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T4-1	T4	1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T5-surf	T5	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**150**	ND	**23**	**5.0**	**75**	**21**	ND	**16**	**28**	**110**	ND	ND
	T5-1		1	5/10/2020	ND	**87**	**210**	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T5-2		2	5/10/2020	NT	NT	NT	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T7-surf	T7	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**120**	ND	**160**	**14**	**91**	**16**	ND	**250**	**27**	**260**	ND	ND
	T7-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T9-surf	T9	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**150**	ND	**17**	**3.3**	**74**	**14**	ND	**9.7**	**27**	**42**	ND	ND
	T9-1		1	5/10/2020	ND	**15**	**22**	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T10-surf	T10	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**260**	ND	**16**	**2.8**	**120**	**130**	**5.0**	**7.0**	**18**	**64**	ND	ND
	T10-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T12-surf	T12	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**220**	ND	**22**	**6.2**	**140**	**28**	ND	**22**	**28**	**470**	ND	ND
	T12-1		1	5/10/2020	ND	ND	**12**	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T15-surf	T15	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**88**	ND	**12**	**4.4**	**42**	**11**	ND	**11**	**22**	**45**	ND	ND
	T15-1		1	5/10/2020	ND	**17**	**53**	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T16-surf	T16	0 - 0.5	5/10/2020	ND	**22**	**33**	**0.003**	**0.003**	**0.015**	**0.003**	**0.007**	ND	**110**	ND	**17**	**10**	**40**	**7.3**	ND	**28**	**26**	**55**	ND	ND
	T16-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	**120**	ND	**17**	**7.1**	**13**	**4.2**	ND	**25**	**26**	**31**	ND	ND
	T17-surf	T17	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**	**4.7**	**28**	**5.8**	**35**	**90**	ND	**67**	**25**	**81**	ND	ND
	T17-1		1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T18-1	T18	1	5/10/2020	ND	ND	ND	ND	ND	ND	ND	ND	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	T20-surf	T20	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**110**	ND	**19**	**7.1**	**20**	**6.3**	ND	**27**	**28**	**45**	ND	ND
	T22-surf	T22	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**100**	ND	**16**	**4.9**	**88**	**10**	ND	**20**	**27**	**52**	ND	ND
	T24-surf	T24	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**130**	ND	**16**	**5.8**	**20**	**6.0**	ND	**24**	**32**	**36**	ND	ND
	S1	S1	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**77**	ND	**24**	**150**	**220**	**6.1**	ND	**15**	**20**	**13,000**	ND	ND
	S2	S2	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**180**	**3.3**	**27**	**7.9**	**100**	**330**	ND	**23**	**30**	**5,000**	ND	ND
	S3	S3	0 - 0.5	5/10/2020	NT	NT	NT	NT	NT	NT	NT	NT	NT	**310**	**21**	**70**	**7.9**	**740**	**1,400**	ND	**29**	**23**	**2,000**	**0.13**	ND
SCREENING LEVELS																									
ESLs, Commercial/industrial[4]					2,000	1,200	180,000	N/A	N/A	N/A	5,300	2,500		220,000	1,100	1,800,000	350	47,000	320	5,800	11,000	5,800	350,000	190	
California Hazardous Waste Levels[5]					N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		10,000	100	2,500	8,000	2,500	1,000	3,500	2,000	2,400	5,000	20	

Notes: 1. All concentrations expressed in milligrams per kilogram (mg/kg)

2. ND = Not detected at a concentration above the laboratory reporting limit.

3. NT = Not tested.

4. SFRWQCB Environmental Screening Levels; Commercial/industrial, shallow soil exposure; July 2019

5. California Title 22 Total Threshold Limit Concentration (TTLC)

6. N/A = level not established.

7. Concentrations in red exceed the ESL value and/or the cited hazardous waste level.

TABLE III
SUMMARY OF SOIL ANALYTICAL DATA - ORGANOCHLORINE PESTICIDES TCLP TESTING
FORMER HALEY'S FLYING SERVICE PROPERTY
2395 East Pescadero Avenue, Tracy, San Joaquin County, California

Sample ID	Sample Location	Depth (feet)	alpha-BHC	gamma-BHC (lindane)	beta-BHC	delta-BHC	Heptachlor	Chlordane	DDD	DDE	DDT	Dieldrin	Endosulfan	Endrin Ketone	Methoxychlor	Toxaphene	Other organochlorine pesticides (see lab report)
T1-surf	T1	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.0029**	ND	ND	ND	ND
T2-surf	T2	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.0014**	ND	**0.0026**	ND	**0.030**	ND	ND	ND	ND
T5-surf	T5	0 - 0.5	**0.0025**	**0.0063**	**0.0028**	ND	ND	ND	**0.013**	**0.0067**	**0.078**	ND	**0.60**	**0.035**	**0.020**	ND	ND
T5-1		1	**0.0028**	**0.0073**	ND	**0.0045**	ND	**0.0030**	**0.023**	**0.0039**	**0.025**	ND	**0.079**	**0.024**	ND	ND	ND
T5-2		2	**0.0020**	**0.0050**	ND	**0.0050**	ND	ND	**0.011**	**0.0032**	**0.049**	ND	**0.128**	**0.041**	**0.020**	ND	ND
T6-surf	T6	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.0051**	**0.0024**	**0.022**	ND	**0.110**	**0.017**	ND	ND	ND
T6-1		1	**0.0035**	**0.0036**	ND	**0.0011**	**0.0013**	**0.011**	**0.066**	**0.019**	**0.25**	ND	**0.48**	**0.071**	**0.15**	ND	ND
T7-surf	T7	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T9-surf	T9	0 - 0.5	**0.0070**	ND	ND	**0.017**	ND	ND	**0.019**	**0.0061**	**0.12**	ND	**0.069**	**0.047**	ND	ND	ND
T11-3	T11	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.34**	ND
T12-surf	T12	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.026**	**0.014**	**0.078**	**0.0044**	**0.121**	**0.033**	ND	ND	ND
T12-1		1	ND	ND	ND	ND	ND	ND	ND	**0.0010**	**0.0060**	ND	**0.047**	**0.0034**	ND	ND	ND
T13-surf	T13	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T13-1		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T15-surf	T15	0 - 0.5	ND	ND	ND	ND	ND	ND	**0.002**	ND	**0.0088**	**0.0032**	**0.016**	**0.031**	ND	**0.31**	ND
T15-2		2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.001**	ND	**0.033**	ND
T16-surf	T16	0 - 0.5	ND	ND	ND	ND	ND	**0.0016**	**0.0065**	ND	ND	ND	**0.014**	**0.0057**	ND	ND	ND
T16-1		1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.023**	**0.0014**	ND	ND	ND
T17-surf	T17	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T19-surf	T19	0 - 0.5	**0.0015**	**0.0044**	ND	**0.0036**	ND	ND	**0.011**	**0.0043**	**0.021**	ND	**0.348**	**0.024**	ND	ND	ND
T19-1		1	**0.0012**	ND	ND	ND	ND	ND	ND	**0.004**	ND	ND	**0.164**	ND	**0.055**	ND	ND
T19-2		2	ND	ND	ND	ND	ND	ND	ND	**0.0091**	ND	ND	**0.017**	**0.0094**	ND	ND	ND
T21-surf	T21	0 - 0.5	ND	ND	ND	ND	ND	**0.0054**	ND	ND	ND	ND	**0.037**	ND	ND	ND	ND
T22-surf	T22	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.011**	ND	ND	ND	ND
T24-surf	T24	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T71-surf	T71	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T72-surf	T72	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
T76-surf	T76	0 - 0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**0.004**	ND	ND	ND	ND
Federal (RCRA) TCLP Levels			N/A	0.4	N/A	N/A	0.008	0.03	N/A	N/A	N/A	N/A	N/A	N/A	10	0.5	

Notes: 1. Concentrations expressed in milligrams per liter (mg/L)
2. ND = Not detected at a concentration above the laboratory reporting limit

APPENDIX F

Environmental Noise Assessment

Environmental Noise Assessment

Paradise Pointe Business Park

City of Tracy, California

July 21, 2025

Project #250407

Prepared for:

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INTRODUCTION

The Paradise Pointe Business Park Project proposes 2 warehouse buildings on a 57.2 acre property consisting of two parcels located within the City of Tracy. The project site is situated west of Paradise Road, north of Chrisman Road into Pescadero Avenue, and south of Interstate 205. The purpose of this analysis is to predict the noise generation associated with these uses and to achieve compliance with the applicable City of Tracy noise level standards.

Figure 1 shows the project site plan. **Figure 2** shows an aerial photo of the project site and the noise measurement locations.

ENVIRONMENTAL SETTING

BACKGROUND INFORMATION ON NOISE

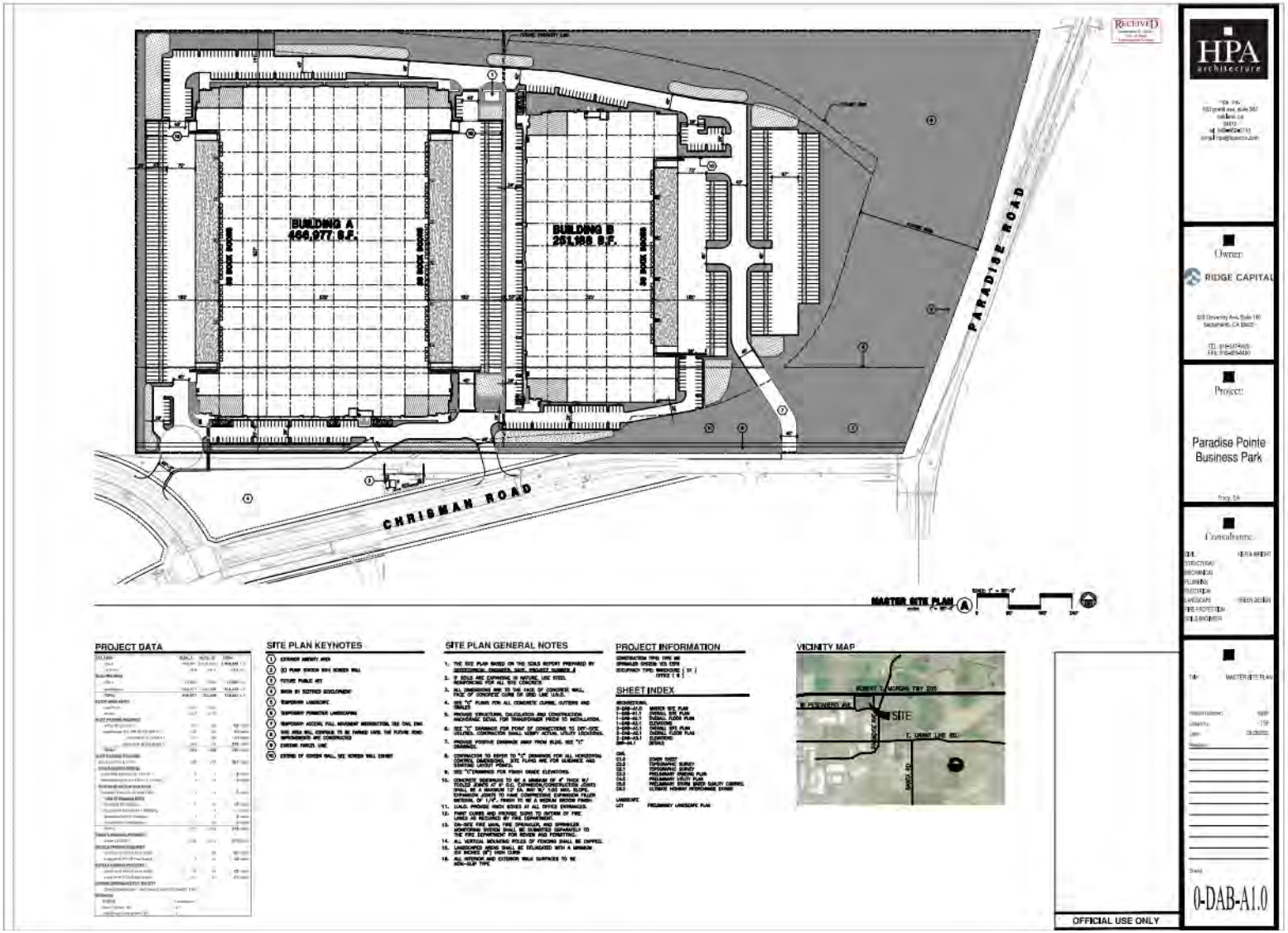
Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment.



Paradise Pointe Business Park

City of Tracy, California

Figure 1

Project Site Plan



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Paradise Pointe Business Park

City of Tracy, California

Figure 2

Noise Measurement Sites

Legend

- Project Site
- Noise Measurement Site - Long Term

0 ft 1000 ft 3000 ft 5000 ft 7000 ft

Projection: Mercator / GOOGLE / meters
Rev. Date: 06/13/2025

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The decibel scale is logarithmic, not linear. In other words, two sound levels 10-dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10-dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool is the average, or equivalent, sound level (L_{eq}), which corresponds to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn}, and shows very good correlation with community response to noise.

The day/night average level (DNL or L_{dn}) is based upon the average noise level over a 24-hour day, with a +10-decibel weighing applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment.

Table 1 lists several examples of the noise levels associated with common situations. **Appendix A** provides a summary of acoustical terms used in this report.

TABLE 1: TYPICAL NOISE LEVELS

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft.)	--100--	
Gas Lawn Mower at 1 m (3 ft.)	--90--	
Diesel Truck at 15 m (50 ft.), at 80 km/hr. (50 mph)	--80--	Food Blender at 1 m (3 ft.) Garbage Disposal at 1 m (3 ft.)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft.)	--70--	Vacuum Cleaner at 3 m (10 ft.)
Commercial Area Heavy Traffic at 90 m (300 ft.)	--60--	Normal Speech at 1 m (3 ft.)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

Source: Caltrans, Technical Noise Supplement, Traffic Noise Analysis Protocol. September, 2013.

Effects of Noise on People

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as hearing loss or sudden startling

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it.

With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a change of 1-dBA cannot be perceived;
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference;
- A change in level of at least 5-dBA is required before any noticeable change in human response would be expected; and
- A 10-dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6-dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

EXISTING AND FUTURE NOISE AND VIBRATION ENVIRONMENTS

EXISTING NOISE RECEPTORS

Some land uses are considered more sensitive to noise than others. Land uses often associated with sensitive receptors generally include residences, schools, libraries, hospitals, and passive recreational areas. Noise sensitive land uses are typically given special attention in order to achieve protection from excessive noise.

Sensitivity is a function of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities involved. In the vicinity of the project site, sensitive land uses include existing single-family residential uses located north and east of the project site.

EXISTING GENERAL AMBIENT NOISE LEVELS

The existing ambient noise environment in the project vicinity is primarily defined by traffic on I-205 and Paradise Road. To quantify the existing ambient noise environment in the project vicinity, Saxelby Acoustics conducted a continuous (24-hr.) noise level measurement at one location on the project site. The noise measurement location is shown on **Figure 2**. A summary of the noise level measurement survey results is provided in **Table 2**. **Appendix B** contains the complete results of the noise monitoring.

The sound level meter was programmed to record the maximum, median, and average noise levels at each site during the survey. The maximum value, denoted L_{max}, represents the highest noise level measured. The average value, denoted L_{eq}, represents the energy average of all of the noise received by the sound level meter microphone during the monitoring period. The median value, denoted L_{50}, represents the sound level exceeded 50 percent of the time during the monitoring period.

A Larson Davis Laboratories (LDL) model 820 integrating sound level meter was used for the ambient noise level measurement survey. The meter was calibrated before and after use with a CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

TABLE 2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

Site	Date	L_{dn}	Daytime L_{eq}	Daytime L_{50}	Daytime L_{max}	Nighttime L_{eq}	Nighttime L_{50}	Nighttime L_{max}
LT-1	5/14/25	76	71	71	84	70	68	81
	5/15/25	76	71	70	84	70	68	81

Notes:

- *All values shown in dBA*
- *Daytime hours: 7:00 a.m. to 10:00 p.m.*
- *Nighttime Hours: 10:00 p.m. to 7:00 a.m.*
- *Source: Saxelby Acoustics 2025*

FUTURE TRAFFIC NOISE ENVIRONMENT AT OFF-SITE RECEPTORS

Off-Site Traffic Noise Impact Assessment Methodology

To assess noise impacts due to project-related traffic increases on the local roadway network, traffic noise levels are predicted at sensitive receptors for project and no-project conditions.

Existing, Existing Plus Project, Existing Plus Approved Projects (EPAP), and Existing Plus Approved Projects Plus Project Conditions noise levels due to traffic are calculated using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD-77-108). The model is based upon the Calveno reference noise factors for automobiles, medium trucks and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. To predict traffic noise levels in terms of L_{dn}, it is necessary to adjust the input volume to account for the day/night distribution of traffic.

Project trip generation volumes were provided by the project traffic engineer (Kimley Horn 2025), truck usage and vehicle speeds on the local area roadways were estimated from field observations. The predicted increases in traffic noise levels on the local roadway network for Existing and Existing Plus Project conditions are provided in terms of L_{dn}.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each project-area roadway segment. In some locations sensitive receptors may not receive full shielding from noise barriers or may be located at distances which vary from the assumed calculation distance.

Tables 3 and 4 summarize the modeled traffic noise levels at the nearest sensitive receptors along each roadway segment in the Project area. **Appendix C** provides the complete inputs and results of the FHWA traffic modeling. Based upon the data, the proposed project is predicted to result in a maximum traffic noise level increase of 0.4 dBA.

TABLE 3: PREDICTED TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		Existing No Project	Existing + Project	Change
N MacArthur Drive	I-205 to Pescadero	65.6	66.0	0.4

TABLE 4: PREDICTED EPAP TRAFFIC NOISE LEVEL AND PROJECT-RELATED TRAFFIC NOISE LEVEL INCREASES

Roadway	Segment	Predicted Exterior Noise Level (dBA L_{dn}) at Closest Sensitive Receptors		
		EPAP No Project	EPAP + Project	Change
N MacArthur Drive	I-205 to Pescadero	65.9	66.3	0.4

EVALUATION OF PROJECT OPERATIONAL NOISE AT RESIDENTIAL RECEPTORS

The primary noise sources associated with operation of the proposed project include parking lot circulation of passenger vehicles and heavy trucks as well as warehouse loading docks. The following is a list of assumptions used for noise modeling. The data used is based upon a combination of Saxelby Acoustics data from similar operations and manufacturer data where applicable.

PARKING LOT CIRCULATION

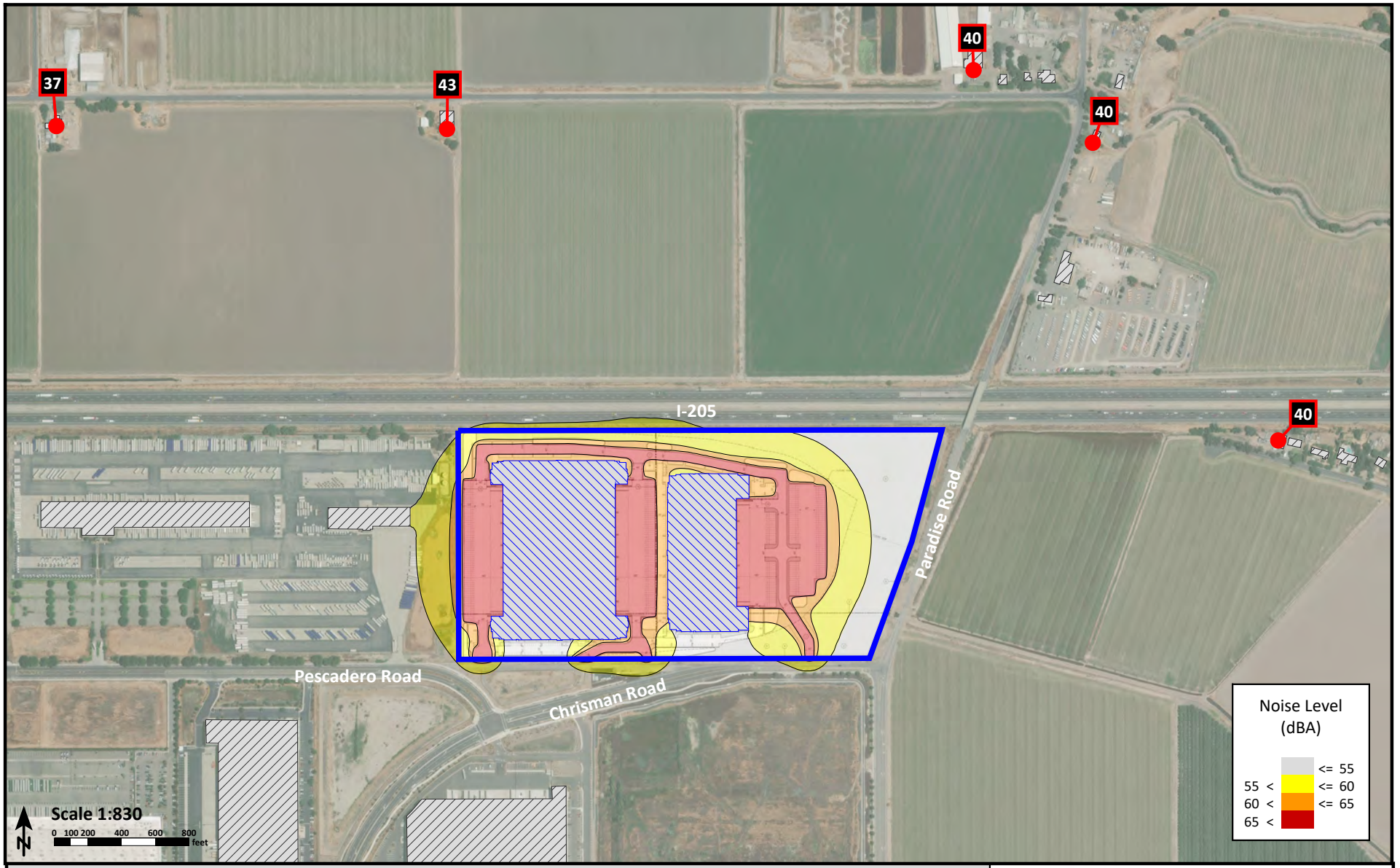
Saxelby Acoustics estimated noise generated by employee parking lots at similar warehouse facilities. It was determined that the parking lots produced up to 40 L_{eq} at the edge of each lot during a peak hour.

LOADING DOCK NOISE GENERATION

To determine typical loading dock noise levels associated with the proposed loading docks, noise level measurement data from a similar warehousing facility was used. Activities during the peak hour of loading dock activities included truck arrival/departures, truck idling, truck backing (including backup alarms), air brake release, and operation of truck-mounted refrigeration units. The results of the loading dock noise measurements indicate that a busy hour generated an average noise level of 65 dBA L_{eq} at the boundary of the truck drive aisles.

RESULTS

Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors. Input data included the loading docks and parking lot noise generation, as discussed above. **Figure 3** shows project noise levels including parking lot movements and truck loading docks.



Paradise Pointe Business Park

City of Tracy, California

Figure 3
Project Generated Noise Levels (dBA Leq)

Legend

- Project Boundary
- Project Building
- Existing Building
- Noise Level

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CONSTRUCTION NOISE ENVIRONMENT

During the construction of the proposed project, noise from construction activities would temporarily add to the noise environment in the project vicinity. As shown in **Table 5**, activities involved in construction would generate maximum noise levels ranging from 76 to 90 dB at a distance of 50 feet.

TABLE 5: CONSTRUCTION EQUIPMENT NOISE

Type of Equipment	Maximum Level, dBA at 50 feet
Auger Drill Rig	84
Backhoe	78
Compactor	83
Compressor (air)	78
Concrete Saw	90
Dozer	82
Dump Truck	76
Excavator	81
Generator	81
Jackhammer	89
Pneumatic Tools	85

Source: Roadway Construction Noise Model User's Guide. Federal Highway Administration. FHWA-HEP-05-054. January 2006.

CONSTRUCTION VIBRATION ENVIRONMENT

The primary vibration-generating activities associated with the proposed project would occur during construction when activities such as grading, utilities placement, and parking lot construction occur. **Table 6** shows the typical vibration levels produced by construction equipment.

TABLE 6: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

Type of Equipment	Peak Particle Velocity at 25 feet (inches/second)	Peak Particle Velocity at 50 feet (inches/second)	Peak Particle Velocity at 100 feet (inches/second)
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

Source: Transit Noise and Vibration Impact Assessment Guidelines. Federal Transit Administration. May 2006.

REGULATORY CONTEXT

FEDERAL

There are no federal standards which apply to the proposed project.

STATE

California Environmental Quality Act

The California Environmental Quality Act (CEQA) Guidelines, Appendix G, indicate that a significant noise impact may occur if a project exposes persons to noise or vibration levels in excess of local general plans or noise ordinance standards, or cause a substantial permanent or temporary increase in ambient noise levels. CEQA standards are discussed in more detail under the Thresholds of Significance section.

LOCAL

City of Tracy General Plan

Policies

P5. For new residential land uses, noise from external sources shall not cause building interiors to exceed 45 L_{dn}.

P6. For new multi-family residential land uses, noise from external sources shall not cause the community outdoor recreation areas to exceed 65 L_{dn}. This policy shall not apply to balconies.

P8. Measures to attenuate exterior and/or interior noise levels to acceptable levels shall be incorporated into all development projects. Acceptable, conditionally acceptable and unacceptable noise levels are presented in Figure 9-3.

TABLE 7: LAND USE COMPATIBILITY FOR COMMUNITY NOISE ENVIRONMENT

Land Use Category	Exterior Noise Exposure (L_{dn})					
	55	60	65	70	75	80
Single-Family Residential						
Multi-Family Residential, Hotels, and Motels		(a)				
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds						
Schools, Libraries, Museums, Hospitals, Personal Care, Meeting Halls, Churches						
Office Buildings, Business Commercial, and Professional						
Auditoriums, Concert Halls, Amphitheaters						

(a) Residential development sites exposed to noise levels exceeding 60 L_{dn} shall be analyzed following protocols in Appendix Chapter 12, Section 1208A, Sound Transmission Control, California Building Code

	NORMALLY ACCEPTABLE Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	CONDITIONALLY ACCEPTABLE Specified land use may be permitted only after detailed analysis of the noise reduction requirements and the needed noise insulation features included in the design.
	UNACCEPTABLE New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

Source: City of Tracy General Plan Figure 9-3

Policies

P2. Mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the L_{dn} at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the L_{dn} at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance limits.

P4. All construction in the vicinity of noise sensitive land uses, such as residences, hospitals, or convalescent homes, shall be limited to daylight hours or 7:00 a.m. to 7:00 p.m. In addition, the following construction noise control measures shall be included as requirements at construction sites to minimize construction noise impacts:

- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.

City of Tracy Municipal Code

4.12.750 - General sound level limits.

Except for exempted activities and sounds as provided in this chapter or exempted properties as referenced in Section 4.12.800, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property in the applicable Base District Zone on which the sound is produced exceeds the applicable limits set forth below:

TABLE 8: GENERAL SOUND LEVEL LIMITS AT BASE DISTRICT ZONE

Base District Zone	Sound Level Limits (Decibels)
1. Residential Districts RE (Residential Estate) LDR (Low Density) MDR/MDC (Medium Density) HDR (High Density) RMH (Mobile Home)	55
2. Commercial Districts MO (Medical Office) POM (Professional Office and Medical) NS (Neighborhood Shopping) CBD (Central Business District) GHC (General Highway) H-s (Highway Service)	65
3. Industrial Districts M-1 (Light Industrial) M-2 (Heavy Industrial)	75
4. A (Agricultural)	75
5. AMO Aggregate Mineral Overlay Zone	75

Source : City of Tracy Muncipal Code 4.12.750

San Joaquin County General Plan

Table 9 summarizes the noise level standards for noise-sensitive uses (e.g., residential development, lodging, hospitals, nursing homes, schools, day care centers) at outdoor activity areas affected by non-transportation noise sources in the County.

TABLE 9: NON-TRANSPORTATION NOISE LEVEL PERFORMANCE STANDARDS FOR NOISE-SENSITIVE USES AT OUTDOOR ACTIVITY AREAS[1,2]

Noise Level Descriptor	Daytime[3] (7:00 am – 10:00 pm)	Nighttime[3] (10:00 pm – 7:00 am)
Hourly L_{eq}, dB	50	45
Maximum Level, dB	70	65

Notes: These standards apply to new or existing residential areas affected by new or existing non-transportation sources.

[1] Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.

[2] Refer to Mountain House Master Plan, Table 11.2, Exterior Noise Standards for Noise-Sensitive Uses Affected by Non-Transportation Noise Sources, Page 11.12, for Mountain House Noise Standards.

[3] Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.

Source: San Joaquin County General Plan Table PHS-1

San Joaquin County Development Title

The County of San Joaquin Development Title provides regulations for vibration and sound. The applicable standards are reproduced below:

9-404.040 - NOISE LIMITS

All uses and property must meet the following standards for *noise* from transportation sources and stationary sources.

(a) **Transportation *Noise* Sources.**

(1) Excluding projects on infill lots, proposed *noise* sensitive land uses that will be impacted by *noise* from existing or planned transportation facilities shall be required to mitigate the *noise* levels from these *noise* sources so that the resulting *noise* levels within the site do not exceed the standards specified in Table 9-404.040, Part I (**Table 10**) for the specified *noise* sensitive land uses.

(2) Proposed projects on infill lots that will be impacted by *noise* from existing or planned transportation facilities shall be required to mitigate the *noise* levels from these *noise* sources so that the resulting *noise* levels do not exceed the standards specified in Table 9-404.040, Part I (**Table 10**) for interior spaces only for the specified *noise* sensitive land uses.

(3) Private development projects that include the development of new transportation facilities or the expansion of existing transportation facilities shall be required to mitigate the *noise* levels from these facilities so that the resulting *noise* levels on *noise* sensitive land uses within and adjacent to said development projects do not exceed the standards specified in Table 9-404.040, Part I (**Table 10**) for the specified *noise* sensitive land uses.

(b) **Stationary *Noise* Sources.**

(1) Excluding proposed *noise* sensitive land uses on infill lots, proposed *noise* sensitive land uses that will be impacted by stationary *noise* sources shall be required to mitigate the *noise* levels from these sources so that the resulting *noise* levels on the proposed *noise* sensitive land uses do not exceed the standards specified in Table 9-404.040, Part II (**Table 11**) for the specified *noise* sensitive land uses.

(2) Proposed projects that will create new stationary *noise* sources or expand existing stationary *noise* sources shall be required to mitigate the *noise* levels from these sources, so as not to exceed the *noise* level standards specified in Table 9-404.040, Part II (**Table 11**) for the specified *noise* sensitive land uses.

9-404.060 - Additional Regulations for Specific Activities

(a) **Construction.** General construction *noise* shall be limited to weekdays from 6:00 a.m. to 9:00 p.m. Pre-construction activities, including loading and unloading, deliveries, truck idling, backup beeps, and radios, also are limited to these construction *noise* hours.

(1) No *noise*-producing construction activities shall be permitted outside of these hours or on Sundays and federal holidays unless a temporary waiver is granted by the Building Official.

(2) More restrictive construction *noise* hours may be established as a Condition of Approval of an Administrative Use Permit or a Conditional Use Permit when appropriate given the surrounding neighborhood, the type of *noise*, or other unique factors.

(3) Any waiver granted shall take the potential *noise* impacts upon the surrounding neighborhood and the larger community into consideration.

(4) Except in emergencies, no construction shall be permitted outside of these hours, including maintenance work on public rights-of-way, that creates construction *noise*..

(b) **Deliveries.** Deliveries to or pickups from any commercial use sharing a lot line with any conforming residential use may occur between 7:00 a.m. and 10:00 p.m. daily. No deliveries to or pickups from any such use shall occur outside of these hours unless specifically authorized by a Conditional Use Permit.

(c) Normal Maintenance. Maintenance of real property operations may exceed the *noise* standards between 6:00 a.m. and 9:00 p.m.

TABLE 10: MAXIMUM ALLOWABLE NOISE EXPOSURE – TRANSPORTATION NOISE SOURCES

Noise Sensitive Land Use (Use Types)	Outdoor Activity Areas[1] dB Ldn	Interior Spaces dB Ldn
Residential: all Housing Types and Residential Use Types	65	45
College and Trade School	65	45
Commercial Use Types not separately listed	-	45
Community Assembly/Religious Assembly	65	45
Cultural Institutions	65	45
Hospitals and Clinics	65	45
Offices	-	45
Parks and Recreation Facilities	65	45
Schools	65	45

1 Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.

2 Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.

3. If the noise source operates for less than 30 minutes per hour, then the maximum sound level standard shall apply.

Source: Table 9-404.040 (Part I).

TABLE 11: MAXIMUM ALLOWABLE NOISE EXPOSURE – STATIONARY NOISE SOURCES

	Outdoor Activity Areas[1] Daytime[2] (7 a.m. to 10 p.m.)	Outdoor Activity Areas[1] Nighttime[2] (10 p.m. to 7 a.m.)
Hourly Equivalent Sound Level (Leq), dB	55	45
Maximum Sound Level (Lmax), dB	75	65

1 Where the location of outdoor activity areas is unknown or is not applicable, the noise standard shall be applied at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards shall be applied on the receiving side of noise barriers or other property line noise mitigation measures.

2 Each of the noise level standards specified shall be reduced by 5 dB for impulsive noise, single tone noise, or noise consisting primarily of speech or music.

3. If the noise source operates for less than 30 minutes per hour, then the maximum sound level standard shall apply.

Source: Table 9-404.040 (Part II).

CRITERIA FOR ACCEPTABLE VIBRATION

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. **Table 12**, which was developed by Caltrans, shows the vibration levels which would normally be required to result in damage to structures. The vibration levels are presented in terms of peak particle velocity in inches per second.

TABLE 12: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

Peak Particle Velocity		Human Reaction	Effect on Buildings
mm/second	in/second		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" dam age and possibly minor structural damage

Source: Transportation Related Earthborne Vibrations. Caltrans. TAV-02-01-R9601. February 20, 2002.

IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines states that a project would normally be considered to result in significant noise impacts if noise levels conflict with adopted environmental standards or plans or if noise generated by the project would substantially increase existing noise levels at sensitive receivers on a permanent or temporary basis. Significance criteria for noise impacts are drawn from CEQA Guidelines Appendix G (Items XI [a-f]).

Would the project:

a. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b. Generate excessive groundborne vibration or groundborne noise levels?

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Noise Level Increase Criteria for Long-Term Project-Related Noise Level Increases

The City of Tracy provides the following criteria to determine significance of project-related noise level increases:

P2. Mitigation measures shall be required for new development projects that exceed the following criteria:

- Cause the L_{dn} at noise-sensitive uses to increase by 3 dB or more and exceed the "normally acceptable" level.
- Cause the L_{dn} at noise-sensitive uses to increase 5 dB or more and remain "normally acceptable."
- Cause new noise levels to exceed the City of Tracy Noise Ordinance limits.

Temporary Construction Noise Impacts

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Tracy Municipal Code construction hours are limited to daylight hours or 7:00 a.m. to 7:00 p.m.

The City has not adopted any formal standard for evaluating temporary construction noise which occurs within allowable hours. For short-term noise associated with Project construction, Saxelby Acoustics recommends use of the Caltrans increase criteria of 12 dBA (Caltrans Traffic Noise Protocol, 2020), applied to existing residential receptors in the project vicinity. This level of increase is approximately equivalent to a doubling of sound energy and has been the standard of significance for Caltrans projects at the state level for many years. Application of this standard to construction activities is considered reasonable considering the temporary nature of construction activities.

PROJECT-SPECIFIC IMPACTS AND MITIGATION MEASURES

Impact 1: ***Would the project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

Traffic Noise Increases at Off-Site Receptors

Based upon the City of Tracy noise level increase significance criteria, a noise level increase of +3.0 dBA or greater and exceeds the "Normally Acceptable" noise level of 60 dBA L_{dn} would be considered significant. A noise level increase of +5.0 dBA or greater which does not exceed the "Normally Acceptable" noise level of 60 dBA L_{dn} would be considered significant.

According to **Tables 3-4**, the maximum increase is traffic noise at the nearest sensitive receptor is predicted to be 0.4 dBA. The predicted increase of 0.4 dBA is less than the minimum significance threshold of +3.0 dBA. Therefore, impacts resulting from increased traffic noise would be considered ***less-than-significant***, and no mitigation is required.

Operational Noise at Sensitive Receptors

The City of Tracy establishes a noise level standard of 55 dBA L_{eq}. Therefore, the proposed project must comply with this noise level standard. Additionally, the nearby sensitive receptors are located outside of the City boundaries. Therefore, this analysis will assess compliance with the San Joaquin County noise level standards as well. The County establishes noise level standards of 50 dBA L_{eq} and 70 dBA L_{max} during daytime (7:00 a.m. to 10:00 p.m.) hours and 45 dBA L_{eq} and 65 dBA L_{max} during nighttime (10:00 p.m. to 7:00 a.m.) hours.

As shown on **Figure 3,** operational noise from the non-refrigerated truck scenario is predicted to generate noise levels of up to 43 dBA L_{eq} at the nearby sensitive receptors. This complies with the City of Tracy noise level standard of 55 dBA L_{eq} and the County of San Joaquin noise level standards of 50 dBA L_{eq} during daytime and 45 dBA L_{eq} during nighttime.

It should be noted that maximum noise levels emanating from warehousing facilities would be up to 15-20 dBA higher than average noise levels. For this project, average noise levels would be up to 43 dBA L_{eq}. Therefore, the maximum noise levels would be up to 63 dBA L_{max}. This would comply with the County of San Joaquin noise level standards of 70 dBA L_{max} during daytime and 65 dBA L_{max} during nighttime.

Therefore, this would be considered a ***less-than-significant*** impact and requires no mitigation.

Construction Noise

During the construction phases of the project, noise from construction activities would add to the noise environment in the immediate project vicinity. As indicated in **Table 5,** activities involved in construction would generate maximum noise levels ranging from 76 to 90 dBA L_{max} at a distance of 50 feet. Construction activities would also be temporary in nature and are anticipated to occur during normal daytime working hours.

The City of Tracy Municipal Code restricts construction noise from the noise ordinance between the hours of 7:00 a.m. and 7:00 p.m. or daylight hours. In addition, the municipal code requires the following noise control measures:

1. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
2. Locate stationary noise-generating equipment as far as possible from sensitive receptors when sensitive receptors adjoin or are near a construction area.
3. Utilize "quiet" air compressors and other stationary noise sources where technology exists.

Caltrans defines a significant increase due to noise as an increase of 12 dBA over existing ambient noise levels; Saxelby Acoustics used this criterion to evaluate increases due to construction noise associated with the project. As shown in **Table 5**, construction equipment is predicted to generate noise levels of up to 90 dBA L_{max} at 50 feet. Construction noise is evaluated as occurring at the center of the site to represent average noise levels generated over the duration of construction across the project site. The nearest residential uses are located approximately 2,250 feet as measured from the center of the project site. At this distance, maximum construction noise levels would be up to 57 dBA. The average daytime maximum noise level in the vicinity of the sensitive receptors was measured to be 84 dBA. Therefore, project construction would not cause an increase of greater than 12 dBA over existing ambient noise levels.

Noise would also be generated during the construction phase by increased truck traffic on area roadways. A project-generated noise source would be truck traffic associated with transport of heavy materials and equipment to and from the construction site. This noise increase would be of short duration and would occur during daytime hours.

Although construction activities are temporary in nature and would occur during normal daytime working hours, construction-related noise could result in sleep interference at existing noise-sensitive land uses in the vicinity of the construction if construction activities were to occur outside the normal daytime hours. Therefore, impacts resulting from noise levels temporarily exceeding the threshold of significance due to construction would be considered ***potentially significant***. Mitigation measure 1(a) would reduce construction noise impacts to ***less-than-significant***.

<u>Mitigation Measure</u>

1(a) The City shall establish the following as conditions of approval for any permit that results in the use of construction equipment:

- Construction shall be limited to 7:00 a.m. to 7:00 p.m.
- All construction equipment powered by internal combustion engines shall be properly muffled and maintained.
- "Quiet" construction equipment, particularly air compressors, are to be selected whenever possible.
- All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.
- Unnecessary idling of internal combustion engines is prohibited.
- The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction.

Timing/Implementation: Implemented prior to approval of grading and/or building permits
Enforcement/Monitoring: City of Tracy Community Development Services Department

Implementation of mitigation measures 1(a) would help to reduce construction-generated noise levels. With mitigation, this impact would be considered ***less-than-significant***.

Impact 2: ***Would the project generate excessive groundborne vibration or groundborne noise levels?***

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural.

The **Table 6** data indicate that construction vibration levels anticipated for the project are less than the 0.2 in/sec threshold at distances of 26 feet. Sensitive receptors which could be impacted by construction related vibrations, especially vibratory compactors/rollers, are located approximately 26 feet, or further, from typical construction activities. At these distances construction vibrations are not predicted to exceed acceptable levels. Additionally, construction activities would be temporary in nature and would likely occur during normal daytime working hours.

This is a **less-than-significant** impact, and no mitigation is required.

Impact 3: ***For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

There are no airports within 2 miles of the project site. Therefore, this impact is not applicable to the proposed project.

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Appendix A: Acoustical Terminology

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given space consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
ASTC	Apparent Sound Transmission Class. Similar to STC but includes sound from flanking paths and correct for room reverberation. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Attenuation	The reduction of an acoustic signal.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, A Bell is defined as the logarithm of the ratio of the sound pressure squared over the reference pressure squared. A Decibel is one-tenth of a Bell.
CNEL	Community Noise Equivalent Level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by +5 dBA and nighttime hours weighted by +10 dBA.
DNL	See definition of Ldn.
IIC	Impact Insulation Class. An integer-number rating of how well a building floor attenuates impact sounds, such as footsteps. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Frequency	The measure of the rapidity of alterations of a periodic signal, expressed in cycles per second or hertz (Hz).
Ldn	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
Leq	Equivalent or energy-averaged sound level.
Lmax	The highest root-mean-square (RMS) sound level measured over a given period of time.
L(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L50 is the sound level exceeded 50% of the time during the one-hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
NIC	Noise Isolation Class. A rating of the noise reduction between two spaces. Similar to STC but includes sound from flanking paths and no correction for room reverberation.
NNIC	Normalized Noise Isolation Class. Similar to NIC but includes a correction for room reverberation.
Noise	Unwanted sound.
NRC	Noise Reduction Coefficient. NRC is a single-number rating of the sound-absorption of a material equal to the arithmetic mean of the sound-absorption coefficients in the 250, 500, 1000, and 2,000 Hz octave frequency bands rounded to the nearest multiple of 0.05. It is a representation of the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection; an NRC of 1 indicates perfect absorption.
RT60	The time it takes reverberant sound to decay by 60 dB once the source has been removed.
Sabin	The unit of sound absorption. One square foot of material absorbing 100% of incident sound has an absorption of 1 Sabin.
SEL	Sound Exposure Level. SEL is a rating, in decibels, of a discrete event, such as an aircraft flyover or train pass by, that compresses the total sound energy into a one-second event.
SPC	Speech Privacy Class. SPC is a method of rating speech privacy in buildings. It is designed to measure the degree of speech privacy provided by a closed room, indicating the degree to which conversations occurring within are kept private from listeners outside the room.
STC	Sound Transmission Class. STC is an integer rating of how well a building partition attenuates airborne sound. It is widely used to rate interior partitions, ceilings/floors, doors, windows and exterior wall configurations. The STC rating is typically used to rate the sound transmission of a specific building element when tested in laboratory conditions where flanking paths around the assembly don't exist. A larger number means more attenuation. The scale, like the decibel scale for sound, is logarithmic.
Threshold of Hearing	The lowest sound that can be perceived by the human auditory system, generally considered to be 0 dB for persons with perfect hearing.
Threshold of Pain	Approximately 120 dB above the threshold of hearing.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
Simple Tone	Any sound which can be judged as audible as a single pitch or set of single pitches.

Appendix B: Continuous Long-Term Ambient Noise Measurement Results

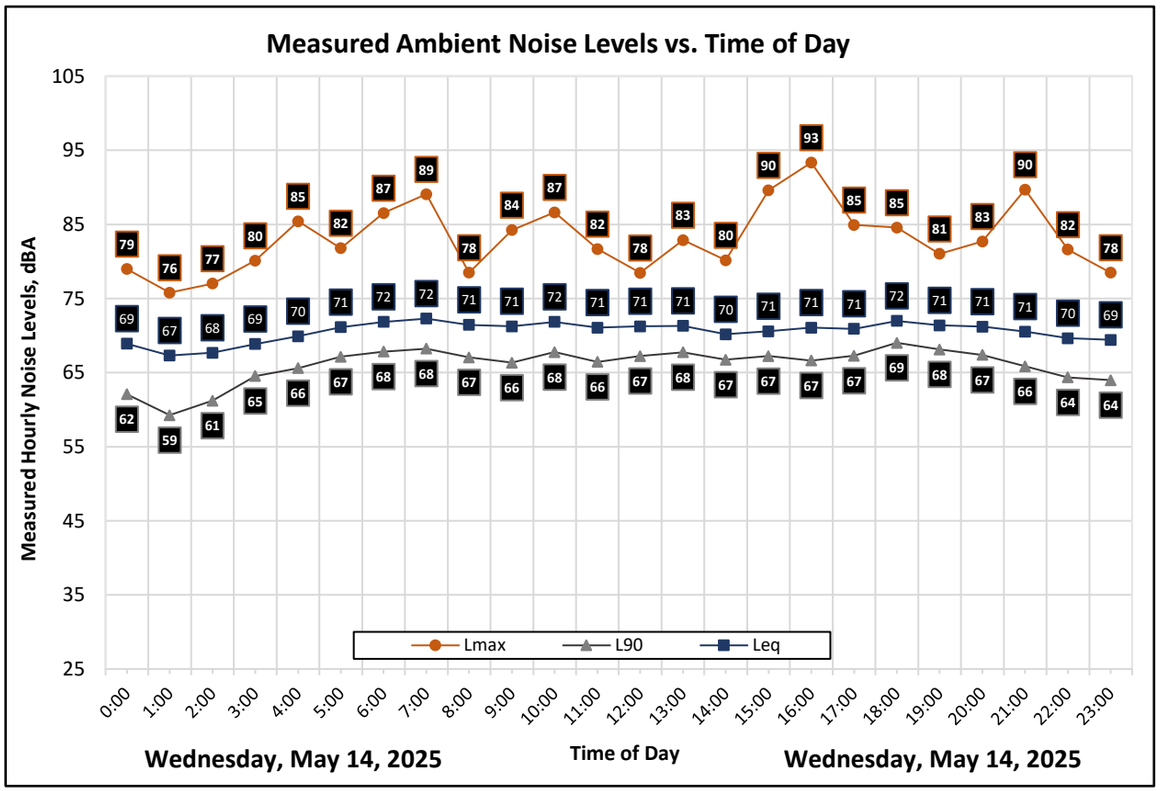


Appendix B1a: Continuous Noise Monitoring Results

Site: LT-1
Project: Paradise Pointe Business Park
Meter: LDL 820-3
Location: East of Project Boundary
Calibrator: CAL200
Coordinates: (37.7644644, -121.3839969)

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Wednesday, May 14, 2025	0:00	69	79	68	62
Wednesday, May 14, 2025	1:00	67	76	66	59
Wednesday, May 14, 2025	2:00	68	77	66	61
Wednesday, May 14, 2025	3:00	69	80	68	65
Wednesday, May 14, 2025	4:00	70	85	69	66
Wednesday, May 14, 2025	5:00	71	82	70	67
Wednesday, May 14, 2025	6:00	72	87	71	68
Wednesday, May 14, 2025	7:00	72	89	72	68
Wednesday, May 14, 2025	8:00	71	78	71	67
Wednesday, May 14, 2025	9:00	71	84	71	66
Wednesday, May 14, 2025	10:00	72	87	71	68
Wednesday, May 14, 2025	11:00	71	82	70	66
Wednesday, May 14, 2025	12:00	71	78	71	67
Wednesday, May 14, 2025	13:00	71	83	71	68
Wednesday, May 14, 2025	14:00	70	80	70	67
Wednesday, May 14, 2025	15:00	71	90	70	67
Wednesday, May 14, 2025	16:00	71	93	70	67
Wednesday, May 14, 2025	17:00	71	85	70	67
Wednesday, May 14, 2025	18:00	72	85	72	69
Wednesday, May 14, 2025	19:00	71	81	71	68
Wednesday, May 14, 2025	20:00	71	83	71	67
Wednesday, May 14, 2025	21:00	71	90	70	66
Wednesday, May 14, 2025	22:00	70	82	69	64
Wednesday, May 14, 2025	23:00	69	78	69	64

Statistics	Leq	Lmax	L50	L90
Day Average	71	84	71	67
Night Average	70	81	68	64
Day Low	70	78	70	66
Day High	72	93	72	69
Night Low	67	76	66	59
Night High	72	87	71	68
Ldn	76	Day %		71
CNEL	77	Night %		29



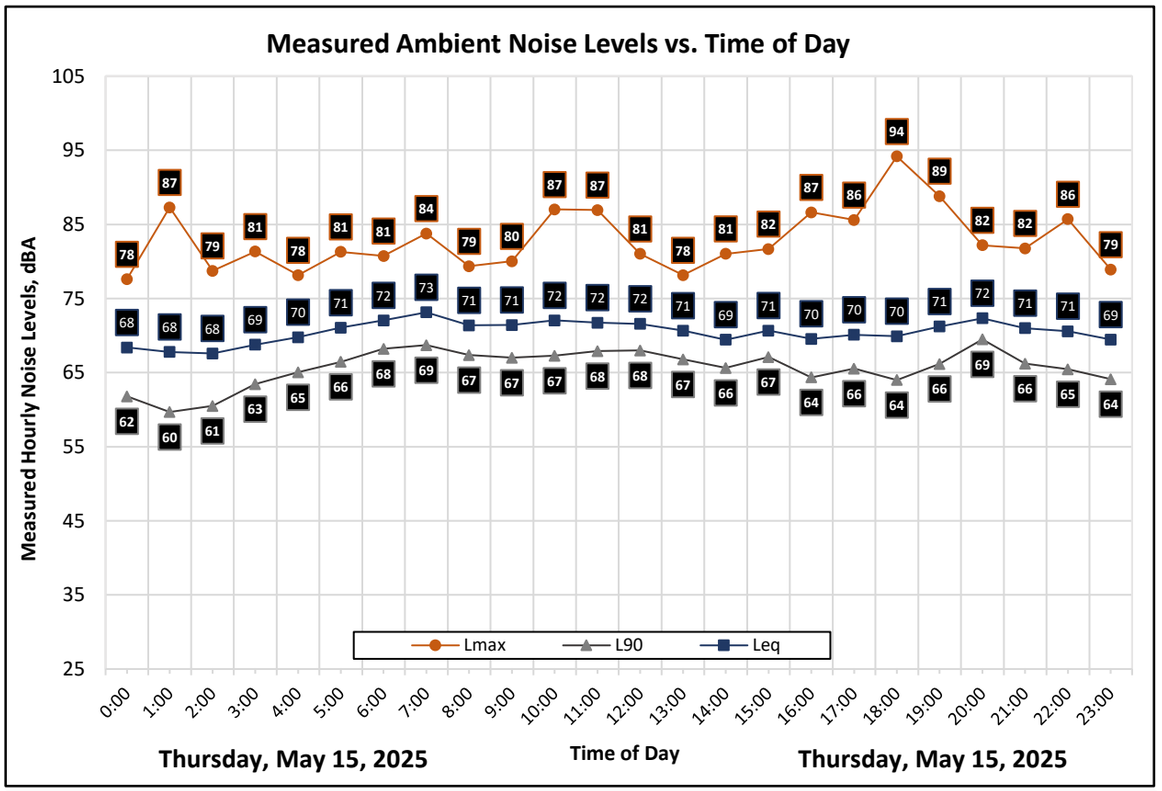


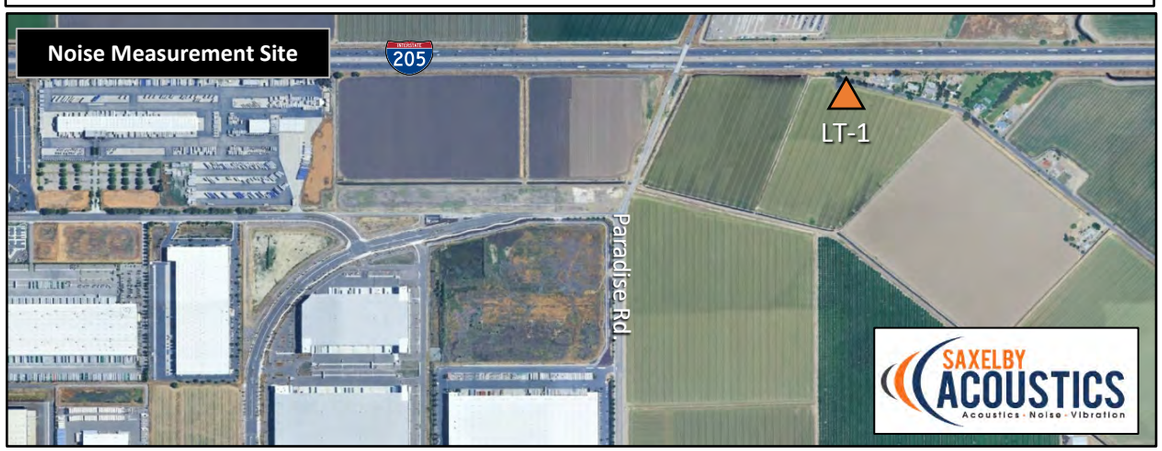
Appendix B1b: Continuous Noise Monitoring Results

Site: LT-1
Project: Paradise Pointe Business Park
Meter: LDL 820-3
Location: East of Project Boundary
Calibrator: CAL200
Coordinates: (37.7644644, -121.3839969)

Date	Time	Measured Level, dBA			
		L_{eq}	L_{max}	L_{50}	L_{90}
Thursday, May 15, 2025	0:00	68	78	67	62
Thursday, May 15, 2025	1:00	68	87	66	60
Thursday, May 15, 2025	2:00	68	79	66	61
Thursday, May 15, 2025	3:00	69	81	67	63
Thursday, May 15, 2025	4:00	70	78	69	65
Thursday, May 15, 2025	5:00	71	81	70	66
Thursday, May 15, 2025	6:00	72	81	71	68
Thursday, May 15, 2025	7:00	73	84	72	69
Thursday, May 15, 2025	8:00	71	79	71	67
Thursday, May 15, 2025	9:00	71	80	71	67
Thursday, May 15, 2025	10:00	72	87	71	67
Thursday, May 15, 2025	11:00	72	87	71	68
Thursday, May 15, 2025	12:00	72	81	71	68
Thursday, May 15, 2025	13:00	71	78	70	67
Thursday, May 15, 2025	14:00	69	81	69	66
Thursday, May 15, 2025	15:00	71	82	70	67
Thursday, May 15, 2025	16:00	70	87	68	64
Thursday, May 15, 2025	17:00	70	86	70	66
Thursday, May 15, 2025	18:00	70	94	67	64
Thursday, May 15, 2025	19:00	71	89	71	66
Thursday, May 15, 2025	20:00	72	82	72	69
Thursday, May 15, 2025	21:00	71	82	71	66
Thursday, May 15, 2025	22:00	71	86	70	65
Thursday, May 15, 2025	23:00	69	79	69	64

Statistics	Leq	Lmax	L50	L90
Day Average	71	84	70	67
Night Average	70	81	68	64
Day Low	69	78	67	64
Day High	73	94	72	69
Night Low	68	78	66	60
Night High	72	87	71	68
Ldn	76	Day %		70
CNEL	77	Night %		30





Appendix C: Traffic Noise Calculation Inputs and Results



Appendix C-1

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 250407 Paradise Point Business Park
Description: Existing Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	N MacArthur Drive	I-205 to Pescadero	12,450	80	0	20	1.0%	16.5%	40	75	-5	379	176	82	65.6

Appendix C-2

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 250407 Paradise Point Business Park
Description: Existing Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	N MacArthur Drive	I-205 to Pescadero	12,770	80	0	20	1.0%	18.0%	40	75	-5	404	187	87	66.0

Appendix C-3

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 250407 Paradise Point Business Park
Description: EPAP Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	N MacArthur Drive	I-205 to Pescadero	13,440	80	0	20	1.0%	16.5%	40	75	-5	399	185	86	65.9

Appendix C-4

FHWA-RD-77-108 Highway Traffic Noise Prediction Model

Project #: 250407 Paradise Point Business Park
Description: EPAP Plus Project Traffic
Ldn/CNEL: Ldn
Hard/Soft: Soft

Segment	Roadway	Segment	ADT	Day %	Eve %	Night %	% Med. Trucks	% Hvy. Trucks	Speed	Distance	Offset (dB)	Contours (ft.) - No Offset 60 dBA	65 dBA	70 dBA	Level, dBA
1	N MacArthur Drive	I-205 to Pescadero	13,760	80	0	20	1.0%	18.0%	40	75	-5	424	197	91	66.3

APPENDIX G

CEQA Transportation Review

MEMORANDUM

From: Frederik Venter, PE, Colin Ogilvie and Chris Gregerson, PE, TE, AICP | Kimley-Horn and Associates

To: Ben Ritchie, De Novo Planning Group

Date: September 5, 2025

Re: Paradise Pointe Industrial CEQA Transportation Review

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1. Introduction

This memorandum documents the California Environmental Quality Act (CEQA) transportation analysis completed for the proposed Paradise Pointe Industrial Project ("proposed Project" or "Project") located in Tracy, California. Specifically, this memorandum evaluates how the Project might affect I-205/ MacArthur Drive Interchange ramp queuing, vehicle miles traveled (VMT), active transportation and transit (multimodal), hazards, and emergency access. The analyses were completed based on the following checklist items as identified in the 2024 CEQA Statute Guidelines Appendix G Section XVII:

a) Multimodal: Does the project conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

b) Vehicle Miles Traveled (VMT): Does the project conflict or be inconsistent with CEQA Guidelines 15064.3, subdivision (b)?

c) Hazards: Does the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

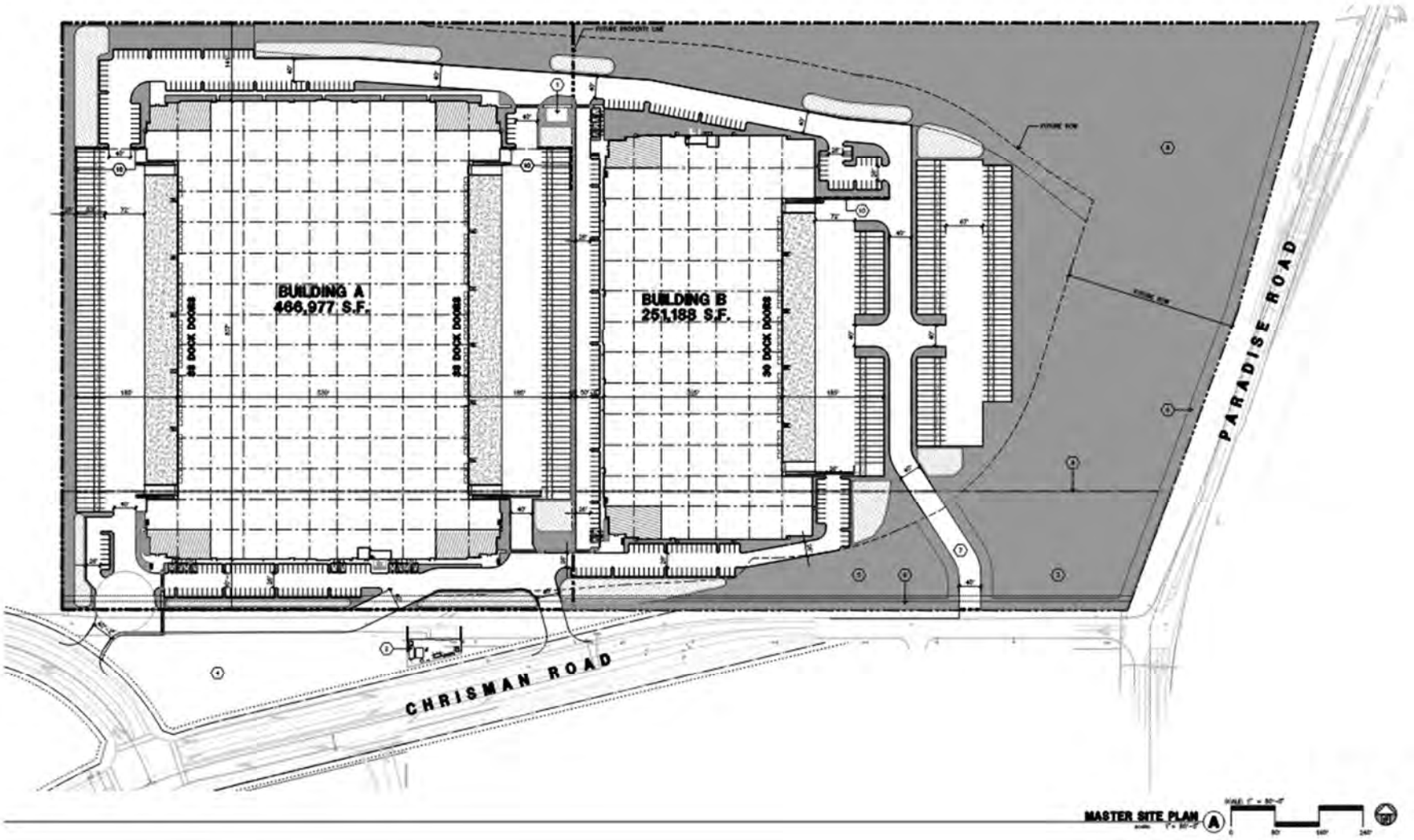
d) Emergency Access: Does the project result in inadequate emergency access?

