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Washington, DC 20410
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Environmental Assessment
Determinations and Compliance Findings for HUD-assisted Projects
24 CFR Part 58

Project Information

Project Name:	Agrihood Project
Responsible Entity:	City of Santa Clara
Grant Recipient:	The Core Companies
State/Local Identifier:	CA056
Preparer:	David J. Powers & Associates, Inc. for the City of Santa Clara
Certifying Officer Name and Title:	Andrew Crabtree, Director of Community Development
Consultant:	David J. Powers and Associates, Inc.
Direct Comments to:	Eric L. Calleja Housing & Community Services Community Development Department City of Santa Clara 1500 Warburton Avenue Santa Clara, CA 95050 ecalleja@santaclaraca.gov

Project Location:

The 5.8-acre project site includes one parcel (APN 303-14-053) located at the southwest corner of North Winchester Boulevard and Worthington Circle in the City of Santa Clara. (see Figure 1, Figure 2, and Figure 3).

Description of the Proposed Project [24 CFR 50.12 & 58.32; 40 CFR 1508.25]**:**

Residences

The project proposes to construct 165 senior apartments and 160 multi-family apartment units within two separate structures. A total of 36 townhouses are also proposed. The location and orientation of these structures is shown on the site plan in Figure 4. The apartments would be five-story podium structures. As shown in the elevations in Figure 5, the podium apartment structures would be approximately 63 feet tall to the roof and 72 feet tall to the parapet. The townhouses would be three stories tall and would be approximately 41 feet tall to the top of roof.

Open Space and Amenity Uses

Private open space would be provided as approximately 50-square-foot balconies within 50 percent of the senior and multi-family apartment units. The townhouses would have up to two approximately 40- to 50-square-foot balconies for private open space.

The project would also provide approximately 1.5 acres of professionally managed community agricultural/garden space, as well as communal open space for residents and the public. A portion of the crops grown at the site would be harvested seasonally for distribution to project residents as well as the community. The remainder of the on-site open space areas, in particular along North Winchester Boulevard, would be public open space for local events and recreation. A single-story community building and café for public and resident use, and a garden workshop/shed are also proposed. The locations of these features and amenities are shown in the site plan in Figure 4 and the landscape plan in Figure 6.

Parking and Access

Parking for the 325 senior and multi-family apartments would be located within parking garages wrapped by the podium structures so that they are integrated and not visible from primary public vantage points. The project would provide 99 parking spaces (0.60 spaces per unit) for the senior apartments and 200 spaces for the multi-family apartments (1.25 spaces per unit). The multi-family apartment building would have one level of below-grade parking and one level of parking on the first floor, whereas the senior apartment building would have parking on the first floor only. Two parking spaces would be provided for each of the 36 townhouses, for 72 total spaces. Five at-grade parking spaces would be located adjacent to the proposed café.

The project proposes 72 bicycle parking spaces for the senior apartments and 48 for the multi-family apartments, which would be located in a designated bicycle parking area within each structure's parking garage. Bicycle repair stations are also proposed as part of the bicycle parking facilities.

Vehicular and bicycle access to the townhouses and apartment parking areas would occur via two ingress/egress driveways from Worthington Circle, as well as a two-way driveway from North Winchester Boulevard. Pedestrians would primarily access the site from the public sidewalk along North Winchester Boulevard.