2. Project Description

The Project proposes to construct two warehouses for a total of 718,165 square feet of warehousing space. The Project is located on existing assessor parcel numbers 213-06-012 and 213-06-013 within the Northeast Industrial Specific Plan area in Tracy, California. Building A is 466,977 square feet and Building B is 251,188 square feet. The Project is bounded by I-205 to the north, Paradise Road to the east, Chrisman Road to the south and Pescadero Road and the former Yellow Freight property to the west. The Project proposes dedicating right of way to accommodate the future I-205 and Paradise Road Interchange and the realignment of Chrisman Road.

Figure 1 depicts the proposed Project's site plan.

Figure 1 – Project Site Plan



Project Trip Generation

Table 1 summarizes the estimated weekday and peak hour trip generation for the Paradise Pointe Industrial project. The Project is anticipated to generate an estimated 1,084 daily trips, 99 AM peak hour trips, and 110 PM peak hour trips during a typical weekday.

Table 1 – Project Trip Generation

Land Uses	Project Size	DAILY	AM PEAK HOUR			PM PEAK HOUR		
		Total[1]	Total Peak Hour[1]	IN	OUT	Total Peak Hour[1]	IN	OUT
Trip Generation Rates								
Project Use								
High-Cube Warehouse[1]	- ksf	1.40	0.12	77%	23%	0.14	28%	72%
Warehousing[2]	- ksf	1.71	0.17	77%	23%	0.18	28%	72%
Trips Generated								
Building A (High-Cube Warehouse)	466.98 ksf	654	56	43	13	65	18	47
Passenger Cars[3]		*451*	*39*	*30*	*9*	*45*	*12*	*33*
Medium Duty Trucks[3]		*81*	*7*	*5*	*2*	*8*	*2*	*6*
Heavy Duty Trucks[3]		*122*	*10*	*8*	*2*	*12*	*4*	*8*
Building B (Warehousing)	251.19 ksf	430	43	33	10	45	13	32
Passenger Cars[4]		*342*	*34*	*26*	*8*	*36*	*10*	*26*
Medium Duty Trucks[4]		*35*	*3*	*2*	*1*	*4*	*1*	*3*
Heavy Duty Trucks[4]		*53*	*6*	*5*	*1*	*5*	*2*	*3*
TOTAL TRIPS		*1,084*	*99*	*76*	*23*	*110*	*31*	*79*
Total Passenger Car		*793*	*73*	*56*	*17*	*81*	*22*	*59*
Total Medium Duty Trucks		*115*	*10*	*7*	*3*	*12*	*3*	*9*
Total Heavy Duty Trucks		*175*	*16*	*13*	*3*	*17*	*6*	*11*

Notes:

1. City of Tracy model rates were utlized for the AM and PM peak hour rates in addition to trip generation LU 154 average daily rate and AM and PM distribution (Institute of Transportation Engineers (ITE), "Trip Generation," 11th Edition, 2021).

2. Land Use Code 150 - Warehousing trip generation average rates used Institute of Transportation Engineers (ITE), "Trip Generation", 11th Edition, 2021.

3. Passenger car and truck percentages for High-Cube land uses are estimated based on data from ITE "High-Cube Warehouse Vehicle Trip Generation Analysis," 2016. The distribution is 69% passenger cars and 31% trucks in the AM, and 78% passenger cars and 22% trucks in the PM.

4. Passenger car and truck percentages for Warehousing land uses are estimated based on data from ITE "Warehousing Warehouse Vehicle Trip Generation Analysis," 2016. The distribution is 88% passenger cars and 12% trucks in the AM, and 83% passenger cars and 17% trucks in the PM.

Source: Kimley-Horn and Associates, Inc., 2025

3. Multimodal

Plan, Policies, and Performance Metrics

The following plans, policies, performance metrics, and goals are considered important to considering whether the proposed project would result in a circulation system, including transit, roadway, bicycle, and pedestrian facilities, conflict as described in (a) of the 2024 CEQA Statute Guidelines Appendix G Section XVII.

City of Tracy General Plan (2011)

- Goal CIR-1 A roadway system that provides access and mobility for all of Tracy's residents and businesses while maintaining the quality of life in the community.
    - Objective CIR-1.1 Implement a hierarchical street system in which each street serves a specific, primary function and is sensitive to the context of the land uses served.

Policies

- P1. The City should develop context-based street designs that allow for variations based on the expected function and lo-cation of the facility, and the surrounding land use con-text. These context-sensitive designs should have the following aims:
    - Create aesthetically attractive streetscapes.
    - Enhance multi-modal transportation by increasing mobility and improving safety for autos, trucks, transit, pedestrians and bicyclists.
- P2. The City shall preserve rights-of-way needed for future roadway and freeway interchange improvements through dedication or acquisition as adjacent properties develop or redevelop.
- Objective CIR-1.2 Provide a high level of street connectivity.

Policies

- P3. New development shall be designed to provide vehicular, bicycle and pedestrian connections with adjacent developments.

- Goal CIR-3 Safe and convenient bicycle and pedestrian travel as alternative modes of transportation in and around the city.
    - Objective CIR-3.1 Achieve a comprehensive system of city wide bikeways and pedestrian facilities.

Policies

- P1. The City shall incorporate appropriate bicycle and pedestrian facilities on all roadways constructed by the City, Class I to the extent feasible.
- P2. To the extent possible, the City shall separate vehicular from bicycle and pedestrian traffic on higher-speed and higher-volume roadways through the use of off-street bicycle and pedestrian facilities.

- P7. New development sites for commercial, employment, educational, recreational and park-and-ride land uses shall provide bicycle parking and/or storage facilities.

- Goal CIR-4 A balanced transportation system that encourages the use of public transit and high occupancy vehicles.
  - Objective CIR-4.1 Promote public transit as an alternative to the automobile.

Policies

- P5. The City shall require development to provide for transit and transit-related increased modal opportunities, such as adequate street widths and curb radii, bus turnouts, bus shelters, park-and-ride lots and multi-modal transit centers through the development and environmental review processes, if appropriate.
- Objective CIR-4.2 Work to achieve connectivity between all modes of transportation.

Policies

- P2. The City shall preserve the necessary rights-of-way by continuing the implementation of current arterial street standards and ensuring the preservation of existing rail corridors to facilitate the development of an expanded transit program in the future.
- P6. The City shall pursue economical, long-term solutions to transportation problems by encouraging community design which encourage transit use, and walking, bicycling and other non-motorized forms of transportation.

City of Tracy Citywide Roadway & Transportation Master Plan (2012)

- Goals are same as General Plan

Northeast Industrial Specific Plan

- Circulation
  - Objective CIR-1.4 Protect residential areas from commercial truck traffic
    - Policy P1: Significant new truck traffic generating uses shall be limited to locations along designated truck routes, in industrial areas or within ¼-mile of freeways.

Roadway Facilities

The following section provides an overview of the existing and planned roadway facilities in the vicinity of the Project site, as well as the proposed project roadway facilities.

Existing Roadway Facilities

The following section provides an overview of the current roadway facilities adjacent to the Project site.

- Interstate 205 (I-205):
    - Six-lane Interstate Highway
- Pescadero Avenue:
    - Two-lane divided minor arterial/major collector with a two-way left turn lane except the 400 feet raised median just west of Chrisman Road
- Chrisman Road
    - Four-lane divided minor arterial with a raised median transition to a two-lane with a two-way left turn lane along the Project's frontage
- Paradise Road
    - Two-lane divided minor arterial/major collector with a striped median

Planned Roadway Facilities

The City of Tracy's *Citywide Roadway & Transportation Master Plan (TMP)* proposes the following improvements within the Project vicinity.

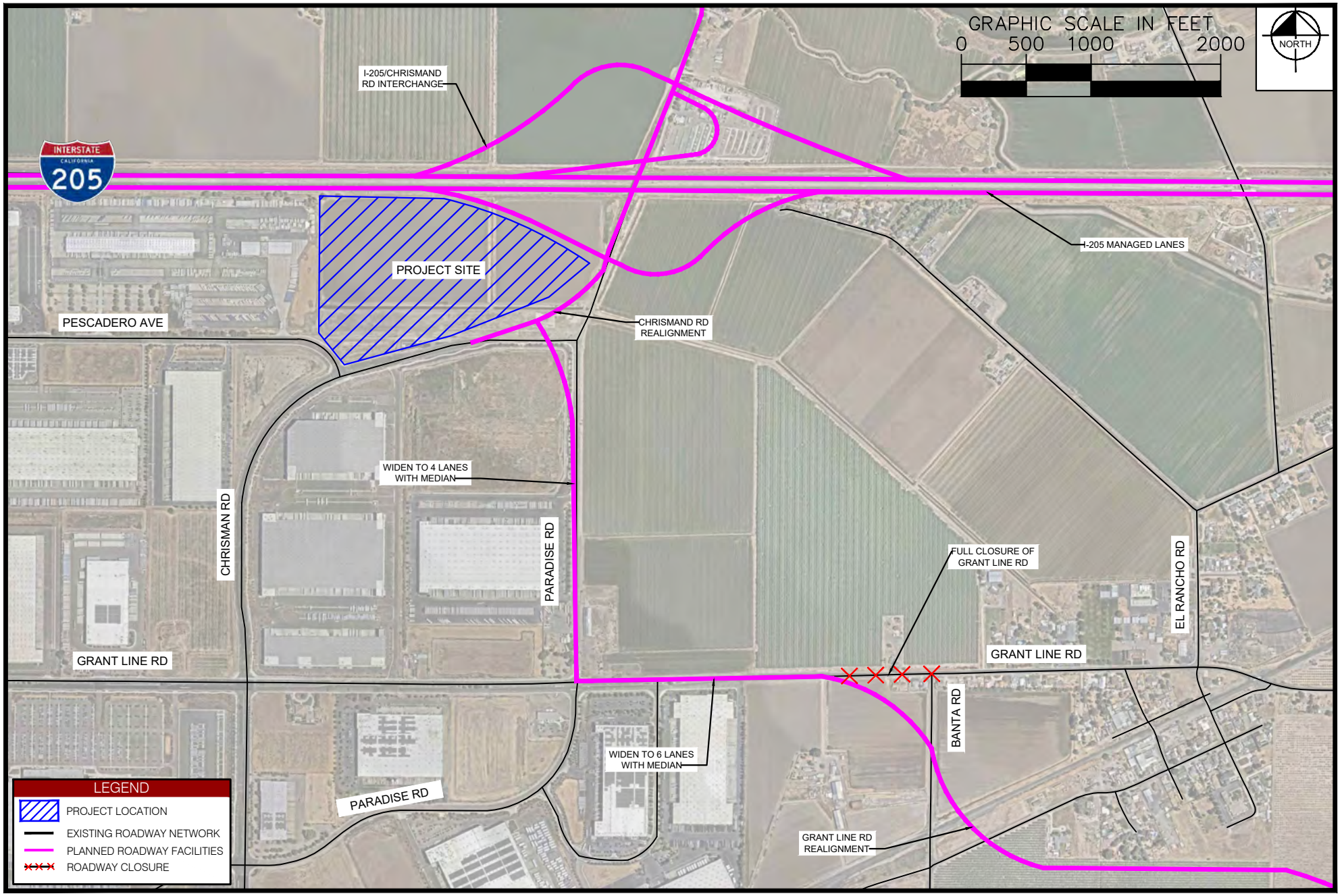
- Chrisman Road
    - Widen to four lanes with a raised median between Pescadero Avenue to Paradise Road
- Paradise Road
    - Widen to four lanes with a two-way left turn lane
- I-205/Chrisman Road Interchange(future)
    - Widen to four lanes with a raised median between Paradise Road to Arbor Avenue

Caltrans and the San Joaquin Council of Governments are currently in the planning phases of the I-205 Managed Lanes project. The project involves the addition of managed lanes, high occupancy vehicle lanes with potential tolling, to improve traffic flow and reduce congestion along the I-205 corridor.

Caltrans completed a Project Study Report/Project Development Support (PSR/PDS) for the I-205/Chrisman Road Interchange in November 2012. A Draft Environmental Document and Project report have been prepared. The interchange is currently in the Project Approval and Environment Document

(PA&ED) phase. The proposed project features include a Type L-9 partial cloverleaf ramp configuration on the north side of I-205 and a Type L-2 spread diamond ramp configuration on the south side of I-205.

Refer to Figure 2 for planned roadway facilities in the Project vicinity.



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Figure 2
Planned Roadway Facilities

September 2025

Paradise Pointe Industrial Transportation Review

Proposed Project Roadway Facilities Improvements

The Project does not propose any roadway improvements but dedicates right of way for planned roadway improvements on Chrisman Road and the I-205/Chrisman Road Interchange. The Applicant has provided an exhibit showing the proposed site overlaid on the planned I-205/Chrisman Road Interchange and ultimate Chrisman Road improvements showing general conformance with the proposed improvements. The detailed design of all future roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the project would be subject to, and designed in accordance with, applicable City of Tracy and industry design safety standards.

The project proposes 379 parking spaces, including accessible spaces and an electric vehicle charging station. Three driveways will provide access to the site. The site plan proposes two full access driveways on Chrisman Road and one right-in, right-out access on Pescadero Avenue with the existing roadway network.

Bicycle Facilities

The California Manual on Uniform Traffic Control Devices (CA MUTCD) identifies the following four types of bikeway facilities as outlined in the City of Tracy General Plan (2011) Plans:

- Class I Bikeway (Bike Path) – A Class I Bikeway is a physically separated bike path that does not share the roadway with automobiles, buses, and motorcycles. They are separated by either open space or a physical barrier and are generally two-way facilities for bicyclists and pedestrians.
- Class II Bikeway (Bike Lane) – A Class II Bikeway is a bike lane that shares a portion of the roadway with motorized vehicles. They are delineated by striping and are signed and marked for exclusive use by bicycle traffic. Class II Bikeways provide service for one-way bicycle traffic and are located outside of the through lane for motorized vehicles.
- Class III Bikeway (Bike Route) – A Class III Bikeway is a route that shares the roadway with motorized vehicles. They are identified by signs and are not separated by striping. Class III Bikeways are utilized in locations that do not have Class I or Class II facilities or to connect Class II Bikeways to provide a continuous bikeway system.
- Class IV Bikeway (Separated Bikeway) – A Class IV Bikeway is a bikeway for the exclusive use of bicycles and includes a separation between the bikeway and vehicular thoroughfare. The separation may be, but not limited to, grade separation, flexible posts, inflexible physical barriers, planters, and/or on-street parking. The key distinction from a Class II facility is that it must have some physical element and not just open space.

Existing Bicycle Facilities

The Project site is situated on the edge of the City of Tracy bicycle network, which is comprised of a network of on- and off-street bicycle facilities. The following bike facilities currently exist within approximately ½-mile of the Project site:

- Chrisman Road:
    - Class I multi-use path along the south and east side of Chrisman Road to Paradise Road
- Pescadero Avenue
    - Class I multi-use path along the Project's frontage

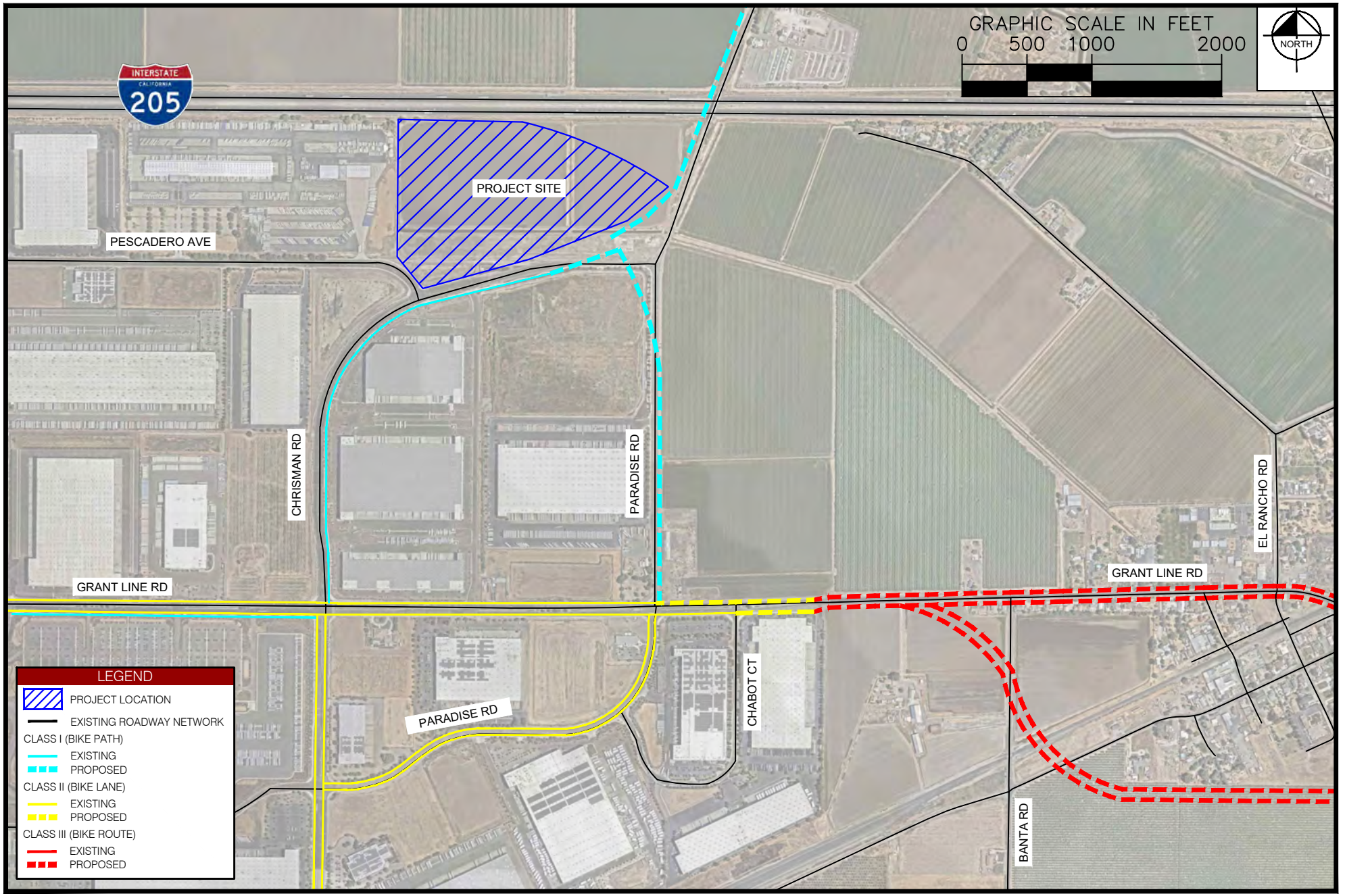
Planned Bicycle Facilities

The City of Tracy's TMP (2012) proposes the following additional bicycle improvements within the approximately ½-mile study area around the Project site. See the TMP's Existing & Future Bike Routes map in Appendix D.

- Chrisman Road – Construct a Class I multi-use path starting 600 feet west of Paradise Road along the south side, shifting to the north/west side of Chrisman Road at Paradise Road, and continuing

to the planned Chrisman Road/Arbor Avenue intersection. These improvements are anticipated to be constructed with the I-205/Chrisman Road interchange project.

Figure 3 shows the existing and planned bike routes within the vicinity of the Project.



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Figure 3
Existing and Planned Bicycle Facilities

Proposed Project Bicycle Facilities Improvements

The Project does not propose any specific bicycle facilities on-site or off-site within the public right of way. Under existing conditions bicyclists at the Project site will need to cross at the Pescadero Avenue signal and use the Class I multi-use path along Chrisman Road and, subsequently, the bike facilities along Grant Line Road to connect to citywide bicycle facilities.

The Applicant has provided an exhibit showing the proposed site overlaid on the planned I-205/Chrisman Road Interchange and ultimate Chrisman Road improvements showing general conformance with the proposed improvements. The detailed design of all future roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the project would be subject to, and designed in accordance with, applicable City of Tracy and industry design safety standards.

Pedestrian Facility

Existing Pedestrian Facilities

It is the City's goal to provide comprehensive pedestrian facilities along all its roadways. Within the Project vicinity several areas are undeveloped with no pedestrian facilities or access. However, it is anticipated that the greatest pedestrian demand would occur either between the Project site and the west along Pescadero Avenue or to the south along Chrisman Road.

A pedestrian can walk south from the site along Chrisman Road towards Grant Line Road using the existing continuous sidewalk. From the project site, a pedestrian can head west along Chrisman Road and Pescadero Avenue towards MacArthur Drive. There are no pedestrian facilities provided going east along the Project's frontage. However, pedestrians will need to cross at Pescadero Avenue and then backtrack to the east along the east and south side of Chrisman Road.

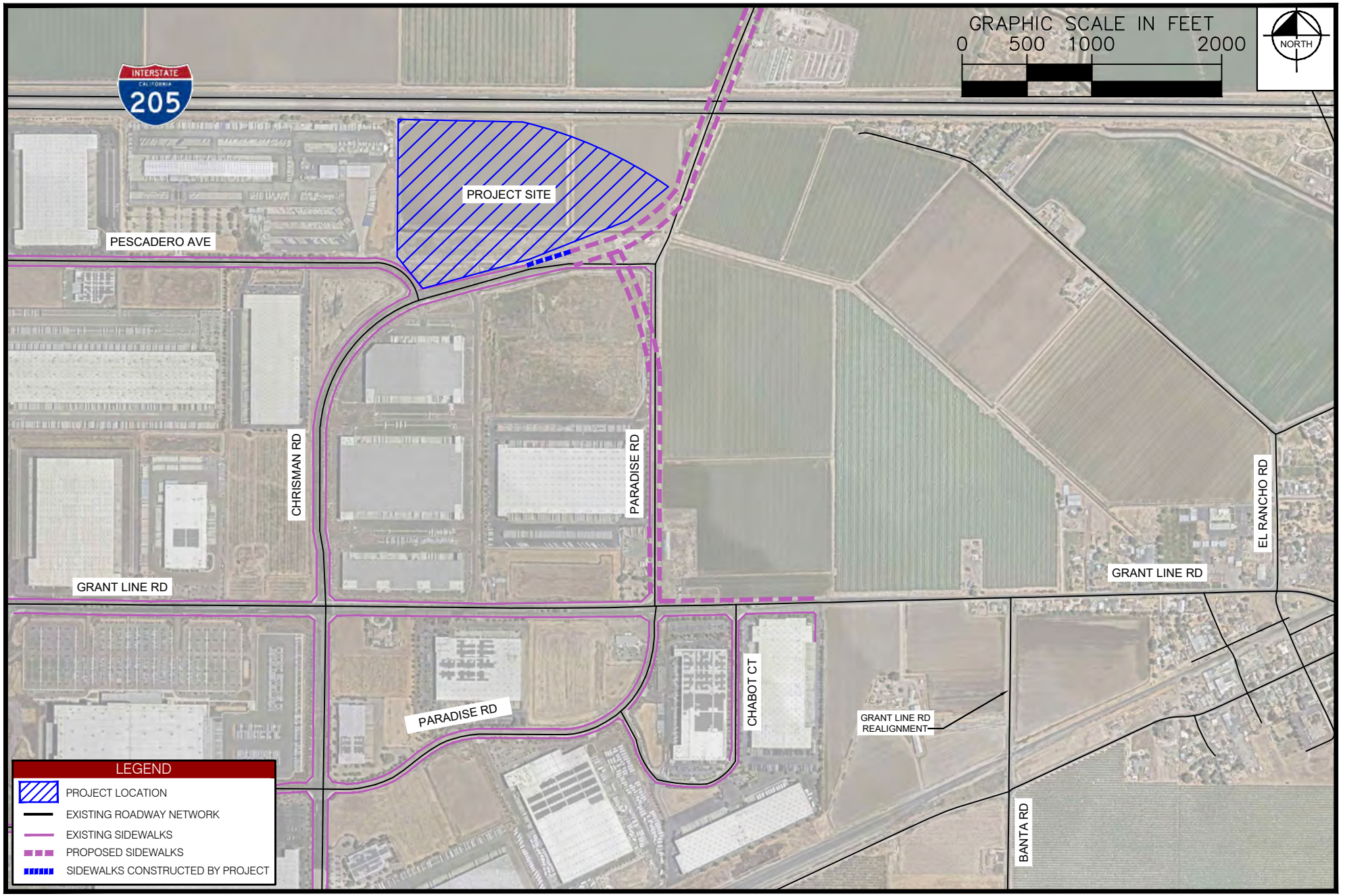
Planned Pedestrian Facilities

The City of Tracy's TMP proposes the following, currently unconstructed, pedestrian facilities within the approximately ½-mile study area around the Project site.

- Chrisman Road – Construct a Class I multi-use path will begin 600 feet west of Paradise Road along the south side, continuing with an 8-foot sidewalk on the south/west side of Chrisman Road towards the planned Chrisman Road/I-205 interchange. These improvements are anticipated to be constructed with the I-205/Chrisman Road interchange project.

See the TMP's Existing and Future Sidewalks map in Appendix D. It should be noted that roadways outside of the current city limits but within the planning Sphere of Influence were not shown to have improvements; however, if development occurs and properties are annexed into the City, it would be the intention for them to construct frontage (e.g. sidewalk, landscaping, etc.) improvements consistent with City standards.

Existing and planned pedestrian facilities in the Project vicinity are shown in Figure 4.



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Figure 4
Existing and Planned Pedestrian Facilities

Proposed Project Pedestrian Facilities Improvements

On-site

As shown in Figure 1, the Project proposes to construct 4-foot sidewalks around the buildings and provides an ADA path of travel connection to Pescadero Avenue. However, the Project does not propose sidewalks and ADA paths to Chrisman Road. It is recommended to provide sidewalks and ADA paths to Chrisman Road.

Off-site

The Project does not propose to construct sidewalks along the Project's frontage. All roadways that connect to the Project, Pescadero Avenue and Chrisman Road, have sidewalks along the frontage except on the northside of Chrisman Road 600 feet west of Paradise Road.

The Applicant has provided an exhibit showing the proposed site overlaid on the planned I-205/Chrisman Road Interchange and ultimate Chrisman Road improvements showing general conformance with the proposed improvements. The detailed design of all future roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the project would be subject to, and designed in accordance with, applicable City of Tracy and industry design safety standards.

Transit Service and Facilities

Existing Transit Services and Facilities

Transit serving the Project site includes local bus service connecting the Project site to destinations throughout the City of Tracy (e.g., Downtown Tracy, the Tracy Multimodal Transit Center, etc.). Existing transit service within the City of Tracy is run by several providers with varied destinations:

- TRACER – local bus service
- San Joaquin Regional Transit District (RTD) – regional bus service connection Tracy to Stockton, Manteca and Dublin BART Station
- Greyhound – long-distance bus service connecting to San Francisco, San Jose and Los Angeles
- Altamont-Commuter Express (ACE) – regional rail service running between Stockton and San Jose

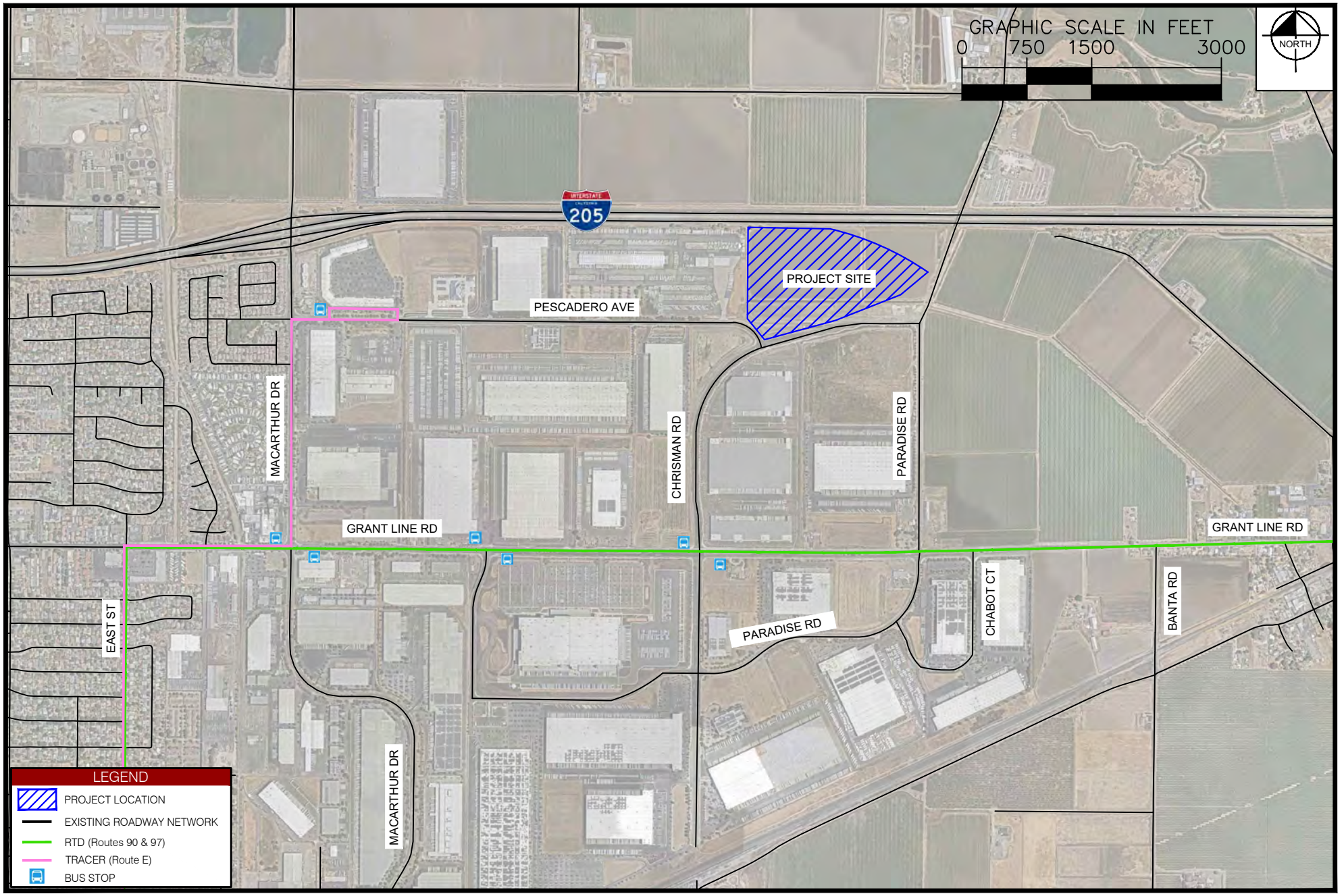
TRACER, run by the City of Tracy, provides local bus services on eleven distinct routes, four of them providing all-day service Monday-Saturday (Routes A, B, C, and D), three of them providing limited, commute-hour service Monday-Friday (Routes E, F, and G) and three of them providing limited service shuttle (Arbor, ACE, South Tracy and Tracy Hills Temporary Shuttles). Fixed Route Brochure (TRACER) in Appendix C displays the existing transit service by TRACER within the City of Tracy.

County Hopper (one of inter-regional bus services) is a deviated fixed-route service serving San Joaquin County and providing intercity connections between Stockton, Tracy, Lodi, Manteca, Ripon, Lathrop, and Escalon. There are 2 weekday routes that operate from 5:30 AM to 9:00 PM connects Stockton Transit Station to Tracy Transit Station (route 90) and Manteca Transit Center to Tracy Transit Station (route 97). Route details are shown in Appendix C. The nearest bus stop is located 0.6 miles from the Project on the northwest and southeast corner of Grant Line Road and Chrisman Road.

Greyhound is a long-distance bus service connecting Tracy to Sacramento in north, San Francisco and San Jose in central, and Los Angeles in southern California. The nearest Greyhound bus station located 3.4 miles away from the Project on the corner of 6th Street and Central Avenue at the Tracy Transit Center. To access the site, routes 90 and 97 provide service between the Tracy Transit Station and Project vicinity (northwest and southeast corner of Grant Line Road and Chrisman Road).

ACE Regional Commuter Rail operates on weekdays, excluding holidays. The ACE station in Tracy is located 6.6 miles from project along Tracy Boulevard near Linne Road. ACE operates three westbound trains during the morning commute arriving in Tracy and three eastbound trains during the evening commute arriving in Tracy. Route details are shown in Appendix C. ACE connects to the parallel feeder and distribution services, including RTD and TRACER in the City. To access the site route D (TRACER), South Tracy Shuttle, and Tracy Hill Shuttle provide service between the Ace Station and Tracy Transit Station, and routes 90, and 97 (TRACER) provide service between the Tracy Transit Station and Project vicinity (northwest and southeast corner of Grant Line Road and Chrisman Road).

Existing transit service in the Project vicinity is shown in Figure 5.



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Figure 5
Existing Transit Service Plan Facilities

Proposed Project Relation to Transit

The Project would be served by the existing San Joaquin Regional Transit District (RTD) Routes 90 and 97 as described previously. The Project is not proposing to construct any new transit facilities.

Planned Transit Services and Facilities

Tracy has seen many plans for future transit service over the years. The TMP identifies an eBART Extension from Antioch, bus rapid transit to Stockton and high-speed rail alternative routes. At the time of this analysis, those proposals are no longer active. The following transit services are currently in planning phases:

- Valley Link
- ACE
- TRACER
- RTD
- I–205 Managed Lanes

The Valley Link Subsequent Environmental Impact Report was certified by the Authority Board on October 23, 2024. A 22-mile initial operating phase from the Dublin/Pleasanton BART station to Mountain House is planned with all-day, bi-directional service at 15-minute peak period and 45-minute off-peak period frequencies.

ACE, along with the San Joaquin Regional Rail Commission, is studying several extensions to its current rail network. Planning efforts are on-going for extensions from Lathrop to Ceres, Ceres to Merced and Stockton to Sacramento (Natomas).

TRACER does not currently have a future planning document. The San Joaquin Council of Governments (SJCOG) has identified the TRACER Short-Range Transit Plan in its latest, 2022, project list. The SJCOG project list also identifies funding for various bus stop improvements on a five-year cycle.

RTD's Short Range Transit Plan (FY2018/19-2027/28) outlines planned improvements for the system. The plan outlines various improvements, fleet upgrades, new services and increase of frequencies.

The current phase of I – 205 Managed Lanes project will develop and evaluate project design alternatives and complete the required environmental review as part of the Project Approval and Environmental Document (PA&ED) phase.

Details of planned transit service enhancements are described in Appendix D.

Impact Assessment

The Project is not expected to result in the removal of, or result in other adverse effects on, any existing transit, biking, or pedestrian facilities. The project is anticipated to conform with programs, plans, ordinances, or policies addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities except the following items:

- No pedestrian facilities are provided between the Project buildings and the interim or ultimate Chrisman Road directly.
    - Mitigation Measure – The Project shall install ADA-accessible path(s) between both Buildings A and B to the existing sidewalk along the north side Chrisman Road.

Therefore, it was determined that the Project would result in a less than significant multimodal impact with mitigation incorporated.

4. Vehicle Miles Traveled (VMT) Analysis

The proposed Paradise Pointe warehouse project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per Employee. The evaluation tool estimates that the Project would generate 19.6 VMT per Employee, which exceeds the City's threshold by 10.2 VMT per employee and represents 209 percent of the threshold value.

VMT Calculations

In 2018, the California state legislature, in approving Senate Bill (SB) 743, directed the Office of Planning and Research to develop guidelines for assessing transportation impacts based on vehicle miles traveled, or VMT. In response to SB 743, CEQA and its implementing guidelines (CEQA Guidelines) were significantly amended regarding the methods by which lead agencies are to evaluate a project's transportation impacts. As described in CEQA Guidelines Section 15064.3(a):

Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, "vehicle miles traveled" refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.

This section of the Guidelines continues to set forth the criteria for analyzing transportation impacts. Currently, the City is studying their own thresholds, but none have been adopted.

In 2013, SB 743 was signed into law by California Governor Jerry Brown with a goal of reducing Greenhouse Gas (GHG) emissions, promoting the development of infill land use projects and multimodal transportation networks, and to promote a diversity of land uses within developments. One significant outcome resulting from this statue is the removal of automobile delay and congestion, commonly known as Level of Service (LOS), as a basis for determining significant transportation impacts under the California Environmental Quality Act (CEQA).

The Governor's Office of Planning and Research (OPR) has documented recommended analysis guidelines for SB 743 in its *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) which provides for Vehicle Miles Traveled (VMT) as the principal measure to replace LOS for determining significant transportation impacts. VMT is a measure of total vehicular travel that accounts for the number of vehicle trips and the length of those trips. OPR selected VMT, in part, because jurisdictions are already familiar with this metric. VMT is already used in CEQA to study other potential impacts such as Greenhouse Gases (GHG), air quality, and energy impacts and is used in planning for regional Sustainable Communities Strategies (SCS).

VMT also allows for an analysis of a project's impact throughout the City rather than only in the vicinity of the proposed project, allowing for a better understanding of the full extent of a project's transportation-related impact. It should be noted that SB 743 still allows the City of Tracy to use LOS for other planning purposes outside the scope of CEQA.

Understanding how the local roadway network functions from an engineering standpoint is still critical to local land use agencies to monitor traffic flow, identify safety issues, establish fees and manage congestion. However, for the purposes of evaluating environmental impacts under CEQA, the new

regulations have removed congestion from the range of required subjects analyzed within CEQA documents.

The proposed Paradise Pointe project was evaluated using the City of Tracy VMT Calculator. For the surrounding industrial land use area, the City's threshold is 9.4 VMT per Employee. The evaluation tool estimates that the Project would generate 19.6 VMT per Employee, which exceeds the City's threshold by 10.2 VMT per employee and represents 209 percent of the threshold value.

Per the City's VMT threshold and SB 743 guidelines, the Project causes a significant transportation impact. For projects that would cause a VMT impact, VMT reduction strategies such as introducing transportation demand management (TDM), or additional multimodal infrastructure can be implemented to reasonably mitigate the VMT impact which is estimated from research literature and case studies.

Potential Mitigations

The Project exceeds the City threshold by 209 percent, therefore a 52 percent reduction in Project VMT would be needed to achieve the City's threshold of 9.4 VMT per employee. (19.6 * 0.52 = 10.2) The California Air Pollution Control Officers Association (CAPCOA) indicates that up to 15% of VMT reduction can reasonably be achieved. For the purpose of this report, a maximum of 15% is assumed.

TDM Program

This program recommends TDM measures that would individually reduce the Project's VMT and trips with the goal of obtaining a feasible maximum of 15% VMT reduction. lists the toolbox of potential TDM measures that could partially mitigate the Project's VMT impact. Maximum TDM reductions are provided for each TDM element. The applicant will select specific TDM measures in consultation with the City to partially mitigate the VMT impact.

This TDM program aims to achieve a feasible maximum of 15% VMT reduction. For the TDM program, the following TDM measures are being proposed:

1. Parking Strategies – 1%
    a. Reduce parking supply: Reduce the number of available parking spots provided to employees.

2. Communication & Information Strategies – 2%
    a. Travel Behavior Change Program: Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a website that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change programs target individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits.

    b. Promotions & Marketing: Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information campaign to promote awareness of TDM program with an on-site coordinator to monitor program.

3. Commuting Strategies – 1%
    a. Emergency Ride Home (ERH) Program: The Project will provide an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available.

4. Shared Mobility Strategies – 3%
    a. Ride Share Program: Increases vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person form the business on-site.

    b. Designated Parking for Car Share Vehicles: The Project will provide preferential parking in convenient locations in terms of free or reduced parking fees, priority parking, or reserved parking for commuters who carpool, vanpool, ride-share, or use alternatively fueled vehicles.

5. Bicycle Infrastructure Strategies – 3%
    a. Include Bike Parking Per City Code: Implements short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations.

    b. Include Secure Bike Parking and Showers: Implements additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel.

    c. Bicycle Repair Station/Services: On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation.

Table 2 – TDM Measures

Transportation Demand Management Measure	Description	Max VMT Reduction	Applicant Preferred Measure	VMT Reduction Applied
Parking Strategies				
Reduce Parking Supply	Reduce the number of available parking spots provided to employees.	1%	x	1%
Unbundle Parking	Remove free parking at the site, and charge employees for parking. The higher the cost of parking, the higher the reduction.	1%		0%
Parking Cash-out	Provide employees a choice of forgoing current parking for a cash payment to be determined by the employer. The higher the cash payment and eligible employees, the higher the reduction.	2%		0%
Transit Strategies				
Transit Stops	Coordinate with local transit agency to provide bus stop near the site. Real time transportation information displays support on-the-go decision making to support sustainable trip making.	1%		0%
Implement Neighborhood Shuttle	Implement project-operated or project-sponsored neighborhood shuttle serving residents, employees, and visitors of the project site	2%		0%
Transit Subsidies	Involves the subsidization of transit fare for residents and employees of the project site. This strategy assumes transit service is already present in the project area. Pays for employees to use local transit. This could either be a discounted ticket or a full-reimbursed transit ticket.	2%		0%
Communication & Information Strategies				
Travel Behavior Change Program	Involves the development of a travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. Provide a web site that allows employees to research other modes of transportation for commuting. Employee-focused travel behavior change program that targets individuals' attitudes, goals, and travel behaviors, educating participants on the impacts of their travel choices and the opportunities to alter their habits. DIBS	1%	x	1%
Promotions & Marketing	Involves the use of marketing and promotional tools to educate and inform travelers about site-specific transportation options and the effects of their travel choices with passive educational and promotional materials. Marketing and public information	1%	x	1%

Table 2 – TDM Measures

Transportation Demand Management Measure	Description	Max VMT Reduction	Applicant Preferred Measure	VMT Reduction Applied
	campaign to promote awareness of TDM program with an on-site coordinator to monitor program. DIBS			
Commuting Strategies				
Employer Sponsored Vanpool or Shuttle	Implementation of employer-sponsored employee vanpool or shuttle providing new opportunities for access to connect employees to the project site.	2%		0%
Emergency Ride Home (ERH) Program	Provide an occasional subsidized ride to commuters who use alternative modes. Guaranteed ride home for people if they need to go home in the middle of the day due to an emergency or stay late and need a ride at a time when transit service is not available. DIBS	1%	x	1%
Telecommuting Alternative work schedule	Four-Ten work schedule results in 20% weekly VMT reduction, 10% trip reduction equals 15% VMT reduction	7%		0%
On-site Childcare	Provide on-site childcare to remove the need to drive a child to daycare at a separate location.	1%		0%
Shared Mobility Strategies				
Ride Share Program	Increase vehicle occupancy by providing ride-share matching services, designating preferred parking for ride-share participants, designing adequate passenger loading/unloading and waiting areas for ride-share vehicles, and providing a website or message board to connect riders and coordinate rides. Need a point person for the business on-site	2%	x	2%
Employee/Employer Car Share	Implement car sharing to allow people to have on-demand access to a vehicle, as-needed. This may include providing membership to an existing program located within 1/4 mile, contracting with a third-party vendor to extend membership-based service to an area, or implementing a project-specific fleet that supports the residents and employees on -site.	1%		0%
	Provide an on-site car vehicle for employees to use for short trips. This allows for employees to run errands or travel for lunch.	1%		0%
Designated Parking Spaces for Car Share Vehicles	Reserved car share spaces closer to the building entrance.	1%	x	1%
Bicycle Infrastructure Strategies				
Bike Share Program	Participate in a bike share program/On site bike share program	1%		0%

Table 2 – TDM Measures

Transportation Demand Management Measure	Description	Max VMT Reduction	Applicant Preferred Measure	VMT Reduction Applied
Implement/Improve On-street Bicycle Facility	Implement or provides funding for improvements to corridors and crossings for bike networks identified within a one-half mile buffer area of the project boundary, to support safe and comfortable bicycle travel.	1%		0%
Include Bike Parking Per City Code	Implement short and long-term bicycle parking to support safe and comfortable bicycle travel by providing parking facilities at destinations	1%	x	1%
Include Secure Bike Parking and Showers	Implement additional end-of-trip bicycle facilities to support safe and comfortable bicycle travel.	1%	x	1%
Bicycle Repair Station / Services	On-site bicycle repair tools and space to use them supports on-going use of bicycles for transportation.	1%	x	1%
Neighborhood Enhancement Strategies				
Traffic Calming Improvements	Implement traffic calming improvements on streets and intersections throughout and around the project site.	1%		0%
Pedestrian Network Improvements	Implement pedestrian network improvements throughout and around the project site that encourages people to walk.	2%		0%
Miscellaneous Strategies				
Virtual Care Strategies for Hospitals	Implement options for virtual care for health services for hospitals.	2%		0%
On-Site Affordable Housing	Provide a percentage of on-site affordable housing for employees that is less than 100%.	1%		0%
Job Creation Land Use (e.g. Office)	Provide offices or other job creation land use. Applies to housing projects.	3%		0%

VMT Banking Fees

The City of Tracy VMT Banking Fee Program is a programmatic approach to respond to the need for feasible VMT mitigation programs. Programmatic approaches that rely on collectively funding larger projects allow a project to obtain an amount of mitigation commensurate with their impact, include only a single payment without the complexity of ongoing management, and do not require on-going mitigation monitoring. Programmatic approaches can also provide a public benefit in terms of funding transportation improvements that would not otherwise be constructed, resulting in improvements to congestion, GHG emissions, increased transportation choices, and additional opportunities for active transportation.

The VMT Banking Fee Program calculates the cost per VMT reduction as $633.11. Therefore, to achieve the 5% reduction needed after implementation of the TDM program, the project would be responsible to pay $356,385.22. This is calculated as 5% being equivalent to a 0.980 VMT per employee reduction. Consistent with City of Tracy planning conversions rates between industrial and warehousing size and employment totals, 1 employee per 1,000 square feet is assumed for the Project. This results in 718 employees and each employee needs to reduce by 0.980 VMT at a cost of $633.11 per VMT the calculation is as follows:

VMT Banking Fee = 718 employees x 0.980 VMT per employee x $633.11 per VMT = $445,481.52

The VMT banking fee calculation has been provided in Table 3.

Table 3 – VMT Banking Fees Calculations

Project Building Area (ksf)	718.2
Project Employees	718
Project VMT/EMP	19.6
Project Total Employee VMT	14,072.8
VMT/EMP Reduction Needed to Meet Threshold	52%
TDM %	10%
Banking Fee %	5%
Banking Fee $	$445,481.52

Impact Assessment

In the analysis above the Project was reviewed for consistency with CEQA Appendix G XVII Transportation Checklist item (b):

- Conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?

Therefore, it was determined that the Project would result in a potentially significant VMT impact with mitigation incorporated.

5. Hazards

To determine whether the Project will substantially increase hazards or create a safety impact, this section is split into two types of review. The first review analyzes the Project's potential introduction of "a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)" that may create a safety or hazards impact.

The second review analyzes freeway off-ramp queuing at the nearest interchange to the Project site, I-205 and MacArthur Drive. This analysis was completed per Caltrans' *Local Development Review (LDR) Safety Review Practitioner's Guidance*. The LDR Guidance's focus is providing a safety review framework for local development with direct access to a Caltrans facility, but it can also be used by local agencies to assess safety impacts on the Caltrans system driven by local development nearby, but without direct access, to a Caltrans facility. For this report, a freeway congestion safety analysis was completed based on methodology included in "Appendix B – Freeway Exit-Ramp Queuing Analysis" of the LDR Guidance.

Geometric Design Feature Review

While the Project will result in the modification of existing transportation facilities including the introduction of new site driveways and access points. All new roadway, bicycle, and pedestrian infrastructure improvements constructed as part of the project would be subject to, and designed in accordance with, applicable City of Tracy and industry design and safety standards to avoid creating a geometric design hazard or incompatible use.

Caltrans Local Development Review (LDR) Safety Review Practitioner's Guidance: I-205/MacArthur Drive Freeway Ramp Queuing Analysis

The queuing analysis is based on the current I-205/MacArthur Drive Interchange geometry, traffic counts collected in November 2024, and signal timings provided by Caltrans.

The following analysis scenarios were analyzed:

- Existing Conditions
- Existing Plus Background Conditions
- Existing Plus Background Plus Project Conditions
- Existing Plus Background Plus Project Conditions with Mitigation

For each scenario, SimTraffic simulations were run to study the sufficiency of each ramp's storage capacity. Ramp queuing analysis was performed for weekday AM and PM peak hours. Existing signal timings were obtained from Caltrans and no modifications were made between Existing Conditions, Existing Plus Background Conditions, and Existing Plus Background Plus Project Conditions. The analysis utilized SimTraffic 12 with a 10-minute seeding period, four 15-minute periods and 10 runs. The average and 95th-percentile queues for each of the ten runs was averaged.

Existing Conditions

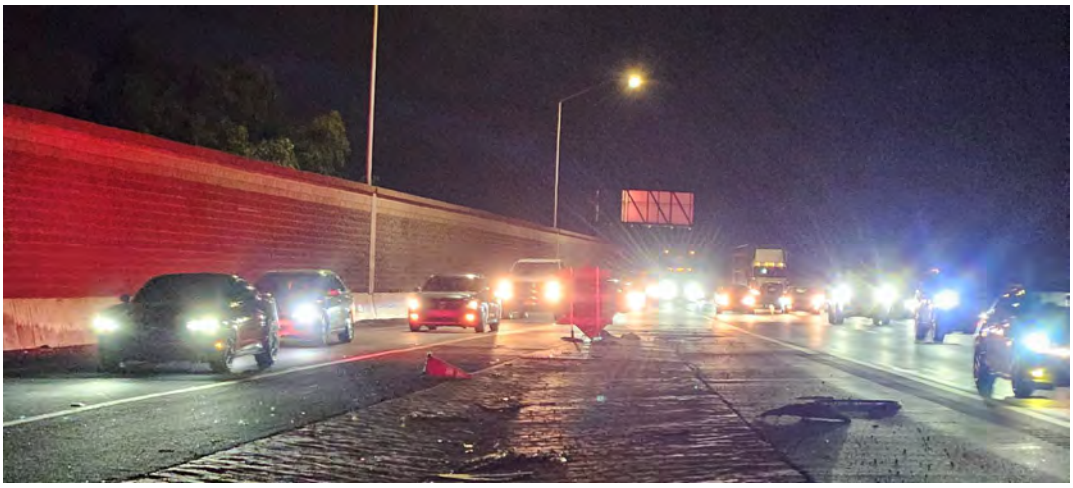
Existing Conditions analysis utilized turning movement count data collected on November 19, 2024. Existing Conditions volumes and lane geometry are illustrated in Figure 7. Existing operations and queuing

at the I-205/MacArthur Drive Interchange were field-verified on the same day as the data collection. Subsequently, the SimTraffic models were calibrated to replicate the field conditions.

The heaviest demand for the Westbound Off-ramp was seen in the AM peak hour. Field observations found that the Westbound Off-ramp had a maximum queue of approximately 1,020 feet. The total capacity of the ramp is 1,315 feet. Although the queue was long, it was observed that the queue was fully served by the green phase each cycle. The main turning movement at the ramp terminal intersection is a westbound left, resulting in the left turn lane to exceed capacity and utilize the through lane.

The heaviest demand for the Eastbound Off-ramp was seen in the PM peak hour. Field observations found that the maximum queue exceeded the ramp capacity of 1,015 feet (shown in Figure 6). The I-205 mainline was also congested and slow moving during the maximum off-ramp queuing. Therefore, speed differentials as outlined in Caltrans's LDR Guidance were not witnessed. It should be noted that during the SimTraffic model calibration process the maximum queuing that was witnessed by the field observations was not able to be replicated. Therefore, the 95th-percentile queuing in this analysis is shown to be equal to capacity rather than displaying the queue value from the SimTraffic report.

Figure 6 – Eastbound Off-ramp PM Peak Hour Queuing



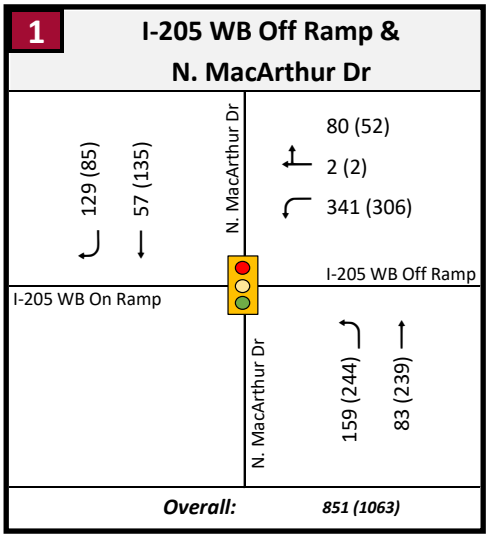
A summary of the Existing Conditions queuing results is shown in Table 4 with the SimTraffic reports included in the Appendix A I-205 volume and speed data was pulled for the date and times of data collection from Caltrans's Performance Measurement System (PeMs) and is included in Appendix F.

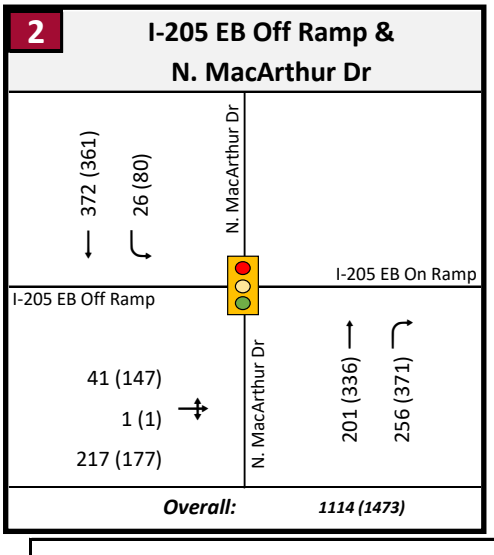
Table 4 - Existing Conditions

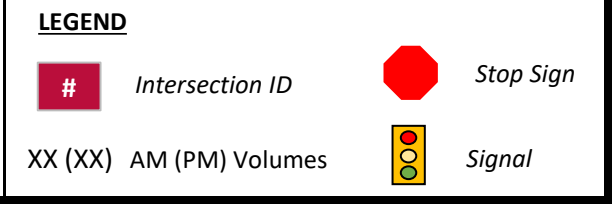
Intersection		Movement	Storage Length (ft)	Existing Conditions			
				Average Queue (ft)		95th Percentile Queue (ft)	
				AM Peak	PM Peak	AM Peak	PM Peak
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	400	325	665	570
		WBT	1315	285	105	1020[3]	525
		WBR	25	40	35	80	75
		NBL	200	75	95	165	210
		NBT	230	50	115	100	195
		SBT	1270	45	100	95	190
		SBR	1270	25	20	60	50
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	120	355	275	>1015[4]
		EBR	25	65	65	75	85
		NBT	755	50	135	130	255
		NBR	755	30	75	80	160
		SBL	220	20	65	50	130
		SBT	220	115	160	265	300

Notes:
1. Movements highlighted in blue represent I-205 off ramp movements.
2. Queues that exceed the storage capacity are bolded.
3. Through movement queue length affected by turn movement queues exceeding capacity and spilling into through lanes.
4. EB Off-ramp queues exceeded capacity and extended into the mainline #3 Lane during the PM peak hour. The mainline was congested and had reduced speeds based on field observations and PeMs data pulled for the date of data collection.









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Figure 7

Existing Conditions Volumes and Lane Geometry

Existing Plus Background Conditions

Background projects include approved developments within the Project's vicinity that would add trips to the I-205/MacArthur Drive Interchange and set a new baseline for analysis for potential safety impacts. The following approved buildings were selected for analysis:

- GH Logistics Truck Repair (Application #: D17-0004)
- Marriott Hotel (Application #: D16-0022)
- Starbucks, Popeyes, Gasoline Station & Store, Car Wash (Application #: D19-0012, D23-0011)
- Warehouse with Office (Application #: D19-0011)
- RNG Fueling Station and Parking Lot (Application #: CUP21-0007, D21-0023)
- Seefried LI Building (NEI) (Application #: D22-0045)
- Eastgate Business Park Phase 2 (Application #: D24-0001)

The approved developments were from the City of Tracy Planning Department's Pipeline Reports shown in Appendix E. Table 5 shows the estimated trip generation for the previously approved projects. Trip generation values are either derived from a previous traffic study or estimated for purposes of this analysis if a traffic study was not previously completed. Approved projects trips were distributed along the roadway network based on existing count data. The volumes, intersection control type and lane geometry for this scenario are illustrated in Figure 8.

Table 5 – Approved Projects Trip Generation

Land Use Type	ITE Land Use Code[1]	Size		Weekday AM				Weekday PM			
				Total Peak Hour	In	/	Out	Total Peak Hour	In	/	Out
Approved Project											
GH Logistics Truck Repair	942	6	Ksf	14	9	/	5	19	9	/	10
Marriott Hotel	310	108	Rooms	50	28	/	22	64	33	/	31
RNG Fueling Station and Parking Lot[3]	Custom	156	Spaces	136	68	/	68	136	68	/	68
Warehouse with Office	150	90	Ksf	15	12	/	3	16	4	/	12
Seefried LI Building[4]	150	335.2	Ksf	64	49	/	15	67	19	/	48
Eastgate Business Park Phase 2	150	26	Ksf	4	3	/	1	5	1	/	4
Carwash[2]	948	1	Carwash Tunnel	-	-	/	-	78	39	/	39
Popeyes[2]	934	2.8	Ksf	27	14	/	13	24	12	/	12
Starbucks[2]	937	2.2	Ksf	41	21	/	20	23	11	/	12
Gas Station & Convenience Store[2]	945	12	Vehicle Fueling Position	46	23	/	23	55	28	/	27
			Approved Total	397	227	/	170	487	224	/	263

Notes
1. Weekday trip generation average rates used Institute of Transportation Engineers (ITE), "Trip Generation", 11th Edition, 2021

2. Land Uses with Vehicle Pass-By Rates and Data and Diverted Percentage Reduction, Institute of Transportation Engineers (ITE), "Trip Generation", 11th Edition, 2021
3. Trip generation used by Kimley-Horn and Associates, Memorandum: Compressed Natural Gas (CNG)/Alternative Energy Fueling Station Traffic Review, May 5, 2022
4. Trip generation used by Kimley-Horn and Associates, Memorandum: Seefried Warehouse (D22-0045) Local Transportation Analysis, November 10, 2023

With the addition of background, approved projects to the existing volumes, no new queuing issues were found. It is qualitatively estimated that the Eastbound Off-ramp queue will extend further than existing conditions, therefore, further into the mainline. A summary of the Existing Plus Background Conditions average and 95th-percentile queues is shown in Table 6 with the SimTraffic reports included in Appendix A.

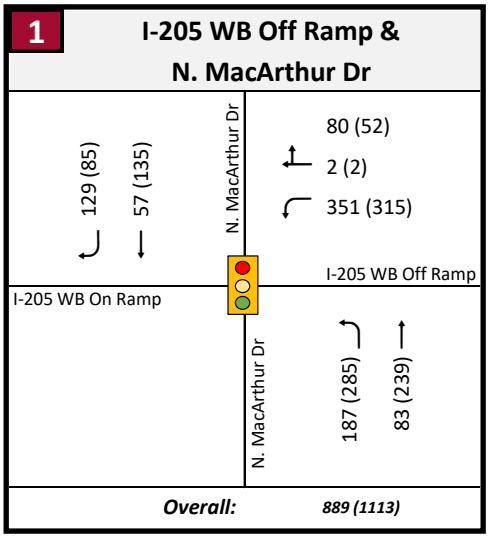
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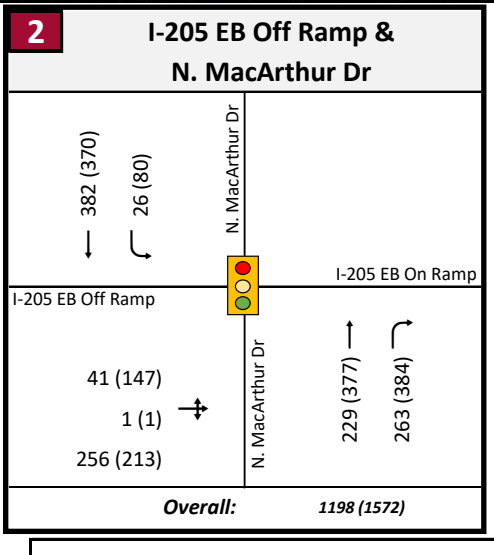
Table 6 – Existing Plus Background Conditions

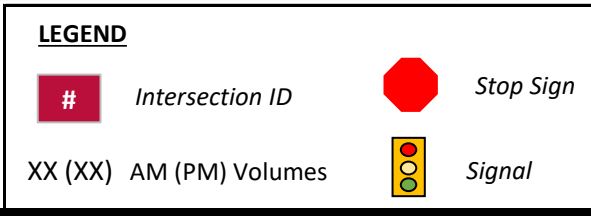
Intersection		Movement	Storage Length (ft)	Existing Conditions				Background Condition				Comparison			
				Average Queue (ft)		95th Percentile Queue (ft)		Average Queue (ft)		95th Percentile Queue (ft)		Average Queue (ft)		95th Percentile Queue (ft)	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	400	325	665	570	430	350	680	605	30	25	15	35
		WBT	1315	285	105	1020[3]	525	320	85	1090[3]	430	35	-20	70	-95
		WBR	25	40	35	80	75	40	35	80	70	0	0	0	-5
		NBL	200	75	95	165	210	85	90	180	215	10	-5	15	5
		NBT	230	50	115	100	195	50	115	100	205	0	0	0	10
		SBT	1270	45	100	95	190	40	95	95	180	-5	-5	0	-10
		SBR	1270	25	20	60	50	25	20	60	55	0	0	0	5
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	120	355	275	>1015[4]	150	535	325	>1015[4]	30	180	50	N/A
		EBR	25	65	65	75	85	65	65	75	80	0	0	0	-5
		NBT	755	50	135	130	255	65	165	145	285	15	30	15	30
		NBR	755	30	75	80	160	35	80	90	160	5	5	10	0
		SBL	220	20	65	50	130	20	65	50	125	0	0	0	-5
		SBT	220	115	160	265	300	135	160	290	290	20	0	25	-10

Notes:
1. Movements highlighted in blue represent I-205 off ramp movements.
2. Queues that exceed the storage capacity are bolded.
3. Through movement queue length affected by turn movement queues exceeding capacity and spilling into through lanes.
4. EB Off-ramp queues exceeded capacity and extended into the mainline #3 Lane during the PM peak hour. The mainline was congested and had reduced speeds based on field observations and PeMs data pulled for the date of data collection.









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Figure 8

Existing Plus Approved Conditions Volumes and Lane Geometry

Existing Plus Background Plus Project Conditions

Existing Plus Background Plus Project Conditions are based on the Existing Conditions traffic volumes plus the traffic generated by the approved projects and the proposed Project. The Project trip generation is shown in Table 1.

The following Project passenger car trip distribution was utilized for the analysis:

- Grant Line Road east of Paradise Road – 74% IN/OUT
- Grant Line Road west of Mac Arthur Drive – 7% IN/OUT
- I-205 East of Mac Arthur Drive – 0% IN/OUT (Via Grant Line Road)
- I-205 West of Mac Arthur Drive – 8% IN/OUT
- Mac Arthur Drive south of Grant Line Road – 7% IN/OUT
- Paradise Road, north of I-205 – 4% IN/OUT

The following Project passenger car trip distribution was utilized for the analysis:

- I-205 East of Mac Arthur Drive – 53% IN/OUT
- I-205 West of Mac Arthur Drive – 33% IN/OUT
- Eleventh Street south of Grant Line Road – 14% IN/OUT (Via Mac Arthur Drive)

Figure 9 and Figure 10 provides a visualization of the Project trip distribution for passenger car and truck. Existing Plus Background Plus Project Conditions volumes and lane geometry are illustrated in Figure 11.

With the addition of the Project, the Westbound Off-ramp 95th-percential queue during the AM peak hour was found to exceed the available ramp storage. According to Caltrans's LDR Guidance, "Traffic safety mitigation may be requested if freeway exit ramp queuing does not occur under the existing condition, but project-generated traffic volumes will cause a queue to extend onto the freeway mainline, creating a speed differential of 30 mph or greater." Mainline speed data was pulled from PeMS showing that the outside lane (Lane 3) average speed during the AM peak hour was approximately 67 miles per hour. Therefore, the ramp queuing has a potential safety impact. The Project could consider a variety of mitigation strategies including transportation demand management, signal timing modifications and/or ramp improvements. Traffic safety mitigation measures are required to be coordinated between the lead agency, City of Tracy, and Caltrans and an agreement created between the two agencies.

It is qualitatively estimated that the Eastbound Off-ramp queue will extend further than Background Conditions, therefore, further into the mainline. However, since the queuing issue is an existing condition, no traffic safety mitigation is required by the Project.

A summary of the Existing Plus Background Conditions average and 95th-percentile queues is shown in Table 7 with the SimTraffic reports included in Appendix A.

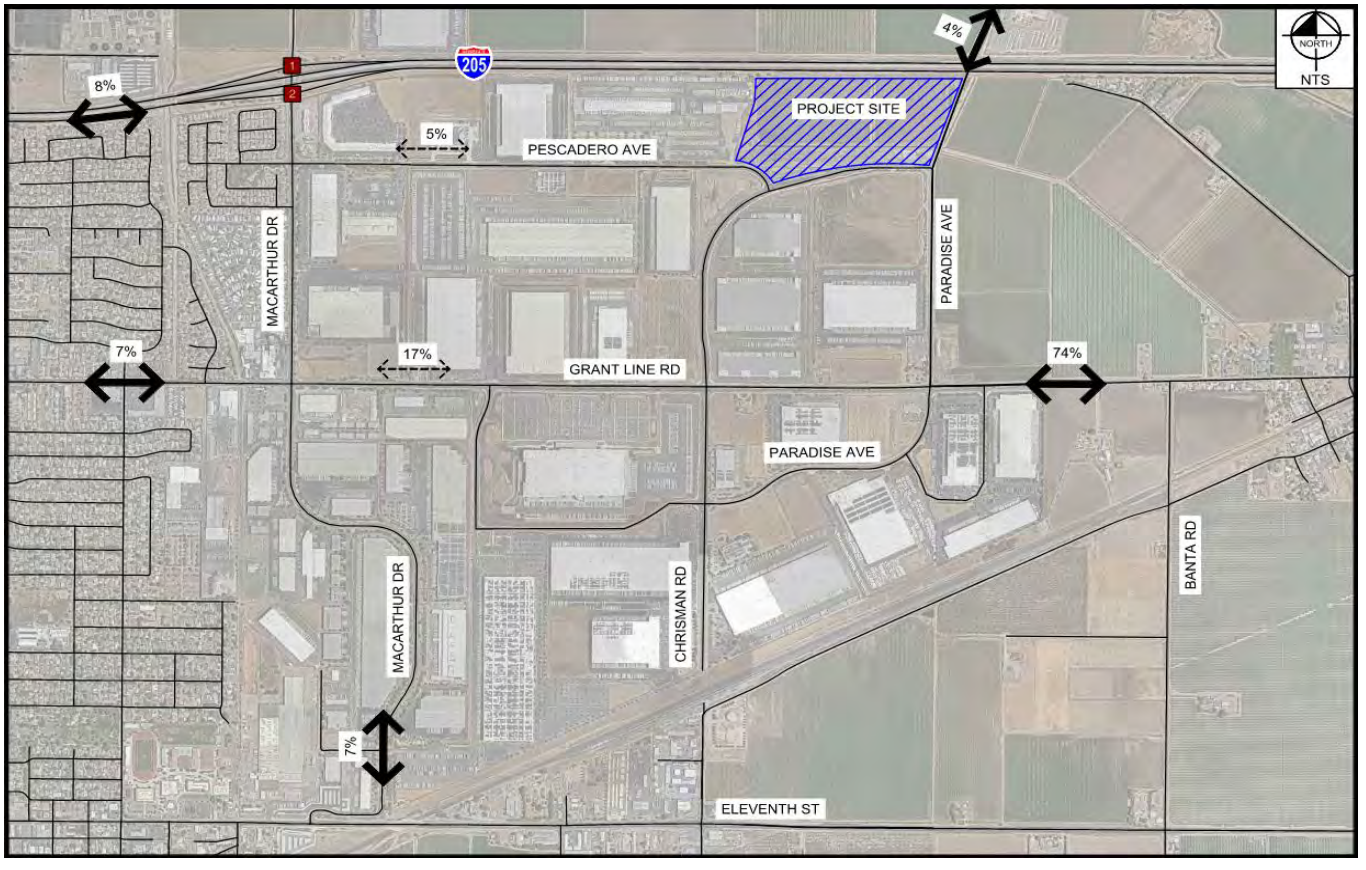
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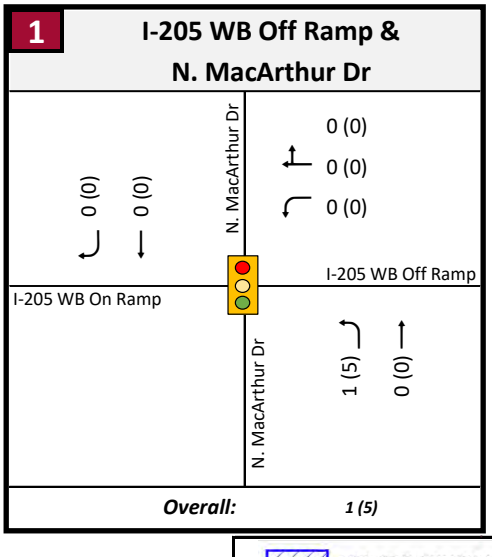
Table 7 - Existing Plus Background Plus Project Conditions

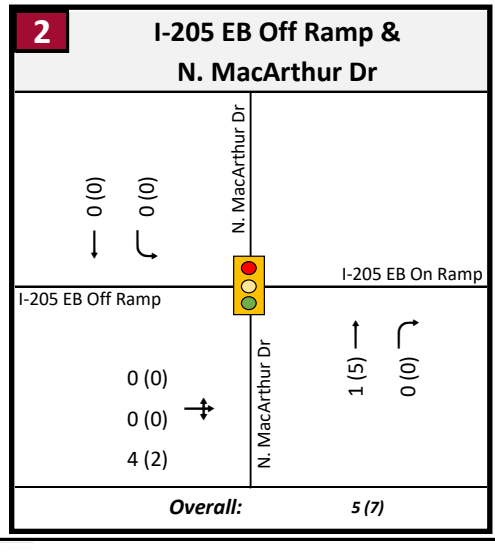
Intersection		Movement	Storage Length (ft)	Background Condition				Background Plus Project Condition				Comparison			
				Average Queue (ft)		95th Percentile Queue (ft)		Average Queue (ft)		95th Percentile Queue (ft)		Average Queue (ft)		95th Percentile Queue (ft)	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	430	350	680	605	495	355	725	585	65	5	45	-20
		WBT	1315	320	85	1090[3]	430	550	75	>1315[3]	395	230	-10	N/A	-35
		WBR	25	40	35	80	70	40	35	80	70	0	0	0	0
		NBL	200	85	90	180	215	90	110	185	240	5	20	5	25
		NBT	230	50	115	100	205	50	110	105	195	0	-5	5	-10
		SBT	1270	40	95	95	180	40	100	90	190	0	5	-5	10
		SBR	1270	25	20	60	55	30	20	60	45	5	0	0	-10
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	150	535	325	>1015[4]	160	490	350	>1015[4]	10	-45	25	N/A
		EBR	25	65	65	75	80	65	65	75	80	0	0	0	0
		NBT	755	65	165	145	285	60	160	140	275	-5	-5	-5	-10
		NBR	755	35	80	90	160	35	80	85	160	0	0	-5	0
		SBL	220	20	65	50	125	20	65	50	130	0	0	0	5
		SBT	220	135	160	290	290	165	160	315	305	30	0	25	15

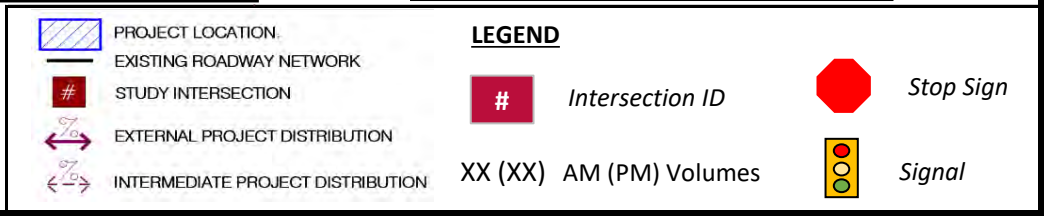
Notes:

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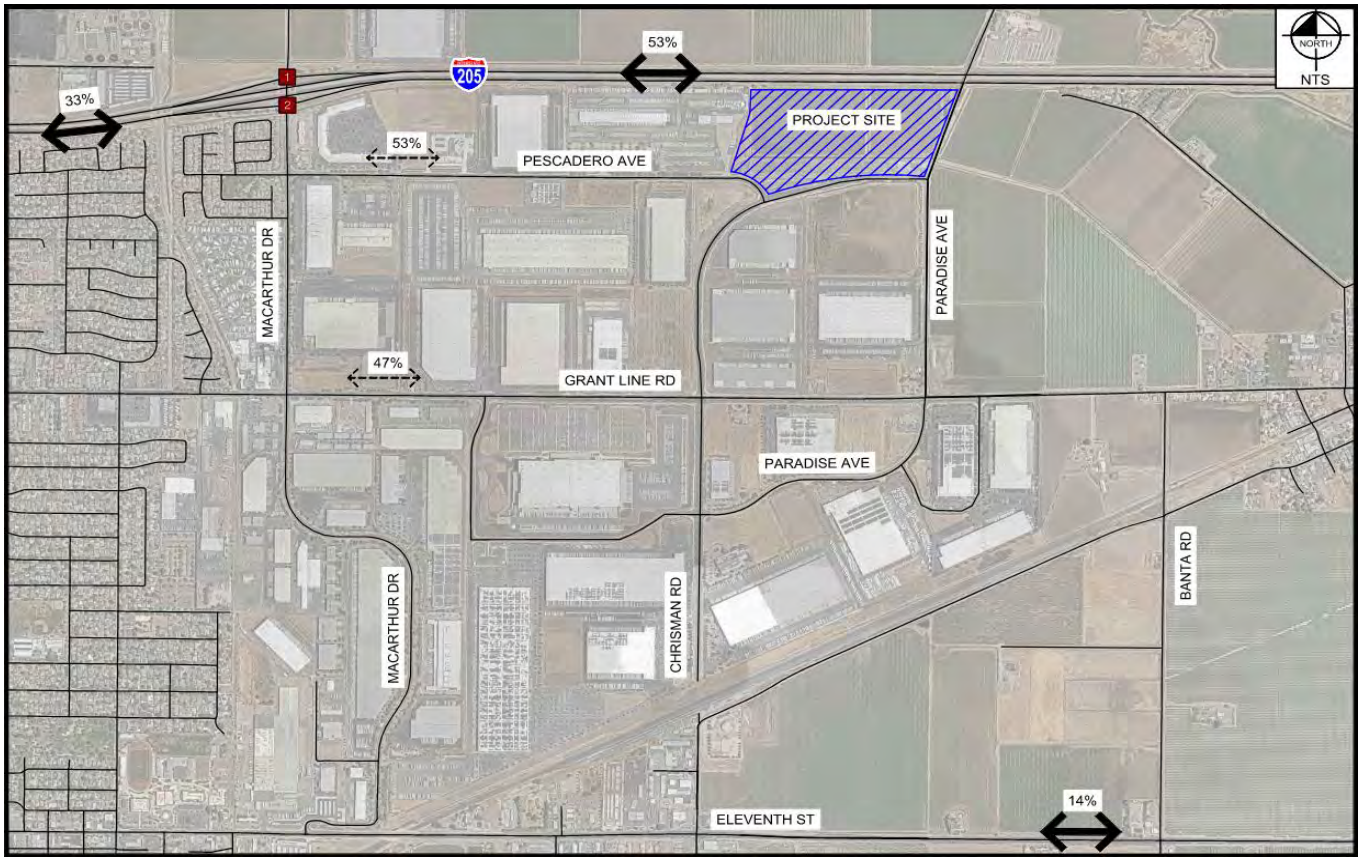


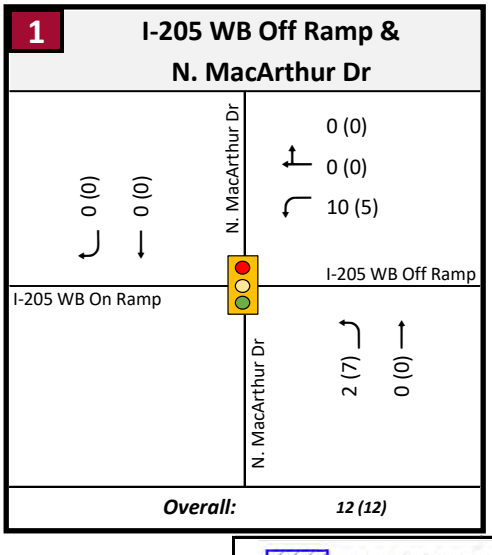


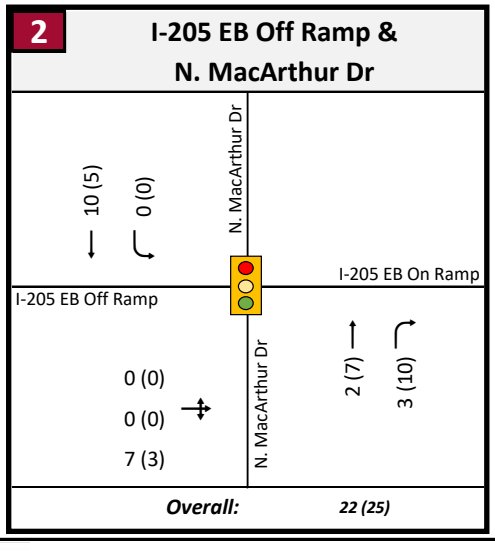
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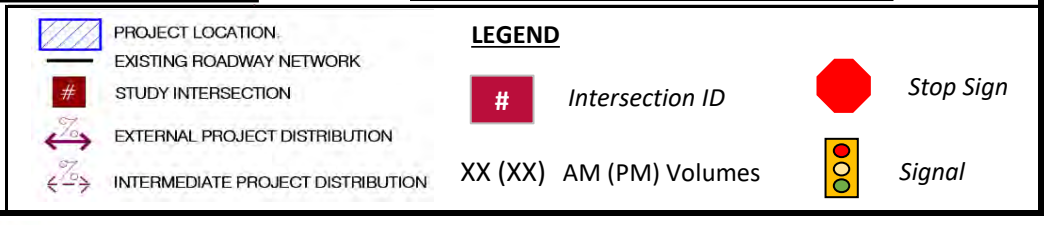
Figure 9

Passenger Car Trip Distribution & Assignment







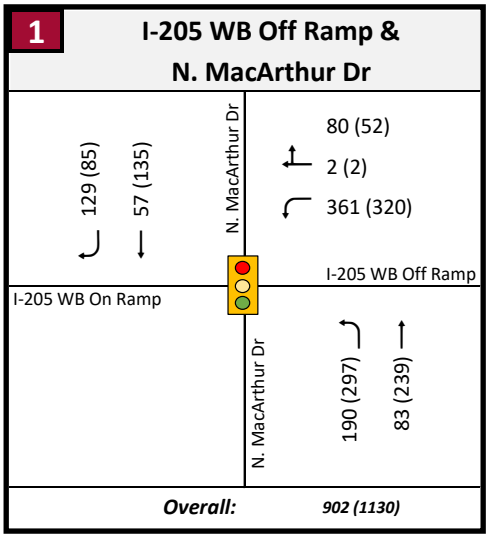


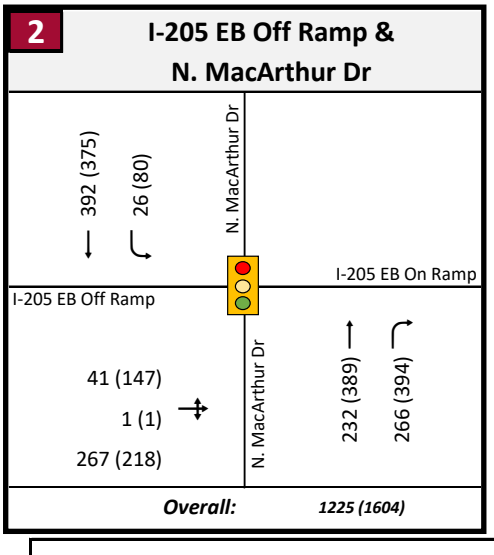
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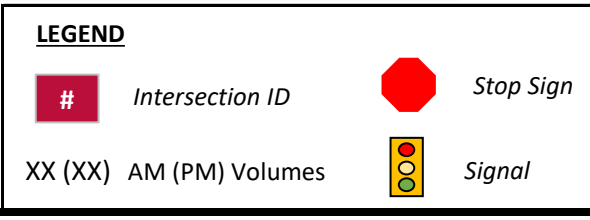
Figure 10

Project Truck Trip Distribution & Assignment









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Figure 11

Existing Plus Approved Plus Project Conditions Volumes and Lane Geometry

Existing Plus Background Plus Project Conditions with Mitigation

As discussed previously, the I-205/MacArthur interchange Westbound Off-ramp Background Plus Project Conditions analysis finds that there is a potentially significant impact due to the queue spillback to the mainline. Several strategies, including signal timing modifications and ramp improvements, could mitigate the queuing hazard impact. Therefore, a review of the signal timings was completed first to determine if signal timing modifications could mitigate the queuing. The review found that the priority movement for coordination was the northbound left turn leading to the westbound on-ramp instead of prioritizing the westbound off-ramp. A simulation was conducted using revised signal timings that prioritized the westbound off-ramp while also maintaining acceptable operations for the rest of the interchange movements. The revised signal timings yielded an AM peak hour westbound off-ramp queue reduction of more than 1140 feet, while also reducing other movements queueing and only resulting in a slight queue increase for the northbound left turn. See Table 8 for the simulation queueing results. Therefore, signal timing modifications are the recommended mitigation measure for the queueing impact. This mitigation measure will require coordination between the lead agency, City of Tracy, the Applicant, and Caltrans.

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Table 8 – Background Plus Project with Mitigation

Intersection		Movement	Storage Length (ft)	Background Plus Project Condition				Background Plus Project Condition with Improvements				Comparison			
				Average Queue (ft)		95th Percentile Queue (ft)		Average Queue (ft)		95th Percentile Queue (ft)		Average Queue (ft)		95th Percentile Queue (ft)	
				AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
1	I-205 WB Off-Ramp & MacArthur Dr	WBL	500	495	355	725	585	295	295	470	505	-200	-60	-255	-80
		WBT	1315	550	75	>1315[3]	395	25	40	175	265	-525	-35	>1140	-130
		WBR	25	40	35	80	70	40	30	70	65	0	-5	-10	-5
		NBL	200	90	110	185	240	105	175	205	295	15	65	20	55
		NBT	230	50	110	105	195	40	85	95	165	-10	-25	-10	-30
		SBT	1270	40	100	90	190	40	90	90	170	0	-10	0	-20
		SBR	1270	30	20	60	45	20	20	50	50	-10	0	-10	5
2	I-205 EB Off-Ramp & MacArthur Dr	EBL/T	1015	160	490	350	>1015[4]	125	270	260	540	-35	-220	-90	>475
		EBR	25	65	65	75	80	65	65	80	80	0	0	5	0
		NBT	755	60	160	140	275	55	145	145	270	-5	-15	5	-5
		NBR	755	35	80	85	160	30	65	75	145	-5	-15	-10	-15
		SBL	220	20	65	50	130	25	75	60	160	5	10	10	30
		SBT	220	165	160	315	305	185	40	335	145	20	-120	20	-160

Notes:

1. Movements highlighted in blue represent I-205 off ramp movements.
2. Queues that exceed the storage capacity are bolded.
3. Through movement queue length affected by turn movement queues exceeding capacity and spilling into through lanes.
4. EB Off-ramp queues exceeded capacity and extended into the mainline #3 Lane during the PM peak hour. The mainline was congested and had reduced speeds based on field observations and PeMs data pulled for the date of data collection.

Impact Assessment

Geometric Design Feature Review

The project will introduce new site driveways and access points, all of which will be designed in accordance with applicable City of Tracy design and safety standards to avoid creating geometric design hazards or incompatible use.

Caltrans Local Development Review (LDR) Safety Review Practitioner's Guidance: I-205/MacArthur Drive Freeway Ramp Queuing Analysis

The analysis found that the addition of the Project causes the Westbound Off-ramp 95th-percential queue during the PM peak hour to exceed the available ramp storage. Also, the speed differential between the ramp and the mainline is anticipated to exceed 30 miles per hour. Therefore, the ramp queuing has a potential safety impact. Signal timing modifications of the ramp terminal intersections will mitigate the queuing safety impact. This mitigation measure will require coordination between the lead agency, City of Tracy, the Applicant, and Caltrans.

Therefore, the Project is anticipated to result in a potentially significant hazard impact with mitigation incorporated due to the required coordination with Caltrans.

6. Emergency Access

The proposed Project would include one vehicular access point on Pescadero Avenue and two vehicular access point on Chrisman Road. The driveway on Pescadero Avenue is 40 feet wide and the other two driveways on Chrisman Road are 40 feet wide. The applicant shall provide a fire truck turn template layout to determine adequate fire truck maneuvers. The three driveways would be used as emergency evacuation plan routes.

Fire access from Fire Station 92 (located 1.8 mile southwest of the Project site) would be available via Grant Line Road and Chrisman Road.

The design of the on-site roadways and intersections will be subject to City of Tracy code and Public Works Department staff review and approval.

At this time without emergency vehicle turn templates provided by the applicant, the emergency access would result in a significant impact. To mitigate this impact, the Project shall provide emergency vehicle turn templates that meet City standards. If the Project provides compliant emergency vehicle turn templates, the emergency access impact is anticipated be less than significant.

7. Appendices

Appendix A. SimTraffic Report

Appendix B. Traffic Counts

Appendix C. Existing Transit Services

Appendix D. Planned Multimodal Improvements/Services

Appendix E. Industrial & Commercial Development Pipeline Report

Appendix F. PeMS Report Description

Appendix A. SimTraffic Report

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	599	878	67	205	120	108	77
Average Queue (ft)	399	284	40	72	47	42	24
95th Queue (ft)	663	1017	76	163	99	93	57
Link Distance (ft)		1314		262	262	1269	
Upstream Blk Time (%)		2		0			
Queuing Penalty (veh)		0		0			
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	20	3	6				
Queuing Penalty (veh)	16	11	22				

Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

Movement	EB	EB	NB	NB	SB	SB
Directions Served	LT	R	T	R	L	T
Maximum Queue (ft)	349	67	188	121	60	271
Average Queue (ft)	119	63	46	28	17	115
95th Queue (ft)	274	75	128	80	48	263
Link Distance (ft)	1016		184	184	262	262
Upstream Blk Time (%)			0	0		1
Queuing Penalty (veh)			1	0		2
Storage Bay Dist (ft)		15				
Storage Blk Time (%)	29	31				
Queuing Penalty (veh)	64	13				

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	560	541	67	243	213	223	71
Average Queue (ft)	323	102	34	92	113	100	17
95th Queue (ft)	567	521	72	210	193	189	48
Link Distance (ft)		1002		262	262	1269	
Upstream Blk Time (%)		1		0	0		
Queuing Penalty (veh)		0		1	0		
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	7	1	6				
Queuing Penalty (veh)	4	5	18				

Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

Movement	EB	EB	NB	NB	B29	B29	SB	SB
Directions Served	LT	R	T	R	T	T	L	T
Maximum Queue (ft)	742	67	270	204	89	36	148	275
Average Queue (ft)	355	62	135	71	5	2	62	160
95th Queue (ft)	751	81	254	159	41	21	128	297
Link Distance (ft)	1016		184	184	503	503	262	262
Upstream Blk Time (%)	3		4	1				1
Queuing Penalty (veh)	0		16	2				3
Storage Bay Dist (ft)		15						
Storage Blk Time (%)	59	25						
Queuing Penalty (veh)	105	37						

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	596	951	67	220	114	129	73
Average Queue (ft)	428	319	39	84	47	38	24
95th Queue (ft)	679	1088	76	178	98	95	58
Link Distance (ft)		1314		262	262	1269	
Upstream Blk Time (%)		4		0			
Queuing Penalty (veh)		0		0			
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	23	2	6				
Queuing Penalty (veh)	19	7	20				

Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

Movement	EB	EB	NB	NB	B29	B29	SB	SB
Directions Served	LT	R	T	R	T	T	L	T
Maximum Queue (ft)	401	67	178	127	6	4	66	277
Average Queue (ft)	150	64	61	35	0	0	17	134
95th Queue (ft)	322	74	145	89	7	4	49	288
Link Distance (ft)	1016		184	184	511	511	262	262
Upstream Blk Time (%)			0	0				1
Queuing Penalty (veh)			1	0				2
Storage Bay Dist (ft)		15						
Storage Blk Time (%)	27	35						
Queuing Penalty (veh)	69	15						

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	568	590	67	257	226	228	78
Average Queue (ft)	350	84	33	89	114	93	19
95th Queue (ft)	601	427	70	215	201	178	54
Link Distance (ft)		1002		262	262	1269	
Upstream Blk Time (%)		0		0	0		
Queuing Penalty (veh)		0		1	0		
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	6	2	6				
Queuing Penalty (veh)	3	6	18				

Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

Movement	EB	EB	NB	NB	B29	B29	SB	SB
Directions Served	LT	R	T	R	T	T	L	T
Maximum Queue (ft)	926	67	274	192	108	17	148	276
Average Queue (ft)	533	64	163	76	11	1	62	156
95th Queue (ft)	1027	77	281	157	70	13	123	289
Link Distance (ft)	1016		184	184	503	503	262	262
Upstream Blk Time (%)	6		7	0				1
Queuing Penalty (veh)	0		27	1				3
Storage Bay Dist (ft)		15						
Storage Blk Time (%)	58	30						
Queuing Penalty (veh)	123	45						

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	600	1168	67	226	103	129	86
Average Queue (ft)	478	456	40	86	41	40	25
95th Queue (ft)	716	1285	75	190	88	96	59
Link Distance (ft)		1314		262	262	1269	
Upstream Blk Time (%)		8		0			
Queuing Penalty (veh)		0		0			
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	33	2	6				
Queuing Penalty (veh)	27	10	22				

Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

Movement	EB	EB	NB	NB	B29	B29	SB	SB
Directions Served	LT	R	T	R	T	T	L	T
Maximum Queue (ft)	518	67	169	114	6	17	69	276
Average Queue (ft)	184	64	54	33	0	1	18	145
95th Queue (ft)	403	73	136	87	0	13	50	297
Link Distance (ft)	1016		184	184	511	511	262	262
Upstream Blk Time (%)			0	0				1
Queuing Penalty (veh)			0	0				3
Storage Bay Dist (ft)		15						
Storage Blk Time (%)	28	38						
Queuing Penalty (veh)	76	16						

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	574	481	67	268	236	221	72
Average Queue (ft)	334	55	34	127	94	98	18
95th Queue (ft)	560	322	72	272	182	186	49
Link Distance (ft)		1002		262	262	1269	
Upstream Blk Time (%)		0		1	0		
Queuing Penalty (veh)		0		3	0		
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	3	2	6				
Queuing Penalty (veh)	2	7	20				

Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

Movement	EB	EB	NB	NB	B29	B29	SB	SB
Directions Served	LT	R	T	R	T	T	L	T
Maximum Queue (ft)	957	67	273	199	121	40	153	256
Average Queue (ft)	549	65	157	80	10	2	64	94
95th Queue (ft)	1053	75	270	162	66	26	127	222
Link Distance (ft)	1016		184	184	503	503	262	262
Upstream Blk Time (%)	12		7	0				1
Queuing Penalty (veh)	0		26	1				1
Storage Bay Dist (ft)		15						
Storage Blk Time (%)	60	28						
Queuing Penalty (veh)	132	42						

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	507	248	70	243	120	112	74
Average Queue (ft)	291	21	36	103	38	36	20
95th Queue (ft)	467	174	67	203	94	86	50
Link Distance (ft)		1314		262	262	1269	
Upstream Blk Time (%)				0			
Queuing Penalty (veh)				1			
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	1	1	6				
Queuing Penalty (veh)	1	2	20				

Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

Movement	EB	EB	NB	NB	B29	SB	SB
Directions Served	LT	R	T	R	T	L	T
Maximum Queue (ft)	325	76	188	88	6	75	281
Average Queue (ft)	123	63	53	28	0	21	183
95th Queue (ft)	259	77	143	72	6	58	332
Link Distance (ft)	1016		184	184	511	262	262
Upstream Blk Time (%)			0				4
Queuing Penalty (veh)			1				9
Storage Bay Dist (ft)		15					
Storage Blk Time (%)	33	35					
Queuing Penalty (veh)	88	14					

Intersection: 1: MACARTHUR DRIVE (N) & I-205 WEST ON RAMP/I-205 WEST OFF RAMP

Movement	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	R
Maximum Queue (ft)	540	356	69	276	196	204	76
Average Queue (ft)	293	37	30	171	82	89	18
95th Queue (ft)	503	265	63	295	162	166	49
Link Distance (ft)		1002		262	262	1269	
Upstream Blk Time (%)				2	0		
Queuing Penalty (veh)				6	0		
Storage Bay Dist (ft)	550		25				452
Storage Blk Time (%)	3	2	5				
Queuing Penalty (veh)	1	7	17				

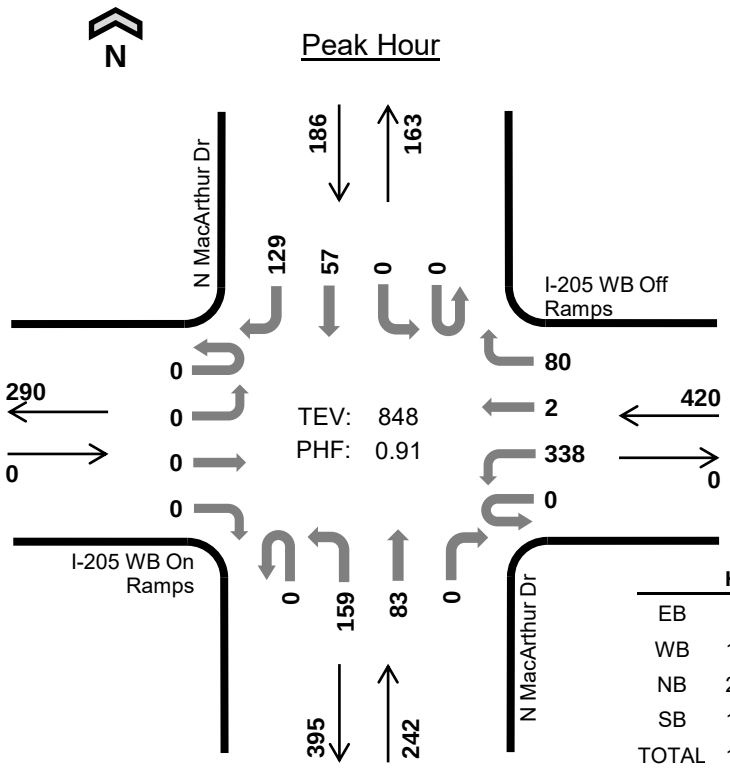
Intersection: 2: MACARTHUR DRIVE (N) & I-205 EAST OFF RAMP/I-205 EAST ON RAMP

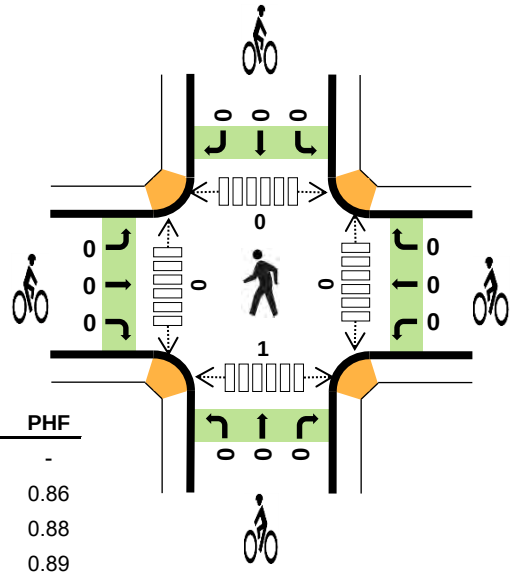
Movement	EB	EB	NB	NB	B29	B29	SB	SB
Directions Served	LT	R	T	R	T	T	L	T
Maximum Queue (ft)	573	76	274	184	93	33	188	243
Average Queue (ft)	267	64	142	65	8	2	71	39
95th Queue (ft)	539	78	267	143	53	22	156	142
Link Distance (ft)	1016		184	184	503	503	262	262
Upstream Blk Time (%)	0		5	0			0	0
Queuing Penalty (veh)	0		21	1			0	0
Storage Bay Dist (ft)		15						
Storage Blk Time (%)	54	23						
Queuing Penalty (veh)	118	34						

Appendix B. Traffic Counts

N MacArthur Dr
I-205 WB Off Ramps

Date: 11/19/2024
Count Period: 4:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV %:	PHF
EB	-	-
WB	13.3%	0.86
NB	23.6%	0.88
SB	13.4%	0.89
TOTAL	16.3%	0.91

Five-Hour Count Summaries

Interval Start	I-205 WB On Ramps				I-205 WB Off Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM	0	0	0	0	0	80	1	23	0	36	12	0	0	0	12	36	200	0
7:45 AM	0	0	0	0	0	97	1	24	0	49	18	0	0	0	21	23	233	0
8:00 AM	0	0	0	0	0	89	0	17	0	32	26	0	0	0	13	29	206	0
8:15 AM	0	0	0	0	0	72	0	16	0	42	27	0	0	0	11	41	209	848
Peak Hour All	0	0	0	0	0	338	2	80	0	159	83	0	0	0	57	129	848	0
Peak Hour HV	0	0	0	0	0	49	1	6	0	51	6	0	0	0	17	8	138	0
Peak Hour HV%	-	-	-	-	-	14%	50%	8%	-	32%	7%	-	-	-	30%	6%	16%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	0	13	13	8	*34*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	16	19	7	*42*	0	0	0	0	*0*	0	0	0	1	*1*
8:00 AM	0	15	6	9	*30*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	12	19	1	*32*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	0	56	57	25	*138*	0	0	0	0	*0*	0	0	0	1	*1*

Five-Hour Count Summaries

Interval Start	I-205 WB On Ramps				I-205 WB Off Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 AM	0	0	0	0	0	36	3	2	0	30	1	0	0	0	11	19	102	0
4:15 AM	0	0	0	0	0	37	1	5	0	35	5	0	0	0	7	25	115	0
4:30 AM	0	0	0	0	0	22	1	8	0	29	4	0	0	0	8	15	87	0
4:45 AM	0	0	0	0	0	34	0	24	0	36	10	0	0	0	11	27	142	446
5:00 AM	0	0	0	0	0	22	0	16	0	35	12	0	0	0	12	21	118	462
5:15 AM	0	0	0	0	0	45	0	19	0	40	10	0	0	0	9	28	151	498
5:30 AM	0	0	0	0	0	53	1	46	0	22	14	0	0	0	20	18	174	585
5:45 AM	0	0	0	0	0	104	0	85	0	24	19	0	0	0	13	23	268	711
6:00 AM	0	0	0	0	0	62	0	21	0	33	10	0	0	0	15	29	170	763
6:15 AM	0	0	0	0	0	59	1	15	0	30	19	0	0	0	15	16	155	767
6:30 AM	0	0	0	0	0	73	0	19	0	39	16	0	0	0	17	24	188	781
6:45 AM	0	0	0	0	0	104	1	21	0	33	19	0	0	0	9	24	211	724
7:00 AM	0	0	0	0	0	75	2	10	0	40	19	0	0	0	14	25	185	739
7:15 AM	0	0	0	0	0	75	0	12	0	41	17	0	0	0	20	25	190	774
7:30 AM	**0**	**0**	**0**	**0**	**0**	**80**	**1**	**23**	**0**	**36**	**12**	**0**	**0**	**0**	**12**	**36**	**200**	786
7:45 AM	**0**	**0**	**0**	**0**	**0**	**97**	**1**	**24**	**0**	**49**	**18**	**0**	**0**	**0**	**21**	**23**	**233**	808
8:00 AM	**0**	**0**	**0**	**0**	**0**	**89**	**0**	**17**	**0**	**32**	**26**	**0**	**0**	**0**	**13**	**29**	**206**	829
8:15 AM	**0**	**0**	**0**	**0**	**0**	**72**	**0**	**16**	**0**	**42**	**27**	**0**	**0**	**0**	**11**	**41**	**209**	**848**
8:30 AM	0	0	0	0	0	53	2	13	0	33	23	0	0	0	15	37	176	824
8:45 AM	0	0	0	0	0	68	2	19	0	46	21	0	0	0	7	31	194	785
Count Total	0	0	0	0	0	1,260	16	415	0	705	302	0	0	0	260	516	3,474	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**338**	**2**	**80**	**0**	**159**	**83**	**0**	**0**	**0**	**57**	**129**	**848**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**49**	**1**	**6**	**0**	**51**	**6**	**0**	**0**	**0**	**17**	**8**	**138**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**14%**	**50%**	**8%**	**-**	**32%**	**7%**	**-**	**-**	**-**	**30%**	**6%**	**16%**	**0**

Note: Five-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 AM	0	8	10	4	*22*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 AM	0	6	12	0	*18*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 AM	0	9	10	2	*21*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 AM	0	12	10	4	*26*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 AM	0	8	12	4	*24*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 AM	0	8	15	4	*27*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 AM	0	10	14	9	*33*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 AM	0	15	11	4	*30*	0	0	0	0	*0*	0	0	0	0	*0*
6:00 AM	0	11	12	7	*30*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	0	11	12	12	*35*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	0	20	16	3	*39*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	0	23	16	4	*43*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	0	10	15	14	*39*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	10	18	8	*36*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**0**	**13**	**13**	**8**	***34***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**16**	**19**	**7**	***42***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	*1*
8:00 AM	**0**	**15**	**6**	**9**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**0**	**12**	**19**	**1**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	0	20	11	3	*34*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	21	14	4	*39*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	258	265	111	*634*	0	0	0	0	*0*	0	0	0	1	*1*
Peak Hour	**0**	**56**	**57**	**25**	***138***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**1**	***1***

Five-Hour Count Summaries - Heavy Vehicles

Interval Start	I-205 WB On Ramps				I-205 WB Off Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 AM	0	0	0	0	0	6	0	2	0	10	0	0	0	0	4	0	22	0
4:15 AM	0	0	0	0	0	4	1	1	0	12	0	0	0	0	0	0	18	0
4:30 AM	0	0	0	0	0	5	1	3	0	10	0	0	0	0	2	0	21	0
4:45 AM	0	0	0	0	0	8	0	4	0	9	1	0	0	0	3	1	26	87
5:00 AM	0	0	0	0	0	6	0	2	0	11	1	0	0	0	2	2	24	89
5:15 AM	0	0	0	0	0	8	0	0	0	15	0	0	0	0	3	1	27	98
5:30 AM	0	0	0	0	0	8	0	2	0	13	1	0	0	0	8	1	33	110
5:45 AM	0	0	0	0	0	14	0	1	0	10	1	0	0	0	4	0	30	114
6:00 AM	0	0	0	0	0	11	0	0	0	12	0	0	0	0	6	1	30	120
6:15 AM	0	0	0	0	0	11	0	0	0	12	0	0	0	0	12	0	35	128
6:30 AM	0	0	0	0	0	18	0	2	0	15	1	0	0	0	2	1	39	134
6:45 AM	0	0	0	0	0	17	1	5	0	15	1	0	0	0	3	1	43	147
7:00 AM	0	0	0	0	0	8	1	1	0	12	3	0	0	0	10	4	39	156
7:15 AM	0	0	0	0	0	8	0	2	0	14	4	0	0	0	5	3	36	157
7:30 AM	**0**	**0**	**0**	**0**	**0**	**10**	**1**	**2**	**0**	**13**	**0**	**0**	**0**	**0**	**5**	**3**	**34**	152
7:45 AM	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**2**	**0**	**18**	**1**	**0**	**0**	**0**	**6**	**1**	**42**	151
8:00 AM	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**1**	**0**	**6**	**0**	**0**	**0**	**0**	**5**	**4**	**30**	142
8:15 AM	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**1**	**0**	**14**	**5**	**0**	**0**	**0**	**1**	**0**	**32**	**138**
8:30 AM	0	0	0	0	0	18	1	1	0	8	3	0	0	0	3	0	34	138
8:45 AM	0	0	0	0	0	16	0	5	0	12	2	0	0	0	3	1	39	135
Count Total	0	0	0	0	0	215	6	37	0	241	24	0	0	0	87	24	634	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**49**	**1**	**6**	**0**	**51**	**6**	**0**	**0**	**0**	**17**	**8**	**138**	**0**

Five-Hour Count Summaries - Bikes

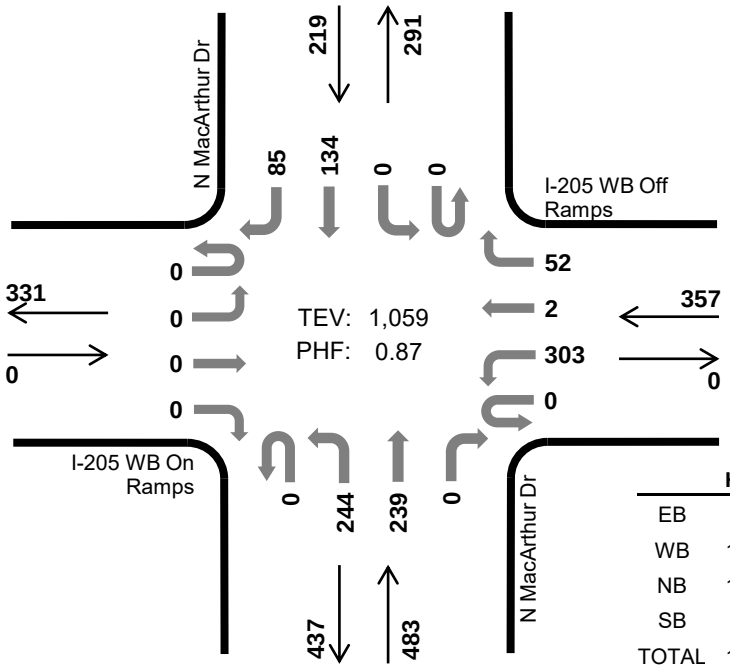
Interval Start	I-205 WB On Ramps			I-205 WB Off Ramps			N MacArthur Dr			N MacArthur Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