Utility Connections and Site Improvements

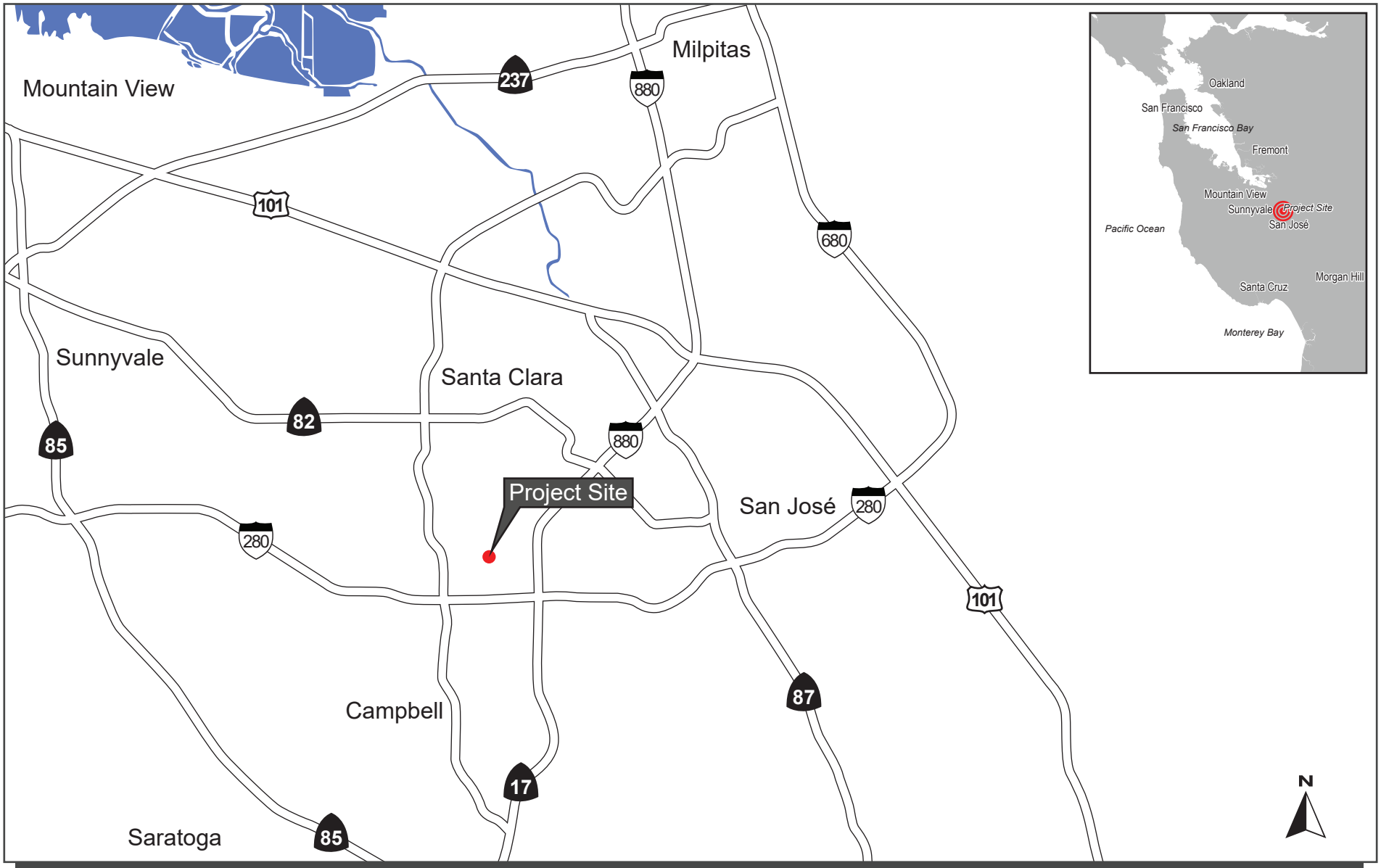
Storm, sewer, and water utility lines within Worthington Circle and North Winchester Boulevard surround the project site on three sides. The project would connect to the existing lines within those streets. Significant off-site utility improvements are not required for the project.

A 10-foot-wide sidewalk with a four-foot-wide planter strip for street trees is proposed for North Winchester Boulevard in order to facilitate pedestrian access. Sidewalks along Worthington Circle would remain as 4.5-foot-wide walkways.