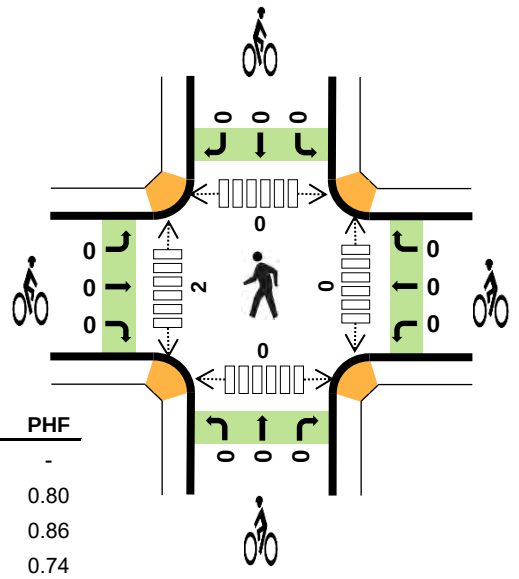
N MacArthur Dr
I-205 WB Off Ramps

Peak Hour

Date: 11/19/2024
Count Period: 3:00 PM to 6:00 PM
Peak Hour: 3:15 PM to 4:15 PM



	HV %:	PHF
EB	-	-
WB	19.0%	0.80
NB	10.6%	0.86
SB	7.8%	0.74
TOTAL	12.8%	0.87



Three-Hour Count Summaries

Interval Start	I-205 WB On Ramps				I-205 WB Off Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:15 PM	0	0	0	0	0	66	0	11	0	67	55	0	0	0	29	16	244	0
3:30 PM	0	0	0	0	0	99	0	13	0	61	57	0	0	0	53	21	304	0
3:45 PM	0	0	0	0	0	81	0	19	0	60	42	0	0	0	19	30	251	0
4:00 PM	0	0	0	0	0	57	2	9	0	56	85	0	0	0	33	18	260	1,059
Peak Hour All	0	0	0	0	0	303	2	52	0	244	239	0	0	0	134	85	1,059	0
Peak Hour HV	0	0	0	0	0	57	0	11	0	40	11	0	0	0	13	4	136	0
Peak Hour HV%	-	-	-	-	-	19%	0%	21%	-	16%	5%	-	-	-	10%	5%	13%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:15 PM	0	17	11	4	*32*	0	0	0	0	*0*	0	0	0	0	*0*
3:30 PM	0	19	15	6	*40*	0	0	0	0	*0*	0	0	0	0	*0*
3:45 PM	0	19	9	4	*32*	0	0	0	0	*0*	0	2	0	0	*2*
4:00 PM	0	13	16	3	*32*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	0	68	51	17	*136*	0	0	0	0	*0*	0	2	0	0	*2*

Three-Hour Count Summaries

Interval Start	I-205 WB On Ramps				I-205 WB Off Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	0	0	0	70	0	18	0	48	51	0	0	0	40	14	241	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**66**	**0**	**11**	**0**	**67**	**55**	**0**	**0**	**0**	**29**	**16**	**244**	0
3:30 PM	**0**	**0**	**0**	**0**	**0**	**99**	**0**	**13**	**0**	**61**	**57**	**0**	**0**	**0**	**53**	**21**	**304**	0
3:45 PM	**0**	**0**	**0**	**0**	**0**	**81**	**0**	**19**	**0**	**60**	**42**	**0**	**0**	**0**	**19**	**30**	**251**	1,040
4:00 PM	**0**	**0**	**0**	**0**	**0**	**57**	**2**	**9**	**0**	**56**	**85**	**0**	**0**	**0**	**33**	**18**	**260**	**1,059**
4:15 PM	0	0	0	0	0	65	1	11	0	53	67	0	0	0	22	25	244	1,059
4:30 PM	0	0	0	0	0	71	2	19	0	52	62	0	0	0	16	26	248	1,003
4:45 PM	0	0	0	0	0	66	3	12	0	72	75	0	0	0	17	23	268	1,020
5:00 PM	0	0	0	0	0	53	0	13	0	74	81	0	0	0	21	24	266	1,026
5:15 PM	0	0	0	0	0	63	0	9	0	54	82	0	0	0	18	19	245	1,027
5:30 PM	0	0	0	0	0	58	0	10	0	67	73	0	0	0	24	25	257	1,036
5:45 PM	0	0	0	0	0	71	0	10	0	55	77	0	0	0	15	28	256	1,024
Count Total	0	0	0	0	0	820	8	154	0	719	807	0	0	0	307	269	3,084	0
Peak Hour All	**0**	**0**	**0**	**0**	**0**	**303**	**2**	**52**	**0**	**244**	**239**	**0**	**0**	**0**	**134**	**85**	**1,059**	**0**
Peak Hour HV	**0**	**0**	**0**	**0**	**0**	**57**	**0**	**11**	**0**	**40**	**11**	**0**	**0**	**0**	**13**	**4**	**136**	**0**
Peak Hour HV%	**-**	**-**	**-**	**-**	**-**	**19%**	**0%**	**21%**	**-**	**16%**	**5%**	**-**	**-**	**-**	**10%**	**5%**	**13%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	0	21	17	12	*50*	0	0	1	0	*1*	0	0	0	0	*0*
3:15 PM	**0**	**17**	**11**	**4**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:30 PM	**0**	**19**	**15**	**6**	***40***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:45 PM	**0**	**19**	**9**	**4**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	*2*
4:00 PM	**0**	**13**	**16**	**3**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
4:15 PM	0	21	15	5	*41*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	19	9	4	*32*	0	0	1	0	*1*	0	0	0	0	*0*
4:45 PM	0	16	18	4	*38*	0	0	1	0	*1*	0	0	0	0	*0*
5:00 PM	0	15	20	6	*41*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	8	17	6	*31*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	7	6	3	*16*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	6	5	5	*16*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	181	158	62	*401*	0	0	3	0	*3*	0	2	0	0	*2*
Peak Hour	**0**	**68**	**51**	**17**	***136***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**0**	**0**	***2***

Project Manager: (415) 310-6469 project.manager.ca@idaxdata.com

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	I-205 WB On Ramps				I-205 WB Off Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	0	0	0	16	0	5	0	13	4	0	0	0	12	0	50	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**1**	**0**	**10**	**1**	**0**	**0**	**0**	**4**	**0**	**32**	0
3:30 PM	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**2**	**0**	**14**	**1**	**0**	**0**	**0**	**5**	**1**	**40**	0
3:45 PM	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**5**	**0**	**9**	**0**	**0**	**0**	**0**	**2**	**2**	**32**	154
4:00 PM	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**3**	**0**	**7**	**9**	**0**	**0**	**0**	**2**	**1**	**32**	**136**
4:15 PM	0	0	0	0	0	17	0	4	0	12	3	0	0	0	5	0	41	145
4:30 PM	0	0	0	0	0	15	0	4	0	6	3	0	0	0	3	1	32	137
4:45 PM	0	0	0	0	0	12	0	4	0	17	1	0	0	0	2	2	38	143
5:00 PM	0	0	0	0	0	10	0	5	0	15	5	0	0	0	6	0	41	152
5:15 PM	0	0	0	0	0	5	0	3	0	10	7	0	0	0	6	0	31	142
5:30 PM	0	0	0	0	0	6	0	1	0	6	0	0	0	0	3	0	16	126
5:45 PM	0	0	0	0	0	4	0	2	0	4	1	0	0	0	3	2	16	104
Count Total	0	0	0	0	0	142	0	39	0	123	35	0	0	0	53	9	401	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**57**	**0**	**11**	**0**	**40**	**11**	**0**	**0**	**0**	**13**	**4**	**136**	**0**

Three-Hour Count Summaries - Bikes

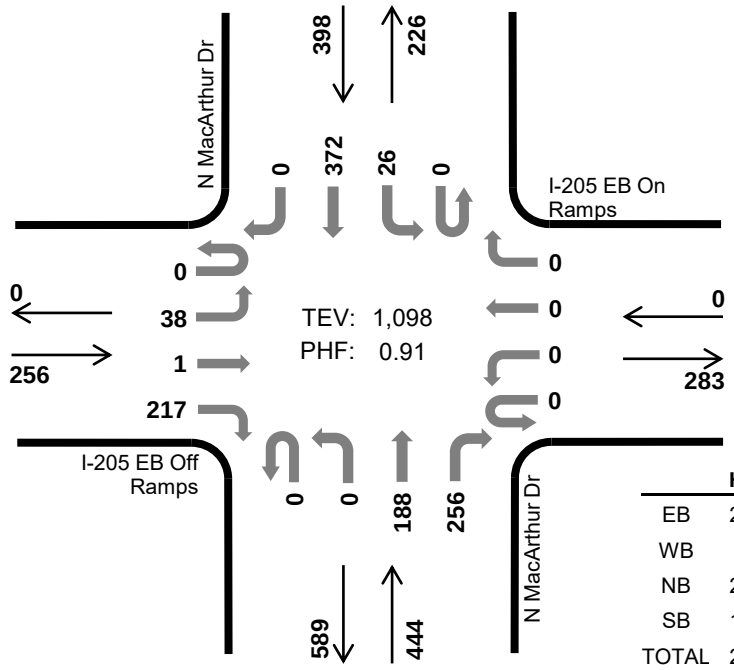
Interval Start	I-205 WB On Ramps			I-205 WB Off Ramps			N MacArthur Dr			N MacArthur Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	1
4:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	3	0	0	0	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

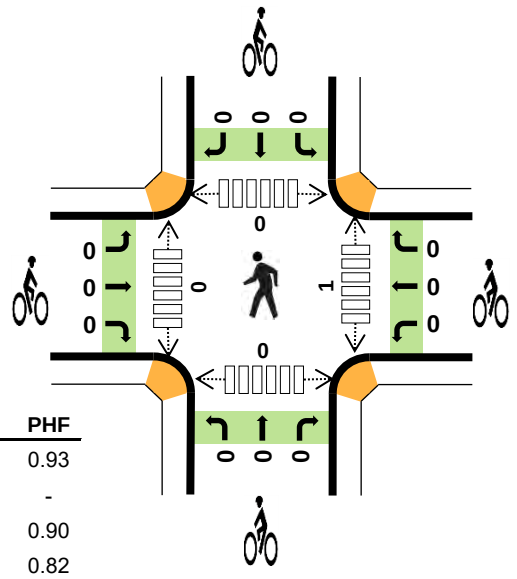
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N MacArthur Dr
I-205 EB On Ramps

Peak Hour

Date: 11/19/2024
Count Period: 4:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	24.2%	0.93
WB	-	-
NB	24.5%	0.90
SB	16.8%	0.82
TOTAL	21.7%	0.91

Five-Hour Count Summaries

Interval Start	I-205 EB Off Ramps				I-205 EB On Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM	0	11	1	49	0	0	0	0	0	0	44	80	0	3	98	0	286	0
7:30 AM	0	7	0	62	0	0	0	0	0	0	42	67	0	4	81	0	263	0
7:45 AM	0	8	0	56	0	0	0	0	0	0	56	59	0	9	113	0	301	0
8:00 AM	0	12	0	50	0	0	0	0	0	0	46	50	0	10	80	0	248	1,098
Peak Hour All	0	38	1	217	0	0	0	0	0	0	188	256	0	26	372	0	1,098	0
Peak Hour HV	0	2	0	60	0	0	0	0	0	0	54	55	0	14	53	0	238	0
Peak Hour HV%	-	5%	0%	28%	-	-	-	-	-	-	29%	21%	-	54%	14%	-	22%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:15 AM	13	0	34	14	*61*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	20	0	26	12	*58*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	15	0	31	21	*67*	0	0	0	0	*0*	1	0	0	0	*1*
8:00 AM	14	0	18	20	*52*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	62	0	109	67	*238*	0	0	0	0	*0*	1	0	0	0	*1*

Five-Hour Count Summaries

Interval Start	I-205 EB Off Ramps				I-205 EB On Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 AM	0	1	0	18	0	0	0	0	0	0	34	23	0	9	39	0	124	0
4:15 AM	0	2	0	15	0	0	0	0	0	0	37	16	0	3	41	0	114	0
4:30 AM	0	1	0	26	0	0	0	0	0	0	35	87	0	5	27	0	181	0
4:45 AM	0	10	0	23	0	0	0	0	0	0	34	67	0	5	41	0	180	599
5:00 AM	0	4	1	20	0	0	0	0	0	0	41	195	0	4	29	0	294	769
5:15 AM	0	6	0	28	0	0	0	0	0	0	48	132	0	10	48	0	272	927
5:30 AM	0	7	0	37	0	0	0	0	0	0	31	61	0	12	61	0	209	955
5:45 AM	0	6	0	39	0	0	0	0	0	0	34	54	0	6	113	0	252	1,027
6:00 AM	0	6	0	28	0	0	0	0	0	0	37	71	0	12	65	0	219	952
6:15 AM	0	14	1	39	0	0	0	0	0	0	36	53	0	12	64	0	219	899
6:30 AM	0	10	0	38	0	0	0	0	0	0	46	72	0	9	87	0	262	952
6:45 AM	0	12	0	46	0	0	0	0	0	0	39	69	0	1	110	0	277	977
7:00 AM	0	9	0	44	0	0	0	0	0	0	53	48	0	12	73	0	239	997
7:15 AM	**0**	**11**	**1**	**49**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	**80**	**0**	**3**	**98**	**0**	**286**	1,064
7:30 AM	**0**	**7**	**0**	**62**	**0**	**0**	**0**	**0**	**0**	**0**	**42**	**67**	**0**	**4**	**81**	**0**	**263**	1,065
7:45 AM	**0**	**8**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	**59**	**0**	**9**	**113**	**0**	**301**	1,089
8:00 AM	**0**	**12**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**0**	**46**	**50**	**0**	**10**	**80**	**0**	**248**	**1,098**
8:15 AM	0	16	0	45	0	0	0	0	0	0	48	59	0	4	84	0	256	1,068
8:30 AM	0	19	0	49	0	0	0	0	0	0	39	57	0	5	57	0	226	1,031
8:45 AM	0	11	0	47	0	0	0	0	0	0	53	60	0	1	75	0	247	977
Count Total	0	172	3	759	0	0	0	0	0	0	833	1,380	0	136	1,386	0	4,669	0
Peak Hour All	**0**	**38**	**1**	**217**	**0**	**0**	**0**	**0**	**0**	**0**	**188**	**256**	**0**	**26**	**372**	**0**	**1,098**	**0**
Peak Hour HV	**0**	**2**	**0**	**60**	**0**	**0**	**0**	**0**	**0**	**0**	**54**	**55**	**0**	**14**	**53**	**0**	**238**	**0**
Peak Hour HV%	**-**	**5%**	**0%**	**28%**	**-**	**-**	**-**	**-**	**-**	**-**	**29%**	**21%**	**-**	**54%**	**14%**	**-**	**22%**	**0**

Note: Five-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 AM	7	0	17	11	*35*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 AM	4	0	18	4	*26*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 AM	8	0	20	7	*35*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 AM	3	0	18	11	*32*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 AM	6	0	17	8	*31*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 AM	7	0	22	12	*41*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 AM	8	0	21	16	*45*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 AM	12	0	22	18	*52*	0	0	0	0	*0*	0	0	0	0	*0*
6:00 AM	13	0	24	18	*55*	0	0	0	0	*0*	0	0	0	0	*0*
6:15 AM	18	0	24	20	*62*	0	0	0	0	*0*	0	0	0	0	*0*
6:30 AM	18	0	26	22	*66*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	14	0	42	18	*74*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	15	0	25	17	*57*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**13**	**0**	**34**	**14**	***61***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**20**	**0**	**26**	**12**	***58***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**15**	**0**	**31**	**21**	***67***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	*1*
8:00 AM	**14**	**0**	**18**	**20**	***52***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	19	0	26	12	*57*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	19	0	29	22	*70*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	13	0	39	19	*71*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	246	0	499	302	*1,047*	0	0	0	0	*0*	2	0	0	0	*2*
Peak Hour	**62**	**0**	**109**	**67**	***238***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**0**	**0**	***1***

Five-Hour Count Summaries - Heavy Vehicles

Interval Start	I-205 EB Off Ramps				I-205 EB On Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 AM	0	0	0	7	0	0	0	0	0	0	10	7	0	2	9	0	35	0
4:15 AM	0	0	0	4	0	0	0	0	0	0	12	6	0	0	4	0	26	0
4:30 AM	0	0	0	8	0	0	0	0	0	0	11	9	0	2	5	0	35	0
4:45 AM	0	1	0	2	0	0	0	0	0	0	7	11	0	1	10	0	32	128
5:00 AM	0	0	0	6	0	0	0	0	0	0	12	5	0	0	8	0	31	124
5:15 AM	0	0	0	7	0	0	0	0	0	0	15	7	0	4	8	0	41	139
5:30 AM	0	0	0	8	0	0	0	0	0	0	13	8	0	4	12	0	45	149
5:45 AM	0	0	0	12	0	0	0	0	0	0	11	11	0	2	16	0	52	169
6:00 AM	0	0	0	13	0	0	0	0	0	0	13	11	0	4	14	0	55	193
6:15 AM	0	0	1	17	0	0	0	0	0	0	13	11	0	8	12	0	62	214
6:30 AM	0	2	0	16	0	0	0	0	0	0	16	10	0	3	19	0	66	235
6:45 AM	0	0	0	14	0	0	0	0	0	0	15	27	0	1	17	0	74	257
7:00 AM	0	2	0	13	0	0	0	0	0	0	14	11	0	8	9	0	57	259
7:15 AM	**0**	**2**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**19**	**0**	**2**	**12**	**0**	**61**	258
7:30 AM	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**14**	**0**	**2**	**10**	**0**	**58**	250
7:45 AM	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**12**	**0**	**4**	**17**	**0**	**67**	243
8:00 AM	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**10**	**0**	**6**	**14**	**0**	**52**	**238**
8:15 AM	0	4	0	15	0	0	0	0	0	0	13	13	0	1	11	0	57	234
8:30 AM	0	2	0	17	0	0	0	0	0	0	9	20	0	1	21	0	70	246
8:45 AM	0	0	0	13	0	0	0	0	0	0	15	24	0	1	18	0	71	250
Count Total	0	13	1	232	0	0	0	0	0	0	253	246	0	56	246	0	1,047	0
Peak Hour	**0**	**2**	**0**	**60**	**0**	**0**	**0**	**0**	**0**	**0**	**54**	**55**	**0**	**14**	**53**	**0**	**238**	**0**

Five-Hour Count Summaries - Bikes

Interval Start	I-205 EB Off Ramps			I-205 EB On Ramps			N MacArthur Dr			N MacArthur Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

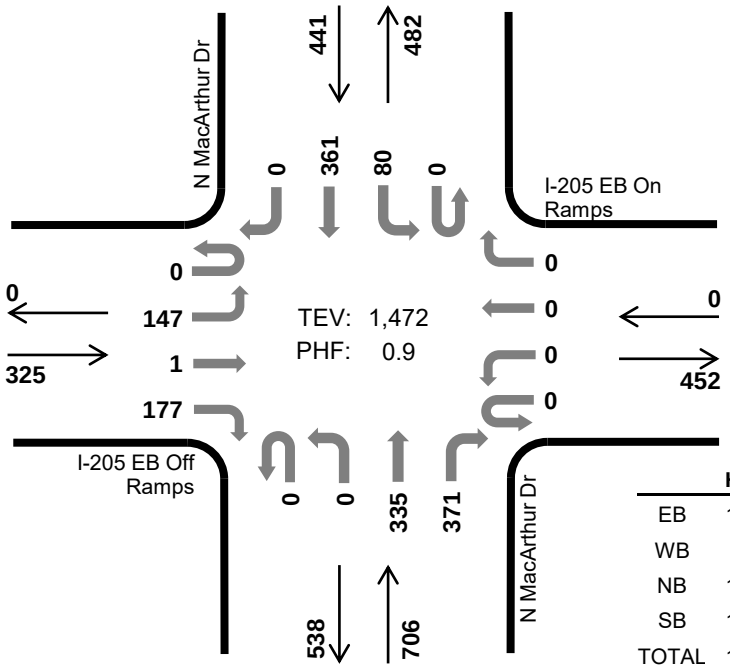
Project Manager: (415) 310-6469

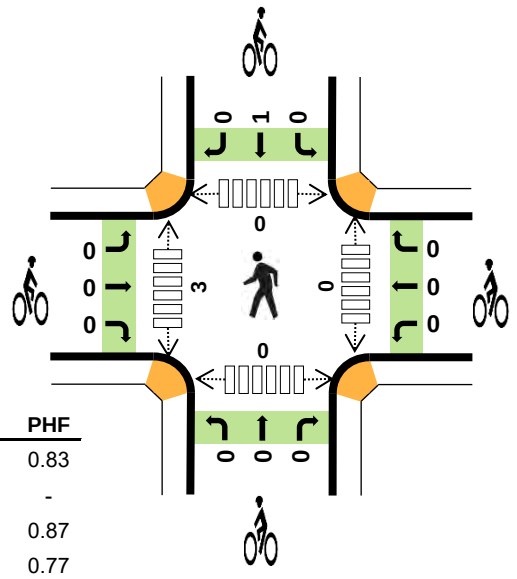
project.manager.ca@idaxdata.com

N MacArthur Dr
I-205 EB On Ramps

Peak Hour

Date: 11/19/2024
Count Period: 3:00 PM to 6:00 PM
Peak Hour: 3:15 PM to 4:15 PM





	HV %:	PHF
EB	16.0%	0.83
WB	-	-
NB	14.0%	0.87
SB	16.1%	0.77
TOTAL	15.1%	0.90

Three-Hour Count Summaries

Interval Start	I-205 EB Off Ramps				I-205 EB On Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:15 PM	0	31	0	51	0	0	0	0	0	0	90	114	0	23	82	0	391	0
3:30 PM	0	32	0	41	0	0	0	0	0	0	87	103	0	35	109	0	407	0
3:45 PM	0	30	1	41	0	0	0	0	0	0	72	80	0	5	103	0	332	0
4:00 PM	0	54	0	44	0	0	0	0	0	0	86	74	0	17	67	0	342	1,472
Peak Hour All	0	147	1	177	0	0	0	0	0	0	335	371	0	80	361	0	1,472	0
Peak Hour HV	0	6	0	46	0	0	0	0	0	0	45	54	0	5	66	0	222	0
Peak Hour HV%	-	4%	0%	26%	-	-	-	-	-	-	13%	15%	-	6%	18%	-	15%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:15 PM	16	0	31	22	*69*	0	0	0	0	*0*	0	0	0	0	*0*
3:30 PM	13	0	28	21	*62*	0	0	0	0	*0*	0	0	0	0	*0*
3:45 PM	4	0	21	18	*43*	0	0	0	1	*1*	0	3	0	0	*3*
4:00 PM	19	0	19	10	*48*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	52	0	99	71	*222*	0	0	0	1	*1*	0	3	0	0	*3*

Three-Hour Count Summaries

Interval Start	I-205 EB Off Ramps				I-205 EB On Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	35	0	50	0	0	0	0	0	0	62	57	0	18	75	0	297	0
3:15 PM	**0**	**31**	**0**	**51**	**0**	**0**	**0**	**0**	**0**	**0**	**90**	**114**	**0**	**23**	**82**	**0**	**391**	0
3:30 PM	**0**	**32**	**0**	**41**	**0**	**0**	**0**	**0**	**0**	**0**	**87**	**103**	**0**	**35**	**109**	**0**	**407**	0
3:45 PM	**0**	**30**	**1**	**41**	**0**	**0**	**0**	**0**	**0**	**0**	**72**	**80**	**0**	**5**	**103**	**0**	**332**	1,427
4:00 PM	**0**	**54**	**0**	**44**	**0**	**0**	**0**	**0**	**0**	**0**	**86**	**74**	**0**	**17**	**67**	**0**	**342**	**1,472**
4:15 PM	0	41	2	79	0	0	0	0	0	0	73	69	0	16	79	0	359	1,440
4:30 PM	0	50	1	50	0	0	0	0	0	0	70	63	0	9	72	0	315	1,348
4:45 PM	0	43	0	57	0	0	0	0	0	0	97	53	0	5	84	0	339	1,355
5:00 PM	0	60	0	51	0	0	0	0	0	0	105	76	0	12	63	0	367	1,380
5:15 PM	0	63	0	60	0	0	0	0	0	0	75	49	0	10	77	0	334	1,355
5:30 PM	0	69	2	40	0	0	0	0	1	0	73	79	0	7	66	0	337	1,377
5:45 PM	0	62	2	61	0	0	0	0	0	0	66	48	0	3	89	0	331	1,369
Count Total	0	570	8	625	0	0	0	0	1	0	956	865	0	160	966	0	4,151	0
Peak Hour All	**0**	**147**	**1**	**177**	**0**	**0**	**0**	**0**	**0**	**0**	**335**	**371**	**0**	**80**	**361**	**0**	**1,472**	**0**
Peak Hour HV	**0**	**6**	**0**	**46**	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**54**	**0**	**5**	**66**	**0**	**222**	**0**
Peak Hour HV%	**-**	**4%**	**0%**	**26%**	**-**	**-**	**-**	**-**	**-**	**-**	**13%**	**15%**	**-**	**6%**	**18%**	**-**	**15%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	16	0	29	25	*70*	0	0	1	0	*1*	0	0	0	0	*0*
3:15 PM	**16**	**0**	**31**	**22**	***69***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:30 PM	**13**	**0**	**28**	**21**	***62***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:45 PM	**4**	**0**	**21**	**18**	***43***	**0**	**0**	**0**	**1**	***1***	**0**	**3**	**0**	**0**	*3*
4:00 PM	**19**	**0**	**19**	**10**	***48***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
4:15 PM	25	0	27	22	*74*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	9	0	21	17	*47*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	9	0	25	16	*50*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	10	0	33	17	*60*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	11	0	22	11	*44*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	10	0	15	9	*34*	0	0	0	2	*2*	0	0	0	0	*0*
5:45 PM	10	0	12	7	*29*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	152	0	283	195	*630*	0	0	1	3	*4*	0	3	0	0	*3*
Peak Hour	**52**	**0**	**99**	**71**	***222***	**0**	**0**	**0**	**1**	***1***	**0**	**3**	**0**	**0**	***3***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	I-205 EB Off Ramps				I-205 EB On Ramps				N MacArthur Dr				N MacArthur Dr				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	1	0	15	0	0	0	0	0	0	15	14	0	6	19	0	70	0
3:15 PM	**0**	**0**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**20**	**0**	**3**	**19**	**0**	**69**	0
3:30 PM	**0**	**1**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**14**	**0**	**2**	**19**	**0**	**62**	0
3:45 PM	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**12**	**0**	**0**	**18**	**0**	**43**	244
4:00 PM	**0**	**5**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**8**	**0**	**0**	**10**	**0**	**48**	**222**
4:15 PM	0	0	1	24	0	0	0	0	0	0	13	14	0	4	18	0	74	227
4:30 PM	0	0	0	9	0	0	0	0	0	0	11	10	0	3	14	0	47	212
4:45 PM	0	1	0	8	0	0	0	0	0	0	17	8	0	1	15	0	50	219
5:00 PM	0	1	0	9	0	0	0	0	0	0	21	12	0	5	12	0	60	231
5:15 PM	0	2	0	9	0	0	0	0	0	0	15	7	0	1	10	0	44	201
5:30 PM	0	0	0	10	0	0	0	0	0	0	6	9	0	2	7	0	34	188
5:45 PM	0	1	0	9	0	0	0	0	0	0	4	8	0	1	6	0	29	167
Count Total	0	12	1	139	0	0	0	0	0	0	147	136	0	28	167	0	630	0
Peak Hour	**0**	**6**	**0**	**46**	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**54**	**0**	**5**	**66**	**0**	**222**	**0**

Three-Hour Count Summaries - Bikes

Interval Start	I-205 EB Off Ramps			I-205 EB On Ramps			N MacArthur Dr			N MacArthur Dr			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
3:00 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	2
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	1	0	0	3	0	4	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix C. Existing Transit Services

Citywide Service

Effective August 1, 2024

The City of Tracy now offers eleven TRACER bus routes, including new shuttle and commuter routes with morning and afternoon service to most local schools. It's easy to travel throughout Tracy for school, work, shopping or recreation. This guide includes everything you need to plan your trip.

HOW TO USE THIS GUIDE

The map on the reverse side of this guide shows each of the routes in a distinct color. All the bus stops are shown as yellow triangles along the route.

TIMEPOINTS (those bus stops highlighted on the schedule) are shown with a number in a circle. Use these easy steps to plan your trip:

1. Use the map to identify the route(s) that connects where you are and where you wish to go.
2. Find the timepoint on that route which is nearest the bus stop where you wish to board.
3. Find the schedule for your route (it is shown in a matching color).
4. Find the same numbered timepoint on the schedule. Read down to see what time buses depart from that point.
5. If you're boarding at a non-timepoint, use the nearest timepoint before your stop to estimate the bus departure time.

For personal trip planning assistance
CALL (209) 831-4BUS (831-4287).

SERVICE HOURS AND DAYS

TRACER Routes A B C and D run Monday through Friday from approximately 7:00 am to 7:00 pm and Saturday from 9:00 am to 7:00 pm. The Commuter Routes E, F, G and H run only weekdays. TRACER Shuttle Routes South Tracy Shuttle and Arbor Shuttle run Monday through Saturday and ACE Shuttle runs only on weekdays. TRACER Fixed Route does not operate on Sundays or the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.

Sunday service available on-demand with TRACER Plus

Provide feedback on service to: Transit Coordinator, City of Tracy Transit Station, 50 E. Sixth Street, Tracy, CA 95376. Tel: (209) 831-6214, E-mail: Jayne.pramod@cityoftracy.org

FARES

STUDENTS RIDE FREE JULY 2024 TO JUNE 2025

CASH FARE (ONE WAY)		
Adult	**Student ***	**Senior(65+)/Veteran/ Disabled/ADA/Medicare**
$1.25	$1.00	$.50
ADA ATTENDANT	**CHILD** 6 and under	**ACCESS PASS***
FREE	FREE	FREE
DAY PASS (UNLIMITED TRIPS. SINGLE DAY)		
Adult	**Student ***	**Senior(65+)/Veteran/ Disabled/ADA/Medicare**
$3.00	$2.50	$1.25
10-RIDE TICKET		
Adult	**Student ***	**Senior(65+)/Veteran/ Disabled/ADA/Medicare**
$12.50	$10.00	$5.00
31 DAY PASS		
Adult	**Student ***	**Senior(65+)/Veteran/ Disabled/Medicare**
$35.00	$28.00	$17.50

* **K–12 Students,** valid student ID or class schedule required.

***ACCESS Pass** - Access ADA-certified passenger

PASS SALES

TRACER riders can now purchase tickets via the VAMOS Mobility app. **Download the Vamos Mobility app now!** From the Apple App Store or Google Play.

All TRACER passes can be purchased on the bus, using exact cash. Passes can also be purchased, by cash or check, at the following locations:

- **Tracy Transit Station,** 50 E. Sixth Street Ticket hours: Monday – Friday: 8:00 am – 7:00 pm; Saturday: 10:00 am – 6:00 pm
- **City Hall,** 333 Civic Center Plaza. Alternate Fridays closed. Ticket hours: Monday – Friday, 8:00 am – 5:00 pm

Passes must be handed to the driver for verification prior to being seated. Each rider MUST possess and present their own bus fare or pass every time he/she boards the bus. Using or attempting to use another rider's bus fare or pass is NOT allowed.

TRACER

System Map and Bus Schedule



INFORMATION ON BUS & SHUTTLES: (209) 831-4BUS (4287)

WWW.RIDETRACER.COM

HOW TO CATCH THE BUS



TRACER bus stops are clearly marked with the sign shown here. To ensure you catch the bus, be at the bus stop a little before the scheduled departure time. (Do not stand in the road.) As the bus approaches, signal the driver that you wish to board by waving your hand. Once on board, pay your fare or show your pass to the driver, take a seat and enjoy the ride.

TRANSFERRING

You may need to transfer between routes when you make a trip on TRACER. Transferring is not difficult, and transfers between routes are FREE when traveling continuously to your destination without stopping except to transfer to a different route. The driver will accept your transfer ticket if the bus you are transferring to is the first possible bus on that route that you can board after exiting the bus from which you transferred. You may not re-board the same route using a transfer. You must pay another fare to ride if you do not board the first possible bus on the route to which you are transferring.

INFORMATION FOR THE BUS

Fixed Route Passengers are able to get information on the timing of the buses, including the South Tracy Shuttle/ACE Shuttle & Arbor Shuttle by calling **(209) 831–4BUS (4287)** During the following hours Mon–Fri: 5AM–7PM, Sat: 9AM–7PM.

WWW.RIDETRACER.COM

REGIONAL BUS SERVICE

San Joaquin Regional Transit District's (RTD) Route 90 connects Tracy to Stockton, Route 97 connects Tracy to Manteca and Route 150 connects Tracy to the Dublin BART Station.

For information, call 1-800-HOW-TO-RIDE or (209) 943-1111, or visit **www.sanjoaquinrtd.com**

For information on bus service to Bart and Bay Area, call RTD-BART Commuter at (888) 802-WORK (9675) or Dibs Smart Travel (209) 235-1094, **DibsMyWay.com**

GREYHOUND

TRACY TRANSIT STATION
50 E. Sixth Street, Tracy, CA 95376, (209) 831–4BUS (4287)

FOR CURRENT FARE & SCHEDULE INFORMATION
1-800-231-2222 (English) ▪ 1-800-531-5332 (Español)
www.greyhound.com

PARATRANSIT

MONDAY – SATURDAY No service on Sundays and holidays.
TRACER Paratransit provides door-to-door, shared-ride service for eligible individuals with certified disability, within the City limits. The goal of TRACER Paratransit is to provide timely, safe, personalized, and convenient transportation that meets the requirements of the Americans with Disabilities Act (ADA) of 1990. To apply for Paratransit Service, please call ACCESS San Joaquin (ASJ) at (209) 242-9965.

TRACER PLUS ON-DEMAND SERVICE

MONDAY – SUNDAY, No service on holidays.
TRACER Plus provides curb-to-curb, shared ride service for the general public, within the City limits, during the non-operating hours for the TRACER Fixed Route and Paratransit service. TRACER Plus vehicles are safe and accessible (can transport wheelchairs).

For information and service hours, please contact TRACER at (209) 831-4BUS (4287).

TRACER RIDING GUIDELINES AND POLICIES

BUS CODE OF CONDUCT : TRACER buses and facilities are for everyone. However, some activities that disrupt the safety, order, or rights of other passengers will not be tolerated.

For your security the Transit Station and buses are equipped with surveillance cameras which record audio and video.

Failure to follow these policies may result in ejection from a bus or transit facility by City of Tracy Police Department or TRACER employee.

KEEP YOUR COOL : Don't threaten or intimidate riders or bus drivers. It's unlawful to threaten the safety of a rider or driver, or interfere with the movement of a bus.

PAY YOUR FARE SHARE : One-Way fare is valid until you reach your destination, but not to exceed one full loop of any specific route. It is against law to evade payment of bus fare or misuse transfers, passes, or tickets to avoid fare payment. Doing so is punishable by a fine of up to $250 (California Penal Code Section 640).

DO NOT DISTURB : For safety reasons, avoid talking to the driver while the bus is in motion. Excessive noise is not allowed. Use headphones with all audio devices.

BUCKLE UP OR PAY FINE : On buses equipped with seatbelt, all passengers (on vehicle seats or in a wheelchair) are required to wear seatbelt/shoulder harness under California Law. Passengers who do not wear are punishable by a fine (CVC 27318). Riders due to their disability cannot wear a seatbelt, must carry a letter from licensed physician stating the nature of the condition and why the restraint is inappropriate (CVC 27315(g)

MAKE WAY : Don't block the aisles or doors. If you have a bag or basket, make sure it's not blocking the aisle or doorway. Strollers, shopping carts, electric scooters and non-mobility devices must be folded before boarding and stowed safely away from the aisles. If you're standing, move back so others can board.

TRAVELLING WITH YOUR CHILDREN : Children must be always seated next to you. Strollers and non-mobility devices must be folded before boarding and stowed away from the aisles.

SORRY, NO PETS : Transporting animals is prohibited except for certified service, guide, or signal dogs and other service dogs trained to assist passengers with disabilities.

NO SMOKING OR VAPING/CONSUMING ALCOHOL OR DRUGS; EATING OR DRINKING; AND LOUD DISTURBANCES ABOARD : Smoking or vaping, consuming alcohol or drugs is prohibited on buses, at bus stops, and at the Transit Station. California Penal Code Section 640 prohibits smoking, eating or drinking, and loud disturbances aboard a bus. Additionally, spilled food and drinks pose serious safety hazards. Eating and drinking is not allowed on the bus, but you can bring food and drinks on board in closed containers.

UNACCEPTABLE CARGO : It is against the law to carry any explosives, acid, flammable liquid, toxic or hazardous materials, such as fireworks, car batteries or gasoline.

RIDER HEALTH SAFETY : Maintain acceptable standards of hygiene; open wounds or bodily fluids are considered a significant risk to the health or safety of others – (DOT ADA CFR 37.3).

END OF THE LINE : During your trip, as the bus approaches your stop, pull the cord to alert the driver that you wish to disembark. Please be sure the driver has enough time to make a safe stop. Misuse of stop request and unsafe traveling practice will not be tolerated. Prior to disembarking, gather your personal belongings and dispose of trash properly.

REDUCED FARES : TRACER offers reduced fares to seniors age 65 and over, individuals with qualifying disabilities, ADA,Medicare and Veteran card holders. For additional information contact TRACER Customer Service at (209) 831-4BUS(4287).

TITLE VI COMPLIANCE : City of Tracy TRACER is committed to ensuring that no person is excluded from participation in, or denied the benefits of its transit services on the basis of race, color, or national origin, as protected by Title VI in Federal Transit Administration (FTA) Circular 4702.1.B. Any person who believes that they have been subjected to discrimination may file a written complaint with the City of Tracy, Title VI Coordinator.

Report complaints to: Jayne Pramod, Title VI Coordinator, City of Tracy Transit Station, 50 E. Sixth Street, Tracy, CA 95376. Tel: (209) 831-6214, E-mail: **Jayne.pramod@cityoftracy.org**

ROUTE A

OUTBOUND: TRANSIT STATION TO WEST VALLEY MALL **INBOUND:** WEST VALLEY MALL TO TRANSIT STATION

Tracy Transit Station (1)	Clover Tracy Blvd. (17)	West Valley Mall Food Court (6)	West Valley Mall Food Court (6)	Walmart (5)	Clover Tracy Blvd. (17)	Tracy Transit Station (1)
6:45	7:00	7:15	7:15	7:25	7:40	7:55
7:15	7:30	7:45	7:45	7:55	8:10	8:25
8:00	8:15	8:30	8:30	8:40	8:55	9:10
8:30	8:45	9:00	9:00	9:10	9:25	9:40
9:15	9:30	9:45	9:45	9:55	10:10	10:25
9:45	10:00	10:15	10:15	10:25	10:40	10:55
10:30	10:45	11:00	11:00	11:10	11:25	11:40
11:00	11:15	11:30	11:30	11:40	11:55	**12:10**
11:45	**12:00**	**12:20**	**12:20**	**12:35**	**12:50**	**1:10**
12:15	**12:30**	**12:45**	**12:45**	**1:00**	**1:20**	**1:40**
1:15	**1:30**	**1:45**	**1:45**	**2:00**	**2:15**	**2:30**
1:45	**2:00**	**2:20**	**2:20**	**2:35**	**2:50**	**3:10**
2:35	**2:50**	**3:05**	**3:05**	**3:20**	**3:35**	**3:50**
3:15	**3:30**	**3:45**	**3:45**	**3:55**	**4:10**	**4:25**
3:55	**4:10**	**4:25**	**4:25**	**4:40**	**4:55**	**5:10**
4:30	**4:45**	**5:00**	**5:00**	**5:15**	**5:30**	**5:45**
5:15	**5:30**	**5:45**	**5:45**	**6:00**	**6:15**	**6:30**
5:50	**6:05**	**6:20**	**6:20**	**6:35**	**6:50**	**7:05**

PEAK SERIVCE MONDAY – FRIDAY ONLY

NO SATURDAY SERVICE DURING TIMES SHOWN IN LIGHT YELLOW TINT BLOCKS

ROUTE B

OUTBOUND: TRANSIT STATION TO WEST VALLEY MALL **INBOUND:** WEST VALLEY MALL TO TRANSIT STATION

Tracy Transit Station (1)	Tracy Blvd. Sutter Hospital (3)	Walmart (5)	West Valley Mall Food Court (6)	West Valley Mall Food Court (6)	Winco (7)	Dr Powers Park Lowell (28)	Tracy Transit Station (1)
7:00	7:08	7:20	7:30	7:30	7:35	7:45	8:00
7:30	7:38	7:50	8:00	8:00	8:05	8:15	8:30
8:05	8:13	8:25	8:35	8:35	8:40	8:50	9:05
8:35	8:43	8:55	9:05	9:05	9:10	9:20	9:35
9:10	9:20	9:35	9:45	9:45	9:50	10:05	10:20
9:40	9:50	10:05	10:15	10:15	10:20	10:35	10:50
10:25	10:35	10:50	11:00	11:00	11:05	11:20	11:35
10:55	11:05	11:20	11:30	11:30	11:35	11:50	**12:05**
11:40	11:50	**12:05**	**12:15**	**12:15**	**12:20**	**12:35**	**12:50**
12:10	**12:20**	**12:35**	**12:45**	**12:45**	**12:50**	**1:05**	**1:15**
12:55	**1:05**	**1:20**	**1:30**	**1:30**	**1:35**	**1:50**	**2:05**
1:20	**1:30**	**1:45**	**1:55**	**1:55**	**2:00**	**2:15**	**2:30**
2:10	**2:20**	**2:35**	**2:45**	**2:45**	**2:50**	**3:10**	**3:25**
2:35	**2:48**	**3:10**	**3:20**	**3:20**	**3:30**	**3:45**	**4:00**
3:30	**3:40**	**3:55**	**4:05**	**4:05**	**4:10**	**4:25**	**4:40**
4:05	**4:15**	**4:30**	**4:40**	**4:40**	**4:45**	**5:00**	**5:15**
4:45	**4:55**	**5:10**	**5:20**	**5:20**	**5:25**	**5:40**	**5:55**
5:20	**5:28**	**5:40**	**5:50**	**5:50**	**5:55**	**6:10**	**6:25**
6:00	**6:08**	**6:20**	**6:30**	**6:30**	**6:35**	**6:45**	**7:00**

PEAK SERVICE MONDAY – FRIDAY ONLY

NO SATURDAY SERVICE DURING TIMES SHOWN IN LIGHT YELLOW TINT BLOCKS

ROUTE C

OUTBOUND: TRANSIT STATION TO HIDDEN LAKE **INBOUND:** HIDDEN LAKE TO TRANSIT STATION

Tracy Transit Station (1)	Senior Center 9th Street (20)	11th Street Safeway (8)	Tracy Blvd. Schulte Rd. (9)	Hidden Lake Dominique (36)	East Lake Cir. Dominique (36)	Tracy Blvd. Raleys (11)	Schulte Rd. Lauriana (12)	Tracy Transit Station (1)
7:10	7:15	7:24	7:33	7:40	7:40	7:46	7:54	8:10
8:15	8:20	8:29	8:38	8:45	8:45	8:51	8:59	9:15
9:18	9:23	9:32	9:40	9:47	9:47	9:53	10:01	10:16
10:20	10:25	10:34	10:42	10:49	10:49	10:55	11:03	11:18
11:20	11:25	11:35	11:43	11:51	11:51	11:58	**12:07**	**12:22**
12:25	**12:30**	**12:40**	**12:48**	**12:55**	**12:55**	**1:02**	**1:10**	**1:25**
1:30	**1:35**	**1:45**	**1:53**	**2:00**	**2:00**	**2:06**	**2:14**	**2:30**
2:35	**2:40**	**2:50**	**3:00**	**3:08**	**3:08**	**3:15**	**3:25**	**3:40**
3:50	**3:55**	**4:05**	**4:13**	**4:20**	**4:20**	**4:26**	**4:34**	**4:50**
4:55	**5:00**	**5:10**	**5:19**	**5:26**	**5:26**	**5:32**	**5:40**	**6:00**

NO SATURDAY SERVICE DURING TIMES SHOWN IN LIGHT YELLOW TINT BLOCKS

ROUTE D

OUTBOUND: TRANSIT STATION TO 11TH STREET/ LAMMERS/ KIMBALL HIGH

INBOUND: 11TH STREET/LAMMERS KIMBALL HIGH TO TRANSIT STATION

Tracy Transit Station (1)	Whispering Wind (31)	ACE Station (30)	Schulte Rd. Lauriana (12)	11th St. & Lammers Kimball High (26)	11th St. & Lammers Kimball High (26)	Dr Powers Park Lowell (28)	Tracy Transit Station (1)
6:30	6:39	6:46	6:55	7:14	7:14	7:22	7:35
7:10	7:19	NS	7:32	7:50	7:50	8:00	8:15
7:40	7:49	7:56	8:08	8:28	8:28	8:38	8:55
9:00	9:09	NS	9:21	9:36	9:36	9:46	10:00
11:55	**12:05**	**NS**	**12:18**	**12:33**	**12:33**	**12:43**	**1:00**
1:05	**1:15**	**NS**	**1:27**	**1:46**	**1:46**	**1:58**	**2:13**
2:20	**2:30**	**NS**	**2:42**	**3:01**	**3:01**	**3:13**	**3:28**
3:35	**3:45**	**NS**	**3:57**	**4:16**	**4:16**	**4:28**	**4:43**
4:50	**5:00**	**NS**	**5:11**	**5:26**	**5:26**	**5:36**	**5:50**
5:55	**6:05**	**NS**	**6:16**	**6:31**	**6:31**	**6:41**	**6:55**

NO SATURDAY SERVICE DURING TIMES SHOWN IN LIGHT YELLOW TINT BLOCKS

MONDAY THROUGH FRIDAY – COMMUTER ROUTES

COMMUTER ROUTE E – MORNINGS

OUTBOUND: TRANSIT STATION TO WEST HIGH SCHOOL **INBOUND:** WEST HIGH SCHOOL TO TRANSIT STATION

Tracy Transit Station (1)	City Hall East St./10th St. (13)	Northgate Outlet Mall MacArthur (15)	Kavanagh North School (33)	Dr. Powers Park Lowell (28)	Tracy Transit Station (1)
7:35	7:38	7:50	8:00	8:17	8:30

COMMUTER ROUTE E: AFTERNOONS Reverse Direction

OUTBOUND: TRANSIT STATION TO WEST HIGH SCHOOL **INBOUND:** WEST HIGH SCHOOL TO TRANSIT STATION

Tracy Transit Station (1)	Holly Eaton Library (2)	Tracy Blvd. Sutter Hospital (3)	Lowell Art Frieller (34)	Kavanagh North School (33)	Northgate Outlet Mall MacArthur (15)	Tracy Transit Station (1)
1:25	1:30	1:35	1:42	1:55	2:05	2:15
2:30	2:35	2:40	2:47	3:00	3:10	3:20
3:50	3:55	4:00	4:07	4:20	4:30	4:40

MONDAY SERVICE ONLY

COMMUTER ROUTE F: MORNINGS

OUTBOUND: TRANSIT STATION TO ACE STATION **INBOUND:** ACE STATION TO TRANSIT STATION

Tracy Transit Station (1)	East Lake Cir. Dominique (36)	Brookview Lowes Park (37)	ACE Station (30)	Tracy Transit Station (1)	Holly Eaton Library (2)	Senior Center 9th Street (20)	Tracy Transit Station (1)
7:20	7:27	7:35	7:43	7:56	8:01	8:11	8:15

COMMUTER ROUTE F: AFTERNOONS Reverse Direction

OUTBOUND: TRANSIT STATION TO ACE STATION **INBOUND:** ACE STATION TO TRANSIT STATION

Tracy Transit Station (1)	Holly Eaton Library (2)	Senior Center 9th Street (20)	Tracy Transit Station (1)	East Lake Cir. Dominique (36)	Brookview Lowes Park (37)	ACE Station (30)	Tracy Transit Station (1)
2:30	2:35	2:40	2:45	2:52	3:00	3:05	3:20
4:00	4:05	4:10	4:15	4:22	4:30	4:35	4:50

MONDAY SERVICE ONLY

COMMUTER ROUTE G: AFTERNOONS

OUTBOUND: TRANSIT STATION TO 11TH ST/LAMMERS **INBOUND:** 11TH ST./LAMMERS TO TRANSIT STATION

Tracy Transit Station (1)	Tracy Blvd Sutter Hospital (3)	11th St. Lammers Kimball High (26)	Mable Josephine (32)	Whispering Wind (31)	Ace Station (30)	Tracy Transit Station (1)
2:30	2:40	3:00	3:10	3:27	NS	3:40
3:45	3:55	4:15	4:25	4:42	4:55	5:05

MONDAY SERVICE ONLY

COMMUTER ROUTE H: MORNINGS

OUTBOUND: CORIANDER ST. TO KIMBALL HIGH/LAMMERS **INBOUND:** KIMBALL HIGH/LAMMERS TO TRANSIT STATION

Coriander St. Tracker Pl (21)	Ironstone Dr. Starcross Park (22)	Anton St. Artesian Ave. (23)	Ellis Town Dr. Village Green Park (24)	Lammers Rd. Kimball High (27)	11th St. McDonalds (10)	Tracy Transit Station (1)
7:50	7:55	8:08	8:19	8:30	8:35	8:50

COMMUTER ROUTE H: AFTERNOONS Reverse Direction

OUTBOUND: TRANSIT STATION TO KIMBALL HIGH/ LAMMERS **INBOUND:** KIMBALL HIGH/LAMMERS TO TRANSIT STATION

Tracy Transit Station (1)	11th St. Safeway (8)	Lammers Rd Kimball High (29)	Summit Dr Ellis Town Dr. (25)	Coriander St. Tracker Pl. (21)	Anton St. Artesian Ave. (23)	Tracy Blvd. Raley's (11)	Tracy Transit Station (1)
2:30	2:40	2:50	3:02	3:08	3:22	3:35	3:45
3:50	4:00	4:10	4:22	4:28	4:42	4:55	5:05

MONDAY SERVICE ONLY

SCHEDULE NOTES

For Information on SOUTH TRACY SHUTTLE/ACE SHUTTLE/ARBOR SHUTTLE: Call 209-831-4287.

Transferring points are Tracy Transit Station, City Hall, Walmart and West Valley Mall and TRACER stops where two or more TRACER routes provide service.

PM times are shown in BOLD FACE type. Times are approximate and may vary due to traffic or weather conditions.

TRACER

SCALE 0 1

N

FOR INFORMATION ON ARBOR SHUTTLE: CALL 209-831-4287

FOR INFORMATION ON S. TRACY SHUTTLE/ACE SHUTTLE: CALL 209-831-4287

FOR INFORMATION ON S. TRACY SHUTTLE/ACE SHUTTLE: CALL 209-831-4287

Creating Community in Tracy by Connecting People to Places

LEGEND

ROUTES: A B C D

COMMUTER ROUTES: E F G H

SHUTTLES: ARBOR SHUTTLE, ACE SHUTTLE, S. TRACY SHUTTLE

RTD ROUTES: ROUTE 90, ROUTE 97, ROUTE 150

Route Direction
Reverse Route Direction
Timepoint
Bus Stops
School
Point of Interest
Hospital

CASH FARES - One way

Adult	$1.25
Student (K-12 w/valid student ID or schedule)	$1.00
STUDENTS RIDE FREE FROM JULY 2024 TO JUNE 2025	
Senior (65+)/Disabled/ADA/Medicare/Veteran	$.50
ADA Attendant	FREE
Child (6 and under with adult)	FREE
Access Pass	FREE

INFORMATION: 209-831-4BUS (4287)
www.ridetracer.com • 50 E. Sixth Street • Tracy, CA 95376

Planning a trip?

Use the following services:

text BUS
TXT 4 UR NXT BUS

1. Find your stop code on the top-right corner of the bus stop sign.
2. Text it to **(209) 222-3595**.
3. Get next scheduled departure times (within next 2 hours).



Trip Planner

Already on the RTD website? Access the Trip Planner on the homepage or on the sidebar for quick and easy trip planning. Most popular destinations are already preloaded as a convenience—just enter your departure time and hit submit.

RTD Bus Passes On Your Phone



VAMOS EZHub

Download the **Vamos Mobility App** with EZHub from the Apple App Store or Google Play



Google Maps

1. Open the Google maps app.*
2. On the bottom of the screen, tap Transit.
3. Drag the tab up from the bottom. You'll see information about nearby public transportation.
4. Scroll up and down to see transit options and times. Scroll left to right to see different transit stations.
5. Tap on a station to see a list of departures.

*Normal carrier charges may apply

Bus Fare Local • Hopper • Express • Commuter

Fare	FULL	DISCOUNT[1]	STUDENT[2]
1-Ride Pass / CASH AT FAREBOX	$1.50	$0.75	-----
1-Ride Express Pass[3]	$1.50	$0.75	-----
1-Day Pass	$4.00	$2.00	-----
31-Day Pass	$65.00	$30.00	$40.00
Commuter One-Way Pass	$7.00	-----	-----

FARE STRUCTURE NOTES

Children: Up to three children ages 4 and under ride free of charge when accompanied by a fare-paying adult. Fare for each additional child costs $1.50.

County Hopper Deviations: Within a rural area, each County Hopper can deviate from its normal route a distance of up to one mile. Reservations are required two days in advanced for all Hopper deviations. Hoppers will deviate up to two times per trip. Please call (209) 943-1111 and follow the prompt for Hopper deviation reservations.

1. **Discount Fare:** Valid only for seniors (ages 60 and over), persons with disabilities, veterans, Medicare cardholders, and all other eligible passengers with a valid Discount Fare Card (DFC).
2. **Student Fare:** Valid only for children ages 5-17 and college students with valid ID.
3. **1-Ride Express Pass:** Sold only at Fare Vending Machines (FVM) and valid only on Express routes.

Title VI

RTD is committed to ensuring that no persons are excluded from participation in, or denied the benefits of services on the basis of race, color, or national origin as protected by Title VI of the Civil Rights Act of 1964, as amended. If you believe you have been discriminated against under Title VI, you may file a complaint via telephone, email, or written complaint to RTD.

Email: comments@sjRTD.com
Phone: (209) 943-1111

Mail: San Joaquin Regional Transit District (RTD)
Attn: Title VI Administrator
421 East Weber Avenue
Stockton, CA 95202

If information is needed in another language, contact (209) 943-1111 / Si necesita información en otro idioma, llame a (209) 943-1111 / 如果需要其他语言的信息，请联系 (209) 943-1111 / Kung kailangan ang impormasyon sa ibang wika, makipag-ugnayansa (209) 943-1111 / Nếu quý vị cần thông tin bằng một ngôn ngữ khác, vui lòng gọi số, (209) 943-1111 / إذا كنت ترغب في الحصول على معلومات بلغة أخرى ، يرجى الاتصال بـ (209) 943-1111

Hopper 90

Effective: July 30, 2023
Pilot Service
Rural Area Deviations Available

To Tracy

- Stockton
- Lathrop
- Tracy

To Stockton

- Tracy
- Lathrop
- Stockton

SAN JOAQUIN RTD

(209) 943-1111 | sjRTD.com

Information herein is subject to change without notice.

Hopper 90 To Lathrop/Stockton

Northbound EFFECTIVE: 07.30.23

Tracy Transit Station	Grant Line – Chrisman	Lathrop – Harlan	San Joaquin County Hospital Main Entrance	Manthey – 8th	Downtown Transit Center (DTC) Arrive	Downtown Transit Center (DTC) Depart	Pacific & Yokuts Arrive (Northbound)
5:37A	5:47A	6:02A	6:17A	6:29A	6:35A	----	----
6:40A	6:50A	7:05A	7:11A	7:23A	7:29A	7:31A	7:46A
7:47A	7:57A	8:12A	8:18A	8:30A	8:36A	8:38A	8:53A *
9:12A	9:22A	9:37A	9:43A	9:55A	10:01A	----	---- *
10:47A	10:57A	11:12A	11:18A	11:30A	11:36A	----	----
12:52P	**1:02P**	**1:17P**	**1:23P**	**1:33P**	**1:39P**	**1:45P**	**2:00P**
3:37P	**3:47P**	**4:02P**	**4:08P**	**4:18P**	**4:24P**	**4:30P**	**4:45P**
6:22P	**6:32P**	**6:47P**	**6:53P**	**7:05P**	**7:11P**	----	----
8:22P	**8:32P**	**8:47P**	**8:53P**	**9:05P**	**9:11P**	----	---- *

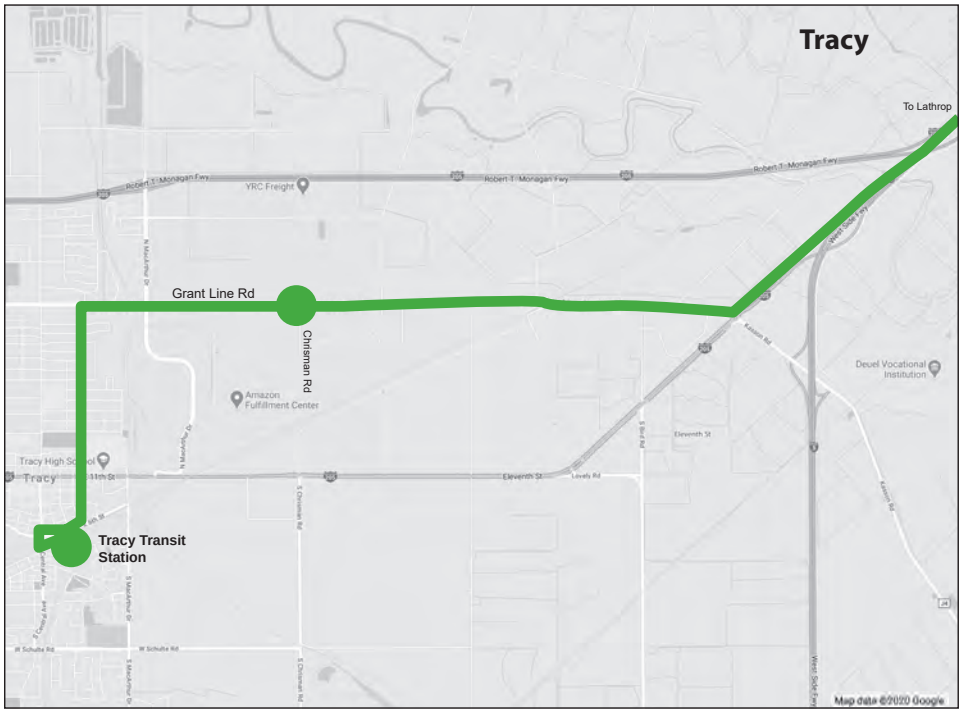
*Bus goes out of service

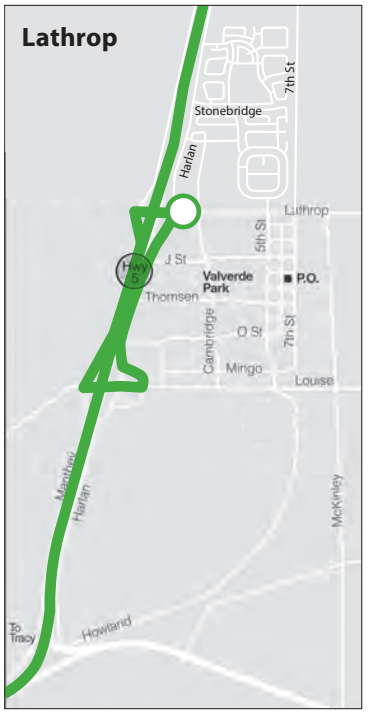
Hopper 90 To Lathrop/Tracy

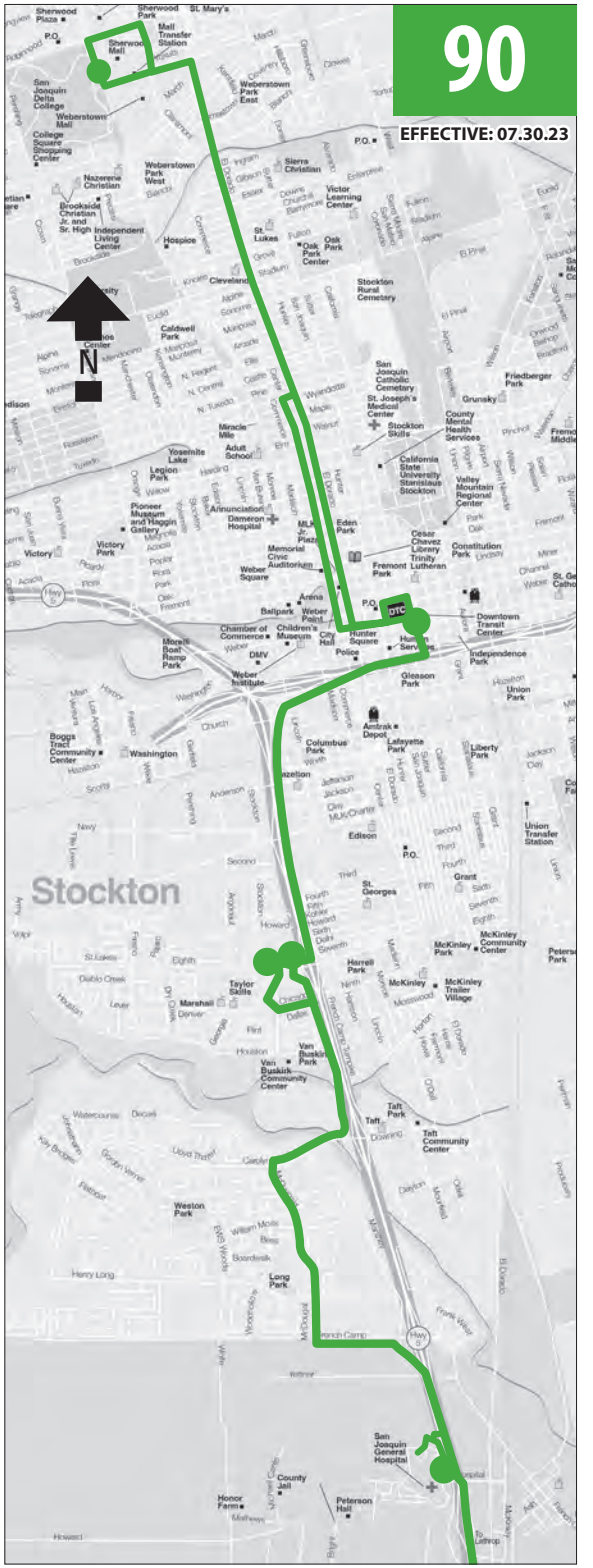
Southbound EFFECTIVE: 07.30.23

Pacific & Yokuts Depart (Northbound)	Downtown Transit Center (DTC) Arrive	Downtown Transit Center (DTC) Depart	Lever – 8th	San Joaquin County Hospital Main Entrance	Lathrop – Harlan	Grant Line – Chrisman	Tracy Transit Station
----	----	6:45A	6:52A	7:02A	7:17A	7:32A	7:42A
7:48A	8:03A	8:10A	8:17A	8:27A	8:42A	8:57A	9:07A
----	----	9:45A	9:52A	10:02A	10:17A	10:32A	10:42A
----	----	11:45A	11:52A	**12:02P**	**12:17P**	**12:32P**	**12:42P**
2:05P	**2:20P**	**2:30P**	**2:37P**	**2:47P**	**3:02P**	**3:17P**	**3:27P**
4:50P	**5:05P**	**5:15P**	**5:22P**	**5:32P**	**5:47P**	**6:02P**	**6:12P**
----	----	**7:20P**	**7:27P**	**7:37P**	**7:52P**	**8:07P**	**8:17P**

Transfer Point Stop







Planning a trip?

Use the following services:

text BUS
TXT 4 UR NXT BUS

1. Find your stop code on the top-right corner of the bus stop sign.
2. Text it to **(209) 222-3595**.
3. Get next scheduled departure times (within next 2 hours).



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RTD Bus Passes On Your Phone



VAMOS EZHub

Download the **Vamos Mobility App** with EZHub from the Apple App Store or Google Play



Google Maps

1. Open the Google maps app.*
2. On the bottom of the screen, tap Transit.
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5. Tap on a station to see a list of departures.

*Normal carrier charges may apply

Bus Fare Local • Hopper • Express • Commuter

Fare	FULL	DISCOUNT[1]	STUDENT[2]
1-Ride Pass / CASH AT FAREBOX	$1.50	$0.75	-----
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1-Day Pass	$4.00	$2.00	-----
31-Day Pass	$65.00	$30.00	$40.00
Commuter One-Way Pass	$7.00	-----	-----

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Hopper 97

Effective: July 30, 2023

Rural Area Deviations Available

To Manteca

- Tracy
- Lathrop
- Manteca

To Tracy

- Manteca
- Lathrop
- Tracy

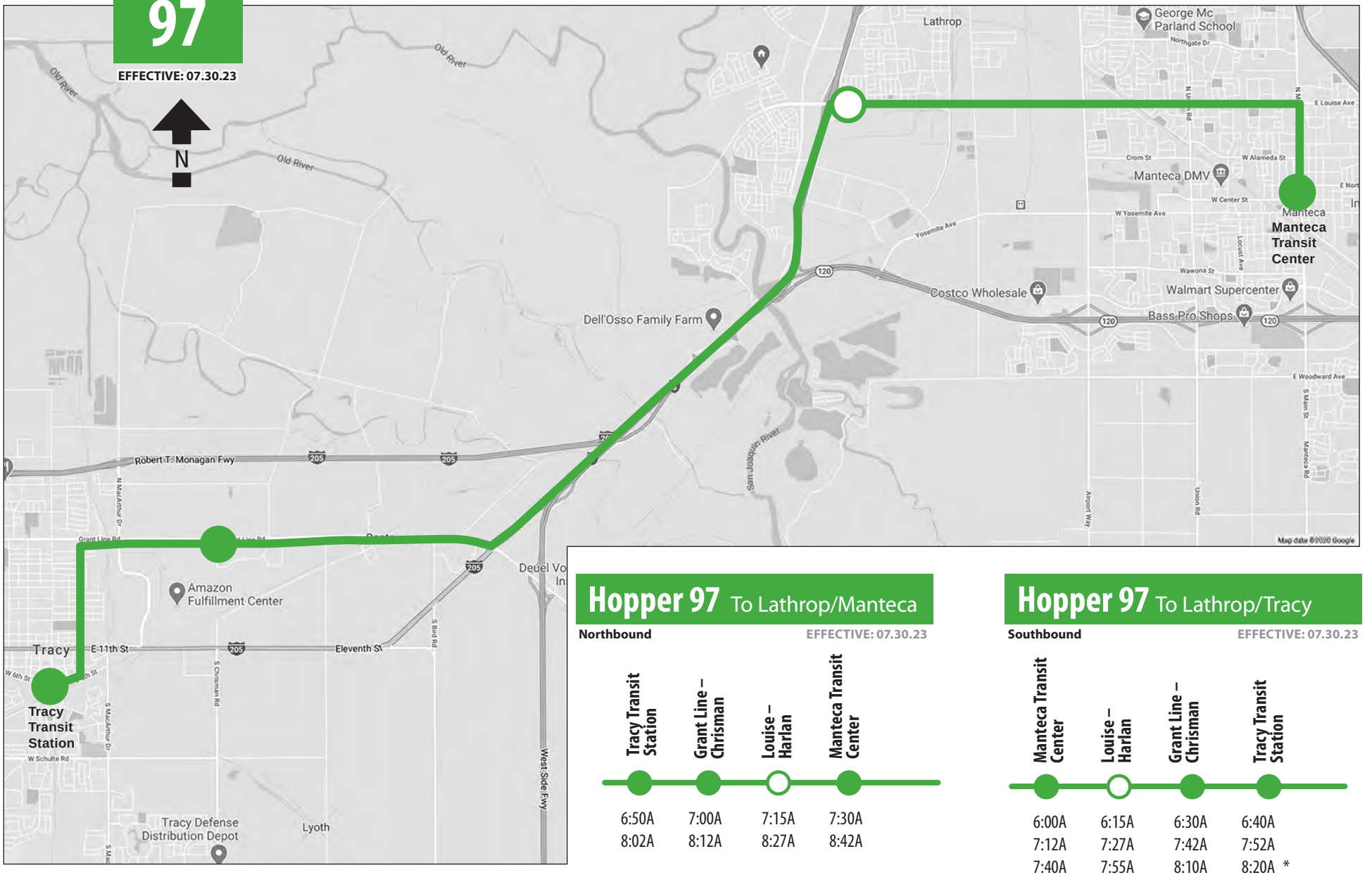
SAN JOAQUIN RTD

(209) 943-1111 | sjRTD.com

Information herein is subject to change without notice.

97

EFFECTIVE: 07.30.23



Transfer Point Stop

Hopper 97 To Lathrop/Manteca

Northbound **EFFECTIVE: 07.30.23**

Tracy Transit Station	Grant Line – Chrisman	Louise – Harlan	Manteca Transit Center
6:50A	7:00A	7:15A	7:30A
8:02A	8:12A	8:27A	8:42A
10:30A	10:40A	10:55A	11:10A *
11:50A	**12:00P**	**12:15P**	**12:30P**
1:20P	**1:30P**	**1:45P**	**2:00P**
4:30P	**4:40P**	**4:55P**	**5:10P** *
5:25P	**5:35P**	**5:50P**	**6:05P**
8:20P	**8:30P**	**8:45P**	**9:00P** *

Hopper 97 To Lathrop/Tracy

Southbound **EFFECTIVE: 07.30.23**

Manteca Transit Center	Louise – Harlan	Grant Line – Chrisman	Tracy Transit Station
6:00A	6:15A	6:30A	6:40A
7:12A	7:27A	7:42A	7:52A
7:40A	7:55A	8:10A	8:20A *
9:40A	9:55A	10:10A	10:20A
12:35P	**12:50P**	**1:05P**	**1:15P**
2:05P	**2:20P**	**2:35P**	**2:45P** *
3:40P	**3:55P**	**4:10P**	**4:20P**
4:35P	**4:50P**	**5:05P**	**5:15P**
6:15P	**6:30P**	**6:45P**	**6:55P** *
7:35P	**7:50P**	**8:05P**	**8:15P**

*Bus goes out of service

ACE®
INFORMATION
INFORMACIÓN

SCHEDULE / HORARIO

Westbound / AM Trains
Trenes en Dirección Oeste

Station / Estaciones	ACE 01	ACE 03	ACE 05	ACE 07
	Mon-Fri / Lunes a Viernes			
STOCKTON	4:10 AM	5:35 AM	6:40 AM	7:32 AM
LATHROP	4:29 AM	5:54 AM	6:59 AM	7:51 AM
TRACY	4:41 AM	6:06 AM	7:11 AM	8:03 AM
VASCO	5:10 AM	6:35 AM	7:40 AM	8:32 AM
LIVERMORE	5:15 AM	6:40 AM	7:45 AM	8:37 AM
PLEASANTON	5:23 AM	6:48 AM	7:53 AM	8:45 AM
FREMONT	5:45 AM	7:10 AM	8:15 AM	9:07 AM
GREAT AMERICA	6:03 AM[L]	7:28 AM[L]	8:33 AM[L]	9:25 AM
SANTA CLARA	6:10 AM[L]	7:35 AM[L]	8:40 AM[L]	9:32 AM
SAN JOSE	6:22 AM	7:47 AM	8:52 AM	9:44 AM

Eastbound / PM Trains
Trenes en Dirección Este

Station / Estaciones	ACE 02	ACE 04	ACE 06	ACE 08
	Mon-Fri / Lunes a Viernes			
SAN JOSE	2:10 PM	3:35 PM	4:35 PM	5:35 PM
SANTA CLARA	2:15 PM	3:40 PM	4:40 PM	5:40 PM
GREAT AMERICA	2:24 PM	3:49 PM	4:49 PM	5:49 PM
FREMONT	2:45 PM	4:05 PM	5:05 PM	6:05 PM
PLEASANTON	3:08 PM	4:28 PM	5:28 PM	6:28 PM
LIVERMORE	3:22 PM	4:37 PM	5:37 PM	6:37 PM
VASCO	3:27 PM	4:42 PM	5:42 PM	6:42 PM
TRACY	3:56 PM[L]	5:11 PM[L]	6:11 PM[L]	7:11 PM[L]
LATHROP	4:08 PM[L]	5:23 PM[L]	6:23 PM[L]	7:23 PM[L]
STOCKTON	4:32 PM	5:47 PM	6:47 PM	7:47 PM

L - Trains may leave early after all riders have deboarded /
Los trenes pueden salir temprano después de que todos los pasajeros hayan bajado.

For the most updated schedule visit acerail.com/schedules

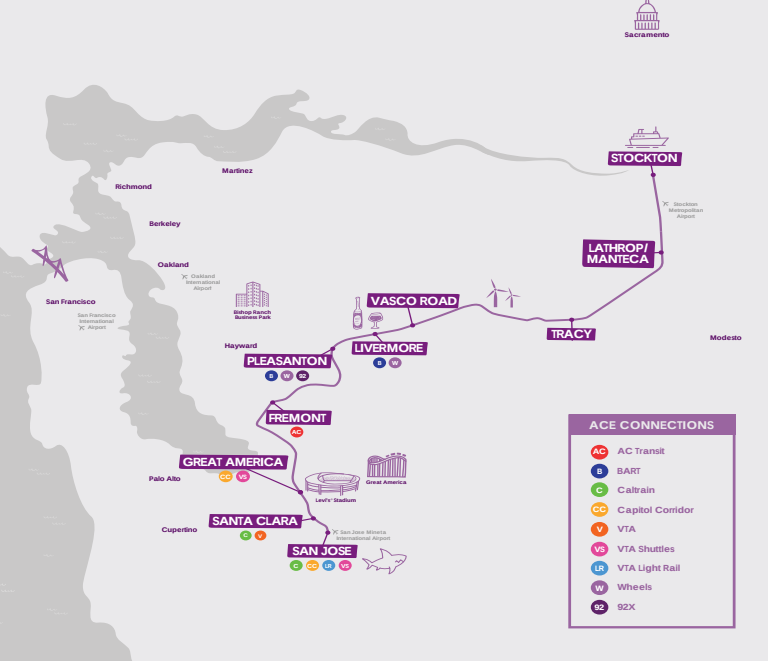


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ACE STATIONS / ESTACIONES

Paper tickets are available for purchase (Monday-Friday) at the following ACE stations: Stockton, Lathrop/Manteca, Tracy, Livermore (LAVTA/Wheels Transit Center), Pleasanton, Fremont, Great America, and San Jose.

Boletos impresos están disponibles para su compra (de lunes a viernes) en las siguientes estaciones ACE: Stockton, Lathrop / Manteca, Tracy, Livermore (LAVTA / Wheels Transit Center), Pleasanton, Fremont, Great Amercia y San José.

Work, Play, Relax Onboard with MyACEWiFi!
¡Trabaja, juega y relájate a bordo con MyACEWiFi!



San Joaquin Regional Rail Commission

Altamont Corridor Express (ACE) is a service of the San Joaquin Regional Rail Commission located at 949 E. Channel St., Stockton, CA 95202.

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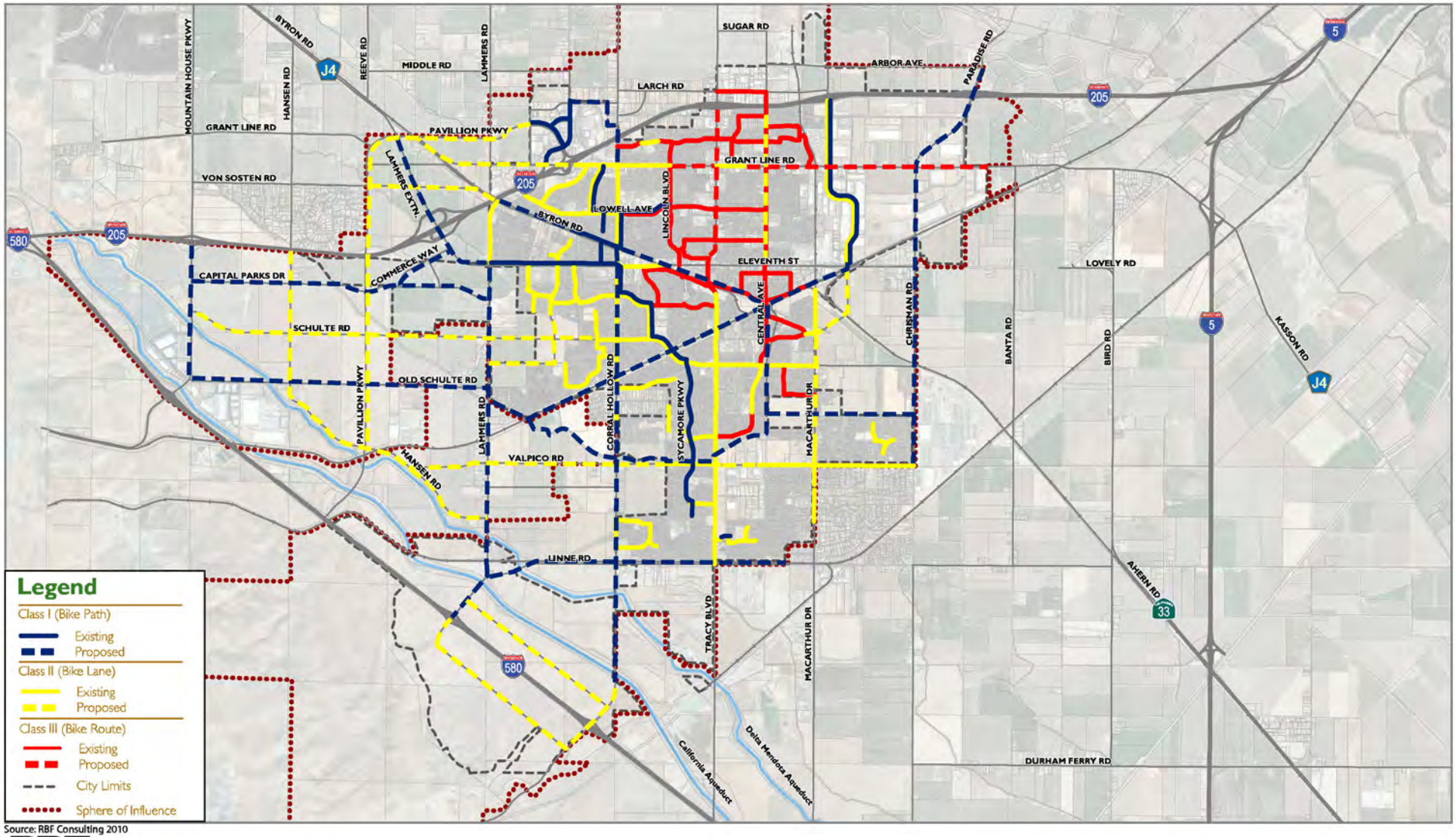
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If you believe you have been subjected to discrimination under Title VI, you may file a written complaint with the San Joaquin Regional Rail Commission, Title VI Officer, 949 E. Channel St., Stockton, CA 95202, or call ACE at 1-800-411-RAIL (7245), or email titlevi@acerail.com.

Si cree que ha sido objeto de discriminación en virtud del Título VI, puede presentar una queja por escrito ante la Comisión Regional de Ferrocarriles de San Joaquin, Oficial de Título VI, 949 E. Channel St., Stockton, CA 95202, o llame a ACE al 1-800-411-RAIL (7245), o envíe un correo electrónico a titlevi@acerail.com.

03082024

Appendix D. Planned Multimodal Improvements/Services

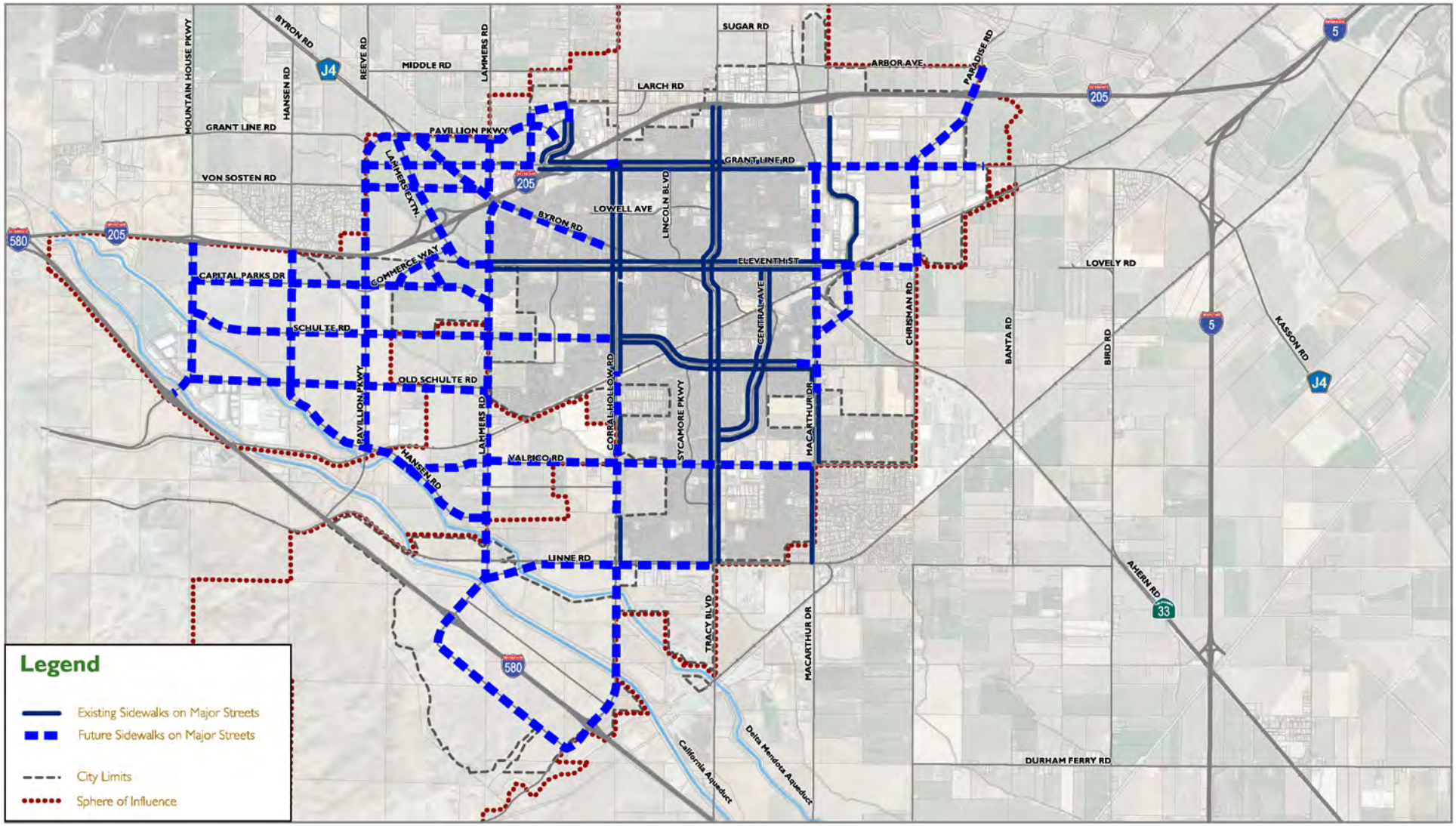


Source: RBF Consulting 2010

RBF CONSULTING

Figure 4.6: Existing & Future Bike Routes

City of Tracy Transportation Master Plan



RBF CONSULTING

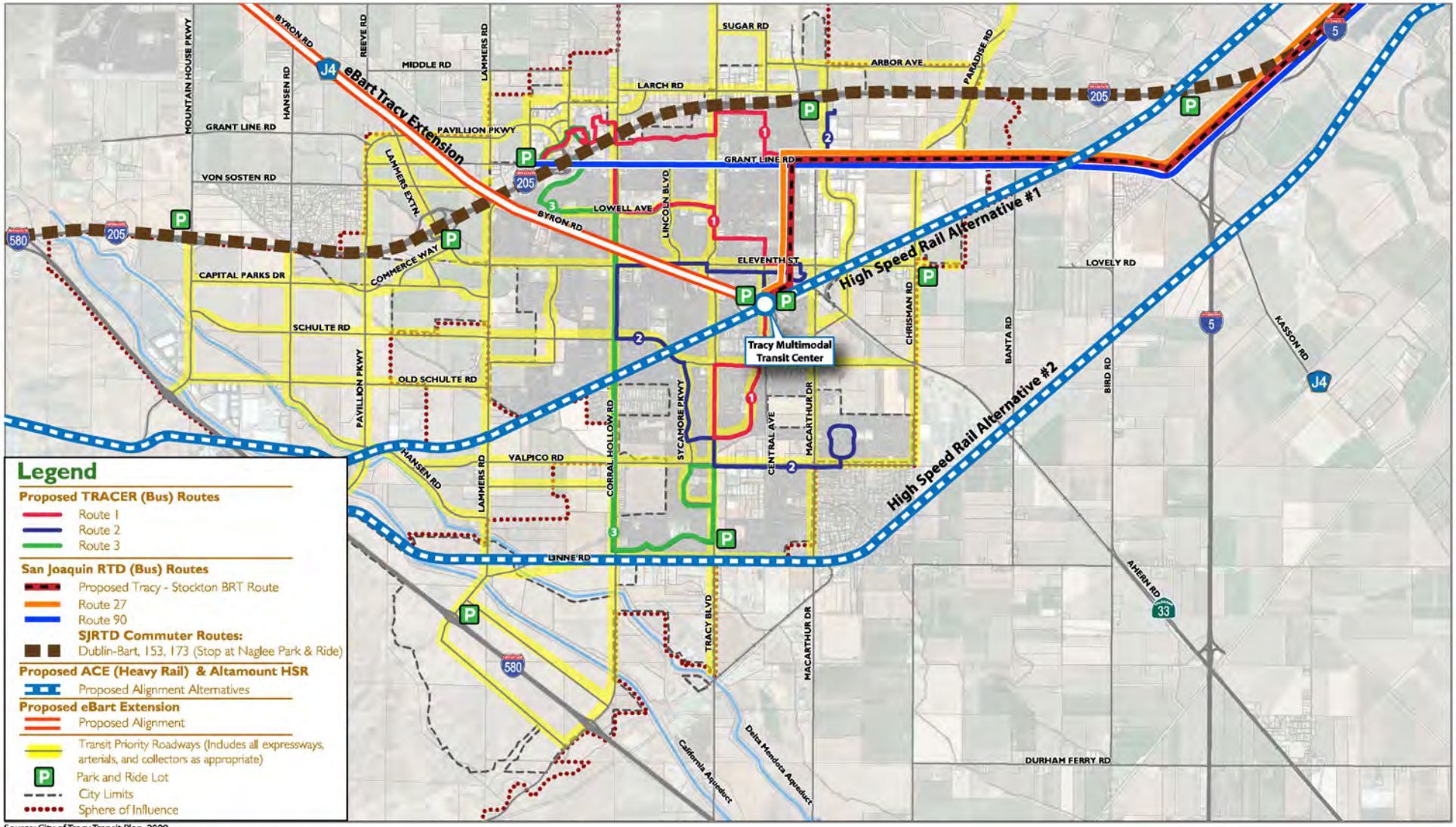
North

0 0.5 1 2 Miles (Approximate)

10.27.12 - H:\Pdata\70100226\Reports\3Final Draft\Graphics\Chapter-4

Figure 4.7: Existing and Future Sidewalks

City of Tracy Transportation Master Plan



Source: City of Tracy Transit Plan, 2009

RBF CONSULTING

North

0 0.5 1 2 Miles (Approximate)

Figure 4.23: Long Term Transit Service Plan

Valley Link

Connecting People, Housing, and Jobs

PROJECT OVERVIEW

Valley Link is a new 42-mile, passenger rail service connecting the over 105,000 Bay Area workers traveling daily over the Altamont Pass from their homes in the Northern San Joaquin Valley with fast, frequent, zero-emission service – providing a transit alternative to the highly congested Interstate 580 corridor and bringing new riders to the broader Bay Area transit system. The 22-mile initial operating phase between Dublin/Pleasanton and a new Mountain House Community station with additional stations at Isabel Avenue and Southfront Road will provide all-day, bi-directional service at 15-minute frequencies during peak commute periods with 45-minute frequencies at other times and is projected to carry 30,000 riders each day by 2040. Construction of the initial operating phase could start as early as 2025. Details regarding environmental review and design on this phase can be found at www.getvalleylinked.com.



Fig.1: Valley Link Alignment - LOCALLY PREFERRED ALTERNATIVE

SUMMARY OF PROJECT BENEFITS

Valley Link has been developed in partnership with its 15-member agencies to be responsive to the goals and objectives of the communities it will serve and meets an urgent need to:

Connect Housing, People and Jobs

Connects the Megaregion's workforce to affordable housing. More than 105,000 Bay Area workers living in San Joaquin County commute daily through the Altamont in their cars.

Reduce Greenhouse Gas Emissions
Reduces greenhouse gas emissions by 32,220 to 42,650 metric tons by 2040.

Serve Disadvantaged and Low-Income Communities and Households
Promotes equity by serving four stations within areas designated as disadvantaged or within or near low-income communities in Northern San Joaquin County.

Create New Jobs and Promote Economic Recovery
Provides an estimated 22,000 jobs during construction. When operational will support 400 jobs per year with labor income of over $19 million per year and $69 million in business sales annually.

PROJECT GOALS

- Improve connectivity within the Northern California Megaregion: connecting housing, people, and jobs.
- Rail connectivity between the San Francisco Bay Area Rapid Transit District's rapid transit system and the Altamont Corridor Express commuter service.
- Project implementation that is fast, cost-effective and responsive to the goals and objectives of the communities it will serve.
- Be a model of sustainability in the design, construction and operation of the system.
- Support the vision of the California State Rail Plan to connect the Northern California Megaregion to the State rail system.

SUSTAINABILITY

The Valley Link Rail Project is being implemented as a model of economic and environmental sustainability – one that could operate on its own created renewable energy, support transit-oriented land use development around station areas and promote innovation in station access while maximizing air quality, equity, health, and workforce benefits. The Board-adopted Sustainability Policy outlines key implementing strategies for achieving these goals.

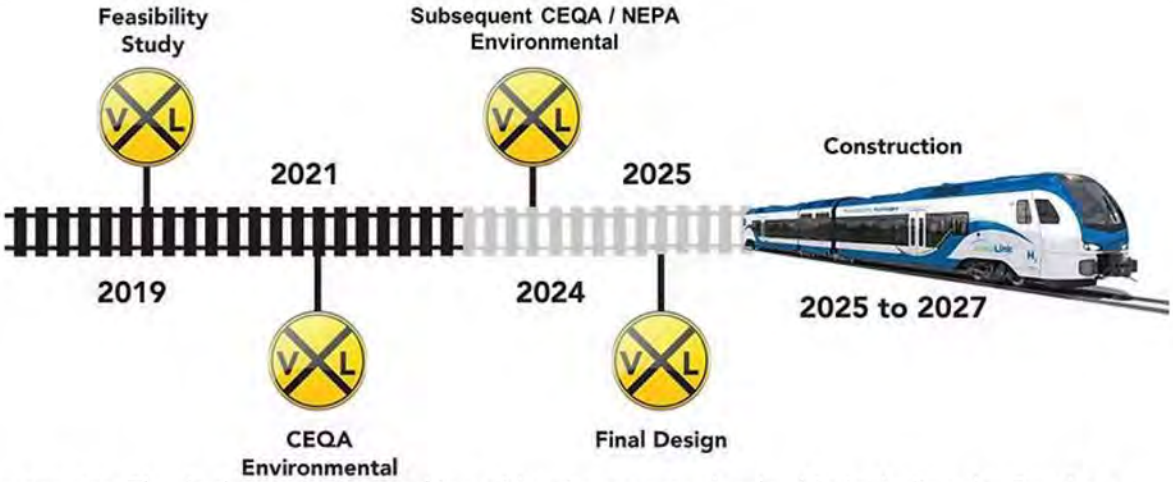
TRANSIT ORIENTED DEVELOPMENT

The Board-adopted Transit Oriented Development Policy provides direction and guidance regarding the station area plans to be developed by local jurisdictions prior to completion of final design. These plans, in combination with a requirement to meet corridor level housing thresholds, are intended to facilitate pedestrian friendly station areas, seamless intermodal connections and the promotion of active transportation (bicycling and walking), and use of zero emission vehicles, and shared rides.

EQUITABLE ACCESS

The Board has adopted policies and programs to ensure that all planning and decision-making for the project encourages public engagement and ensures a meaningful level of participation from disadvantaged communities and low- income communities and households. A Title VI Program and Public Participation and Language Assistance Plans (adopted March 10, 2021[CK3]) guide these efforts. To further expand these efforts, the development of an Equity and Inclusion Plan is currently underway.

PROJECT TIMELINE



agencies. The Authority is also working with private sector leadership including the Bay Area Council, San Joaquin Partnership, Innovation Tri-Valley and Chambers of Commerce throughout the project service area.

MEMBER AGENCIES

The 15-member Board of Directors is comprised of representatives from the cities of Dublin, Lathrop, Livermore, Manteca, Pleasanton, Stockton, Tracy, Danville, San Ramon, and the Mountain House Community Services District; the counties of Alameda and San Joaquin; and the Livermore Amador Valley Transit Authority (LAVTA), San Francisco Bay Area Rapid Transit District (BART) and the San Joaquin Regional Rail Commission (SJRRC).

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Valley Link

Connecting People, Housing, and Jobs

Fact Sheet

Project Overview

Connecting San Joaquin Valley to the Bay Area. Valley Link will offer a reliable and efficient commute alternative, providing San Joaquin Valley and eastern Alameda County residents with a direct connection to BART and ACE.

A Seamless Connection to BART. The first phase of service will provide a seamless and timed connection to BART, with service from North Lathrop to the Dublin/ Pleasanton BART station.

Frequent and Reliable Service. Trains will run throughout the day in both directions with the goal of matching BART frequency and hours of operation.

Service Characteristics

	PEAK	OFF-PEAK
Between Dublin/ Pleasanton and Greenville	**12 min** (meeting every BART train)	**30 min** (meeting every other BART train)
Beyond Greenville	**24 min** (meeting every other BART train)	**12 min** (meeting every 4th BART train)



As of February 2019

Tri-Valley • San Joaquin Valley
REGIONAL RAIL AUTHORITY



Corridor Snapshot

41 miles

7 stations

25,000 daily riders by 2040

7,700 cars off the road by 2040

Project Goals

Valley Link aims to be a model of sustainability in the design, construction and operation of the system. It strives to achieve the following goals:

- Reduce greenhouse gas emissions by 260 metric tons of carbon dioxide equivalent/year by 2040
- Operate on renewable energy
- Improve connectivity by integrating transit, bus and active transportation networks
- Promote equity by maximizing benefits to disadvantaged communities

Purpose and Need

Bay Area growth is expanding east into the San Joaquin Valley as Bay Area housing production lags despite strong job growth.

San Joaquin Valley commuters have recently increased by 30%, representing the highest daily commute flow to the Bay Area and one of the heaviest in the state.

Continued growth is expected to result in a 60% increase in traffic by 2040. Currently, no direct rail connection exists between the San Joaquin Valley and BART, forcing commuters onto freeways.

Take the survey!

Your input is valuable! Please take the online survey to share your throughts and ideas about Valley Link commuter rail.

bit.ly/valleylink

For more information about Valley Link, visit **www.valleylinkrail.com**

Valley Rail

San Joaquin Regional Rail Commission

San Joaquin Joint Powers Authority

Providing Central Valley communities with sustainable and reliable transportation choices to expand opportunity

Project Highlights

- 16 New Stations
- 7 New Daily Round-Trips
- Serves over 30% of the Disadvantaged Communities in California
- GHG Reduction of 5.2 Million Metric Tons of CO_2
- Improve Public Health and Reduce Fatalities/Injuries
- New Trainsets for San Joaquins and ACE

TIRCP award to improve Central Valley mobility

The San Joaquin Regional Rail Commission's (SJRRC) and San Joaquin Joint Powers Authority's (SJJPA) joint application to the California State Transportation Agency (CalSTA) for SB 1 and Cap & Trade funding from the 2018 Transit and Intercity Rail Capital Program (TIRCP) was awarded **$500.5 million** for the "Valley Rail" project.

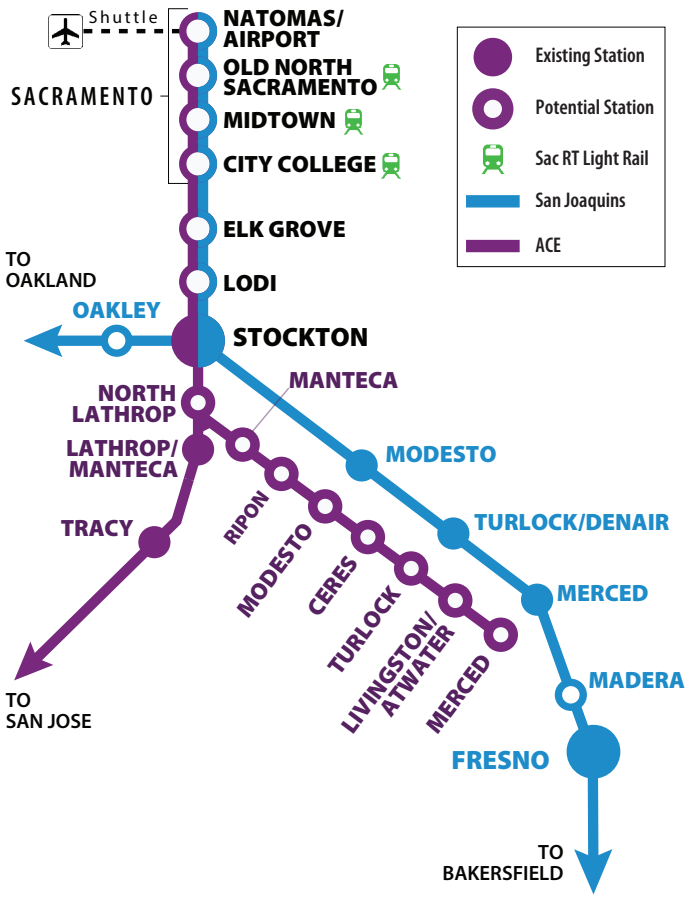


Why is Valley Rail important to California?

Valley Rail improves geographic equity by connecting key locations in the Central Valley including Sacramento, San Joaquin, Stanislaus, Merced, Madera, and Fresno Counties to each other and beyond to the Bay Area and the greater California rail network via three future high-speed rail (HSR) connections in Madera, Merced, and San Jose. This transformative, megaregional project helps further the State's vision for an integrated rail network and provides direct mobility and air quality benefits to citizens in nine counties, including over 30% of the disadvantaged communities in California.

What is Valley Rail?

Valley Rail implements two new daily round-trips for the Amtrak San Joaquins service to better connect San Joaquin Valley travelers with the Sacramento Area, and an extension of Altamont Corridor Express (ACE) between Sacramento and Merced which builds upon **$400 million** ACE funding from Senate Bill (SB) 132. In addition, Valley Rail will convert the entire fleet including the thruway bus network to renewable diesel fuel, providing greenhouse gas (GHG) benefits across the entire existing (449 track miles) and proposed expanded (119 track miles) San Joaquins and ACE services.



ACE ALTAMONT CORRIDOR EXPRESS

AMTRAK SAN JOAQUINS

What are the benefits of Valley Rail?

Reduce GHG

- GHG Emission Reductions of 5.2 MMT of CO_2
- Program includes transition fleet to renewable fuels.

Increase Connectivity

- Planned San Joaquins and ACE services as part of a regional system, instead of as individual and separate transit offerings
- Introduces increased frequency, broader market reach, regular-interval service, and new connectivity, all of which set the stage for a more fully integrated network

Reduce VMT and Expand Ridership

- San Joaquins ridership expands to 1.8 million annual riders in 2025
- ACE ridership expands to 3.1 million annual riders in 2025
- Reduction of 88.4 million vehicle miles traveled annually

Improve Public Health

- Converting to Tier 4 locomotives will achieve particulate matter reductions of 90%, nitrogen oxide reductions of 80% as well as sizable reductions of VOCs (volatile organic compounds) and CO (carbon monoxide).

Benefits to Disadvantaged and/or Low Income Communities

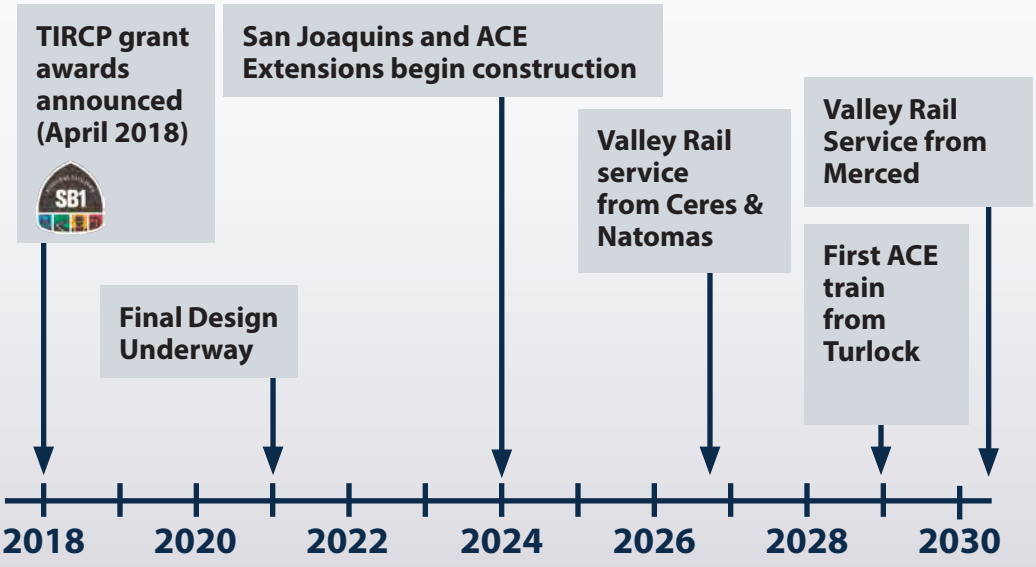
- The project directly serves over 30% of California's Disadvantaged Communities and 15% of low-Income Communities.

Improve Safety

- Approximately 4.8 billion auto VMT, 61 fatalities, and 817 injuries are estimated to be avoided over 30 years once the service is operational.

What is the timeline for Valley Rail?

Valley Rail is ready to advance. The SJJPA/SJRRC have secured over $1 billion in funding for the Valley Rail Program and construction is anticipated to start in early 2021. The Final EIR for the Sacramento Extension was approved on October 2, 2020 by the SJRRC. The EIR for extending ACE to Modesto/Ceres was certified on August 3, 2018 and the EIR to extend ACE from Ceres to Merced was certified on December 3, 2021.



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SAN JOAQUIN REGIONAL TRANSIT DISTRICT

Short Range Transit Plan

Fiscal Years 2018/19 – 2027/28



Final

The preparation of this Short Range Transit Plan (SRTP) has been funded in part by a grant from the United States Department of Transportation (USDOT), through Section 5304 of the Federal Transit Act. The contents of this SRTP reflect the views of the San Joaquin Regional Transit District (RTD) and are not necessarily those of the USDOT, the Federal Transit Administration (FTA), or the San Joaquin Council of Governments (SJCOG). RTD is solely responsible for the accuracy of the information presented in this SRTP.

Civil Rights Compliance. In compliance with Title VI regulations of the Civil Rights Act of 1964, no person in the United States of America shall, on grounds of race, color, or national origin, be excluded from participating in, or denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance. RTD must ensure that federally-supported transit service and related benefits are distributed in an equitable manner. RTD has certified that it is in compliance with Title VI regulations.

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Revisions

Rev. No.	Date	Description
001		Restructure document to include plans for Mobility Management Services and sustainability initiatives
002		

Recurring Action Items	Responsibility	Frequency
1. Review capital projects and funding to determine whether this document needs to be revised.	Director of Planning & Scheduling	Every four years
2. Review RTD priorities to determine the need for document update.	Director of Planning & Scheduling	Every four years

Approval Signature

Chief Executive Officer (CEO) Date

Short Range Transit Plan
San Joaquin Regional Transit District

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Letter from CEO

Our region is growing. As more people move to San Joaquin County and more drivers share the roads, San Joaquin Regional Transit District (RTD) must do more to ensure mobility throughout the County remain environmentally and fiscally sustainable. This Short Range Transit Plan (SRTP) provides an overview of RTD's major initiatives, both capital and service level, in the next decade.

RTD's mandate is significant—providing service to over 700,000 people sprawled across 1,400 square miles. The region is also growing; population is projected to increase 14% over the duration of this plan. Transit should at least keep pace by serving those who need it, as well as attracting other riders when possible. Rapid population growth increases the need for quality public transit.

To prepare for future growth and to better serve existing customers, RTD has invested heavily in enhancements to facilities and services such as Bus Rapid Transit (BRT). RTD has also partnered with major technology players such as Uber and continues to innovate, seeking additional partnerships for its coordinated mobility efforts.

This plan outlines new projected BRT services, which create faster, easier connections and improve accessibility throughout the service area. We have also set forth a vision for sustainability, with a major project focusing on renewable energy. Finally, our efforts in delivering Mobility Management Services will create a resilient transportation ecosystem for current and future users.

We are proud of this vision and look forward to engaging with our current and future passengers to implement and advance this plan.

Introduction

The San Joaquin Regional Transit District (RTD) Short Range Transit Plan (SRTP) for Fiscal Years (FY) 2018–2019 to 2027–2028 serves as a guide for the development of the goals, objectives, and policies for future transit services in the Stockton Metropolitan Area (SMA) and unincorporated San Joaquin County over the next 10 years. The SRTP is developed within the context of the regional planning process, which will implement San Joaquin Council of Governments' (SJCOG) Regional Transportation Plan & Sustainable Communities Strategy (RTP/SCS) (2018) and the Regional Transit Systems Plan (2017).

RTD has the following mission and vision statements:

> *"Our primary mission is to provide a safe, reliable, and efficient transportation system for the region."*
>
> *"Our vision is to become the transportation service of choice for the residents we serve."*

Developing and updating the SRTP is a critical step in the ongoing efforts of the RTD Board of Directors and staff in fulfilling its mission and vision. The SRTP proposes strategies that will guide transit development while containing costs within available revenues. Stakeholder discussions helped shape the design and strategies contained in the SRTP, which aims to accomplish the following:

- Develop strategic services and capital programs to provide transit services in a manner that balances the diverse needs of the traveling public, meets the community's transit needs, and competes effectively with single-occupant vehicles.
- Maintain sound financial management by implementing system efficiency standards and diversifying RTD's revenue streams.
- Coordinate with local agencies at all levels to ensure transit competes as a viable mode and that all transportation system investments are strategic and socially and economically equitable.
- Help reduce traffic congestion and air pollution in the San Joaquin Valley in order to meet regional air quality goals.

The SRTP provides support for future federal grant applications and fulfills requirements of other funding agencies that specify projects be listed in an adopted plan.

RTD will continue to work cooperatively with local governments, businesses, and citizens to coordinate transit planning with land-use planning. RTD is committed to improving public transit services to accommodate all user needs, as well as supporting other environmentally-friendly transportation initiatives that promote walking, cycling, and high-capacity transit use.

RTD will continue to maintain its network of transit services and propose cost-effective and efficient improvements to meet increased demand brought about by continued growth in the County. Expansion will be necessary to meet future mobility needs, improve air quality and quality of life, and assist in the development of a strong, integrated, and diverse economy.

Future Service Vision

Public transit is part of the fabric of the San Joaquin County community and a critical element in our overall transportation system. As population levels within the region are forecast to increase each year (with a 14% increase projected during the life of this plan), RTD must provide mobility options for millions of commuters and visitors to reduce traffic congestion, air pollution, and energy consumption. Additionally, thousands of senior citizens, disabled individuals, and people living below the poverty level rely on public transit as a vital link which connects them to jobs, shopping, education, health care, and the surrounding community.

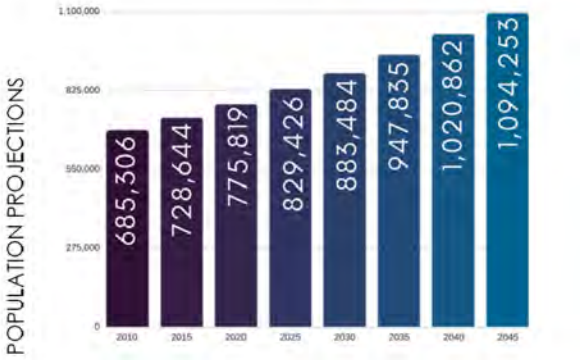


Figure 1 – Population Projections
Source: Annual Population Estimates, U.S. Census Bureau; Population Projection Project, Business Forecasting Center

RTD, similar to most transit agencies throughout the US, has seen a decline in ridership despite increases in population. This decrease in ridership has coincided with a steady increase in traffic congestion. The net results are less revenue dollars and higher costs due to the increase in operating hours.



Figure 2 – Housing and Employment Projections

An additional 24% from the Local Transportation Fund (LTF) from San Joaquin County—along with State Transit Assistance (STA) and Low Carbon Transit Options Program (LCTOP) funding—has helped sustain RTD's transit services in Stockton and the rest of San Joaquin County and meet the basic needs of the continuously growing community.

In an effort to balance the needs of a growing community with declining revenues, RTD has redirected its service design to focus on expanding and promoting those services that provide the most benefit to the local community.

This SRTP outlines RTD's plans based upon three main goals:

Accessibility: Through a robust network of new BRT and Mobility Management services, RTD can meet the needs of today's residents who do not have access to service and improve access with higher frequency service to current users. Improved accessibility also increases the attractiveness of RTD's services, encouraging new riders to experience public transit.

Sustainability: By being a public transit provider, RTD reduces millions of tons of carbon emissions every year. In addition, many millions more tons of carbon emissions will be reduced through RTD's plan for renewable energy through solar power and electric and hybrid transit vehicles.

Resilience: RTD continues to focus on improving existing transit services and the quality of life of its passengers. Through new technology and partnerships, RTD's passengers will be more informed and be better able to use RTD's services. Using new technology, RTD will improve on-time performance, be better equipped to manage disruptions and delays, and continue to provide outstanding customer service.

In all, this SRTP outlines over $20 million in operating improvements and an additional $200 million in capital improvements to benefit San Joaquin County and its citizens.

Accordingly, the SRTP identifies the following service objectives to provide the highest level of transit service to the greatest number of people within RTD's financial means:

- Enhancing Stockton Metropolitan Area (SMA) service by:
  - Improving BRT service and connectivity.
  - Restoring midday, off-peak, and night frequency.
  - Restoring weekend service frequency.
- Improving the quality of mobility services while reducing the cost of providing Americans with Disabilities Act (ADA) Dial-A-Ride (DAR) service.
- Improving the quality of Intercity and Commuter service.
- Improving Hopper deviated fixed-route service levels.
- Improving administrative management through technology and training.

- Coordinating with local jurisdictions, San Joaquin County, and local developers to incorporate transit services and amenities within land use planning to establish transit-oriented development.
- Coordinating a transit consolidation study of the transit systems in the region to improve efficiency, reduce overhead, and increase transit service countywide.

BRT Express Corridor Expansion



Through a robust network of new BRT services, RTD aims to meet the needs of those without access to service and improve access for others with higher frequency service to current passengers.

In 2006, RTD worked with DKS Associates to develop the BRT Master Plan. The BRT Master Plan outlined the various elements of a BRT system and provided guidance for the development of RTD's first three corridors.

The Master Plan defined how BRT will be implemented in San Joaquin County by providing a consistent image and standards for implementation and development. These elements include traffic signal prioritization; low-floor, diesel-electric buses; unique service branding; prepaid fares with fare vending machines; high frequency service; and increased stop distances. The BRT Master Plan alluded to the need for future, dedicated right-of-way and potential queue jump lanes in the City of Stockton.

In 2012, based on the development and success of RTD's BRT services with the Metro Express Pacific Corridor and Metro Express Airport Corridor, RTD staff developed an updated BRT Blueprint. The BRT Blueprint outlines the current and proposed BRT development, specifically highlighting the corridors that have the highest potential for success in Stockton and San Joaquin County based on current travel patterns and existing and future land uses. The BRT Blueprint has allowed for the launching of the following Corridors: Hammer, Midtown, and Martin Luther King (MLK).

BRT service is currently planned for a range of corridors throughout the City of Stockton, with potential service extension to Lodi via BRT Express. RTD will implement BRT Express service over time as funding becomes available and as demand grows due to new development. Therefore, BRT design may differ by corridor but should follow a set of requirements to ensure system characteristics remain consistent.