Green Building

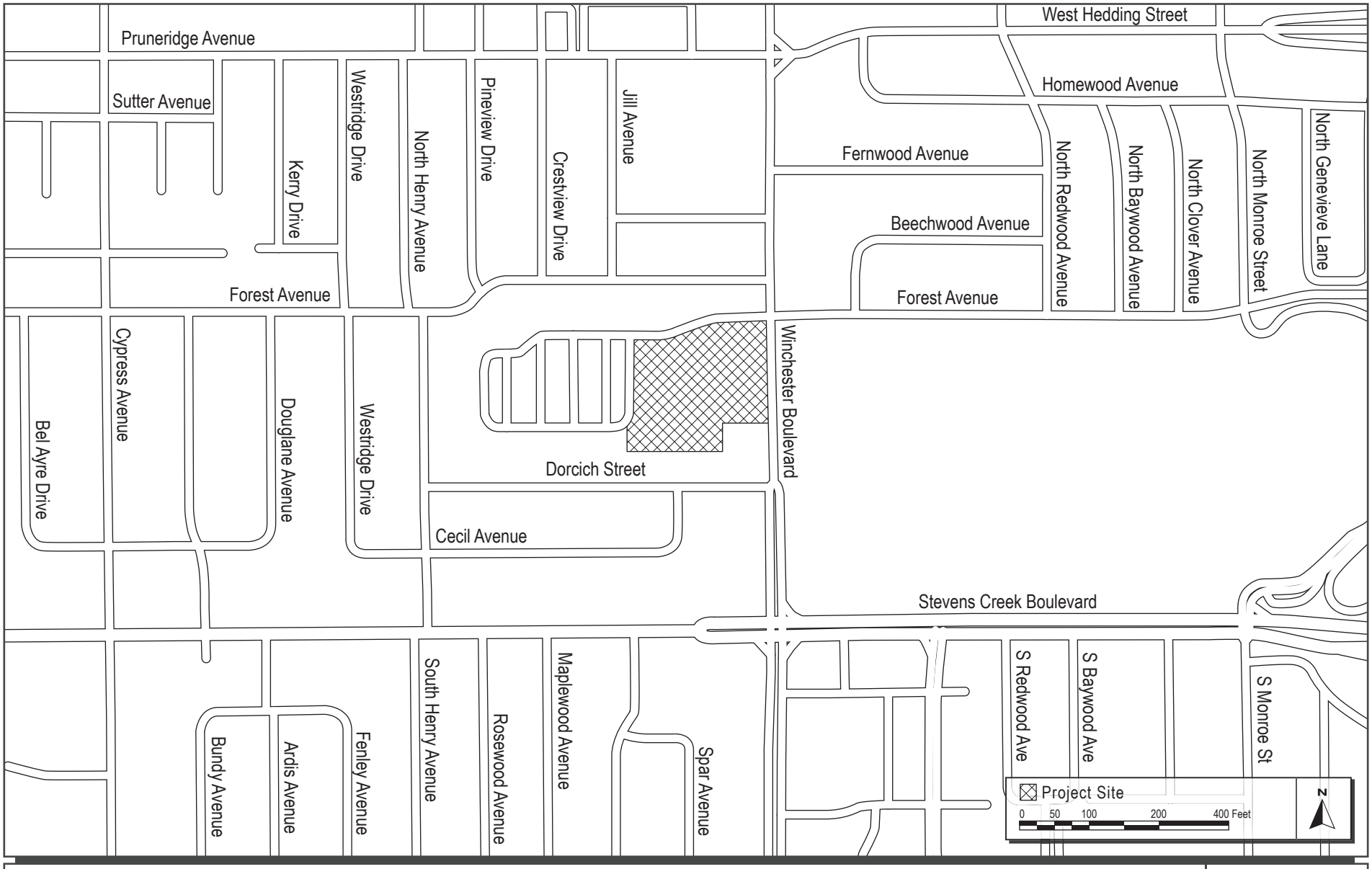
The proposed project would be constructed in accordance with the State of California Green Building Standards Code (CalGreen), which generally requires enhanced insulation and design provisions to minimize wasteful energy consumption. The project would implement the following green building measures and design features:

- Solar-ready roof;
- Salvage or recycle at least 50 to 65 percent of construction waste (consistent with City ordinance requirements);
- Bicycle parking and dedicated bicycle repair stations;
- Provision of EV charging stations for vehicles;
- Water-efficient residential plumbing fixtures;
- Energy-efficient lighting fixtures;
- Rainwater capture and reuse in the community garden area;
- An urban farm that would produce food for on-site consumption by residents;
- Low-water landscaping and water-efficient irrigation design.
- Voluntary participation in a Transportation Demand Management program for residents, which could include subsidized transit passes.