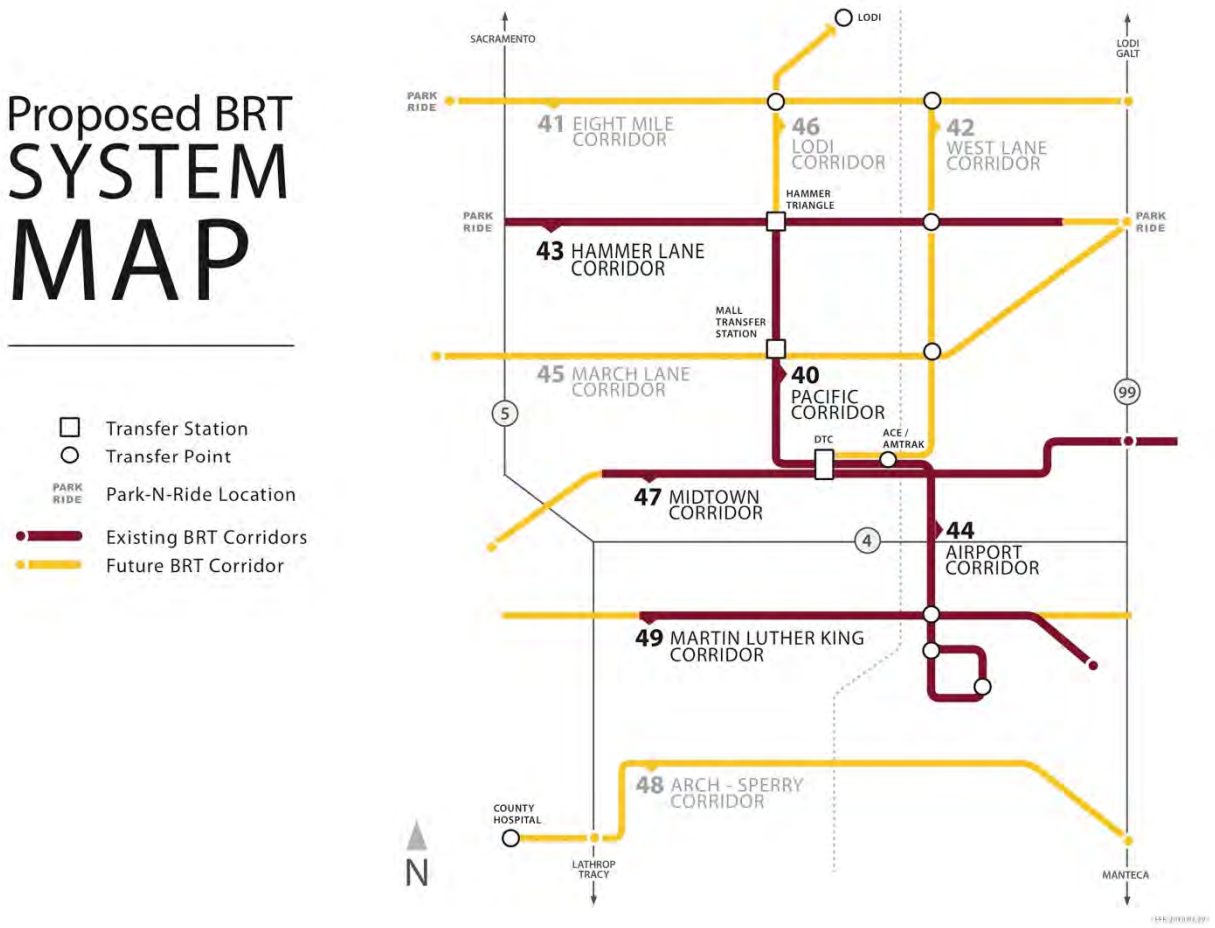


Figure 3—Proposed BRT System Map

The BRT Blueprint presents, via the Proposed BRT System Map (
Figure 3), the existing and future design and service allocation for BRT service in the City of Stockton and connecting service to the City of Lodi. It ties closely with the City of Stockton General Plan 2035 (General Plan), which was adopted by the City of Stockton in 2007 and will tie into the Envision Stockton 2040 General Plan due to be updated in November 2018. The BRT Blueprint identifies those future corridors that will best serve public transportation demand based on projected residential growth identified within the current General Plan; in the future, it will be enhanced and updated in accordance with the Envision Stockton 2040 General Plan. The corridors are not prioritized and can be expanded in multiple phases depending upon anticipated demand. For example, RTD may prioritize expanding BRT service along Eight Mile Road when anticipated development projects are completed along the corridor.

BRT construction includes the purchase of electric vehicles, station construction, project management, and the purchase of ancillary station equipment to support BRT Express operations.



Additionally, RTD must continue to lobby for and obtain dedicated right-of-way lanes for existing and future BRT corridors to accelerate BRT Express routes.

RTD will explore opportunities to improve existing BRT stops to allow for real-time information and security camera access. This may be accomplished by installing fiber optic network utility connections, improving wireless communication connections, or installing other networking technologies.

Service Expansion

Consistent with the 2009 BRT Master Plan, RTD completed the first four phases of the BRT program over the past 12 years: Pacific Avenue, Airport Way, Hammer Lane, and Midtown Corridors. RTD anticipates expanding BRT Express service within the SMA during the 10-year time frame of the SRTP. As part of the BRT Express expansion, RTD anticipates continued restructuring of SMA Local and Limited routes in north and south Stockton, allowing for a pulse connection at major BRT endpoints and intersections with SMA Local and Limited routes acting as "feeder" routes to BRT Express routes.

RTD intends to fund BRT Express service expansion as follows:

- *BRT Express 49 (MLK Corridor) – FY 19*

  BRT Express 49 travels along Martin Luther King Blvd, serving major trip destinations on 8th street and Farmington and connecting with the existing BRT Express 44. MLK Corridor operates the same span of service as the existing BRT routes along with a similar headway. It is projected to carry over 425,000 people each year.

Table 1 –BRT Express 49 Statistics and Projections

BRT Express 49	Statistics and Projections
Corridor Length (miles)	4
Number of Major Stops	6
Projected Annual Ridership	425,078
Buses Required	3
Vehicle Capital Costs	$3,000,000
Stop Improvements and Charging Infrastructure	$3,342,854
Annual Carbon Emissions Eliminated (tons)	299,175
Total Capital Costs	$6,342,854
Annual Operating Costs	$2,282,332

- *BRT Express 42 (West Lane Corridor) – FY 21*

  Scheduled for launch in FY 21, BRT Express 42 will travel along West Lane (north/south) connecting with both BRT Express 43 (Hammer Lane) and BRT Express 40 (Pacific), and ending at the Downtown Transit Center. The West Lane Corridor is anticipated to carry over 350,000 riders.

Table 2 –BRT Express 42 Statistics and Projections

BRT Express 42	Statistics and Projections
Corridor Length (miles)	5
Number of Major Stops	8
Projected Annual Ridership	357,219
Buses Required	3
Vehicle Capital Costs	$3,000,000
Stop Improvements and Charging Infrastructure	$4,028,568
Annual Carbon Emissions Eliminated (tons)	251,415
Total Capital Costs	$7,028,568
Annual Operating Costs	$2,421,288

- *BRT Express 48 (Arch-Sperry Corridor) – FY 23*

  BRT Express 48, scheduled to launch in FY 23, will be RTD's southern-most crosstown BRT, operating along the Arch-Sperry Corridor and meeting the Airport Corridor. BRT Express 48 will connect Manteca with the County Hospital. RTD expects the Arch-Sperry Corridor to serve almost 400,000 annual riders.

Table 3 – BRT Express 48 Statistics and Projections

BRT Express 48	Statistics and Projections
Corridor Length (miles)	5
Number of Major Stops	8
Projected Annual Ridership	373,226
Buses Required	3
Vehicle Capital Costs	$3,000,000
Stop Improvements and Charging Infrastructure	$4,028,568
Annual Carbon Emissions Eliminated (tons)	262,681
Total Capital Costs	$7,028,568
Annual Operating Costs	$2,568,729

- *BRT Express 41 (Eight Mile Corridor) – FY 25*

  BRT Express 41 is projected to begin operation in FY 25. The route will operate on the Eight Mile Corridor, connecting Lodi and traveling along RTD's most northern BRT crosstown route to a park-and-ride. Along the way, BRT Express 41 will connect with BRT Express 42, the West Lane Corridor. The Eight Mile Corridor is anticipated to generate almost 450,000 annual riders.

Table 4 – BRT Express 41 Statistics and Projections

BRT Express 41	Statistics and Projections
Corridor Length (miles)	6.5
Number of Major Stops	10
Projected Annual Ridership	443,978
Buses Required	4
Vehicle Capital Costs	$4,000,000
Stop Improvements and Charging Infrastructure	$5,057,138
Annual Carbon Emissions Eliminated (tons)	312,477
Total Capital Costs	$9,057,138
Annual Operating Costs	$3,633,585

General Considerations

To balance customer demand, RTD anticipates that BRT Express routes will operate at a minimum frequency of 20 minutes during peak times and 30 minutes off peak. Higher demand corridors will operate with 60-foot buses.

BRT Express route expansion is subject to continued Measure K funding and additional

grants; thus, expansion will be financially constrained should that funding fall through. RTD will assess the demand for service expansion through customer surveys and analysis of performance indicators. All service expansions will meet targeted goals for the BRT Express routes as outlined in Table 5.

Table 5 – BRT Express Service Projection FY 18–28

BRT Express	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	1,769,817	2,218,902	2,341,793	2,957,939	3,074,404	3,288,604	3,360,802	3,693,635	3,878,317	3,917,101	4,073,785
Revenue Hours	46,932	70,029	70,737	95,874	95,874	110,396	110,396	125,043	125,043	125,043	125,043
Passenger Trips Per Hour	37.71	31.69	33.11	30.85	32.07	29.79	30.44	29.54	31.02	31.33	32.58

When fully deployed, RTD's BRT routes will create a high-frequency network covering the major arterials of the County, connecting them with central Stockton. RTD projects almost 3.7 million annual trips on the BRT network by FY 25. By attracting new riders, RTD's BRT network can eliminate over one million tons of carbon emissions.

Mobility Management Services

In 2017, RTD created a new team responsible for its Mobility Management service initiatives. The development of Mobility Management services is especially important as the reliance upon, and use of, traditional fixed routes continue to decline while ridership on BRT, Uber, and Lyft are forecasted to grow dramatically. Mobility Management plays a crucial role in connecting RTD's services as well as providing the necessary service to areas that cannot be served by traditional fixed routes. The vision for the Mobility Management team is:

> *"Developing creative solutions to serve more of the residents in our region—whether they are low-mobility seniors, passengers from the rural area, or those requiring first- and last-mile connections—with effectiveness and efficiency."*

CTSA—Access San Joaquin

In 2018, RTD was designated as the Consolidated Transportation Services Agency (CTSA) for San Joaquin County. The CTSA has been named Access San Joaquin. Access San Joaquin and other RTD Mobility service programs will further enhance mobility in San Joaquin County for seniors and persons with disabilities, including ADA in-person assessments, travel training, Volunteer Incentive Program (VIP), FREEdom Pass, RTD Go, Van Go, and Care Connection. Anticipated ridership for the various Access San Joaquin services is show in Table 6.

Table 6 – Access San Joaquin Ridership Projection FY 18–28

Specialized Services	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	44,531	45,867	47,243	48,660	49,633	50,626	51,639	52,671	53,725	54,800	55,896

Efficiently Expanding Service to Unincorporated Communities

In August 1998, RTD started operating General Public Dial-A-Ride service for all cities and unincorporated communities that served the entire 1,426 square miles of San Joaquin County. Because of system inefficiencies and budgetary constraints, that service has since been discontinued.

RTD Go!

On July 10, 2017, RTD Go—in partnership with Uber and Journey Via Gurney (JVG)—replaced the former General Public Dial-A-Ride service that operated countywide with a primary focus in rural areas. RTD Go provides public transit

connectivity to residents of rural areas of the county where traditional bus service is not practical. This program extends service hours beyond fixed-route hours and offers an innovative mobility option to the public. By partnering with transportation network company Uber, RTD Go provides on-demand transportation that is subsidized 50%, up to $5 per trip. For customers with physical disabilities or other limitations, RTD Go partnered with accessible service provider, JVG, to provide transportation at a $10 flat fare per trip.

RTD Go provides passengers with more convenient transportation options, allowing travel anywhere in the County outside of RTD's fixed-route service area and operating hours. Currently, hours of service are offered from 4:00 a.m. to 10:00 a.m. and 4:00 p.m. to 10:00 p.m., Monday through Friday.

RTD Van Go!

In an effort to provide service in areas that are not currently being served and to offer first-mile/last-mile connections to its passengers, RTD launched a new pilot program—RTD Van Go—in October 2018.

As a ride-share service, passengers can call or use a smartphone app to request a ride, allowing travel anywhere within San Joaquin County as long as the trip originates or ends outside of RTD fixed-route service area or originates or ends at one of the transfer centers. To encourage and incentivize public transit use, Van Go passengers are offered free transfers to fixed-route bus services. Van Go vehicles are ADA-accessible and can transport wheelchairs. While the original scope of the service deployed only 8 vans, it has already increased to 14. The pilot program will collect valuable data to determine the future viability of the program.

Sustainability Initiatives

Renewable energy, particularly solar power generation, has been in use in public transit since states like California started offering self-generation incentive programs in the early 2000s. The most practical and effective use of solar photovoltaic (PV) panels were in bus parking shade structures in hot climates. These PV panel-covered shade structures, in addition to generating electricity, reduced emissions by keeping the buses cooler between peak period operations and significantly reduced the time required to cool the buses before they left the depot.



Victor Valley Transit Authority, Hesperia, California

Solar power generation provides significant benefits to the transit agencies. The competitive price of the systems together with the regularly increasing cost of electricity from utility companies made solar panel systems economically viable for the transit agencies, even before taking tiered incentive programs and rebates into account.

Additionally, transit agencies were able to generate funding for capital projects through grants but were strapped for operations funding which were consistently increasing. Therefore, by installing PV Panel generation systems, transit agencies were able to offset their operating costs significantly.

Recent operations and maintenance facility projects developed by Antelope Valley Transit Authority in Lancaster, CA, and Victor Valley Transit Authority (VVTA) in Hesperia, CA, generate 100% of their electrical energy needs from solar panel systems. Because operations and maintenance facility



Antelope Valley Transit Authority, Lancaster, California

energy needs are more significant during night hours, the systems are connected to the power grid through a net-meter. This in turn supplies excess power generated to the grid during the day and drawing electricity from the grid at night. Typically, the rates during daylight hours are significantly higher than at night, which potentially allows the transit agency to supply power to the grid at a higher rate and draw power from the grid at a lower rate. The 1 MW system installed at VVTA saves over $350,000 in operating cost, and over 700 tons of CO_2 each year.

In addition to the economic benefits to the transit agency, renewable solar power significantly reduces greenhouse gas emissions generated by power plants that burn fossil fuel, even after many of the utility companies have switched to natural gas and others have installed equipment to capture carbon dioxide. Furthermore, with transit agencies' increasing interest in electric vehicles, which will require charging, and the decreasing cost of energy storage (batteries), solar power generation promises to be much more financially beneficial than it has been.

Cities are key to a low-carbon future, and pioneers across the world are already demonstrating that the transition is possible. Data reveal 100 cities worldwide—from Auckland to Nairobi to Seattle—are sourcing most of their electricity (at least 70%) from renewables. In total, some 184 cities now have solar energy in their electricity mix, while 189 report that they source wind energy. This renewable energy focus is a critical element of RTD's future growth and sustainability.

Transit operators such as RTD are moving more people while reducing dependency on oil and generating less carbon emissions. Increased use of solar, other renewables, vehicle electrification, and low-carbon fuels are all part of the solution.

Solar Energy Project

Continuing with its long-standing efforts to reduce carbon emissions and its environmental impact, RTD will implement solar generation facilities throughout its service area to power bus charging and other transit-supporting infrastructure.

The Solar Energy Project will be multi-tiered:

- Install solar panels at the Regional Transportation Center (RTC) and Downtown Transit Center (DTC).

- Install solar energy storage capabilities at facilities to support electric charging infrastructure and solar power infrastructure.



Funding sources will likely include federal and state energy rebates and incentives, federal grant funds, private energy rebates, and Measure K funds.

The goal will be to significantly reduce operating expenses by taking advantage of clean energy resources that have a net positive impact on the local environment. This project has been programmed for FY 18–19, 21–22, and 24–25. The amount estimated for this is $10,000,000 for each programmed year.

Transitioning to Electric Fleet and Associated Charging Infrastructure

In 2004, RTD was on the forefront of a transition from diesel-only buses to operating low-emission, diesel-electric hybrid buses. Hybrid technology uses less fuel and significantly minimizes air emissions, thus reducing the impact to the local environment. During the last 15 years, as diesel-electric hybrid bus use expanded across its entire fleet, RTD once again saw the opportunity to take the lead in pioneering a more sustainable option—this time the fully-electric bus.

RTD's Board of Directors committed to having its entire SMA fleet operating with fully electric vehicles by 2025. Many of the hybrid buses purchased are reaching their retirement age and must be replaced. RTD presently has 17 electric Proterra buses and will continue to purchase more until the last hybrid bus has been retired; it will also work to transition the gasoline-powered Glaval Titan II fleet to electric buses as well.

In June of 2018, RTD formed a partnership with PG&E to conduct an electric vehicle pilot to support RTD's long-term electric transportation needs with chargers and infrastructure improvements. This pilot will be a test case for PG&E's new FleetReady program, which supports electric charging for customers with medium-duty, heavy-duty, and off-road fleets. For this new pilot, PG&E will test how smart charging and battery storage can lower operating costs and maximize efficiencies. As RTD transitions to an electric fleet, it will need to purchase electric station infrastructure for the RTC.

The bus charging equipment is estimated to be $100,000 per bus. The current fast chargers that accommodate up to 6 buses cost approximately $600,000—with installation and overnight charging equipment for 29 buses is estimated at $50,000 per bus. This project will be programmed within the 10-year timeframe of the SRTP.

Existing Transit Service Improvements

As the regional transit provider for San Joaquin County, RTD's role in providing local and regional transit service is continuously evolving to meet an ever-changing environment.

SJCOG works closely with University of the Pacific's Eberhardt School of Business (Business Forecasting Center) to examine the population and employment trends and projections for San Joaquin County. Recent trends have shown a steady population growth and in local employment. SJCOG anticipates that San Joaquin County will reach a population of 775,819 by 2020 and surpass 1,000,000 in 2040.

In addition to a growing population, SJCOG is expecting the median age of the local population to steadily increase over the next 30 years. With the Baby Boomer generation aging, the 60-and-over demographic will increase by 125% between now and 2040. Currently, roughly 15% of the population is over 60; that percentage will increase to exceed 21% by 2040. In conjunction with the formation of Access San Joaquin, RTD has begun implementing a series of mobility management strategies to address the growing and aging population, with services such as the Hopper deviated fixed-route service, VIP, Care Connection, RTD Go, and Van Go.

BRT Express services throughout the City of Stockton, with Local and Limited SMA routes connecting at major transit stations in the city, have proven effective in meeting the needs of the local population as the routes serve local educational institutions and services. RTD anticipates that the daily transit mode share will continue to increase with the largest growth rate coming from the daily transit commuter trip.

Within the next 10 years, RTD will maintain the existing level of fixed-route service based on available funding programs. Growth of fixed routes will occur at a pace corresponding to the demand from San Joaquin County's population growth and available funding. RTD will continue researching ways to improve funding options to increase service levels that will meet the growing demand. This could also include creating additional mobility-type programs that are not traditional fixed-route service models, which can benefit the City of Stockton and unincorporated San Joaquin County areas.

Over the 10-year timeframe of the SRTP, RTD staff will continue to review its service offerings to identify those that have become the least equitable or too costly to operate. The transit system aims to serve an expanding market of seniors and student

populations, with more interregional work trips.

With the adoption of the current Federal Fixing America's Surface Transportation (FAST) Act transportation bill, the reauthorization of Measure K in 2011, and the upward trend in Transportation Development Act (TDA) revenues, RTD will continue to expand overall transit services and evaluate appropriate modes of transit. These services will be subject to demand and must demonstrate an effective use of subsidized funding. Although the trends look positive, RTD must observe caution and take a conservative approach.

In the event of loss in anticipated revenues, RTD will research and identify under-performing services according to agency performance standards and develop a performance improvement plan for those services that have the highest operating costs and least return in ridership. RTD will continue to adhere to the requirements of the ADA and strive to meet the performance requirements of its funding partners.

BRT corridors are a critical component of the San Joaquin County RTP/SCS prepared by SJCOG and updated in 2018. The RTP/SCS identifies strategies and solutions to reduce greenhouse gas emissions in order to meet air quality goals and objectives as outlined in State Senate Bill 375. The valley wide target of a 5% reduction by 2020 and a 10% reduction by 2035 can only be met through an increased investment in public transportation. RTD is playing a critical, leading role in providing public transportation-focused development and transit-corridor improvements. Corresponding with RTD's existing and planned BRT Express routes, these transit corridors can be effective in increasing the transit mode share and decreasing local air pollution.

SMA Local Service

RTD's Local fixed-route services provide the City of Stockton's core public transportation needs. Transportation needs will continue to evolve over time due to population growth, demographic changes, economic climate changes, and land use changes. RTD will work to improve frequencies of existing routes on weekdays and weekends as needed, based upon available resources.

In order to meet the anticipated demand for service, RTD expects to increase BRT efforts. As a result, SMA Local services will need to change. Options being considered include:

- Emphasizing short trips, focus on providing dedicated, limited, peak-hour routes near educational centers and employment areas, and connection services to BRT Express transfer points.
- Expanding Metro Hopper routes geographically to reintroduce neighborhood services with increased frequencies during the peak hours and weekends.
- Expanding the weekday service window to operate later in the evening on key routes and fill in midday gaps on SMA Local routes.

RTD staff will evaluate which options will provide the most ridership potential and make recommendations to the Board of Directors whenever funding allows.

The City of Stockton is currently updating the Envision Stockton 2040 General Plan and reviewing regional development plans for new housing in both North and South Stockton. These plans will likely generate enough passenger demand to necessitate expansion services into those new developments. Incorporating SMA Local, Metro Hopper, and BRT Express routes into these new areas will be a priority if these development plans become a reality. RTD will work with the City of Stockton to identify mitigation fees to provide services to meet this demand and identify additional funding beyond mitigating fees that will be necessary to meet future demand. RTD will also encourage infill redevelopment in Downtown Stockton to decrease the need to expand services into new territories.

Table 7 – SMA Local Service Projection FY 18–28

SMA Local	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	1,068,724	939,813	949,211	825,814	842,330	859,176	867,768	893,801	911,677	920,793	966,833
Revenue Hours	64,877	47,679	47,679	40,527	40,527	40,527	40,527	40,527	40,527	40,527	41,540
Passenger Trips Per Hour	16.47	19.71	19.91	20.38	20.78	21.20	21.41	22.05	22.50	22.72	23.27

Metro Hopper Service

Metro Hopper service provides deviated fixed-route service throughout the City of Stockton, supplementing the demand for ADA DAR operations. This service is designed to serve the needs of seniors and persons with disabilities by focusing service on retirement communities, care facilities, educational and shopping centers, local health institutions, and area hospitals. Metro Hopper has successfully reduced the demand for Dial-A-Ride service while providing a transportation alternative for RTD customers, resulting in an operating cost decrease. RTD will review the stop locations of the Metro Hopper to ensure services are effective, minimizing the need for deviations and

rerouting services to meet the changing demand.
RTD will continue to evaluate SMA Local and Metro Hopper routes to increase operational efficiencies. Within the 10-year time frame of the SRTP, there is a need to expand Metro Hopper to south Stockton, connecting Mariposa Road to San Joaquin General Hospital via Arch Road, to provide better east/west connectivity in south Stockton.

Table 8 – Metro Hopper Projection FY 18–28

Metro Hopper	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	184,021	194,931	197,855	200,823	206,848	213,053	235,733	240,448	250,066	268,821	276,886
Revenue Hours	27,027	29,484	29,484	29,484	34,272	36,918	36,918	39,690	40,950	40,950	42,210
Passenger Trips Per Hour	6.81	6.61	6.71	7.56	6.84	7.05	7.20	7.34	7.63	8.01	8.25

Intercity and County Hopper Service

During the time frame of this SRTP, RTD intends to restructure its Intercity and County Hopper service to provide direct point-to-point service between Stockton and other cities in San Joaquin County, as well as to Modesto in neighboring Stanislaus County. New services may be added to the City of Escalon and the unincorporated community of Mountain House. Depending upon demand, RTD may also provide additional service in unincorporated areas.

RTD will review and modify schedules and route alignments for the current Intercity and County Hopper routes to reflect current customer demand for intercity travel within San Joaquin County. RTD anticipates that Intercity and County Hopper routes would focus on providing direct connectivity between the DTC, Hammer Transfer Station (HTS), Mall Transfer Station (MTS), the future Union Transfer Station (UTS), and local transportation hubs such as Lodi Station, Manteca Transit Center, Tracy Transit Station, Escalon Park and Ride Lot, Lathrop Crossings Park and Ride Lot, and the future Ripon Multi-Modal Station. This direct connectivity focus would decrease overall travel and allow for increased headways for service into Stockton.

As funding becomes available for additional intercity services, RTD will work to identify resources to implement improvements which include the following:

- Closing midday service frequency gaps and adding additional evening and weekend services.
- Improving route connectivity with local transit providers, reducing peak-hour headways to 60 minutes between Lodi, Tracy, and Manteca.

- Expanding deviated fixed-route service to West Lathrop, Escalon, Mountain House, and other unincorporated areas in San Joaquin County.
- Expanding service to Vintage Faire Mall in Modesto to connect with MAX, StaRT, and Blossom Express.
- Implementing interagency transfers with MAX, StaRT, Amtrak San Joaquins, ACE, TRACER, Manteca Transit, GrapeLine, eTrans, and Blossom Express.
- Improving coordination of schedules with SMA Local, BRT Express, Metro Hopper, County Hopper, TRACER, Manteca Transit, GrapeLine, eTrans, Blossom Express, and other transit services that become available within San Joaquin County.

Table 9 – Intercity/County Hopper Service Projection FY 18–28

County Hopper/Intercity	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	204,632	224,084	233,075	178,134	179,524	182,216	184,950	189,804	196,619	225,366	240,866
Revenue Hours	21,180	24,842	27,228	20,001	20,001	20,001	20,001	20,001	20,001	21,531	22,505
Passenger Trips Per Hour	9.66	9.02	8.56	8.91	8.98	9.11	9.25	9.49	9.83	10.47	10.70

Commuter Service

When designing Commuter routes, RTD evaluates the origins and destinations using data from SJCOG's Dibs (formerly Commute Connection) program and current and potential employers. There are emerging needs for the creation of corridor service with multiple trips between Stockton, Lodi, and downtown Sacramento—initially with weekday service, expanding to a seven-days-a-week operation. Additionally, with weekend service to Dublin/Pleasanton BART Station, there is a need to expand the Commuter route to provide better connectivity to Manteca, Escalon, and Ripon.

To prevent duplication, RTD could coordinate with ACE to provide additional bus trips in between ACE trains and shuttle services to ACE stations in San Joaquin County, especially with the implementation of Saturday service in FY 19.

Table 10 – Commuter Service Projection FY 18–28

Commuter	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	156,301	167,988	176,888	182,195	184,928	187,491	208,911	219,357	230,514	280,023	285,623
Revenue Hours	14,041	15,041	16,301	16,301	16,931	16,931	18,033	18,033	18,033	22,338	24,858
Passenger Trips Per Hour	11.1	11.2	10.9	11.2	11.3	11.1	11.6	12.2	12.8	12.5	12.7

Vanpool Program

As additional vanpools are developed, RTD will use the data to determine the need to create Commuter routes based on customer demand.

Table 11 – Vanpool Service Projection FY 18–28

Vanpool	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	85,344	165,000	183,820	202,264	222,764	241,584	266,584	283,342	302,494	319,252	338,404
Total Vans	55	70	75	85	100	110	123	130	138	145	153

SMA ADA DAR

With the anticipated increase in the median age of San Joaquin County residents, the demand for DAR services will continue to rise.

By coordinating travel demand, RTD can continue to meet the demand for low-income seniors and persons with disabilities throughout San Joaquin County without increasing its service budget. To optimize system capacity and better serve the growing demand from seniors and persons with disabilities, RTD will continue to train and assist passengers to transition from DAR services to fixed-route or Hopper deviated fixed-route buses through its Travel Training program. As demand grows in particular areas of the SMA based on trip origins and destinations of SMA Dial-A-Ride, RTD anticipates creating additional Metro Hopper routes to reduce the need for such trips.

Table 12 – SMA ADA Dial-A-Ride Projection FY 18–28

SMA ADA DAR	FY 18	FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	FY 27	FY 28
Passenger Trips	84,742	86,013	87,303	92,158	93,540	94,943	96,368	98,296	100,262	103,270	106,368
Revenue Hours	30,963	31,427	31,898	33,673	34,178	34,691	35,211	35,563	35,919	36,637	37,370
Passenger Trips Per Hour	2.74	2.74	2.74	2.74	2.74	2.74	2.74	2.76	2.79	2.82	2.85

Rider Quality of Life Innovations

RTD has been successful in implementing an accessible and effective website for the public. RTD will continue to maintain and enhance this website with additional developments.

RTD will continue to implement new technologies to maintain a state-of-the-art and highly efficient and effective electronic communication for the public. RTD's Marketing and Customer Engagement Departments will continue to use web-based applications and social media to communicate with the public. These efforts include, but are not limited to, continued use of online social media (e.g. Facebook, Twitter, Instagram, YouTube, LinkedIn) and free smart phone applications (e.g., RTD has a series of mobile

applications that are available for customer convenience).

- *Google Transit*
  RTD will continue to enhance its online trip planning tool for its customers—Google Transit Trip Planner (GTTP). The GTTP uses Google's online map features to allow riders to plan transit-oriented trips using the origin, destination, and arrival time of their trip. There are a number of benefits to maintaining the GTTP. Any Google site visitor or smart phone user accessing the Google Maps application is offered public transit alternatives. With this application, customers do not have to rely on having a printed timetable in hand. This allows for greater access to RTD's services and simplifying the public transportation experience.

  RTD staff will look for ways to improve RTD's Google Transit feeds with enhanced coordination between Google, Trapeze, and any software developer looking to use the Google Feed for new applications and public information interfaces.

- *Fare Media and Payment Convenience*
  RTD will look for opportunities and funding to simplify and enhance the customer experience through improved fare programs and technology. In 2010, RTD's Comprehensive Operational Analysis (COA) identified a need to improve fare collection using tuition-based fares from local universities and educational institutions. RTD will pursue this opportunity during the 10-year time frame of the SRTP.

  RTD has launched mobile ticketing through smartphone applications available to all riders of all service types. Through collaboration with the SJCOG, local universities, and neighboring transit agencies, RTD can plan and adopt a regional fare system that simplifies fare management for both RTD and the public by implementing a smart-fare media program using the latest fare media technology.

Capital Funding and Projects in Support of SRTP Goals

Over the 10-year time frame of the SRTP, RTD has projects planned for FTA funding as noted in the 10-Year Capital Plan table below. The table below shows a summary of the capital project, the fiscal year span of the project, the project's total cost, and the anticipated funding source.

Table 13 – Capital Program Summary

Project	Fiscal Year	Total Cost	Funding Source
Fare Revenue and Dispatch Equipment/Software	2019–2020 2024–2025	$3,000,000 $3,000,000	Discretionary
Solar Energy Project	2018–2019 2021–2022 2024–2025	$10,000,000 $10,000,000 $10,000,000	CMAQ (Programmed) Discretionary Discretionary
IT Modernization, Automation, Software	Entire 10-year period	$11,820,914	Discretionary
Facility and Maintenance Equipment	Entire 10-year period	$2,275,956	Discretionary
Safety and Security	Entire 10-year period	$2,561,559	1% of 5307 Estimate/ Discretionary
Passenger Stations and Amenities	Entire 10-year period	$3,261,976	Measure K/ Discretionary
BRT Expansion (Desired Service Expansion)	2019–2020 2021–2022 2023–2024 2025–2026	$6,342,854 $7,028,568 $7,028,568 $9,057,138	Discretionary Discretionary Discretionary Discretionary
Parts Over $500	Entire 10-year period	$4,125,000	5307/STA
Tire Lease	Entire 10-year period	$4,125,000	5307/STA
RTC Improvement: Land and Pavement	2019–2020	$5,500,000	Discretionary
RTC Expansion: Administration Building	2025–2026	$15,000,000	5307/5339
Bus Replacements (conversion to electric)	Entire 10-year period	$117,216,000	5307/5339/Measure K/Unidentified funding

Fare Revenue and Dispatch Equipment/Software

RTD plans to expand the existing Intelligent Transportation System (ITS) to its Intercity, Hopper, and Dial-A-Ride fleet. ITS system elements include automated passenger counters, annunciators, integrated vehicle logic units, and other associated equipment on buses. ITS provides RTD with the ability to provide real-time schedule updates to the public at passenger facility locations (i.e., BRT Express stations, DTC, MTS, UTS, HTS, and transit centers in outlying cities), on RTD's website, on RTD's various mobile apps, and through TextBus. ITS will also increase safety as Dispatch will be able to review system operations in real time (via bus and facility surveillance cameras), and Voice over Internet Protocol (VoIP) capabilities will provide a secondary means of direct communication with drivers in case of an emergency. This may be achieved through the newly-available, long-term evolution (4G/5G) wireless public communications access throughout the service area. RTD staff will monitor ITS technology development and pursue new and improved services and systems where applicable. This project has been programmed in FY 19–20 and FY 24–25 of the SRTP. The amount estimated for this project is $3,000,000 for each programmed year.

Information Technology (IT) Modernization, Automation, Software

Tablets and smartphones have significantly improved communications in the transit industry. RTD will take advantage of these devices to improve the management and operation of services for Maintenance, Facilities, and administrative departments. Tablets can provide staff access to field manuals, asset management systems, real-time vehicle tracking, and scheduling software. As part of this project, RTD will evaluate the replacement of Trapeze FX and Blockbuster software used for run-cutting and scheduling; RTD will also procure any necessary technology that supports and reduces the cost of operations. RTD will also replace its maintenance and spare parts management system, Spear, to better meet Transit Asset Management (TAM) requirements for both vehicles and facilities. In addition, the new system will enable on-the-shop-floor access to work orders, manuals, and parts status via tablets or smartphones and onsite access to work orders for Facilities personnel when working at remote sites or bus stops.

RTD will upgrade its timekeeping system, Kronos, to improve time tracking and leave-approval processes. It will also evaluate the replacement of its Enterprise Resource Planning (ERP) system, OneSolution, to take advantage of improvements offered by Internet cloud-based solutions.

In addition, RTD staff will focus on passenger amenities to improve customer experience on all routes, which may include adding Wi-Fi, cell phone charging stations, and creating additional customer-facing tools and applications.

RTD will also research and pursue opportunities to adopt an electronic yard management system, providing supervisors real-time fleet movement information. This will significantly assist Dispatch and fleet management by supervisory staff. This project has been programmed for the 10-year time frame of the SRTP. The amount estimated for this project is $1,000,000 per year beginning in FY 19 and increasing 3% each year.

Safety and Security

FTA requires RTD to expend up to 1% of the overall apportionment funds to the Stockton Urbanized Area on safety and security activities. The Lodi, Manteca, and Tracy Urbanized Area funding is dictated by a SJCOG process that RTD participates in. This project may include, but is not limited to:

- Staff salaries for personnel exclusively involved with security.
- Contracts for security services.
- Any other operating projects intended to increase the security and safety of RTD.
- Safety and security equipment.
- Safety and security facilities improvements.

This project has been programmed over the 10-year time frame of the SRTP. Costs are estimated to be $200,000 per year with 3% escalation.

Training Programs

In order to maintain effective and efficient personnel, RTD will continue to provide educational and training opportunities to staff. Training opportunities include the following:

- Automotive Service Excellence certification training for maintenance staff.
- Transportation Safety Institute training for supervisors and operators.
- Management systems training for administrative staff.
- Safety and security training for all staff.

This project has been programmed over the 10-year time frame of the SRTP and is incorporated in the annual operating budget.

Passenger Amenities and Stations

Over the course of the 10-year time frame of the SRTP, RTD will continue to purchase and install passenger amenities such as bus shelters, benches, trash receptacles, and Pole Mounted Passenger Information Displays (PMPIDs). BRT Express routes will continue to feature stops that provide the feel of BRT. These stops include a large overhang with benches, leaning poles, stanchions, signage, bicycle racks, and fare vending machines.

To improve customer experience and provide related infrastructure to support electric buses, RTD will also continue to enhance its existing transit stations—DTC, HTS, MTS, and UTS. Infrastructure support for additional bus routes may include land acquisition or expansion of these facilities.

RTD will continue to support the use of multiple transportation modes by providing bicycle racks on all new and operating buses within the RTD fleet, selected bus stops, and facilities. This will satisfy the 1% associated transit enhancements as required by the FTA for the use of Section 5307 funds; RTD anticipates programming funds for this project over the entire 10-year period of the SRTP.

As highways and freeways such as SR-99, I-5, SR-4, SR-120, I-205, I-580, and SR-88 are improved or expanded, RTD will also continue to partner with SJCOG and Caltrans to include park-and-ride lots along the expansion and seek park-and-ride lots for vanpools and Commuter routes.

Regional Transportation Center Improvement

During the time frame of the last SRTP, RTD constructed the RTC, which is a consolidated maintenance and operations center. The RTC was completed in 2015; however, due to funding constraints, the administration building was not constructed at that time. Additionally, RTD is negotiating the purchase of land between RTC and the County Transportation Center (CTC) in order to expand and unite the two properties. RTD anticipates allocating funds for land acquisition and improvements in FY 19–20.

Fleet Replacement and Expansion

RTD will continue to maintain a modern and efficient fleet over the cycle of this Plan. As funding becomes available, buses will be replaced according to the FTA duty cycle criteria, which allows 12 years for full-sized (e.g., 40', 45', and 60') buses and 5 or 7

years for Hopper and Dial-A-Ride buses. A copy of RTD's Fleet Replacement Plan has been submitted to the FTA within the limits of known funding resources. RTD maintains a fleet of non-revenue, passenger support vehicles (e.g., trucks and light duty cars) that enable RTD staff to carry out daily functions. RTD uses support vehicles for route planning, travel to meetings and regulatory functions, public outreach, information distribution, driver relief, and driver supervision. It is important to maintain a modern, efficient, and reliable fleet to ensure quality customer service and effective use of taxpayer dollars.

RTD will continue to adopt a fleet replacement and expansion program to ensure that the fleet composition reflects future service requirements. For future expansion, RTD will analytically review service demand and define the needs for the new buses before future procurement. This analysis will provide a recommendation for purchase based upon planned use. Future purchases will meet fleet requirements and maintain a consistent spare ratio of approximately 20% systemwide, as well as for each service type.

Additionally, RTD will maintain a contingency (inactive) fleet to facilitate future expansions of transit services and reserves for unforeseen needs.

RTD may rebuild or rehabilitate buses in its fleet as deemed appropriate to maintain this contingency. RTD Maintenance Department staff will identify vehicles for rebuild based on staff experience and available time. RTD will maintain a controlled inventory of spare parts and service equipment for the active fleet at RTC and CTC. This enables staff to maintain an active fleet by having spare parts on hand in case of failure. RTD will purchase other maintenance-related items and equipment (e.g., tools) as needed. RTD will identify opportunities to minimize parts inventory while expediting maintenance practices in order to maintain an effective inventory balance. These opportunities may include outsourcing parts management or parts delivery.

Commuter Fleet Replacement and Amenities

RTD has started to replace 12 of the 16 Commuter buses with new low-floor, single-deck, diesel-electric hybrid buses. These buses are the 40-foot low-floor model from Gillig and are anticipated to be delivered in FY 19. Two of the four remaining older Motor Coach Industries (MCI) Commuter buses have been replaced in FY 19. The disposition of the remaining two older MCI buses will depend upon Commuter ridership.

Facility and Maintenance Equipment



During the time frame of the SRTP, RTD will need to purchase various facility and maintenance equipment to support the Facilities, Maintenance, and contracted Maintenance Departments. This is programmed for the entire 10-year timeframe of this SRTP.

The FTA requires every transit agency that owns, operates or manages capital assets to develop a TAM Plan, which ensures that its federally-funded assets are maintained in a state of good repair. While the FTA provides guidance as to the definition of "state of good repair," RTD must develop its own plan which outlines how people, processes, and tools come together to address asset management policy and goals. Additionally, it supports planning, budgeting and communications both internally and externally.

RTD finalized its TAM Plan in September of 2018, which puts in place comprehensive and integrated policies and procedures for ongoing operations and maintenance practices. It aims to reposition RTD from a "find and fix" maintenance and management approach to a "predict and prevent" approach, reducing costs and improving safety and reliability. All of RTD's vehicle, facilities, and other maintenance efforts were reviewed and assessed in this process and found to be compliant with FTA standards.

Preventative Maintenance

RTD capitalizes its preventative maintenance program for vehicle and facility maintenance. This includes costs of the activities, supplies, materials, labor, services, and associated costs required to preserve or extend the functionality and serviceability of the asset in a cost-effective manner, up to and including the current standard for maintaining such an asset. Repairs to facilities, bus stops, and other customer amenities are also eligible expenses under the Preventative Maintenance Program. Some of the tasks associated with preventative maintenance include the following:

- Inspecting revenue vehicle components on a scheduled preventive maintenance basis (e.g., engine and transmission, fuel system, ignition

system, chassis, exterior and interior of body, electrical system, lubrication system, trucks, braking system, and air conditioning system).

- Changing lubrication fluids and replacing minor repairable components
- Rebuilding and overhauling repairable components
- Performing major repairs on vehicles on a scheduled or unscheduled basis.
- Replacing major repairable units of vehicles and repairing damage to vehicles resulting from collisions, floods, fires, or other events.
- Making road calls to service vehicle breakdowns; towing and shifting vehicles to maintenance facilities.

Appendix A: Agency History and Background

Historical Background



Established in 1963 as the Stockton Metropolitan Transit District (SMTD), SMTD was created as a result of the failing local private transportation company. The City of Stockton, in response to the demand for public transit, introduced a bill in the California State Legislature authorizing the formation of a tax assessment transit district as defined in the public utility code, subject to public vote. The legislation passed, forming SMTD. The Stockton City Council and the San Joaquin County Board of Supervisors appointed a five-member board to SMTD. SMTD began operations on the former Stockton City Lines on June 1, 1965.

From its start, SMTD delivered efficient and reliable public transportation to all persons in its service area. In 1979, SMTD moved from its operations yard in downtown Stockton to a new location on 1533 East Lindsay Street. A marketing contest in 1985 led to the adoption of "SMART" as SMTD's newly official brand.

On October 26, 1993, SJCOG acted in support of expanding SMTD boundaries countywide to provide intercity, interregional Commuter, and countywide General Public DAR services. In December 1993, the San Joaquin County Board of Supervisors approved annexation of the remaining unincorporated areas outside the SMA into SMTD. Following a public hearing, on January 4, 1994, SMTD's Board of Directors unanimously approved a resolution to expand the District's boundaries to include all of San Joaquin County (but excluding the cities of Lodi, Lathrop, Manteca, Tracy, Escalon, and Ripon), with the new District renamed San Joaquin Regional Transit District (SJRTD). SJRTD began operating intercity services and expanded interregional Commuter services on October 3, 1994.

1994 SJRTD logo

On January 1, 1995, the Public Utility Code 50000 was updated to reflect the name San Joaquin Regional Transit District. It also provided authorization to operate countywide and required that

any service outside the SMA must be contracted out every five years.

On June 25, 1996, San Joaquin County transferred its transit program into SJRTD. Their transit program consisted of the following: buses, a facility in French Camp, transit operations and a maintenance contractor, specialized transportation programs with other County departments, DAR service for the elderly and persons with disabilities, a rural fixed route connecting French Camp, Lathrop, and Manteca, and rural DAR services in Lodi, Escalon, and Tracy.

By August of 1998, SJRTD implemented General Public DAR service on a limited basis as a result of this transfer. In October 1998, SJRTD implemented a pilot DAR service to the Stockton ACE Station. SJRTD then expanded General Public DAR to Tracy and Lathrop/Manteca ACE Stations in October 2001.

In November of 2002, SJRTD implemented a deviated route program called Hopper. This service replaced the former County Area Transit (CAT) rural fixed-route service, the Countywide General Public DAR, and DAR service for elderly and persons with disabilities with routes connecting Stockton with Lodi, Lathrop, Tracy, Banta, Manteca, French Camp, Escalon, Ripon, Linden, Morada, Thornton, Woodbridge, Victor, and Lockeford.

In 2004, SJRTD adopted a new logo and branding, which reflected its regional commitment. It became regularly known as San Joaquin RTD, or RTD for short. In 2005, RTD moved its rural County transit services from French Camp (where it leased space from San Joaquin County) to the CTC, a new location on Filbert Street in central Stockton near State Route 4. The RTD logo was updated once more as shown and is still used today.

In April 2005, RTD began operation of Route 19—the Downtown Events Trolley—with Monday through Friday daytime service and Thursday through Sunday nighttime schedules to provide service to entertainment venues and sporting events on its route.

Due to a lack of funding from cities outside its boundaries, as well as a reduction of

Measure K and STA funding for the provision of these regional services, RTD implemented a service equity policy and reduced the number of bus stops on Intercity and County Hopper routes operating outside the SMA in 2005.

In December 2006, RTD relocated its administrative functions from the Lindsay Street facility to its newly opened DTC, opening up additional space for operations.

In January 2007, RTD implemented a major route restructuring and transit service expansion to meet the growing transit needs in the County. The route restructuring and expansion project improved existing routes and introduced new routes with new route numbers, names, schedules, and system map. In addition, RTD introduced BRT to Stockton with its first route along the Pacific Avenue Corridor, branded as "Metro Express." Metro Express: Pacific Corridor (Route 40) provides service along a critical transportation artery in Stockton—from Hammer Lane to the DTC, with stops at the University of the Pacific, Delta College, Sherwood and Weberstown Malls, Lincoln Center, and the Stockton Arena.

In 2009, RTD experienced a significant transit service reduction due to lower than anticipated revenues because of the economic recession. As a result, many County Hopper and Intercity routes were discontinued and SMA "Metro" routes were reduced. SMA ADA DAR and Rural General Public DAR were also reduced or eliminated, and a new Metro Hopper deviated route service was created to replace the cancelled services. Additionally, with the now-defunct New Freedom grant, RTD implemented Rural Connection, a deviated fixed-route service using small vans to connect Escalon, Manteca, Tracy, and Mountain House.

In 2010, RTD discontinued crosstown Trolley routes in the Downtown Stockton area on weekdays while retaining the nighttime weekend service. RTD discontinued the nighttime weekend Trolley route in April 2012.

In January 2011, RTD opened its second BRT corridor along Airport Way, extending BRT service from the DTC into south Stockton to the Stockton Metropolitan Airport, and connecting to the ACE and Amtrak (Cabral) Station. In July 2012, RTD introduced the third BRT corridor along Hammer Lane, completing the BRT expansion plan identified in the FY 09–13 SRTP. While transit systems throughout the nation struggled to connect workplaces to the work force, RTD's successes helped San Joaquin County rank 29th among the nation's 100 largest metropolitan areas for its "labor access rate," according

to a Brookings Metropolitan Policy Program analysis in 2012.

In August 2017, RTD extended BRT Express 44—Airport Corridor to Arch Road and the Transworld Drive area near State Highway 99, which features a growing Education/Commercial Center. Frequent BRT service to over 4,000 students and employees in the area was now available seven days each week. In September 2017, BRT Express 44 became the first all-electric BRT route operating exclusively with Proterra quick-charge buses.

On March 11, 2018, RTD implemented BRT Express 47—Midtown Corridor, which operates east to west in the midtown area of Stockton and connects Lincoln Street at Washington Street with Franklin High School primarily via Weber Avenue, Miner Avenue, and Fremont Street. As of today, the four BRT corridors provide more than 57% of RTD's weekday daily ridership.

Table 14 – System Overview

Key System Statistics	
San Joaquin County	1,426 sq. miles
Number of Active Vehicles	128
Number of Employees	203
Services and Routes	
SMA Local & Limited	29
BRT Express	4
Intercity	1
Commuter	8
Metro Hopper	9
Country Hopper	6

Along with the implementation of BRT Express 47, RTD comprehensively restructured the Local SMA service by renaming all routes with a 500-series route number to indicate they operate "five days a week," Monday through Friday. The 500-series was designed to be short and straight routes that connect with BRT routes and transit hubs. They are similar to RTD's 700-series routes, implemented in FY 11, that operated only on Saturdays and Sundays.

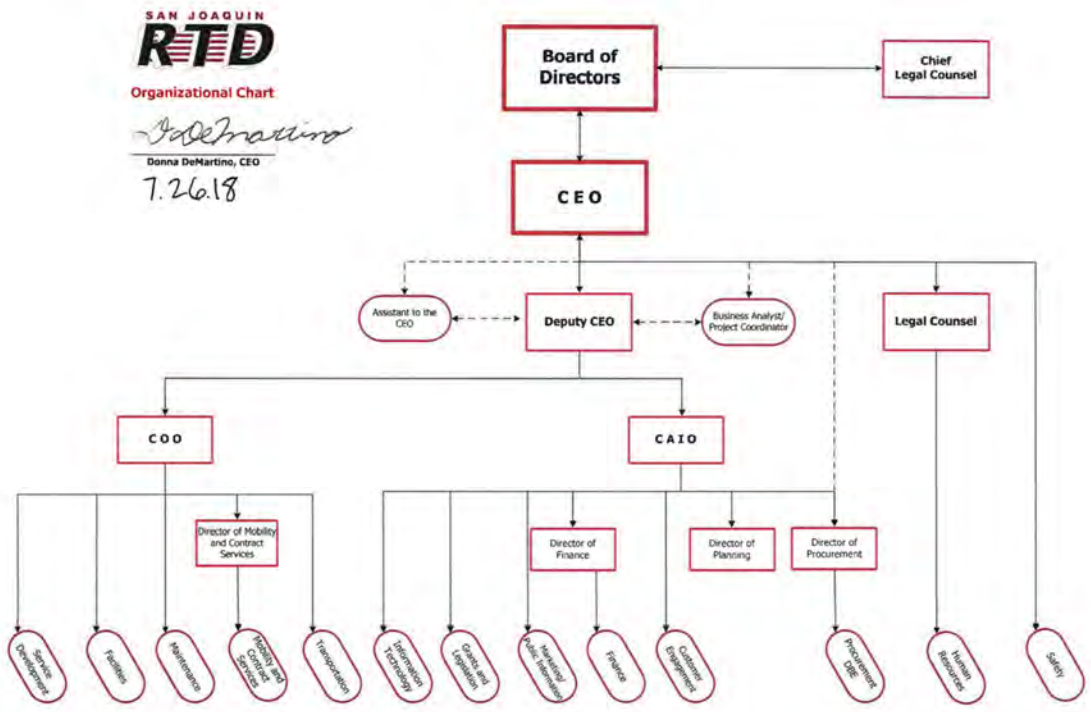
The Organization

RTD receives policy direction from a five-member Board of Directors. The Directors are appointed for a four-year term as follows: two by the Stockton City Council, two by the San Joaquin County Board of Supervisors, and one jointly by the Board of Supervisors and the Stockton City Council. The Board of Directors meets monthly on the third Friday at 10:00 a.m. The Board can call additional meetings as necessary to address pressing planning, operational, and/or budgeting matters.

RTD has a Chief Executive Officer (CEO) who reports to the Board members. The CEO

oversees all operations of RTD and advocates for transit funding and community support. The CEO is supported by RTD's Legal Counsel and the Deputy CEO, who oversees staff in two distinct categories: administration and operations. The Chief Administrative and Innovation Officer (CAIO) oversees the administrative staff and the Chief Operations Officer (COO) oversees operations staff. Administrative departments include finance, marketing, customer engagement, information technology, planning and scheduling, grants, and procurement. Operations staff include bus operators, mechanics, dispatchers, facilities technicians, utility workers, and mobility and contract services management and their support staff.

Table 15 – Agency Organization Chart



The Amalgamated Transit Union (ATU) Local 276 represents all operations staff (except management and administrative support employees) including: bus operators, mechanics, call center staff, utility workers, and facilities technicians. The contract agreement for SMA operations is separate from the contract agreement for County operations (e.g., Intercity and Hopper). The current SMA labor agreement expired on June 30, 2017, and is currently awaiting a decision from an arbitrator. Until the arbitrator reaches a decision, the 2017 labor agreement is in effect. RTD's contractor,

National Express Transit (NEXT) is currently negotiating contracts with ATU Local 276 to represent their operators and dispatchers. To represent mechanics and utilities workers, NEXT already has a collective bargaining agreement with Machinists Union.

RTD's enabling legislation requires that any intercity, interregional, and rural services provided by RTD outside the SMA be subject to open competitive bidding at least once every 5 years. Since 1996, RTD has contracted these services as follows:

1996 – 2002—DAVE Transportation Services and Laidlaw Transit Services, Inc.
2002 – 2010—RTD was the contractor.
2010 – 2018—RTD elected to operate the County services through two separate service contracts, with MV Transportation operating intercity, interregional, and rural transit services (including Metro Hopper and the former Rural Connection services), and American Logistics Company (ALC) operating DAR services throughout the County.
2018—RTD entered into a contract with NEXT to operate intercity, interregional, and rural transit services (including Metro Hopper services), while continuing the contract with ALC for SMA ADA DAR.

RTD has agreements with the following:

- Uber and Journey Via Gurney (JVG) for RTD Go
- JVG for Care Connection services in partnership with Stanislaus Regional Transit (StaRT).
- SJCOG for vanpool services provided by Enterprise Rent-A-Car of San Francisco.

RTD also provides contracted transit operations and maintenance through its contract with NEXT to the following:

- City of Escalon (eTrans).
- City of Ripon (Blossom Express).
- and United Cerebral Palsy of San Joaquin, Calaveras, and Amador Counties (UCP).

Appendix B: System Performance and Evaluation

Performance Trends

Different social trends—such as the local economy, fuel pricing, unemployment levels, population demographics, land use density, and growth—affect transit ridership and use. It is important for RTD to recognize and respond to these trends and to continuously analyze its performance statistics in order to determine the effectiveness of its services.

This section discusses the impact of RTD's efforts in responding to social and economic changes over the past few years by examining performance trends in ridership and operations and their impact on service efficiency, reliability, and effectiveness. Indicators such as ridership, revenue miles, revenue hours, and farebox recovery illustrate changes in the system over time.

RTD uses TransTrack Systems to store and maintain operational and fiscal data. All information for this analysis was obtained from TransTrack unless otherwise noted. More information on TransTrack and RTD's data management systems appear in Appendix F: Management Systems and Controlling Plans.

RTD's fiscal year begins on July 1 and ends on June 30.

Table 16 summarizes RTD's total annual passenger trips.
Table 17 and Table 18 show RTD's total revenue hours and revenue miles for each mode of service for the last four fiscal years. RTD's overall ridership remains steady at 3.6 million passenger trips annually.

Table 16 – Total Annual Passenger Trips FY 14–17

Service Types	FY 14	FY 15	FY 16	FY 17
SMA Local	1,553,173	1,468,666	1,346,822	1,155,310
BRT Express	2,186,152	2,233,908	2,037,159	1,815,023
Intercity	72,987	67,593	60,375	52,968
County Hopper	210,814	199,888	180,730	157,834
Metro Hopper	167,186	168,147	176,635	162,223
Commuter	213,895	207,989	184,432	173,300
SMA ADA DAR*	41,663	45,647	53,831	43,903
GP DAR**	6,262	5,876	4,948	5,885
Rural Connection	5,815	5,250	2,627	-
Vanpool	-	-	-	-
UCP	30,814	28,129	30,004	25,930
Grand Total	**4,488,761**	**4,431,093**	**4,077,563**	**3,592,376**

Table 17 – Total Annual Revenue Hours FY 14–17

Service Type	FY 14	FY 15	FY 16	FY 17
SMA Local	70,517	71,338	71,889	71,381
BRT Express	44,586	44,475	44,935	44,774
Intercity	4,159	4,146	4,177	4,138
County Hopper	17,874	17,707	17,904	17,658
Metro Hopper	23,284	23,217	26,941	26,732
Commuter	17,215	16,249	15,835	14,529
SMA ADA DAR*	11,769	12,629	12,320	10,904
GP DAR**	2,352	2,388	1,807	1,825
Rural Connection	3,237	1,813	1,208	-
UCP	11,544	14,629	10,273	6,865
Grand Total	**206,537**	**208,591**	**207,289**	**198,806**

Table 18 – Total Annual Revenue Miles FY 14–17

Service Type	FY 14	FY 15	FY 16	FY 17
SMA Local	813,404	825,399	831,737	827,242
BRT Express	516,971	519,817	520,826	515,036
Intercity	67,574	67,499	67,917	67,518
County Hopper	399,846	391,683	396,354	401,129
Metro Hopper	235,612	234,656	265,791	263,722
Commuter	524,841	590,656	544,075	509,883
SMA ADA DAR*	227,883	242,883	255,951	244,285
GP DAR**	70,811	76,086	57,201	60,285
Rural Connection	55,552	30,448	19,450	-
UCP	60,458	52,760	47,335	37,877
Grand Total	**2,972,953**	**3,031,886**	**3,006,638**	**2,926,976**

* Includes SMA ADA DAR and Metro Hopper Overflow (ADA certified customers)
** Includes GP DAR, DR Overflow, and Limited DR

RTD analyzes its services by reviewing both the effectiveness of the service through Passenger Per Revenue Hour (PPRH) and the Passengers Per Revenue Mile (PPRM). Table 19 outlines RTD's PPRH for the last four fiscal years.

Table 19 – Passenger Per Revenue Hour FY 14–17

Service Type	FY 14	FY 15	FY 16	FY 17
SMA Local	22.0	20.6	18.7	16.2
BRT Express	49.0	50.2	45.3	40.5
Intercity	17.6	16.3	14.5	12.8
County Hopper	11.8	11.3	10.1	8.9
Metro Hopper	7.2	7.2	6.6	6.1
Commuter	12.4	12.8	11.6	11.9
SMA ADA DAR*	3.5	3.6	4.4	4.0
GP DAR**	2.7	2.5	2.7	3.2
Rural Connection	1.8	2.9	2.2	-
Vanpool	-	-	-	-
UCP	2.7	1.9	2.9	3.8
Systemwide	**21.7**	**21.2**	**19.7**	**18.1**

PPRH is an indicator of service efficiency and demonstrates the effectiveness of service changes in relation to the actual increase or decrease in services. While fluctuating from year to year, all RTD traditional fixed-route services have declined over the past four years. This mirrors the nationwide trend which is partially attributed to the current economic climate and the rise in alternative transportation options such as Uber and Lyft.

Table 20 – Passengers per Revenue Mile FY 14–17

Service Type	FY 14	FY 15	FY 16	FY 17
SMA Local	1.9	1.8	1.6	1.4
BRT Express	4.2	4.3	3.9	3.5
Intercity	1.1	1.0	0.9	0.8
County Hopper	0.5	0.5	0.5	0.4
Metro Hopper	0.7	0.7	0.7	0.6
Commuter	0.4	0.4	0.3	0.3
SMA ADA DAR*	0.2	0.2	0.2	0.2
GP DAR**	0.1	0.1	0.1	0.1
Rural Connection	0.1	0.2	0.1	-
Vanpool	-	-	-	-
UCP	0.5	0.5	0.6	0.7
Systemwide	**1.5**	**1.5**	**1.4**	**1.2**

Performance Measures

In order to measure improvement and enhancement of services, RTD focuses on meeting and exceeding the performance measure goals listed in Table 21. The goal for this section is to guide executive staff in making results-oriented decisions to accomplish the following:

- Increased ridership
- Improved efficiency
- Improved reliability
- Increased fare revenue
- Reduced operating costs

Table 21 – Systemwide Performance Goals

Systemwide Performance Measure Goals	FY 18 Goals
Operating Cost per Revenue Hour	$171.00
On Time Performance	82%
Passengers per Revenue Hour (PPRH)	17.8
Farebox Recovery Ratio (FRR)	11%

These goals support operating an effective and efficient system while focusing on the quality of service offered to passengers. The projects listed in this SRTP will deliver a more efficient system, operated effectively for the benefit of RTD's current and future passengers.

It is important to establish performance goals that are ambitious but achievable to steer the decision-making process towards continuous improvement. RTD will annually review the performance measure goals by service and determine if they are reasonable. The last review of performance measures was in the Service Monitoring Report as part of the Title VI Program.

Table 22 – Performance for FY 14–17

Category	Performance Measures	FY 14	FY 15	FY 16	FY 17
Cost Efficiency	Operating Cost Per Revenue Hour	$143.54	$147.26	$153.42	$158.96
Service Reliability	On Time Performance	73.34%	72.58%	67.87%	75.32%
Service Efficiency	Passengers per Revenue Hour (PPRH)	21.5	21.0	19.4	17.9
Service Effectiveness	Farebox Recovery Ratio	15.87%	14.68%	12.59%	11.53%

Cost Efficiency

The key indicators of cost efficiency are operating cost per revenue hour, operating cost

per revenue mile, and operating cost per passenger trip. Operating cost per revenue hour measures the hourly cost of providing transit services, including the full allocation of overhead costs and administration.

Service Reliability

Service reliability is a function of interruptions to revenue service and on-time performance. If the number of mechanical road calls is low, typically the vehicles and operations show improved reliability. Conversely, if the number of road calls is high, this indicates decreased service reliability and potentially higher maintenance costs. The onboard Automatic Vehicle Locator (AVL) system measures the distance between failures and service interruptions and inputs that data into TransitMaster for review by maintenance staff. RTD's Maintenance Department provides data for road calls to executive staff for review. The AVL also provides data to determine on-time performance. Maintaining a consistent schedule increases service reliability and projects a positive image as a service provider.

Service Efficiency

The effectiveness of RTD's routes can be measured by customer volume, which is measured by calculating the total trips, or boardings, for the route. The efficiency of the route can be assessed by reviewing the PPRH. This measure indicates how many passengers use the provided services and if that service is more or less effective when compared against peer transit services.

Service Effectiveness

RTD is responsible for collecting its fares. The Transportation Development Act (TDA) determines the fare requirement, reflected as the amount of farebox revenues received divided by the cost to operate the service. Specifically, the farebox recovery ratio is the ratio of total farebox revenues and special service revenues to fully allocated operating costs. RTD's historic farebox recovery ratios appear in Table 22.

Service Monitoring Report

RTD adjusts services periodically to ensure that its services meet residents' needs and provide coverage throughout the service area as it continues to grow. Routine schedule adjustments, service additions and deletions are expected in response to ridership levels and customer requests. RTD uses a scorecard system to determine the effectiveness of services based on ridership, service efficiency, operating cost, and Title VI requirements among others.

As part of the scorecard, RTD evaluates its routes on the following targets—PPRH and Farebox Recovery Ratio (FRR) minimum:

Table 23 – Route Evaluation Targets

Service Type	PPRH Minimum	FRR Minimum
SMA Local Fixed Routes	20	20%
BRT Express Fixed Routes	40	20%
Metro Hopper Deviated Fixed Routes	7	10%
Intercity Fixed Routes	15	15%
County Hopper Deviated Fixed Routes	9	10%
Commuter Interregional Fixed Routes	13	50%
Dial-A-Ride	3	10%

Table 24 – Passenger Per Revenue Hour and Farebox Recovery Ratio Score Card FY 14–17

Service Type	PPRH Minimum	FY 14	FY 15	FY 16	FY 17
SMA Local Fixed Routes	20	22.0	20.6	18.7	16.2
BRT Express Fixed Routes	40	49.0	50.2	45.3	40.5
Metro Hopper Deviated Fixed Routes	7	7.2	7.2	6.6	6.1
Intercity Fixed Routes	15	17.6	16.3	14.5	12.8
County Hopper Deviated Fixed Routes	9	11.8	11.3	10.1	8.9
Commuter Interregional Fixed Routes	13	12.4	12.8	11.6	11.9
Dial-A-Ride	3	3.1	3.4	3.3	3.9

Service Type	FRR Minimum	FY 14	FY 15	FY 16	FY 17
SMA Local Fixed Routes	20%	11%	9%	9%	7%
BRT Express Fixed Routes	20%	25%	24%	21%	19%
Metro Hopper Deviated Fixed Routes	10%	5%	4%	4%	4%
Intercity Fixed Routes	15%	11%	9%	8%	8%
County Hopper Deviated Fixed Routes	10%	7%	6%	6%	6%
Commuter Interregional Fixed Routes	50%	42%	41%	36%	38%
Dial-A-Ride	10%	9%	10%	10%	9%

Vehicle Loading Standards

RTD considers a route to be overloaded if 25% or more of one-way vehicle trips are regularly overloaded. For example, for an hourly route with 32 one-way vehicle trips per day, the route is considered overloaded if 8 or more trips are overloaded. For the period sampled from April 30, 2017, to May 6, 2017, no trips met these criteria, thus no routes were considered overloaded.

Productivity/Headways Standards

- BRT Express generally runs between 15–30-minute headways.
- All fixed routes connecting with BRT Express usually run at multiples of 15-minute headways to facilitate transferring.
- Regular headways should not exceed 180 minutes on any trunk or branch routing.
- Headways on peak-only routes are based on passenger loads and are adjusted to match school bell times, shift changes, etc.
- In areas where headways are 60 minutes or greater, parallel routes should generally be spaced approximately one mile apart and additional resources should be used to improve headways before adding new routes or branches at closer distances.

Table 25 – Minimum Peak and Off-Peak Standards

Service Types	Minimum Peak* Frequency	Minimum Off-Peak* Frequency
SMA Local Fixed Routes	60 minutes	120 minutes
BRT Express Routes	20 minutes	30 minutes
Metro Hopper Deviated Fixed Routes	60 minutes	60 minutes
Intercity Fixed Routes	60 minutes	180 minutes
County Hopper Deviated Fixed Routes	120 minutes	180 minutes
Commuter Interregional Fixed Routes	1 trip	None

* Peak is defined as 6 a.m. to 8 a.m. and 4 p.m. to 6 p.m. on weekdays, excluding holidays. Off peak is all other times, including weekends and holidays.

On-Time Performance Standard

RTD's target is for the fixed route system to be 80% on time or better. Individual routes are expected to be 80% on time or better. Dial-A-Ride services are expected to be 90% on time or better. A fixed route or deviated fixed route is considered on time if the bus departs the time point no later than five minutes from the designated time shown in the timetable, and no earlier than the published departure time of 0 minutes (with a calibration of up to 0:59 seconds early) before the designated time shown in the timetable.

Since the preparation of the last Title VI Report update, RTD has improved the overall reliability of its fixed routes and has made schedule revisions, as needed, to ensure routes operate on time and within the goals established.

Table 26 – On-Time Performance Results FY 14–17

On-Time Performance Results	FY 14	FY 15	FY 16	FY 17
Schedule Adherence	73.34%	72.58%	67.87%	75.32%

Service Area Coverage

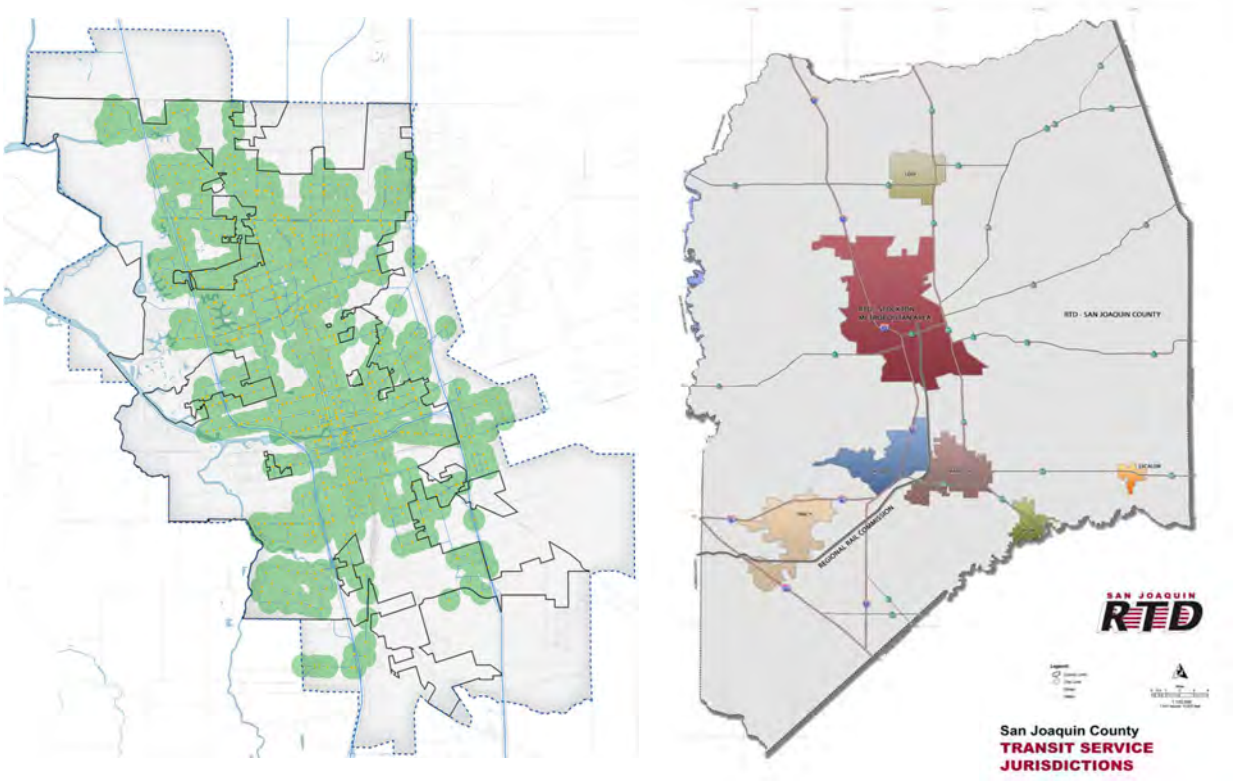
The SMA covers approximately 84 square miles; on average, 90% of the residents live in the SMA within a 1/2 mile of an RTD fixed route. When RTD expanded its boundaries in January 1994, RTD's service area grew to 1,426 square miles, which consists of Stockton and unincorporated San Joaquin County outside the incorporated cities of Manteca, Tracy, Lathrop, Ripon, Escalon, and Lodi. An estimated 75% of the County's total population now lives within a 1/2 mile of a fixed route or deviated fixed route since the introduction of Intercity and San Joaquin Commuter routes on October 3, 1994, and the addition of local fixed route, deviated fixed route, and demand response transit services provided directly by each jurisdiction (except Lathrop).

Vehicle Assignments

Vehicle assignments are tracked by the Operations and Maintenance Department using Spear 4i and Trapeze. All vehicles assigned support the SMA and BRT Express fixed routes. CTC-assigned vehicles support fixed and deviated routes operating outside of the SMA and Metro Hopper routes operating within the SMA. Since over 90% of the SMA has minority census tracts and a large number of RTD's fixed routes operate within or through this area, there are no impacts to the minority populations regarding the age and assignment of vehicles.

Appendix C: Existing Transit Operations

RTD provides service throughout San Joaquin County, an area of 1,426 square miles. RTD's official boundaries include the City of Stockton and unincorporated San Joaquin County. The cities of Lodi, Lathrop, Manteca, Escalon, Ripon, and Tracy are outside the official RTD boundaries; as such, they only receive regional level demand-response, intercity, or interregional service since they provide their own local transit service (with the exception of Lathrop, which discontinued funding local RTD service in 1998). RTD only has taxing authority within the SMA boundaries as of 1993.



RTD continues to provide a wide range of transit services in response to the ever-changing demographic, economic, and urban characteristics of San Joaquin County. RTD's transit services are based on demand and its financial ability to provide those services. RTD operated 33 routes in FY 17–18 in the SMA (which include 4 BRT Express routes, 14 Local routes, 10 Limited routes, and 5 weekend Local routes); 1 Intercity route; 4 County Hopper deviated fixed routes and 2 weekend County Hopper deviated fixed routes which connect Stockton with Lodi, Manteca, Lathrop, Ripon, and Tracy; 9 Metro Hopper deviated fixed routes; and 8 Commuter routes to Alameda, Sacramento, and Santa Clara Counties, as well as to DLA Distribution San Joaquin in Tracy. RTD also provides DAR service for persons residing in the SMA who, due to their disability, are

unable to use fixed-route service. ADA-certified individuals may take advantage of the following specialized programs:

- RTD Go countywide service in partnership with Uber and JVG.
- Lifeline Dial-A-Ride service (during seven holidays for all RTD fixed routes within San Joaquin County).
- Care Connection medical transportation service to Sacramento, Alameda, San Francisco, San Mateo, and Santa Clara Counties.
- VIP mileage reimbursement program.

To provide convenient connections between its routes and services, RTD has three stations—the DTC in Downtown Stockton, MTS in central Stockton, and Hammer HTS in north Stockton. UTS will be RTD's fourth transfer station, which is scheduled to be completed in the winter of 2018/19.

Table 27 –Service Types Overview

Service Type	Number of Routes or Contractors	Directly Operated or Contracted
SMA Local Fixed Routes	19	Directly Operated
SMA Limited Fixed Routes	11	Directly Operated
BRT Express Fixed Routes	4	Directly Operated
Metro Hopper Deviated Fixed Routes	9	Contracted
Intercity Fixed Routes	1	Contracted
County Hopper Deviated Fixed Routes	6	Contracted
Commuter Fixed Routes	8	Contracted
SMA ADA Dial-A-Ride	1 Contractor	Contracted
RTD Go!	2 Contractors	Contracted
Van Go!	1 Contractor	Contracted
Lifeline Dial-A-Ride	1 Contractor	Contracted
Vanpool	2 Contractors	Contracted
Care Connection	2 Contractors	Contracted
Volunteer Incentive Program	N/A	Volunteer

RTD has 203 employees in administration and operations, 85 NEXT-contracted employees working in the CTC, DTC, and Regional Transportation Center (RTC), and an active fleet of 128 vehicles.

Total ridership for all RTD transit service in FY 17 was 3.7 million passenger trips. The ridership base ranges from highly populated areas of San Joaquin County to rural areas. Ridership has fluctuated as a result of decreased services; thus, service efficiency (passengers per revenue hour) has also suffered.

RTD operates services 358 days per year, with no fixed-route transit service on seven

holidays (New Year's Day, Easter Sunday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day).

Service Overview

The following sections describe the existing transit services provided by RTD that are all wheelchair and bicycle accessible (with the exception of specialized and demand-response services):

- *SMA Local and Fixed-Route Service*
  RTD has fixed-route bus service that serves a large majority of the SMA. These areas include major employer sites, hospitals and medical offices, high schools, Downtown Stockton, San Joaquin County Courthouse, San Joaquin Delta College, Sherwood and Weberstown Malls, the University of the Pacific, San Joaquin County Fairgrounds, San Joaquin General Hospital, libraries, education centers, parks, recreational areas, and shopping centers. These routes are the 500 and 700 series. To accommodate additional demand for service throughout the SMA during peak periods, RTD regularly modifies routes to provide a limited level of service to specific areas in the SMA. The 300-route series was designed to serve peak hour transportation needs. In addition, RTD also regularly communicates with Stockton Unified School District and Delta College administrators to coordinate routes to help meet students' growing transportation needs while accommodating the public demand for peak-hour service. RTD SMA services also connect with ACE, Amtrak, and Greyhound services.

- *BRT Express (BRT Service)*
  RTD's BRT Express serves the City of Stockton with BRT-like amenities. The BRT Express service was previously branded "Metro Express." Three BRT corridors were identified within the 2009–2013 SRTP. Through an aggressive development strategy and effective grants management, RTD was able to successfully implement the ambitious BRT plan and introduced the three corridors in 2007, 2011, and 2012.
    - **BRT Express 40**: Pacific Corridor began operation in 2007 and was an immediate success that provided a backbone for RTD's transportation network.
    - **BRT Express 44**: Airport Corridor began operation in January 2011 and extended the public transportation network to include air and rail modes by connecting to Cabral Station (ACE and Amtrak) and Stockton Metropolitan Airport.

- **BRT Express 43**: Hammer Lane Corridor began operation in July 2012 and connected major medical institutions to the network, with stops at both the Sutter Gould Medical Center and Kaiser Permanente Medical Offices. The route also provides direct service to Walmart and commercial centers on Hammer Lane.
- **BRT Express 47**: Midtown Corridor began operation in March 2018 and operates in the midtown area of Stockton, connecting Lincoln Street at Washington Street with Franklin High School primarily via Weber Avenue, Miner Avenue, and Fremont Street.
- **BRT Express 49**: MLK Corridor began operation in July 2018, connecting Mariposa Road and Edison High School via Martin Luther King Jr. Blvd.

This public transportation network successfully provides 15–30-minute service frequency within one mile of roughly half of the City of Stockton. Route 44 was also recognized as the nation's first all-electric BRT service in the United States. All BRT Express buses are wheelchair-accessible and equipped with bike racks, rear entry, wider rear doors, low floor entry, traffic signal prioritization technology, enhanced communications equipment, and surveillance equipment. The BRT Express service uses fare vending machines for off-board fare purchase at almost all bus stops and has distinct branding from the SMA Local and Hopper services. Fare inspectors provide fare enforcement on this service. BRT Express routes connect with ACE, Amtrak, and Greyhound services.

- *Intercity Fixed-Route Service*

  Since October 1994, RTD's Intercity fixed-route service has received significant public support and ridership has increased steadily. Unfortunately, as a result of decreased sales tax revenues and the elimination of Measure K support, RTD currently operates just one Intercity fixed route on weekdays, between Lodi and Stockton. The route connects to SMA Local and BRT Express services at the HTS, the MTS, and the DTC. This route travels primarily on Lower Sacramento Road, Thornton Road, and West Lane. Destinations served include Lodi Station, Sunwest Village Shopping Center, Delta College, Weberstown and Sherwood Malls, and the Miracle Mile. It also connects with Lodi GrapeLine/VineLine/Dial-A-Ride, SCT/LINK, Amtrak, and Greyhound (in Lodi and Stockton). In the past, RTD did operate Intercity routes to Tracy, Lathrop, Manteca, Ripon, and Sharpe Depot; however, these routes were discontinued due to lack of funding support.

- *SMA ADA Dial-A-Ride Service*
  SMA ADA Dial-A-Ride is a curb-to-curb service operating in the SMA to ADA-certified individuals. This service is available whenever fixed-route services are provided by RTD and can be used by advance reservation only. Hours of operation and origin/destination mirror fixed route service when Metro Hopper cannot be deployed to provide the service requested by the customer.

  To qualify for mobility programs and services, applicants must undergo the ADA certification process through an in-person assessment to determine eligibility status. Applicants may need to obtain an approved health care professional's statement and signature verifying the disability.

  Paratransit, Inc. is contracted with RTD to provide the ADA application process. It provides professionally-trained staff who review each application, perform an in-person eligibility assessment, and identify the validity of the ADA certification claims. Each applicant is notified in writing regarding the outcome of the review. Approved applicants are then placed into the RTD computerized Dial-A-Ride scheduling and record-keeping system. This system has built-in features that interface with a mapping system (Trapeze) and other systems to provide maintenance information and a statistical analysis of the data necessary to deliver a more efficient and reliable service.

  Customers who are ADA-certified are eligible for RTD's FREEdom Pass program, which allows free access on all RTD Local, BRT Express, Intercity, and Hopper routes.

- *Hopper (Deviated Fixed-Routes)*
  RTD operates two distinct deviated fixed-route services, Metro Hopper and County Hopper. A deviated fixed route provides a flexible, regularly-scheduled service that deviates off route to provide curbside services to ADA-certified customers within a one-mile distance off route on Metro Hopper and a ¾-mile distance on County Hopper.

  Designed in 2002, RTD's County Hopper connects Ripon, Manteca, Tracy, Lodi, and Lathrop to Stockton. From these locations, riders can connect to local fixed-route services operated by other cities as well as SMA routes. Reservations are required one day in advance for all County Hopper deviations. County Hopper

routes deviate up to three times per trip, not to exceed two deviations per person. The deviation service does not apply in Tracy, Manteca, or Lodi since their local DAR provides that service for their residents.

Designed in 2009, RTD's Metro Hopper provides deviated fixed-route service throughout Stockton's most populated areas for individuals who previously rode SMA ADA Dial-A-Ride services. Metro Hopper routes will deviate up to one mile for ADA-certified customers. These routes connect to all local hospitals, social security offices, markets, government offices, long-term care homes, and assisted living facilities. Metro Hopper routes are designed to have overlapping deviation windows, ensuring ADA service coverage, and allowing for some areas of higher residential density to be served by more than one Hopper route. In order to maintain on-time performance, each Metro Hopper route is limited to two deviations per one-way trip, which ensures that the service is reliable and frequent enough for convenient use.

Metro Hopper routes connect with Greyhound. County Hopper routes connect with Greyhound, Amtrak, Lodi GrapeLine, TRACER, Ripon Blossom Express, and Manteca Transit.

- *Fixed-Route Commuter Service*

  RTD currently operates eight Commuter routes. RTD Commuter is an interregional bus service, providing a fixed-route alternative to single occupant driving from San Joaquin County to large employment centers. These routes primarily operate during the morning and evening commute times. Commuter routes travel between Park-and-Ride lots (located throughout San Joaquin County) to destinations in Sacramento, Alameda, and Santa Clara Counties. In addition, two of the Commuter routes also serve DLA Distribution San Joaquin in Tracy. Commuter service provides frequent service to the Dublin/Pleasanton BART Station from Stockton, Lathrop, and Tracy.

  The service benefits the local environment by reducing energy consumption, traffic congestion, and air pollution. Commuter routes also benefit customers by reducing personal driving costs (e.g., vehicle maintenance and fuel) and stress, and providing free time and a comfortable, reliable mode of travel.

  Commuter routes are primarily a monthly pass subscription service operating

Monday through Friday. Most customers purchase passes in advance; daily and monthly passes are available.

Commuter routes also serve specific work sites and make connections with other RTD routes, Bay Area Rapid Transit (BART), Tri-Valley Wheels, County Connection, StaRT, Modesto Area Express (MAX), Amtrak San Joaquins' Thruway buses, Valley Transportation Authority (VTA), Sacramento Regional Transit (SacRT), Fairfield & Suisun Transit (FAST), Roseville Transit, Elk Grove Transit e-Tran, El Dorado Transit, Yolobus, Greyhound, Yuba-Sutter Transit, Amador Transit, SCT/LINK, The Flyer (North Natomas), Lawrence Livermore Labs Shuttle, TRACER, and Manteca Transit. Stops are chosen for accessibility and convenient transfers to local and regional transit agencies or local employer shuttles.

To optimize the cost of operating this service, RTD can recruit and train employer-based drivers. RTD obtains permission from the employers to park the buses at their work sites during the day, thereby reducing the costs associated with deadhead trips. Currently Route 152 operates in this manner.

- *Vanpool Program*

  In addition to fixed-route Commuter services, RTD operates vanpool programs through a contract with an SJCOG program, SJCOG offering a lease fare subsidy to qualifying vanpools in San Joaquin County who agree to report vanpool trips to the National Transit Database (NTD). This agreement is between the vanpool Coordinator (Coordinator), the authorized vanpool leasing company (Provider), and SJCOG (Contractor). All subsidies will be paid directly to the Provider on the Coordinator's behalf for travel origins and/or destinations in San Joaquin County. SJCOG will provide a $400 per month subsidy to those vans that comply with the terms of the agreement. SJCOG has agreements in place with CalVans and Enterprise Rideshare. RTD also has an agreement with CalVans for a $200 per month subsidy to those vans that report to NTD in the Stockton Urbanized Area. SJCOG joined the CalVans Board of Directors in September 2016, which authorized the implementation of their vanpool program in San Joaquin County.

Bicycle Amenities

RTD customers have a convenient way to get around town by combining bicycling with riding the bus, thereby helping the environment at the same time. Bicycles can be loaded on easy-to-use bike racks on RTD fixed-route buses. There is no extra charge for using the bike racks, which can hold two bikes at once.

RTD purchased and mounted exterior bike racks on all fixed-route buses in 1996. The bike racks give cyclists a multi-modal option for traveling throughout the County. In the spring of 2013, RTD installed new bicycle racks at all of its BRT stop locations throughout the SMA. These decorative and functional bicycle racks were funded through a State transportation enhancement grant. By providing bicycle racks at BRT stops, RTD promotes intermodal options for customers. This program has increased the range of service to riders whose origins or destinations are beyond walking distance to fixed-route transit stops. In FY 19, RTD will conduct a study to determine the benefit and impacts of deploying a Bike Share program in its service area.

Train and Bus Connections

- *Amtrak Station*
  SMA Local routes 315, 510, 560, and 710 provide service to the Amtrak station located on San Joaquin Street in Stockton. This station serves the Amtrak San Joaquins route to Bakersfield and Oakland with its associated Thruway bus service.

- *Altamont Corridor Express and Amtrak Station*
  BRT Express Airport Corridor Route 44 provides direct service to the Robert J. Cabral ACE train station located at 949 East Channel Street in Stockton. In addition, Amtrak San Joaquins serves Lodi and Sacramento via this station with associated Thruway bus service. RTD connects to ACE on weekdays allowing customers to connect with ACE trains traveling to Lathrop/Manteca, Tracy, Livermore, Pleasanton, Fremont, Santa Clara, and San Jose. ACE provides services through this corridor four times daily in each direction.

- *Bay Area Transit Connections*
  RTD's Commuter Route 150 provides weekday connections to BART at the Dublin/Pleasanton Station from Tri-Valley Wheels, County Connection, StaRT, MAX, and Amtrak San Joaquins Thruway buses. For Santa Clara County, RTD connects with VTA in Sunnyvale. These bus and rail connections allow RTD customers to travel almost anywhere in the Bay Area, including many central business districts, including downtown San Jose, Oakland, and San Francisco, as well as San Jose, Oakland, and San Francisco International Airports.

Greyhound

All SMA Local and BRT Express routes that serve DTC connect with the Stockton Greyhound located at the DTC. With the addition of Greyhound, the RTD Customer Service Center hours are now 8:00 a.m. to 7:00 p.m. from Monday through Friday, and 9:00 a.m. to 2:00 p.m. on Saturdays and Sundays. After 5:00 p.m. on weekdays and weekends, a window will be open to assist customers on the north side of the DTC. The lobby is closed at 5:00 p.m. on weekdays and all day on the weekends. RTD also connects with Greyhound at Lodi Station via Intercity Route 23 and Hopper Routes 93 and 723, as well as at Tracy Transit Station via Hopper Route 97 and Commuter Routes 150, 172, and 173. In FY 19, Greyhound provides 16 daily departures on four routes with an average of 120 passengers using the DTC each day.

Effective May 2018, RTD is the Greyhound Agent and sells Greyhound tickets as well as package express services at DTC. Greyhound buses also depart DTC for destinations along I-5, I-205, I-580, and State Route 99.

Customer Information and Communication

- *Internet Website*
  RTD provides information via its website, http://www.sjRTD.com. RTD is constantly updating and upgrading its website to provide the latest, most pertinent information for customers. Internet-based information is a highly effective tool for recruiting new alternative transportation users. Currently, Internet access is available in all County libraries, in many businesses, and in many homes. The website provides information on services including: route schedules, company information, and links to other transit Internet home pages, including those serving other jurisdictions within San Joaquin County. The RTD website also allows interested individuals to read RTD's press releases, see current job postings, watch informational videos, and submit requests and comments.

- *Mobile Applications*
  RTD has a series of mobile applications that are provided for customer convenience. These mobile apps include **Token Transit**, which allows for the purchase of RTD bus passes (1-ride, 1-day, or 31-day pass), the ability to send transit passes to others, and group purchases for family and friends traveling together using one smartphone.

RTD Mobile2Go! is available on Commuter routes and may be expanded to other routes in the future. Presently, single-ride, round-trip, and monthly tickets are available for Commuter routes; monthly tickets can be automatically renewed each month.

RTD uses **Swiftly's Transitime** software to publish real-time bus location and arrival information to the public and mobile applications. There are three key benefits for RTD customers and others who are trying to learn the best way to reach a destination:

- Real-time information: Real-time data is available as text or shown graphically on maps. Customers can see where their bus is at all times.
- Reports and alerts: Rider alerts from RTD, notifying customers of unusual changes or issues with their chosen route, will appear on the app. Reports can also be generated by customers and other travelers who spot something happening, providing help to others who may be going the same way.
- Accurate information: Transitime uses a powerful prediction engine that uses historical data to better determine when the bus will arrive at a particular stop.

RTD also has real-time information in "Swiftly," "Transit," and "Moovit" apps. Collectively, all of these apps provide riders with real-time transit information, pass sales, multi-modal trip planning, live maps with vehicle positions, and notification capabilities to help customers stay up-to-date on the latest service alerts.

- *TextBus*

  TextBus is designed to provide scheduled bus departure times on a mobile phone. Customers can simply text any RTD stop number to 209-222-3595 to get a text with the upcoming times for that stop. RTD developed this program in house to provide mobile access to schedule information after determining from a customer survey of nearly 300 customers that: 82% of those surveyed have cell phones; of those with cell phones, 97% use their phones to send text messages; and 92% would like to receive information from RTD via text messaging. The

development of TextBus was made possible with Measure K Passenger Amenities funds.

- *Trip Planner & Google Maps*
  The trip planner on the home page of www.sjrtd.com provides quick and easy trip planning. All RTD fixed routes are shown in the trip planner, and most popular destinations are preloaded for convenience. The Google Trip Planner uses the general transit feed specification (GTFS) to provide detail on how to get from point A to point B in San Joaquin County and beyond. This is integrated into Google Maps and can also be assessed through www.google.com/transit.

Special Programs

RTD operates a number of special programs and events supporting improved transit services described below:

- *Safe Place*
  In January 2012, RTD and Woman Center-Youth & Family Services of San Joaquin County initiated the Safe Place program for RTD. Safe Place is a national youth outreach program that educates thousands of young people about the dangers of running away or trying to resolve difficult, threatening situations on their own. This program allows youth to easily access immediate help through services, like RTD, in their community.

  RTD displays the distinctive, yellow-and-black Safe Place sticker on its buses to alert youth and young adults (ages 12 to 21 years old) that they can board any RTD bus and ask a coach operator for help. RTD will then coordinate with Woman Center-Youth & Family Services of San Joaquin County to transport the person to the facility.

  Woman Center-Youth & Family Services of San Joaquin County offers the Safe Place program as part of its wide range of services designed to foster healthy families and to help San Joaquin County youth and families build better lives for themselves and their community.

- *Discount Fare Card*
  The FTA stipulates that grantees under Section 5307 "must allow the seniors, persons with disabilities, and Medicare cardholders to ride the fixed-route services for a fare that is not more than one-half the base fare charged other persons." RTD offers a Discount Fare Card (DFC) for seniors, persons with disabilities, and Medicare cardholders to ride all RTD Local, BRT Express, and Hopper fixed routes at 50% of the regular fare. In addition, all veterans regardless of disability status are eligible for a Discount Fare Card. An application process for a DFC is completed at the DTC through the Mobility and Contract Services Department.

- *Lifeline Dial-A-Ride*
  On days that RTD fixed routes do not operate, RTD offers a Lifeline Dial-A-Ride service on New Year's Day, Easter Sunday, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. The Lifeline Dial-A-Ride services are available throughout the entire San Joaquin County by reservation only on a first-come, first-served basis to the first 16 customers at a fare of $3.00 per one-way trip for ADA certified customers and $5.00 per one-way trip for general public customers. Priority is given to seniors and persons with disabilities. Reservations will be limited to one round trip per customer. Service hours are from 8:00 a.m. to 6:00 p.m. This service was introduced in 2009 when RTD discontinued service on holidays due to low ridership and as a cost saving measure.

- *Care Connection*
  Based on an unmet transit need, RTD implemented Care Connection, a non-emergency medical service in April 2018 that utilizes a combination of Commuter Routes 150, 163, and 165, as well as StaRT Medivan (through a meeting point in Tracy), to transport customers to medical facilities in Sacramento, Alameda, San Francisco, San Mateo, and Santa Clara Counties. This service operates Monday through Friday, excluding holidays (StaRT Medivan service is only available Monday through Thursday). In addition, Uber or JVG provides connection service to these routes from areas in San Joaquin County not on these routes. The fare is $3.00 for the connection service, plus the regular Commuter or StaRT Medivan fare.

- *Employer Pass Program*
  RTD offers employers a low-cost opportunity for their employees to commute to work on RTD buses. With this program, the employer pays approximately 50% of what the fare would be if 100% of its employees used RTD. All employees of participating employers may ride RTD routes that originate and end within San Joaquin County free of charge by presenting an RTD employer pass ticket and a valid employee identification. In order for the program to be implemented, RTD and employer enter into an agreement for a one-year period, and the employer agrees to pay an annual fee equal to the number of its employees multiplied by $33 (1/2 adult 31-day fare, rounded up to nearest dollar) multiplied by 12 months. Employers may opt to pay monthly.

- *Talk to Me Maps*
  This is a service that makes navigating RTD's system easier for blind and visually impaired customers. The braille/large print maps work with talking smart pens to assist customers with trip planning and where to board buses. Orientation and Mobility instructors from various visual impairment programs will work with clients and students to orient them to RTD's system using the maps. With the help of instructors, customers may check out Talk to Me Maps and the smart pen at DTC, Lodi Station, Manteca Transit Center, and Tracy Transit Station during their business hours. RTD Talk to Me Maps were developed in collaboration with the Community Center for the Blind and Visually Impaired and the Media and Accessible Design Lab at LightHouse for the Blind and Visually Impaired-San Francisco.

- *Annual "Stuff the Bus" Event*
  "Stuff the Bus" began in 1999 and is a food drive campaign that encourages area residents to "stuff" an RTD bus with non-perishable food donations over a three-day promotion window. Escalon eTrans (since 2010) and Lodi GrapeLine and Manteca Transit (since 2012) have also participated in this event. This food drive benefits the Greater Stockton Emergency Food Bank, the Lodi Salvation Army, and other local food bank charities in Manteca and Escalon. In 2017, RTD and its campaign partners collected over 12,000 pounds of food to help those in need during the holiday season, bringing the total food donations to 329,021 since the event's inception.

- *Senior Awareness Day Event*
  Each May, RTD provides free shuttle bus service to the "Senior Awareness Day" event at San Joaquin County Fairgrounds, located in Stockton. Senior Awareness Day is the annual senior information fair sponsored by the San Joaquin County Human Services Agency and the San Joaquin County Commission on Aging. As of May 2017, RTD has expanded the service to pick-ups at Lodi Station, Tracy Transit Station, Manteca Transit Center, Lathrop, Escalon Community Center, DTC, Jene Wah Senior Center, and Franco Senior Center, based on advance reservations. In May 2018, RTD provided round-trip service to 434 customers for this event.

- *Holiday Light Tours Event*
  RTD offers ADA-eligible customers a one-hour tour of festively decorated neighborhoods in the SMA during the third weekend in December using cutaway vehicles.

- *Honoring Veterans Day Event*
  Every year, to honor United States veterans and to thank them for all they have done to preserve our freedom, RTD offers free rides to U.S. veterans on Veterans Day on all RTD services in San Joaquin County.

- *Community Events and Outreach*
  RTD participates in various community events to help educate the public on the ways RTD is improving the local community through service. In the past, these events have included (but are not limited to):
  - Earth Day
  - Family Day
  - Green Team San Joaquin Events
  - Bike to Work Day
  - Dump the Pump Day—Free Ride Day
  - Fall Festival
  - Free Rides on Election Day
  - International Bus Operator Appreciation Day

- *United Way Campaign*
  Every year, during the holiday season (November through December), RTD staff support the Stockton chapter of the United Way through various fundraising

efforts. In 2017, RTD staff raised over $10,327 in charitable funds for the United Way through efforts such as: internal food sales (fundraising breakfast and lunch events), parking pass raffle, and RTD employee payroll deductions. RTD staff will continue supporting the local community through various fundraisers and community events.

RTD Fare Structure

Table 28 – Fare Structure

FARE	FULL	DISCOUNT [1]
1-RIDE CASH at FAREBOX	$1.50	$0.75
1-RIDE PASS	$1.50	$0.75
1-RIDE EXPRESS PASS [3]	$1.50	$0.75
1-DAY PASS	$4.00	$2.00
FARE	FULL	DISCOUNT [1]
31-DAY PASS	$65.00	$30.00
31-DAY STUDENT PASS [2]	$40.00	
FARE		
10-DEVIATION PASS	$10.00	Hopper Deviations are $1.00 each (cash) at farebox and pre-purchased as 10-Deviation Passes
DIAL-A-RIDE	$3.00	Valid for SMA ADA, Care Connection service and Lifeline Dial-A-Ride.
LIFELINE DIAL-A-RIDE and RTD GO!	$5.00 [4]	General Public fare

FARE STRUCTURE NOTES

1. **Discount Fare** valid only for seniors (age 65 & over), Medicare card holders, and Discount Fare Card holders.
2. **Student Fare** valid only for children ages 5-17 and college students with valid student ID.
   - Up to three children age 4 & under ride free of charge when accompanied by a fare-paying adult. Fare for each additional child costs $1.50.
3. **1-Ride Express Pass** sold only at Fare Vending Machines (FVM), and valid only on BRT Express routes.
4. Service on RTD GO! on JVG is $10.00. On UBER, the fare is a maximum of a $5.00 discount off the UBER fare.
   - Bus passes can also be ordered online with payments are processed securely through PayPal, using Visa, Mastercard, Discover, or American Express, and passes are mailed within 7-10 business days. RTD bus passes can also be purchased in person ay bus pass outlets located and at DTC, Lodi Station, Bloomburg & Griffin.

Commuter offers a different fare structure from RTD Local, BRT Express, Intercity, and Hopper services. A fare increase took effect in March 2017 and all monthly fares were increased by 10%. The daily one-way fare is $7.00 and the daily round trip fare is $14.00 for all Commuter routes.

Table 29 – Special Fare Programs

Routes 120 & 121 Origin/Destination Fare	DLA Distribution San Joaquin in Tracy Monthly Subscription
Stockton	$ 165.00
Manteca	$ 165.00
Lathrop	$ 165.00
Route 150 Origin/Destination Fare	**Dublin Pleasanton BART Monthly Subscription**
Stockton – DTC	$ 191.00
Stockton – Michigan Park-n-Ride	$ 191.00
Manteca – Walmart Park-n-Ride	$ 185.00
Lathrop – Save Mart Parking Lot	$ 175.00
Tracy – Tracy Transit Station	$ 158.00
Route 152 Origin/Destination Fare	**Livermore Monthly Subscription**
Stockton	$ 174.00
Lathrop	$ 165.00
Routes 163 & 165 Origin/Destination Fare	**Sacramento Monthly Subscription**
Stockton	$ 176.00
Lodi	$ 167.00
Routes 172 & 173 Origin/Destination Fare	**Sunnyvale Monthly Subscription**
Stockton	$ 216.00
Lathrop	$ 206.00
Manteca	$ 206.00
Tracy	$ 199.00
Pleasanton	$ 158.00

RTD Fare Vending Machines

On January 1st, 2012, RTD updated its fare vending machines and simplified its fare structure. RTD eliminated transfers, 10-ride passes, and other passes; in their place, it now offers a new, simplified fare structure to make riding RTD even easier. RTD has also changed the way its fare vending machines operate. Fare vending machines now offer just two passes: a new 1-ride pass valid only on BRT Express routes, and a 1-day pass that is valid on any of RTD's SMA Local, BRT Express, Intercity, and Hopper routes. RTD's fare vending machines do not issue change, which help RTD reduce maintenance and security costs.

Appendix D: Funding Sources

Current Financial Status

The following section outlines the short-term financial forecast and expenditure plan for operating and capital investments for RTD through FY 28. This plan provides for the continuation of the present operation levels and reflects the anticipated future growth needs of the public transportation system. RTD currently receives funding from three main revenue resources: Federal, State, and local governments.

Federal Revenues

RTD will continue to seek Federal funding from the current transportation act, which is called the FAST Act. The FAST Act provides Federal funding opportunities through Federal Fiscal Year 2020 (FFY 20).

There are three main competitive/discretionary grants available for regionally-significant transportation projects prioritized by the local transportation planning agency: The Surface Transportation Improvement Program (STIP), Congestion Mitigation and Air Quality (CMAQ), Better Utilizing Investments to Leverage Development (BUILD), Bus & Bus Facilities Infrastructure Investment Program, and Low or No Emission Vehicle Program (NoLo) grant programs. These grants require coordinating efforts to retain funding for specific projects with FTA and/or SJCOG.

On December 4, 2015, President Obama signed the FAST Act (Pub. L. No. 114-94) into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes $305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, research, technology, and statistics programs. The FAST Act maintains focus on safety, keeps intact the established structure of the various highway-related programs, continues efforts to streamline project delivery, and provides a dedicated source of federal dollars for freight projects for the first time. With the enactment of the FAST Act, states and local governments are now moving forward with critical transportation projects with the confidence that they will have a federal partner over the long term.

Below is an outline of the funding programs used by RTD to fund projects and services:

- *FTA Section 5304: Statewide Transportation Planning Grant*
  RTD uses these funds to support long-range planning, scheduling, and marketing efforts where applicable. This funding is used for SRTP and the Transit Consolidation Study. RTD applies to Caltrans for these funds.

- *FTA Section 5307: Urbanized Area Formula Grant*
  RTD uses these funds to support planning, preventive maintenance, associated transit enhancements, security projects, and to supplement overall capital projects. RTD could also use these funds for training, operations assistance, and ADA paratransit service up to a specific cap. These funds, of which RTD uses 71% and SJRRC uses 29%, primarily come from the Stockton Urbanized Area. RTD is also eligible for claiming these funds in the Lodi, Manteca, and Tracy Urbanized Areas in cooperation with SJCOG and those cities.

- *FTA Section 5310: Enhanced Mobility of Seniors and Individuals with Disabilities (discretionary)*
  RTD applies for these funds to support services that benefit seniors and persons with disabilities, including mobility management, vehicle purchases, software purchases, and enhanced/specialized transit services. RTD receives a direct allocation in the Stockton Urbanized Area and can apply to Caltrans for these funds in the small urbanized areas (Lodi, Tracy, Manteca) or rural areas (unincorporated San Joaquin County, Escalon).

- *FTA Section 5311: Formula Grants for Rural Areas*
  RTD uses these funds to support transit operations in the unincorporated areas of San Joaquin County. SJCOG allocates the funding based on population. RTD receives 90% and City of Escalon receives 10%. RTD applies to Caltrans for these funds and can also pursue Rural Transit Assistance Funds (RTAP) through CalACT for training activities and FTA Section 5311(f) to implement intercity services connecting rural areas with urban areas, including Amtrak, Greyhound, and airports.

- *FTA Section 5339(b): Bus and Bus Facilities Formula Grants*
  RTD uses these funds to support the capital projects outlined within this plan, including but not limited to: bus fleet replacements and expansions, bus facility improvements, and associated bus technology improvements. FTA also has a discretionary allocation of this funding. These funds primarily come from the Stockton Urbanized Area. RTD is also eligible for claiming these funds in the Lodi, Manteca, and Tracy Urbanized Areas in cooperation with SJCOG and those cities. In rural areas, RTD can apply to Caltrans for this funding.

- *FTA Section 5339(c): Low or No Emission Vehicle Program (previously section 5312)*
  Previously section 5312 under MAP-21, RTD applies for these funds to purchase zero-emission buses and supporting infrastructure. RTD has received and deployed five all-electric zero-emission buses and a charger from this funding source, and will continue to pursue funding for additional buses, charging equipment, and other supporting infrastructure such as solar energy panels and battery storage.

State and Local Revenues

The State of California provides funding through the TDA, LCTOP, Transit and Intercity Rail Capital Program (TIRCP), and Proposition 1B. Local tax revenues collected through Measure K, the Air District, and property taxes are critical for providing transit service beyond the minimum regulatory requirement.

Each of these funding programs is either competitive or formula-based. Formula programs are generally a reliable source of funds distributed to all available jurisdictions based upon population or area served. Competitive funding is applied for through grant applications, which are reviewed by committee and awarded through scoring criteria against other transit agencies. Because funding is not guaranteed, these funds are typically used for capital projects and are not budgeted until awarded. RTD receives the following State and local revenues:

- *Fare Revenues*
  RTD collects fares from passengers to ride the bus.

- *TDA Revenues*

  TDA is a State law that dedicates funding to local agencies for transportation and public transit needs, and it is the primary source of RTD's operating revenues. The TDA provides two sources of funding for public transportation—the LTF and the STA. Both the LTF and STA generate revenues through gasoline and sales taxes within each county. The State of California manages this revenue and distributes the funds back to the counties based on a formula distribution.

  The LTF funds are allocated to each county based on the amount of tax dollars collected in that jurisdiction. The State of California distributes the LTF to available jurisdictions (incorporated cities and the County) based on population. RTD currently receives the full apportionment of LTF from the City of Stockton for SMA services. As of July 1, 2017, RTD also receives 100% of County LTF for services that support the unincorporated areas under a two-year transitional period. Should the unincorporated area services needs be met, San Joaquin County will make the allocation of 100% LTF permanent to RTD.

  The STA is funded from the statewide excise tax on motor vehicle fuels collected within the Public Transportation Account (PTA). The PTA is a trust fund that can only be used for transportation planning and mass transportation purposes. The State annually allocates roughly one-third of the PTA balance to transit operators as STA funds. The distribution to each eligible recipient is based on a formula considering population and public transportation operating revenues; the formula allocates 50% of the funds according to population (99313) and the remaining 50% according to transit operating revenues (99314). SJCOG distributes the 99313 funds based on an adopted policy, which distributes these funds based on ridership and hours provided between RTD and SJRRC. The Road Repair and Accountability Act of 2017 of Senate Bill (SB) 1 (Chapter 5, Statues of 2017), signed by the Governor on April 28, 2017, includes a program that will provide additional revenues for transit infrastructure repair and service improvements and is a part of the STA formula. This investment in public transit is referred to as the State of Good Repair (SGR) program. This program provides funding of approximately $105 million annually to the STA account. These funds are to be made available for eligible transit maintenance, rehabilitation, and capital projects. STA funds are distributed via the STA formula (99313—regional through SJCOG and 99314—revenue, direct to RTD).

- *LCTOP*
  LCTOP is one of several programs that are a part of the Transit, Affordable Housing, and Sustainable Communities Program established by the California Legislature in 2014 by Senate Bill 862. LCTOP was created to provide operating and capital assistance for transit agencies to reduce greenhouse gas emission and improve mobility, with a priority on serving disadvantaged communities. Approved LCTOP projects support new or expanded bus or rail services, expand intermodal transit facilities, and may include equipment acquisition, fueling, maintenance, and other costs to operate those services or facilities; the goal of each project is reducing greenhouse gas emissions. For agencies whose service area includes disadvantaged communities, at least 50% of the total monies received shall be expended on projects that will benefit disadvantaged communities. Senate Bill 862 continuously appropriates 5% of the annual auction proceeds in the Greenhouse Gas Reduction Fund (Fund) for LCTOP, beginning in 2014–15. LCTOP funds are distributed via the STA formula (99313—regional through SJCOG, and 99314—revenue, direct to RTD).

- *TIRCP*
  TIRCP is one of several programs funded as part of the 2014–15 State of California budget (by Senate Bill 852 and Senate Bill 862) that have a goal of reduced greenhouse gas emissions and achievement of other benefits. These programs are funded by auction proceeds from the California Air Resource Board's Cap-and-Trade Program, with proceeds deposited into the Greenhouse Gas Reduction Fund. TIRCP received $200 million in 2015–16 and will receive 10% of the annual state Cap-and-Trade auction proceeds as a continuous appropriation. Additional funding from Senate Bill 1 (the Road Repair and Accountability Act of 2017) is estimated to generate $323 million in 2017–18 and about $3 billion in the next ten years for TIRCP (through FY 22–23). The program goals include the reduction of greenhouse gas emissions, expanded and improved rail and transit service to increase ridership, the integration of different rail and transit systems, and improved transit safety. These funds are competitive and administered through Caltrans.

- *Local Property Tax*
  RTD receives property tax revenues for properties within the SMA in accordance with the Revenue and Taxation Code, Section 97. RTD sustained a significant

decline in property tax revenues in FY 08 because of the declining property values associated with the declining economy. Since that time, RTD has witnessed slight increases to property tax revenues as the economic conditions stabilize within San Joaquin County. RTD anticipates that the Federal oversight of the mortgage industry will result in a minimal regulated growth over the next decade.

- *Measure K*

  Measure K is a local San Joaquin County transportation sales tax initiative, originally passed by voters in November 1990. In 2006, Measure K was approved by voters for a 30-year renewal through 2041. Through the renewal, Measure K is expected to generate $3.1 billion (in 2006 dollars) for transportation improvement projects and public transportation services in San Joaquin County. 30% of the net sales tax revenue generated in the Measure K program will be allocated for passenger rail transit, bus transit, and pedestrian/bicycle projects.

  The Bus Transit program of Measure K includes interregional/intracity commute, intercity, and elderly/persons with disabilities bus service. Intercity and elderly/persons with disabilities service promotes both bus service between the cities within San Joaquin County for all trip purposes and specializes in elderly/persons with disabilities bus service throughout San Joaquin County. Interregional/intracity commute service includes bus programs to promote peak hour commute service. RTD is to receive a minimum of 50% of the funds allocated from this program for implementing the projects identified above in conformance with the Regional Transit Systems Plan.

  The Bus Rapid Transit Capital program provides express bus service with fewer stops and higher frequencies that are similar to light rail. Bus Rapid Transit can include interregional/intracity commute, intercity, and elderly/persons with disabilities bus service. Bus Rapid Transit Capital provides funding specifically for infrastructure to support Bus Rapid Transit service.

  SJCOG administers Measure K funds and provides funding to agencies based on the regulatory requirements of the approved Measure. Measure K funds are used by RTD for a variety of regionally-significant projects including BRT operations, commuter service, Intercity and Hopper service, leasing Park-and-

Ride lots, and capital projects including new passenger amenities. Measure K revenues are projected to grow at an annual rate of 4.5% through FY 41.

RTD currently maintains cooperative agreements with SJCOG for Measure K funds for the previously identified services and projects. These cooperative agreements total $19,730,000 for a three-year period starting in FY 18 through FY 20. RTD anticipates maintaining and expanding these agreements as funding becomes available through additional sales tax receipts.

- *CMAQ*
  The State apportions Federal CMAQ funding for projects that will contribute to meeting the attainment of national ambient air quality standards for ozone and/or carbon monoxide in Clean Air Act non-attainment areas. SJCOG is responsible to select and prioritize projects for funding, in consultation with the State, for this program. RTD applies for and uses CMAQ funds to purchase vehicles that have fewer emissions than traditional buses. Examples include electric buses and associated bus technology. RTD anticipates using future CMAQ funds for bus replacement as they become available by the State through SJCOG programming.

- *Surface Transportation Program (STP)*
  The STP is a Federal block grant used by states and local agencies for capital projects for roads, bridges, and transit. This program promotes alternative solutions to transportation problems and encourages project innovation. SJCOG is responsible to select and prioritize projects for funding, in consultation with the State, for this program. RTD successfully obtained funds for the construction of the DTC and anticipates pursuing this program for RTC improvements and associated Solar Energy capital projects.

- *State Transportation Improvement Program (STIP)*
  The STIP is a multi-year capital improvement program of transportation projects on and off the state highway system, funded with revenues from the State Highway Account and other funding sources. STIP programming generally occurs every two years. RTD will recommend projects for funding through the STIP to SJCOG staff as funding capacity is identified throughout the next five

years for regionally-significant capital projects such as the RTC and BRT-dedicated right of way and expansion.

- *Proposition 1B*
  In 2007, California voters passed Proposition 1 (A-E), which provided the State of California the authority to sell bonds for capital infrastructure improvements for transportation-related projects. RTD receives funding for capital projects under two of the subcategories of Proposition 1 (A-E): Public Transportation Modernization, Improvement, and Service Enhancement Account (PTMISEA) and the Transit System Safety, Security, and Disaster Response Account (TSSSDRA). RTD has programmed funding for several projects through the two accounts provided by Proposition 1B for capital projects through FY 21 for the remainder of the program. RTD will use these funds for the RTC, BRT expansion, bus procurement, technology improvements, passenger amenities, and facilities improvements.

- *Other*
  RTD is pursuing optional funding sources that would assist with operating or capital improvements and will continue to pursue Public/Private Partnerships (PPP) and sponsorships for specific operations assistance. Examples of this include maintaining agreements with school districts, secondary education districts, and local governments to develop agreements for service and purchase of monthly passes for retail sale to the public. RTD is also looking to promote coordination with private development for the expansion of existing facilities and the construction of Transit Oriented Development in applicable locations throughout Stockton. RTD anticipates expanding PPP opportunities to fully fund specific public transportation support services in downtown Stockton.

  RTD receives rental funds from the commercial portion of the DTC that is currently occupied by a café. RTD's commercial space takes advantage of mixed-use development design by providing a retail location. Revenues associated with the rental space are used to support RTD's administrative operations. RTD will also explore the potential to expand the HTS to include new revenue-generating retail locations. RTD's recent partnership with Greyhound also yields additional revenue to support DTC and expanded customer service hours.

Capital and Operating Forecast

RTD uses historical data to review trends in order to provide future revenue forecasts, with the additional San Joaquin County LTF to support unincorporated transit operations, Federal funding to support operating and capital needs, and STA funding to support countywide transit operations and reasonable unmet transit needs. This revenue is leading towards stabilization of its funding sources and will present a small and steady growth in available revenues from the Federal and State governments. With the adoption of FAST Act, RTD expects a steadier flow of Federal revenues throughout through FY 20; however, without a long-term federal transportation bill, revenues are not guaranteed after FY 20.

RTD will continue to maintain the existing level of transit service (FY 19 levels) through FY 28 if current revenue resources remain constant. RTD anticipates increasing services as a result of the proposed expansion of BRT corridors with during the timeframe of the SRTP.

Future Funding Needs

Transit funding resources have become dynamic because of the fluctuating national and local economy. Because revenue sources are dependent upon sales taxes and fuel purchases that have diminished, RTD cannot depend on these resources. Operating and capital funding needs continue to rise as a result of increased public demand for service and increased fuel costs. RTD must develop a multi-faceted approach to funding that looks beyond existing resources in order to maintain a stable source of revenues.

RTD and other transit systems in San Joaquin County will have to collaborate to maintain effective education efforts in providing the public with the benefits of using public transportation. The public is not fully aware of the full costs associated with personal vehicle use—from an economic or environmental perspective. RTD will maintain the goal of garnering public and private support towards increased transit use and financial support as described within this SRTP. RTD will continue to generate support for increased revenues through the following actions:

- Establish PPPs
- Lobby for increased Measure K apportionments
- Lobby for improved Federal and State resources
- Increase marketing efforts

RTD will continue to improve service economic feasibility through the following actions:

- Establish incremental fare increases
- Maintain competitive bidding for projects
- Effectively manage costs
- Effectively plan growth
- Lobby for improved Federal and State resources
- Increase marketing efforts

Appendix E: RTD Facilities, Transit Fleet, and Amenities

RTD Facilities

RTD's administrative offices are located at the DTC, a two-story facility in the heart of Stockton's downtown. The DTC houses RTD's executive management, finance, human resources, planning and scheduling, marketing, customer service, and procurement staff. The DTC is located at 421 East Weber Avenue on a block bordered by Weber Avenue and California, Channel, and Sutter streets.



RTD's main maintenance and operations facility, known as the RTC, is located at 2849 East Myrtle Street, Stockton, CA 95205. RTD's use of the Bus Yard Feasibility Study, completed in January 2004, supported RTD's plans to build a bus maintenance facility in central Stockton near State Route 4 and Filbert Street. The RTC was part of an overall project which started in 2005 with the purchase of the CTC property next door. The overall project was completed in November 2015. RTC can hold up to 250 buses, has an operations and maintenance building that includes administrative offices for Operations and Facilities, a conference room, training rooms, an exercise room, and a dispatch/control center with room for future expansion. The maintenance area of the facility includes a storeroom, running repair area, fueling and wash line, and maintenance bays complete with hoists and pits. The paved lot provides fleet storage and employee parking around the facility. There is also a separate wash and utility building where the buses are washed, fueled, and serviced each day. RTC has



gasoline and diesel fuel on site and the services provided from this facility are SMA Local and BRT Express routes.

Next door to RTC, the CTC houses RTD's contracted "County" service operations which include Hopper, Intercity, Commuter routes, and specialized services. The facility, located at 120 North Filbert Street, Stockton, CA 95205, is approximately two and one-half miles southeast of the DTC, near the interchange of State Route 4 and State Route 99. The 68,000-square-foot building is used for two primary functions: operations and maintenance. The operations section of the building includes a phone reservation center, county dispatch control center, a conference meeting room, and office space for its contractor's operations staff. The maintenance area of the facility includes portable lifts, a parts washing area, storeroom, and two additional offices. There are two staff break rooms, a quiet room, and a workout area with lockers.

Intermodal and Transfer Facilities

The Fixing America's Surface Transportation act (FAST Act) encourages states and metropolitan areas to increase regional mobility and promote an efficient use of the national transportation infrastructure through the development of innovative transportation plans and programs that better integrate public transit with multimodal transportation options. RTD incorporates intermodal connections throughout the County to provide convenient transportation options for transit users to continue travel via walking, biking, driving, and transferring to other bus and rail transit systems. These facilities are described below:

- *DTC*
  The DTC is the transfer point for nearly all of RTD's routes and serves as the largest multimodal public transit hub for residents of Stockton. The DTC is a four-lane station with 20 centrally-located customer boarding bays and on-street boarding locations, making transfers more convenient for customers. The DTC serves



up to 28 buses at the same time to facilitate customer transfers. In FY 19, an average of 7,100 RTD passengers will use the DTC each weekday.

Greyhound also serves this facility, with RTD acting as the Greyhound agent. In FY 19, Greyhound provides 16 daily departures on four routes for an average of 120 passengers using the boarding facilities.

The DTC's ground floor building features: a customer concourse, a lobby with public restrooms, an information center, on-site customer service staff, fare vending machines, audio announcements, news displays, and electronic route arrival/departure displays. Additionally, the DTC provides a satellite police station for RTD's contracted City of Stockton police officers, and an operator's break room. The DTC also includes a board room, and RTD administrative offices on the second floor. Finally, the eastern portion of the ground floor houses a 2,100-square-foot retail space.

The DTC blends historical architecture with twenty-first century transit operations. The building incorporates three historic building façades, which are representative of downtown Stockton. The DTC is an integral part of a partnership between RTD and the City of Stockton and modeled after the FTA's Livable Communities Initiative. The center establishes a more pedestrian and transit-friendly environment in downtown Stockton by providing streetscape enhancements, increased use of public transit and improving traffic operations and air quality.

Public Wi-Fi access is available at the DTC, both in the customer waiting areas and on the customer boarding platforms. Customers are able to connect to the Internet using their laptops and mobile devices to obtain information about RTD's services.

- *MTS*

  The MTS is a central hub for the pulse service system in suburban Stockton. Located approximately 3.5 miles north of the DTC, the MTS is centrally located next to the Sherwood Mall, Weberstown Mall, and San Joaquin Delta College. RTD completed construction of customer improvements at the Mall Transfer Station in April 2009. The completed facility connects multiple modes of transportation including heavy pedestrian traffic, bicyclists, customer cars, and transit operations. Improvements at the MTS include benches and shelters, lighted crosswalks, and

other customer amenities. Currently RTD has 17 routes that stop at this location at the peak hour pulse. BRT Express Pacific Corridor (Route 40), Intercity Route 23, and weekend routes stop adjacent to the MTS on Pacific Avenue.

- *HTS*
  The HTS is a central hub for the pulse in north Stockton, serving connections to both the BRT Express Pacific Corridor and the BRT Express Hammer Corridor, Intercity, SMA, and Hopper service to Lodi. The HTS is located in the center of the Hammer Lane commercial zone and provides direct service to major shopping centers including: Food 4 Less, Smart and Final, Orchard Supply Hardware, Home Goods, and the Sketchers Outlet Store.

  The HTS is the repurposed property of a former Hollywood Video building located in the heart of the five-point intersection of Pacific Avenue, Lower Sacramento Road, Thornton Road, and Hammer Lane. The triangle consists of three parcels, the HTS sharing space with a bank and a small commercial mall. The facility consists of four boarding locations in the former parking lot and a curb cut-out along Lower Sacramento Road, providing for five boarding locations throughout the station.

  RTD anticipates continuing to improve access and amenities at the HTS. Currently the HTS provides an operator break room, a small office for RTD security and Stockton Police, outdoor public seating, and improved lighting. Future improvements include enhanced customer information displays, indoor seating, and a customer information center. In FY 19, an average of 2,665 RTD passengers will use the HTS each weekday.

- *UTS*
  The UTS will be RTD's newest transit station when it opens in early 2019. Near Rancho San Miguel, it will serve customers riding BRT Express 49—MLK Corridor and BRT Express 44—Airport Corridor. The UTS will provide an operator break room, a small office for RTD security and Stockton Police, outdoor public seating, and improved lighting. Future improvements include enhanced customer information displays, indoor seating, and a customer information center.

RTD Transit Fleet

RTD has a total fleet of 132 buses. The active fleet consists of 128 vehicles that include 40-foot urban coaches, 35-foot urban coaches, 29-foot urban coaches, 25-foot high

floor and 26-foot low floor cutaway buses, and 45 foot over-the-road commuter coaches. The average age of the fixed-route coaches is approximately seven years. The current spare ratio is 33%.

Table 30 – FY 18 RTD Operating Fleet

	Active Fleet	Inactive Fleet	Total Fleet	Weekday Peak Programmed	Spare Fleet	Spare Ratio
SMA Local	38	0	38	31	7	19%
BRT Express	33	0	33	12	21	74%
Intercity	4	0	4	3	1	25%
Hopper	28	0	28	21	7	25%
Rural Connection	0	4	4	0	4	0%
Commuter	16	0	16	13	3	20%
Dial-A-Ride/UCP	9	0	9	6	3	33%
RTD Fleet Total	**128**	**0**	**132**	**86**	**42**	**33%**

- Active Fleet—Total number of buses put into revenue service
- Inactive Fleet—Total number of buses not currently in service (contingency)
- Peak Programmed—Maximum number of buses in service during peak service period
- Spare Fleet—Buses allowed by FTA to be held back from service for such things as vehicle maintenance, etc.
- Spare Ratio—The ratio between Spare Fleet and Peak Programmed buses

All vehicles purchased are low-floor with air conditioning and, except for Commuter and Hopper buses, automated announcements. Each facility will have buses equally balanced in regard to the age of the fleet to ensure an equitable replacement of vehicles. The current year span of RTD's fleet ranges from 2001 to 2017. The oldest vehicle at CTC is 2001 (a Commuter bus) and the oldest vehicle at RTC is 2004 (a SMA Local bus). The newest vehicle at RTC and CTC is 2017 (SMA Local, BRT Express, Metro Hopper, and County Hopper buses).

RTD is working on addressing a reduction of older vehicles to achieve a 20% spare ratio systemwide and as explained in the Fleet Management Plan, RTD intends to achieve 20% spare ratio by the end of FY 19.

Table 31 – Current Active Fleet

Year	Life Expectancy	Manufacturer	Model	Fuel	Seating Capacity	Fleet	Size	Use	Suggested Retirement
2006	12 years	Gillig	Low Floor	Diesel Hybrid	37	3	40 Feet	BRT Express	2018
2010	12 years	Gillig	Low Floor	Diesel Hybrid	37	6	40 Feet	BRT Express	2023
2011	12 years	Gillig	Low Floor	Diesel Hybrid	38	2	40 Feet	BRT Express	2024
2012	12 years	Gillig	Low Floor	Diesel Hybrid	38	6	40 Feet	BRT Express	2025
2014	12 years	NovaBus	LFS	Diesel Hybrid	62	6	60 Feet	BRT Express	2027
2016	12 years	Proterra	Catalyst	Electric	40	7	40 Feet	BRT Express	2028
2001	12 years	MCI	D4500	Diesel	55	15	45 Feet	Commuter	2013
2008	12 years	MCI	D4500	Diesel	55	1	45 Feet	Commuter	2021
2006	12 years	Gillig	Low Floor	Diesel Hybrid	26	11	29 Feet	Hopper	2018
2017	7 years	Glaval	Titan II	Gasoline	19	22	26 Feet	Hopper	2024
2006	12 years	Gillig	Low Floor	Diesel Hybrid	40	4	40 Feet	Intercity	2018
2006	12 years	Gillig	Low Floor	Diesel Hybrid	31	10	35 Feet	SMA	2019
2009	12 years	Gillig	Low Floor	Diesel Hybrid	40	3	40 Feet	SMA	2022
2010	12 years	Gillig	Low Floor	Diesel Hybrid	40	2	40 Feet	SMA	2022
2013	12 years	Gillig	Low Floor	Diesel Hybrid	40	20	40 Feet	SMA	2025
2012	12 years	Proterra	BEB	Electric	33	2	35 Feet	SMA	2024
2016	12 years	Proterra	Catalyst	Electric	40	3	40 Feet	SMA	2028
2006	5 years	El Dorado	Aerotech	Diesel	5	9	25 Feet	UCP	2011
2001	5 years	El Dorado	Versashuttle	Diesel	5	2	22 Feet	Specialized	2006
2006	5 years	El Dorado	Versashuttle	Diesel	10	2	22 Feet	Specialized	2011

- *Dial-A-Ride Fleet Composition*

  RTD no longer maintains a Dial-A-Ride fleet. All Dial-A-Ride operations are contracted through ALC. RTD owns nine 25-foot cutaway vehicles that are used by UCP of San Joaquin, Calaveras, and Amador Counties.

- *Support Fleet*

  RTD uses support vehicles to assist in maintaining and supervising in-house and contracted operations. There are currently 37 vehicles available for administrative, maintenance, field supervision, driver relief, and passenger transportation purposes when needed.

Table 32 – Support Vehicle Fleet

Department	Fleet
Administration	13
Transportation	10
Contract Operations	0
Maintenance	4
Facilities	10
TOTAL FLEET	37

- *Hybrid Bus Fleet*

  RTD has been proactive in adopting technology that improves the air quality in the region. It is because of RTD's ongoing commitment to the region and its unique environment that RTD is replacing its current fleet with hybrid buses.

  On October 8, 2004, RTD rolled out the first two low-emission hybrid buses in the state of California. Through effective grant applications and RTD's fleet replacement program, RTD purchased diesel-electric hybrid buses for both SMA, Intercity, and BRT Express service. In 2013, RTD completed the conversion of 100% of its SMA, Intercity, and BRT Express fleet to diesel electric hybrid buses.

  Environmentally speaking, hybrid buses provide two major benefits: low emissions and reduced fuel consumption. These hybrid-powered transit vehicles provide improved fuel economy compared to traditional diesel buses, produce up to 60% fewer nitrogen oxide emissions, and deliver 90% fewer particulate hydrocarbon and carbon monoxide emissions.

  Other benefits of the diesel-electric hybrid buses include: reduced maintenance costs resulting from extended brake, engine oil, and transmission oil life, 50% faster acceleration compared with conventional diesel buses, and reduced operating sound levels.

- *Electric Bus Fleet*

  In 2012, RTD, in partnership with Proterra Inc., received an award from the California Energy Commission (CEC) to purchase and monitor the performance of two electric buses. These fully electric buses offer revolutionary battery technology and construction elements that allow for a 2-hour service window with a 10-minute charge. Since the pilot, RTD has purchased 12 40-foot electric buses that are used primarily on SMA routes, including BRT Express Route 44, as the nation's first all-electric BRT route. The first generation of electric buses can travel up to 40 miles or two hours on a charge. The RTD charging stations take about 10 minutes to completely recharge a bus. RTD's Board of Directors made a commitment in August 2017 to convert the entire SMA fleet to zero emissions by 2025.

Customer Amenities

In order to fulfill its vision of being the transportation service of choice for San Joaquin County residents, RTD must provide extraordinary customer service and customer amenities for those residents. RTD customer amenities include enhanced boarding areas, convenient intermodal connections, efficient transfer locations, readily available public information, advanced communication systems, and efficient fare recovery systems.

- *Boarding Areas*

  RTD has approximately 1,100 bus stops. These bus stops presently are located in Stockton, Lodi, Lathrop, Manteca, Tracy, Ripon, unincorporated San Joaquin County, Sacramento, Livermore, Dublin, Pleasanton, and Sunnyvale. In the interest of offering maximum convenience and security to customers, RTD staff works closely with local agencies to identify optimal bus stop locations. The factors examined include: compatibility with transit and traffic operations, pedestrian safety, ADA compliance, visibility conditions, abutting properties, spacing between consecutive stops, and the proximity to trip generators.

  RTD Facilities staff installs all bus stop signs. At some sites, RTD shares an existing utility pole without installing a new pole for the bus stop sign. RTD is responsible for maintenance of the bus stops, signage, PMPIDs, and trash cans where installed. RTD has installed 871 PMPIDs at bus stops along all fixed routes countywide. PMPIDs are mounted frames that allow the installation of letter or legal-size notices. RTD uses PMPIDs to post rider notices and alerts, bus schedules, route maps, and promotional materials.

  RTD will continue to explore grant opportunities to supplement existing regional, state, and federal funding resources to continue to improve customer amenities and customer information at bus stops throughout RTD's service area. When funds are readily available, RTD will advance phases of the improvement program.

  Between 2008 and 2010, RTD installed 138 benches at bus stops, 46 BRT Express shelters, and 34 standard shelters throughout the SMA. BRT Express shelters experience the highest customer volume throughout the day and account for approximately 40% of RTD's ridership. The standard shelters and benches are placed at bus stop locations that demonstrate the highest ridership, including the six shelters located at the MTS. Another eight BRT Express shelters for Route 49—

MLK Corridor will be operational by July 2018.

In 2009, RTD began a campaign to remove benches that were under contract with an advertising company and replace them with a new RTD-owned bench. This allowed RTD to provide new uniform benches throughout the service area. RTD also installed additional bus shelters at high-density boarding locations within the SMA. This effort is an improvement over the past when there were only 12 shelters throughout the entire service area. RTD bus shelters include solar powered lighting, map displays, transit information display, and benches.

RTD Intercity and County Hopper routes also serve bus shelters and bus benches in Lodi, Tracy, Lathrop, and Manteca, which are placed and maintained by those jurisdictions. In limited cases, RTD may add bus shelters and bus benches in these jurisdictions, if requested by the jurisdiction and if there is a benefit to an RTD fixed route.

There are currently no bus shelters or bus benches in the unincorporated area of San Joaquin County, Escalon, and Ripon at this time due to limited demand for these amenities. With the limited bus stops in the unincorporated area, amenities will be added should the demand for them meet the above thresholds.

RTD will continue to install more bus shelters and benched as needed as funding becomes available.

Neighboring Jurisdiction Stations

The City of Lodi opened Lodi Station in 2000, designed around a renovated rail depot along the Union Pacific railroad tracks. This station is located in downtown Lodi at the intersection of East Pine Street and Sacramento Street. Lodi's GrapeLine buses provide local fixed-route services at the station. Lodi VineLine and Dial-A-Ride buses provide demand-response service within the City of Lodi and to Woodbridge, Acampo, and Villa Cerezos Mobile Home Park. RTD operates daily service to this multimodal station via Intercity Route 23 and Hopper Routes 93 and 723. At this station, customers can also transfer to Amtrak San Joaquins trains and buses, Greyhound buses, and SCT/LINK from Galt, Elk Grove, and south Sacramento. The station provides on-site parking and use of a public parking structure across the street.

The City of Tracy opened Tracy Transit Station in 2011. RTD operates service to the station via Hopper Route 97 and Commuter Routes 150, 172, and 173 and connects to services provided by Tracy TRACER and Greyhound buses. The Tracy Transit Station is located east of Central Avenue and south of Sixth Street in downtown Tracy. There are two parking areas with 220 parking spaces, including nine spaces dedicated to disabled parking.

The City of Manteca opened Manteca Transit Center in 2013. RTD serves the Manteca Transit Center via Hopper Routes 91 and 797 and Commuter Route 150, and connects to services provided by Manteca Transit. Manteca Transit Center is located east of Main Street and south of Moffat Boulevard in downtown Manteca. The Transit Center has 104 parking spaces, including four spaces dedicated to disabled parking, as well as two spaces dedicated to electric vehicle charging, and it has four bicycle lockers.

Park-and-Ride Lots

Park-and-Ride lots are "change of mode" facilities where individuals meet and travel as a group to their destinations via transit, vanpool, or carpool. Park-and-Ride facilities vary from vacant lots, church parking lots, or intermodal transportation facilities linking individuals to other modes of transportation including transit, airport access, and rail. RTD currently serves several formal and informal Park-and-Ride lots throughout the region.

RTD manages Park-and-Ride facilities by maintaining individual lease agreements funded by Measure K. This agreement provides funding to RTD to lease Park-and-Ride lots and/or to improve those lots by providing pavement markings, commuter orientation signs, and/or designated parking spaces.

Table 33 – Park and Ride Facilities

City	Location	Landmark	Spaces	Routes Serving
Lathrop	15557 5th Street	Valverde Park/Lathrop Community Center	40	172
Lodi	277 Beckman Road	ARCO Gas Station/Caltrans Park and Ride Lot	40	163
Stockton	8407 Kelley Drive	Calvary First Assembly of God	55	165
Stockton	3200 W. Benjamin Holt	Marina Shopping Center	50	121, 172
Stockton	3034 Michigan Avenue	LifeSong Church*	45	121, 150, 152, 165
Tracy	50 East 6th Street	Tracy Transit Station	116	150, 172, 173
Manteca	S. Main St. & Moffat Blvd.	Manteca Walmart/ Mission Ridge Plaza	50	120, 150, 166, 173
Lathrop	15240 South Harlan Road (east of Interstate 5)	Lathrop Crossroads Shopping Center	15	150, 152
Stockton	3728 E Hammer Lane, Stockton, (west of SR 99)	Hammer Crossings Shopping Center/ Dollar Tree	30	163
Stockton	4361 E. Morada Lane	Morada Ranch Shopping Center (Raley's Park & Ride Lot)	25	173

Appendix F: Management Systems and Controlling Plans

RTD is in the process of establishing and maintaining viable management systems in order to maintain effective services and ensure financial accountability. In that regard, RTD has developed several programs with specific management system goals. RTD's Spear 4i data system is designed to maintain and account for RTD's internal inventory. The following is a summary of RTD's management systems.

Financial Management Systems

RTD maintains its financial records and database using Superion's OneSolution ERP software. OneSolution centralizes and maintains the data for all finance-related efforts including budget development and forecasting, purchase orders, accounts payable, accounts receivable, fixed assets, human resources, and payroll.

In 2018, Superion upgraded the ONESolution financial suite to provide additional functionality. RTD anticipates upgrading the OneSolution system several times within the ten-year period of this SRTP in order to improve reporting efficiency and accuracy. RTD uses Kronos for its timekeeping system. Kronos provides an online software service that tracks and reports staff time and attendance. RTD has seven Kronos time clocks located throughout RTD's facilities, allowing staff to conveniently clock in and out as needed. The web-based Kronos database allows management staff to review and approve work hours for their employees in a quick and efficient manner. Kronos offers multiple upgrades for their services, and RTD management will adopt new technologies as available to improve staff tracking to control labor costs and minimize compliance risks. RTD anticipates upgrading the Kronos system several times within the next ten-year period of the SRTP.

Asset Management System

RTD is currently using Infor Public Sector's Spear 4i software to support its asset management system. Spear 4i is a software platform that provides real-time information for tracking maintenance records pertaining to transit vehicles, components, and facilities. Spear is also used for inventory control of parts, equipment, and components related to transit operations. Other features include warranty control, purchasing management for parts, and document management. RTD will need to update its asset management system in order to comply with the TAM program requirements and serves RTD in the development of the maintenance program. As part of the TAM program, all Facilities assets will also begin to be managed within the asset management system.

Fuel Management System

RTD is currently using Fleetwatch to monitor and manage fuel use for all RTD vehicles. This system allows RTD staff to monitor fuel consumption and identify opportunities to minimize consumption, ensure fuel use and security and accountability, provide reliable fleet data, record and report fuel use, and ensure compliance with federal and state regulations.

Data Management Systems

RTD uses Trapeze and Transit Master software to conduct many operations functions including:

- Operator timekeeping
- Operator staff planning (bidding and work assignments)
- Route planning (actual route planning, run cutting, trip planning)
- Bus stop management
- Route management
- Operations management
- Incident management
- Customer comment tracking
- Bus communications
- Bus location tracking
- Automated passenger count tracking
- Dial-A-Ride and Hopper customer reservation management

RTD will need to update and upgrade the scheduling software on a regular basis to ensure an effective scheduling system. It is also looking at replacing this system in FY 19 due to the costs associated with its use and to take advantage of new emerging technologies as it relates to overall operations management.

RTD's Dial-A-Ride contractor ALC has a 24-hour call center with their own proprietary dispatching system that allows for reservations management. In addition, it can track sub-contracted vehicles using an app, which also includes the ability to send trips to those vehicles for quick, responsive dispatching.

TransTrack is RTD's data reporting software package. TransTrack provides daily, monthly, quarterly, and annual reports for RTD staff which is used to guide decision-making that affects day-to-day operations. RTD needs to maintain and update the data management systems in order to accurately collect and report operating data so that

staff can review service efficiencies and develop new services in line with this SRTP and the Board of Directors' direction. RTD staff is also responsible for maintaining and calibrating data inputs to ensure data accuracy.

RTD participates in an effort to benchmark and standardize data management for public transportation projects. The American Bus Benchmarking Group (ABBG) is a group led by the efforts of the Imperial College of London, which has established benchmarking efforts on an international level. RTD is one of 22 agencies participating in this effort, and it must maintain its data management programs in order to maintain effective participation and input into this group's efforts. The ABBG will provide guidance to transit agencies regarding the collection and reporting of Key Performance Indicators and will serve future generations by providing a consistent platform for public transportation service review.

Document Management System

RTD's Document Management System uses the Microsoft SharePoint software platform. Maintained remotely, SharePoint provides a secure location to store and maintain documents for RTD's operations and management. This includes the development of an online library electronically warehousing RTD Board Policies, Plans and Reports, Protocols, Procedures, and Work Instructions. RTD staff can access information remotely through the Microsoft Online portal.

Safety Management System

RTD has adopted an enhanced Illness and Injury Prevention Plan (IIPP) and the Agency Safety Plan (ASP) based on FTA's Safety Management System framework to ensure that RTD is not only a safe place to work, but also a safe system to ride for our customers, and a safe operation for San Joaquin County. The objectives of the ASP include reducing traffic accidents, minimizing customer risk, and minimizing RTD's exposure to liabilities that are inherent in providing public transportation services. With a focus on organization-wide safety policy, proactive hazard management, strong safety communication, targeted safety training, and clear accountabilities and responsibilities for critical safety activities, the ASP will provide RTD with an enhanced structure for addressing stringent expectations. RTD's Safety Department will take a lead role in implementing this effort over the next five years.

Title VI Report Summary

Title VI, the Civil Rights Act of 1964, requires that a grantee of federal funds must ensure that no person in the United States shall, on the grounds of race, color, or

national origin, be excluded from participating in, denied the benefits of, or be subject to discrimination under any program or activity receiving federal financial assistance. The grantee must ensure that federally supported transit services and related benefits are distributed in an equitable manner.

The most recent Title VI analysis conducted for RTD was adopted on June 21, 2017, and was approved by FTA on October 27, 2017. That analysis reviewed a standard list of potential discrimination issues, as well as a demographic analysis of RTD's service area. The analysis concluded that no deficiencies were found with RTD's compliance with the FTA requirements for Title VI.

The overall Disadvantaged Business Enterprise (DBE) goal, as approved by the FTA, is 4.94% for the period between FFY 17 and FFY 19 for federally-funded projects.

FTA Triennial Review Summary

The FTA Triennial Review desk review of RTD was conducted on April 1, 2016, with a site visit on July 26 and 27, 2016. The review concentrated primarily on procedures and practices employed during the past three years (FY 14–16); however, coverage was extended to earlier periods as needed to assess the policies in place and the management of grants. During the visit, reviewers discussed administrative and statutory requirements, examined documents, and toured the facilities. The close-out letter was provided on January 9, 2017.

No deficiencies were found with RTD's compliance with the FTA requirements in 14 of the 17 areas examined. Deficiencies were found in three areas under the following: Technical Capacity, ADA, and Satisfying Continuing Control. A summary of these deficiencies, corrective actions, and responses are shown below.

Table 34 – FTA Triennial Review Deficiencies

Review Area	Finding	Deficiency	Corrective Action	Response Date	Date Closed
1. Financial Management and Capacity	ND				
2. Technical Capacity	D-79	Inactive grants/ untimely closeouts	RTD must provide the FTA Regional Office with a plan for drawing down inactive grants and closing fully expended grants in a timely manner.	10/15/16	01/06/17
3. Maintenance	ND				
4. ADA	D-324	Insufficient ADA complaint process	RTD must update its on line customer feedback form to allow customers to indicate that a complaint is an ADA complaint.	10/15/16	11/21/16
5. Title VI	ND				
6. Procurement	ND				
7. DBE	ND				
8. Legal	ND				
9. Satisfactory Continuing Control	D-161	Excessive fixed-route bus spare ratio	RTD must provide the FTA Regional Office with a plan for reducing its fixed-route bus fleet spare ratio.	10/15/16	01/06/17
10. Planning/ POP	ND				
11. Public Comment on Fare Increases and Major Service Reductions	ND				
12. Half Fare	ND				
13. Charter Bus	ND				
14. School Bus	ND				
15. Security	ND				
16. Drug-Free Workplace/ Drug and Alcohol Program	ND				
17. EEO	ND				

Please visit the I-205 Managed Lanes Virtual Open House

SELF GUIDED VIRTUAL OPEN HOUSE |
VISITA VIRTUAL AUTOGUIADA

The California Department of Transportation (Caltrans), in cooperation with the San Joaquin Council of Governments (SJCOG), will prepare an Environmental Impact Report (EIR)/Environmental Assessment (EA) for the I-205 Managed Lanes Project. This project proposes to install managed lanes on I-205 between I-5 and I-580 and could include interchange improvements and transit hubs. Four alternatives and the no-build alternative are being considered.

Caltrans and SCJOG are seeking input on the scope and content of the environmental document in compliance with the California Environmental Quality Act. The meeting will include a presentation and information about the project, and there will be an opportunity to speak to the project team. If you have any questions about the project or meeting, please contact Scott Guidi, Caltrans Branch Chief, at (209) 479-1839 or by email to scott.guidi@dot.ca.gov.

You can send comments by email to scott.guidi@dot.ca.gov, or by mail to Scott Guidi, Caltrans, District 10, 1976 East Dr. Martin Luther King Jr. Blvd., Stockton, CA 95205.

PROJECT OVERVIEW

The San Joaquin Council of Governments (SJCOG) and the California Department of Transportation (Caltrans), District 4 and District 10 are developing the I-205 Managed Lanes project to address increased commute times and corridor congestion on I-205 from I-5, through the City of Tracy, to the Alameda/San Joaquin County border.

Managed lanes have been successfully used to reduce congestion and increase travel time reliability by controlling the way traffic moves on the highway. Dedicated lanes allocated for cars with two or more people (High-Occupancy Vehicle, or HOV), like carpools and buses, and qualifying clean air vehicles are one way lane management can help keep traffic flowing. Another example of lane management is to charge a fee or toll to solo drivers who choose to use the dedicated lane which helps pay for maintenance and construction of the lanes and other transportation investments, including transit.

The project also aims to address increased use of the corridor as an intercity and interstate truck and freight route and the increased need for alternative modes of transportation (such as buses, vanpools, and rideshares) between San Joaquin County and the San Francisco Bay Area. Also under consideration are options that reserve the center median for various types of transit (bus and/or rail), as well as potential locations for stations and connections to bicycle and pedestrian facilities, park and ride lots, and other transit systems.

Projects of this scale have several phases and can take multiple years to complete.

- Caltrans and SJCOG completed a project initiation document (called Project Study Report-Project Development Support (PSR-PDS) Report) in 2017 that examined widening I-205 to include HOV lanes between the Alameda County Line and I-5. This report was the first step in the Caltrans project delivery approval process.
- In Fall 2021, Caltrans and SJCOG held a formal environmental scoping meeting and virtual open house (which can be viewed here) to begin the environmental phase of the project which will evaluate alternative designs to best integrate other on-going projects, incorporate new technologies, and explore station/transportation options and hub locations.
- In 2022, with Caltrans input and direction, SJCOG prepared a Supplemental PSR-PDS for the inclusion of additional alternatives that align with the project's goals.

The current phase of the project will develop and evaluate project design alternatives and complete the required environmental review as part of the Project Approval and Environmental Document (PA&ED) phase.

VICINITY MAP



KEY MILESTONES

CLICK FOR LARGER VIEW



PROJECT GOALS

The overarching goal for SJCOG is to improve local, regional, and interregional circulation for all modes of travel between the Central Valley and the San Francisco Bay Area. The proposed project has the following primary purposes:

- Improve travel times
- Improve regional mobility and freight movement
- Increase person throughput
- Increase use of carpooling, transit, ridesharing
- Accommodate and facilitate regional multi-modal transportation development
- Improve safety
- Improve air quality

The project is needed to address the following concerns:

- Increased commute times and delays on I-205
- Increased use of I-205 as an intercity and interstate truck or freight route
- Increasing need for alternative modes of transportation between San Joaquin County and the San Francisco Bay Area

Appendix E. Industrial & Commercial Development Pipeline Report

CITY OF TRACY NEW CONSTRUCTION INDUSTRIAL & COMMERCIAL DEVELOPMENT PIPELINE REPORT

Status as of Decemeber 2024

APPROVED AND UNDER CONSTRUCTION

Name	Application #	Type	Zoning	Bldg. S.F.	Lot Acreage	Location / Parcel	Approved	Owner/Applicant	Planner
GH Logistics Truck Repair	D17-0004	Industrial	M-1	6,000	1.40	1428 Mariani Ct.	7/6/2017	Kulwant S & Sarbjit Mander/ Wayne Bogart	Staff (209)831-6400
Marriott Hotel (108 Rooms)	D16-0022	Comm.	I-205 SP	58,800	2.69	3550 N. MacArthur Dr.	2/21/2017	Reza Kabul/ Arvind Iyer	Staff (209)831-6400
Starbucks, Popeyes, Gasoline Station & Store, Car Wash	D19-0012 D23-0011	Comm.	GHC	5,584	0.94	630 E. 11th St.	1/13/2020	Mila S Padilla TR/Sunny Ghai	Kenny Lipich (209)831-6443
La Quinta Hotel (87 Rooms)	PUD18-0004 D18-0033	Comm.	PUD	48,845	1.91	565 Clover Rd.	7/7/2020	Skyline Hospitatlity, Inc./Ajaypal Sidhu	Genevieve Federighi (209)831-6435
Renewable Energy Power Plant	D21-0032	Industrial	M-1		1.71	9251 W Arbor Ave	4/12/2022	City of Tracy/ Frank Schubert	Scott Claar (209)381-6429
Triad One Story Medical Office Building	D20-0016	Comm.	GHC	10,000	1.00	Orchard Pkwy. And Grant Line Road	4/6/2021	Richard Needham/ Triad Tracy II LP	Staff (209)831-6400
Central Green (Cordes Ranch)	D20-0015	Private Park	CRSP	1,350,360	31.00	Cordes Ranch	1/20/2022	Prologis/ David Babcock	Scott Claar (209)381-6429
Tracy Lakes Amenity Center	D23-0001	Amenity Center	TVSP	14,185	5.00	1958 Valpico Rd	6/20/2023	DRP CA 6 LLC/ Alex Raymond	Victoria Lombardo (209)831-6428
Carbon Dioxide Removal Facility	D22-0039	Industrial	M-1	14,252	2.20	4750 Holly Dr	12/14/22	Heirloom Carbon Technoligies & TRE, LLC.	Scott Claar (209)381-6429
Total				1,508,026	47.85				

APPROVED AND NOT YET UNDER CONSTRUCTION

Name	Application #	Type	Zoning	Bldg. S.F.	Lot Acreage	Location / Parcel	Approved	Owner/Applicant	Planner
Warehouse with Office	D19-0011	Industrial	NEI	90,000	5.00	1850 N. Chrisman Rd.	8/1/2019	Frank Silva/Schack & Company	Genevieve Federighi (209)831-6435

Tracy Assisted Living & Memory Care	D19-0019	Comm.	RSP	87,107	2.73	South of Grant Line, west of Corral Hollow	12/3/2019	Triad Tracy II LP/Summit Senior Living	Staff (209)831-6400
West Parkway Village Multi-Tenant Building	D19-0029	Comm.	CRSP	10,465	1.96	Cordes Ranch	10/29/20	R&B Delta II, LLC	Kenny Lipich (209)831-6443
Marriott Courtyard (Cordes Ranch - West Parkway Village) (101 Rooms)	D20-0024	Comm.	CRSP	60,074	3.37	International Pkwy./I-205	9/1/2021	Robert F. Tuttle Architects	Staff (209)831-6400
Single-Story Car Wash Building and Vacuum Stalls	D21-0009	Comm.	GHC	3,343	0.73	150 W. Grant Line Rd.	4/13/22	Jatinder Randhawa/API Architecture Plus	Staff (209)831-6400
RNG Fueling Station and Parking Lot	CUP21-0007 D21-0023	Industrial	NEI		5.00	2200 N. Chrisman Rd.	5/25/22	L&C Eagle Properties, LLC/Don Wood	Staff (209)831-6400
Promontory Station – Cordes Ranch	D21-0013	Comm.	CRSP	31,908	7.74	815 International Pkwy.	8/8/22	Prologis/Prologis	Kenny Lipich (209)831-6443
Retail Building	CUP21-0009 D21-0034	Comm.	GHC	3,180	0.32	316 Eleventh St.	10/12/22	Saad Pattah & Eric Boehm / Community Veterans of Tracy LLC	Staff (209)831-6400
Commercial Building Shell	D19-0021 CUP21-0003	Comm.	I-205 SP	27,336	1.87	Auto Plaza Dr. west of Naglee Rd.	10/26/22	Tracy Auto Plaza Investors PTP/Masood Feroz	Genevieve Federighi (209)831-6435
3-Story Retail and Office Building	D22-0024 D23-0012	Comm.	CBD	12,512	0.15	28 W 8th Street	11/14/22	Indus Capital Management Group LLC / Schack & Company, Inc.	Kenny Lipich (209)831-6443
3-Story Multi Use Building	D22-0048	Comm.	CBD	14,641	0.11	1000 N Central Ave	4/10/23	1000 N Central Ave LLC / Schack & Company, Inc.	Kenny Lipich (209)831-6443
4-Story Hotel (Extended Stay America Premier Suites) (124 Rooms)	D22-0020	Comm.	GHC	54,902	3.91	N Side of Joe Pombo Pkwy, N of Grant Line Rd	04/26/23	Tracy Orchard Plaza LP / Stacie Quoi	Staff (209)831-6400
Retail Building	D22-0030 CUP22-0013	Comm.	CBD	4,000	0.36	60 E 10th Street	05/24/23	Moe, Richard D Susan E TR / Manzanita of Tracy LLC	Staff (209)831-6400
Gas Station, Car Wash, Retail and QSRs (Triangle Plaza)	D21-0006	Comm.	HS	18,035	1.91	3788 N. Tracy Blvd.	06/28/23	3788 Tracy LLC/Tecta Associates	Staff (209)831-6400

Golden State Fire - Fire Apparatus	D22-0033	Industrial	M-1	55,226	4.73	3501, 3601, 3701 Mars Way	07/25/23	Wright Family Holdings, LLC. / Shack & Company, Inc.	Kenny Lipich (209)831-6443
4-Story Hotel (Tru by Hilton) (78 Rooms)	D22-0018 GPA22-0004	Comm.	PUD	40,190	1.96	2605 N. Corral Hollow Rd.	09/19/23	Hemkunt Group LLC / Anand Kotecha	Staff (209)831-6400
Seefried LI Building (NEI)	D22-0045	Industrial	NEI	335,157	19.30	1651 E Grant Line Rd	3/5/2024	Linda Massone, Trustee / Seefried Industrial Properties	Victoria Lombardo (209)831-6428
Cordes Ranch Building 28	D22-0002	Industrial	CRSP	524,081	26.50	5390 Promontory Pkwy	3/5/2024	Prologis, LP	Staff (209)831-6400
IPC 16 Guard Shack Addition	D23-0008	Industrial	BPI	48	66.70	5051 Promontory Pkwy	3/5/2024	Prologis LP/HPA Inc.	Staff (209)831-6400
Tracy Toyota Service Center Expansion	D23-0018	Comm.	I-205 SP	35,562	6.23	2895 Naglee Rd.	5/8/2024	Tracy Autoland LLC/Devcon Contructin Inc.	Martin E. Vargas (209)831-6438
Taco Bell	D23-0016	Comm.	CRSP	1,479	0.45	1102 N. International Pkwy	5/21/2024	Reynolds &Brown/Roxanne Berlien	Genevieve Federighi (209)831-6435
Tracy Honda Remodel	D24-0007	Comm.	I-205 SP	25,707.00	4.09	3450 Auto Plaza Way	7/25/2024	Ken Harvey / Carl Chrisman	Martin E. Vargas (209)831-6438
Chevron CNG	D24-0012	Comm.	PUD	3,952	3.95	3940 N. Tracy Blvd and W. Larch	9/24/2024	H&S Energy LLC / Robert Picard C/O Stantec Architecture Inc.	Martin E. Vargas (209)831-6438
Island Gourmet Market and Deli	D24-0016	Comm.	GHC	4,868	0.50	1450 W. 11th Street	9/24/2024	Virgilio Escobar, Jr. & Eleanor Escobar / Schack & Company	Craig Hoffman (209)831-6426
Eastgate Business Park Phase 2	D24-0001	Industrial	M-1	26,019	1.35	1398 Mariani Court	10/16/2024	Horizon Tracy, LLC	Genevieve Federighi (209)831-6435
St Paul Lutheran Church Two Modular Building Additions	D24-0006 CUP24-0002	Comm.	LDR	2,880.00	5.34	1635 Chester Drive	N/A	St. Paul's Evangelical Lutheran Church / Rod Thompson	Martin E. Vargas (209)831-6438
Montessori Building Addition	D24-0011 CUP24-0005	Comm.	ISP	4,753	0.70	120 Murrieta Way	N/A	TR 120 LLC / Grow Builders Inc. C/O Jeff Antrim	Martin E. Vargas (209)831-6438
IPC 20 (Cordes Ranch Building 20) - 1,300,256 sqft bldg.	D24-0018	Industrial	CRSP	1,300,256	66.06	Hopkins Road & Bud Lyons Way	N/A	Prologis, LP / HPA, Inc.	Craig Hoffman (209)831-6426

Taco Bell Solar Carport Canopies Addition	D24-0020	Comm.	CRSP	1,479	0.45	1102 N. International Pkwy	N/A	Reynolds & Brown / Sunrise Solar	Martin E. Vargas (209)831-6438
Total				2,779,160	243.47				
UNDER CITY REVIEW (NOT YET APPROVED)									
Name	**Application #**	**Type**	**Zoning**	**Bldg. S.F.**	**Lot Acreage**	**Location / Parcel**	**Approved**	**Owner/Applicant**	
Tracy Hills Commerce Center	SPA21-0004 D21-0012	Industrial	THSP	1,690,000	97.53	29592 S. Corral Hollow Rd.	N/A	Amanjit Sandu and Gurcharan Takar/ Ridgeline Property Group	Scott Claar (209)381-6429
2 Industrial Buildings (Costco Annexation)	A/P19-0001 CUP19-0002 D19-0014	Industrial	Not yet	1,812,279	103.00	16000 W. Schulte Rd.	N/A	Allen E Hom TR	Genevieve Federighi (209)831-6435
Westside Specific Plan	SPN19-0001	Comm.	Not yet	24,821	535.00	SWC Lammers Rd. and Eleventh St.	N/A	Nachhatar Singh Chandi & Susan Chandi/Chandi Enterprises LLC	Genevieve Federighi (209)831-6435
Schulte Warehouse/Annexation	A/P21-0001 D21-0020	Industrial	Not yet	217,466	20.92	16286 W. Schulte Rd.	N/A	D & D Pombo LLC/PDC Sacramento LPIV, LLC	Scott Claar (209)381-6429
Cordes Ranch Building 13	D21-0036	Comm.	CRSP	153,758	10.10	6050 Promontory Pkwy	N/A	Prologis, LP	Genevieve Federighi (209)831-6435
Cordes Ranch Building 18	D21-0037	Industrial	CRSP	1,319,092	63.90	5070 Promontory Pkwy	N/A	Prologis, LP	Genevieve Federighi (209)831-6435
Hollingsworth Trailer Lot and Guardhouse	D22-0014	Industrial	NEI	260	11.30	2259 E. Grant Line Rd	N/A	Matt Sims / Jun Lee	Martin E. Vargas (209)831-6438
Dual Hotels (Avid Hotel & Candlewood Suites Hilton Garden Inn) (107 Rooms Avid & Candlewood) (70 Rooms Hilton Garden Inn)	D22-0021 SPA23-0001	Comm.	PUD	110,512	3.17	3095 N Corral Hollow Rd	N/A	Manteca Hospitality Inc / Arvind S Iyer	Victoria Lombardo (209)831-6428
San Joaquin County Car Wash	D22-0022	Comm.	GHC	4,500	0.85	430 W 11th Street	N/A	Big Bear Acquisitions Inc / Alan Mok	Martin E. Vargas (209)831-6438
Paradise Pointe Business Park	D22-0038	Industrial	NEI	718,165	52.01	3601 Pescadero	N/A	Ridge Tracy Land Partners No. 2, LLC. /	Victoria Lombardo (209)831-6428

Corral Hollow Car Wash	D22-0044 CUP24-0006	Comm.	NS	4,455	1.29	4600 S Corral Hollow Rd	N/A	Harpreet Singh & Varinder Pal Singh / API Architecture Plus	Genevieve Federighi (209)831-6435
Martin's Paving Inc. New Building	D23-0002	Comm.	M-1	6,438	1.34	3880 Holly Dr	N/A	Martin's Paving Inc-Maritin Soto / Artifex West Studio - Nader Rahmanian	Victoria Lombardo (209)831-6428
Monopine-250 W Mt Diablo Ave	D23-0006 CUP23-0002	Comm.	MDR	1,600	1.95	250 W Mt Diablo	N/A	Rudi Law/ Verticle Bridge	Martin E. Vargas (209)831-6438
Cambria Hotel and Event Center (90 Rooms)	D23-0010	Comm.	HS	18,062	1.77	747 W Larch Rd.	N/A	Navdeep Grewal	Martin E. Vargas (209)831-6438
Montessori Elementary Portable Classroom Addition	D23-0019 CUP23-0004	Comm.	M-1	1,440	4.24	120 Murrieta Way	N/A	TR 120 LLC - Pamela Rigg	Victoria Lombardo (209)831-6428
Larch Road 5 Parcel TSM	TSM23-0004	Comm.	CRS	0.00	8.41	10722 & 10792 W. Larch Rd.	N/A	Byron Alvarez & Christine Vezies & Brian Alvarez/Schack & Company Inc	Kenny Lipich (209)831-6443
Birla Mixed-Use Center	D24-0002	Comm.	CBD	46,554.00	1.07	160 & 306 W Sixth Street	N/A	Sai Properties Tracy 306, LLC / Schack & Company, Inc.	Genevieve Federighi (209)831-6435
T-Mobile Cell Site - Tracy Sports Complex	D24-0004 CUP24-0001	Comm.	PUD	255.00	27.020	955 Crossroads Drive	N/A	City of Tracy / T-Mobile	Martin E. Vargas (209)831-6438
Costco Cold Distribution Center	AP24-0001 D24-0005	Industrial	AG-40	557,488.00	12.79	26301 S. Hansen Road	N/A	Costco Wholesale Corporation	Genevieve Federighi (209)831-6435
ZEV (Truck) Hub	D24-0008 CUP24-0003	Industrial	CRSP	1,440	4.36	9752 Hopkins Road	N/A	Prologis LP/HPA Inc.	Genevieve Federighi (209)831-6435
Tracy Northeast Business Park	D24-0013 AP24-0002 SPA24-0001	Industrial	Not yet	1,811,259	93.10	6103, 3281, 6301 & 6599 Grant Line Rd.	N/A	Tracy Land Partners Holdco LLC & Suvik Farms LLC / Dermody Properties	Victoria Lombardo (209)831-6428
NEI Building 21	D24-0009	Industrial	NEI	246,470	12.60	Paradise Rd. & Grant Line Rd.	N/A	Prologis, LP / HPA, Inc.	Martin E. Vargas (209)831-6438
Parkway Plaza Starbucks	D24-0014	Comm.	CRSP	2,250	0.64	1102 North International Pkwy	N/A	R&B Delta II, LLC / Ryan Abraham	Genevieve Federighi (209)831-6435
Verizon Monopole	D24-0023 CUP24-0007	Industrial	M-2		0.04	724 E. Grant Line Rd	N/A	Anderson Enterprises LLC/The Derna Group	Kenny Lipich (209)831-6443
Oak4 Facility Parking Lot Improvement	D24-0022	Industrial	NEI		906.83	1555 N Chrisman	N/A	Prologis / Matt Fleck	Kellie Jones (209)831-6432

Total				8,748,564	1975.23				

Kimley»Horn

Appendix F. PeMS Report Description

Hour	Lane 1 Speed (mph)	Lane 1 Flow (Veh/Hour)	Lane 2 Speed (mph)	Lane 2 Flow (Veh/Hour)	Lane 3 Speed (mph)	Lane 3 Flow (Veh/Hour)	Speed (mph)	Flow (Veh/Hour)	# Lane Points	% Observed
11/19/2024 04:00	60.0	178.0	75.2	407.0	68.3	476.0	69.6	1,061.0	36	100.0
11/19/2024 05:00	59.8	235.0	70.9	803.0	65.3	692.0	67.2	1,730.0	36	100.0
11/19/2024 06:00	62.0	390.0	72.5	1,325.0	65.5	907.0	68.6	2,622.0	36	100.0
11/19/2024 07:00	59.9	464.0	68.1	1,706.0	64.7	1,152.0	65.9	3,322.0	36	100.0
11/19/2024 08:00	61.0	436.0	69.0	1,413.0	63.5	1,108.0	65.9	2,957.0	36	100.0
11/19/2024 09:00	61.0	498.0	67.6	1,466.0	64.1	1,127.0	65.3	3,091.0	36	100.0

PeMS Report Description

Report	Aggregates>Time Series
Report link	https://pems.dot.ca.gov:443/?report_form=1&dnode=VDS&content=loops&station_id=1025710&s_time_id=1731988800&s_time_id_f=11%2F19%2F2024+04%3A00&e_time_id=1732010340&e_time_id_f=11%2F19%2F2024+09%3A59&tod=all&tod_from=0&tod_to=0&dow_0=on&dow_1=on&dow_2=on&dow_3=on&dow_4=on&dow_5=on&dow_6=on&holidays=on&q=speed&q2=flow&gn=hour&agg=on&lane1=on&lane2=on&lane3=on
Report generated	03/25/2025 16:12
PeMS version	caltrans_pems-20.0.1

Report Parameters

Parameter	Value
Quantity	Speed
Data	216 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 1025710 - W/O Mac Arthur Drive UC
start date	11/19/2024 00:00:00
end date	11/19/2024 23:59:59
Day of Week	Su,Mo,Tu,We,Th,Fr,Sa
Granularity	hour

Hour	Lane 1 Speed (mph)	Lane 1 Flow (Veh/Hour)	Lane 2 Speed (mph)	Lane 2 Flow (Veh/Hour)	Lane 3 Speed (mph)	Lane 3 Flow (Veh/Hour)	Speed (mph)	Flow (Veh/Hour)	# Lane Points	% Observed
11/19/2024 15:00	33.8	1,134.0	38.2	1,776.0	37.2	1,730.0	36.9	4,640.0	36	100.0
11/19/2024 16:00	24.9	1,186.0	26.6	1,437.0	24.7	1,597.0	25.5	4,220.0	36	100.0
11/19/2024 17:00	20.0	1,121.0	21.9	1,287.0	20.5	1,428.0	21.0	3,836.0	36	100.0
11/19/2024 18:00	27.3	997.0	26.4	1,350.0	27.4	1,443.0	27.3	3,790.0	36	100.0

PeMS Report Description

Report	Aggregates>Time Series
Report link	https://pems.dot.ca.gov:443/?report_form=1&dnode=VDS&content=loops&tab=det_timeseries&station_id=1025710&s_time_id=1732028400&s_time_id_f=11%2F19%2F2024+15%3A00&e_time_id=1732042740&e_time_id_f=11%2F19%2F2024+18%3A59&tod=all&tod_from=0&tod_to=0&dow_0=on&dow_1=on&dow_2=on&dow_3=on&dow_4=on&dow_5=on&dow_6=on&holidays=on&q=speed&q2=flow&gn=hour&agg=on&lane1=on&lane2=on&lane3=on
Report generated	03/25/2025 16:14
PeMS version	caltrans_pems-20.0.1

Report Parameters

Parameter	Value
Quantity	Speed
Data	144 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 1025710 - W/O Mac Arthur Drive UC
start date	11/19/2024 00:00:00
end date	11/19/2024 23:59:59
Day of Week	Su,Mo,Tu,We,Th,Fr,Sa
Granularity	hour

Hour	Lane 1 Speed (mph)	Lane 1 Flow (Veh/Hour)	Lane 2 Speed (mph)	Lane 2 Flow (Veh/Hour)	Lane 3 Speed (mph)	Lane 3 Flow (Veh/Hour)	Speed (mph)	Flow (Veh/Hour)	# Lane Points	% Observed
11/19/2024 04:00	69.3	1,797.0	64.5	1,420.0	64.3	722.0	66.7	3,939.0	36	100.0
11/19/2024 05:00	66.4	1,900.0	62.4	1,542.0	62.5	849.0	64.3	4,291.0	36	100.0
11/19/2024 06:00	71.6	1,838.0	65.2	1,415.0	62.6	765.0	67.6	4,018.0	36	100.0
11/19/2024 07:00	75.0	1,664.0	67.7	1,284.0	67.9	725.0	71.1	3,673.0	36	100.0
11/19/2024 08:00	74.9	1,729.0	66.2	1,264.0	64.6	728.0	69.9	3,721.0	36	100.0
11/19/2024 09:00	73.9	1,663.0	65.0	1,200.0	63.4	693.0	68.9	3,556.0	36	100.0

PeMS Report Description

Report	Aggregates>Time Series
Report link	https://pems.dot.ca.gov:443/?report_form=1&dnode=VDS&content=loops&station_id=1027110&s_time_id=1731988800&s_time_id_f=11%2F19%2F2024+04%3A00&e_time_id=1732010340&e_time_id_f=11%2F19%2F2024+09%3A59&tod=all&tod_from=0&tod_to=0&dow_0=on&dow_1=on&dow_2=on&dow_3=on&dow_4=on&dow_5=on&dow_6=on&holidays=on&q=speed&q2=flow&gn=hour&agg=on&lane1=on&lane2=on&lane3=on
Report generated	03/25/2025 16:16
PeMS version	caltrans_pems-20.0.1

Report Parameters

Parameter	Value
Quantity	Speed
Data	216 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 1027110 - E/O Mac Arthur Drive UC
start date	11/19/2024 00:00:00
end date	11/19/2024 23:59:59
Day of Week	Su,Mo,Tu,We,Th,Fr,Sa
Granularity	hour

Hour	Lane 1 Speed (mph)	Lane 1 Flow (Veh/Hour)	Lane 2 Speed (mph)	Lane 2 Flow (Veh/Hour)	Lane 3 Speed (mph)	Lane 3 Flow (Veh/Hour)	Speed (mph)	Flow (Veh/Hour)	# Lane Points	% Observed
11/19/2024 15:00	76.6	1,463.0	68.4	1,175.0	65.3	601.0	71.5	3,239.0	36	100.0
11/19/2024 16:00	75.4	1,493.0	68.0	1,201.0	67.0	614.0	71.2	3,308.0	36	100.0
11/19/2024 17:00	75.3	1,415.0	67.9	1,162.0	67.9	646.0	71.2	3,223.0	36	100.0
11/19/2024 18:00	76.6	1,092.0	69.0	912.0	68.2	501.0	72.2	2,505.0	36	100.0

PeMS Report Description

Report	Aggregates>Time Series
Report link	https://pems.dot.ca.gov:443/?report_form=1&dnode=VDS&content=loops&tab=det_timeseries&station_id=1027110&s_time_id=1732028400&s_time_id_f=11%2F19%2F2024+15%3A00&e_time_id=1732042740&e_time_id_f=11%2F19%2F2024+18%3A59&tod=all&tod_from=0&tod_to=0&dow_0=on&dow_1=on&dow_2=on&dow_3=on&dow_4=on&dow_5=on&dow_6=on&holidays=on&q=speed&q2=flow&gn=hour&agg=on&lane1=on&lane2=on&lane3=on
Report generated	03/25/2025 16:17
PeMS version	caltrans_pems-20.0.1

Report Parameters

Parameter	Value
Quantity	Speed
Data	144 Lane Points
Data Quality	100% Observed
Segment Type	VDS
Segment Name	Mainline VDS 1027110 - E/O Mac Arthur Drive UC
start date	11/19/2024 00:00:00
end date	11/19/2024 23:59:59
Day of Week	Su,Mo,Tu,We,Th,Fr,Sa
Granularity	hour