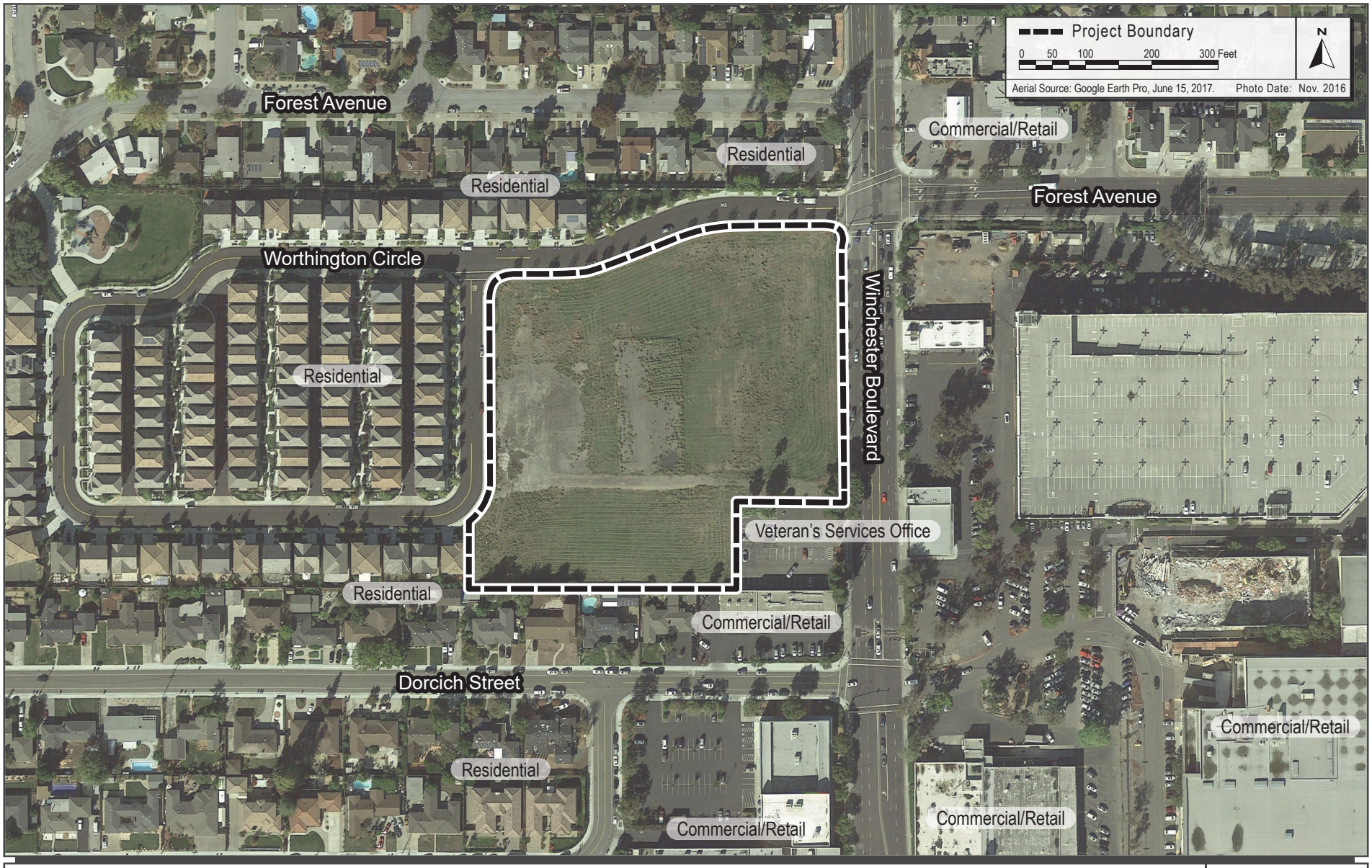
REGIONAL MAP

FIGURE 1

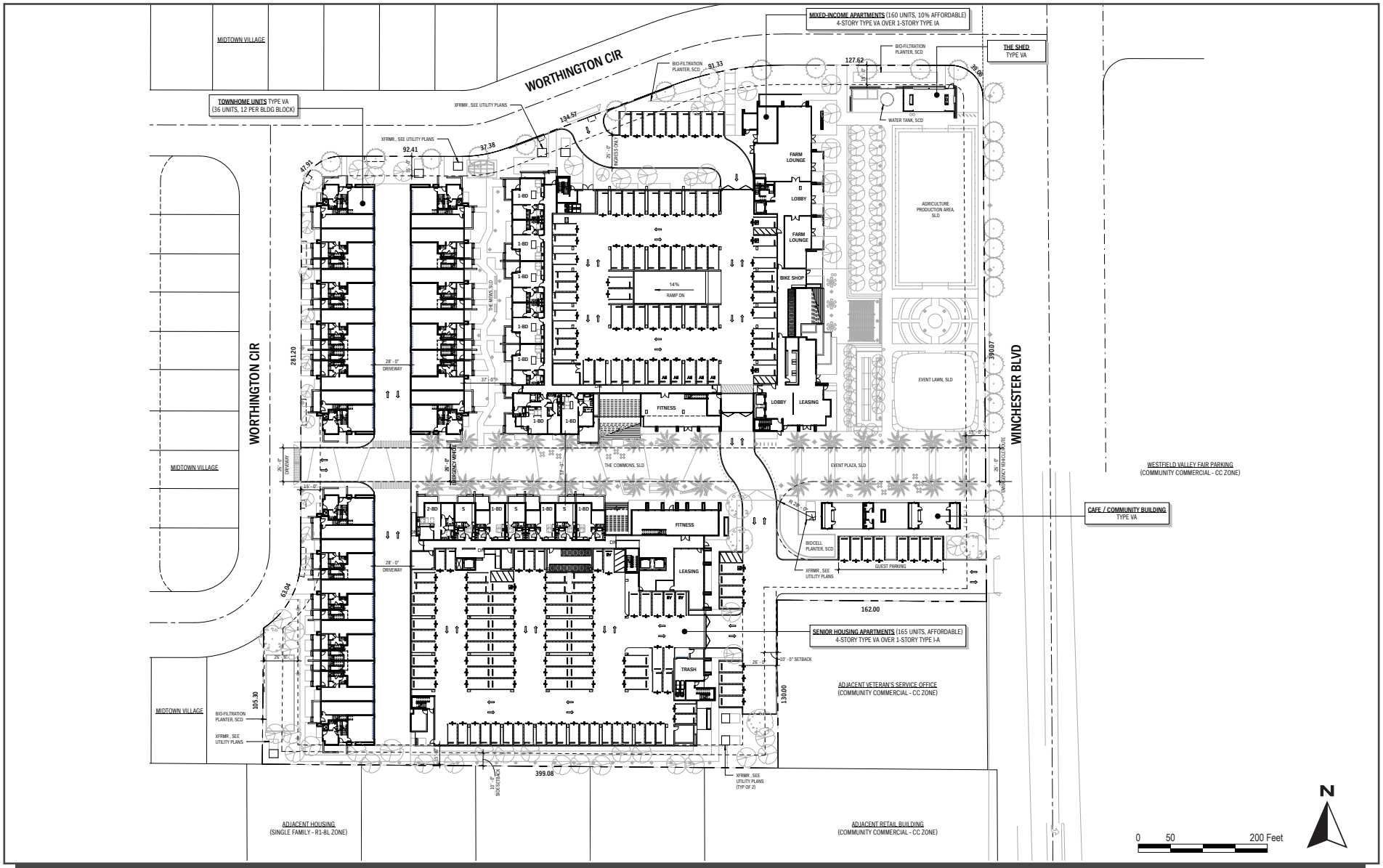


VICINITY MAP

FIGURE 2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 3



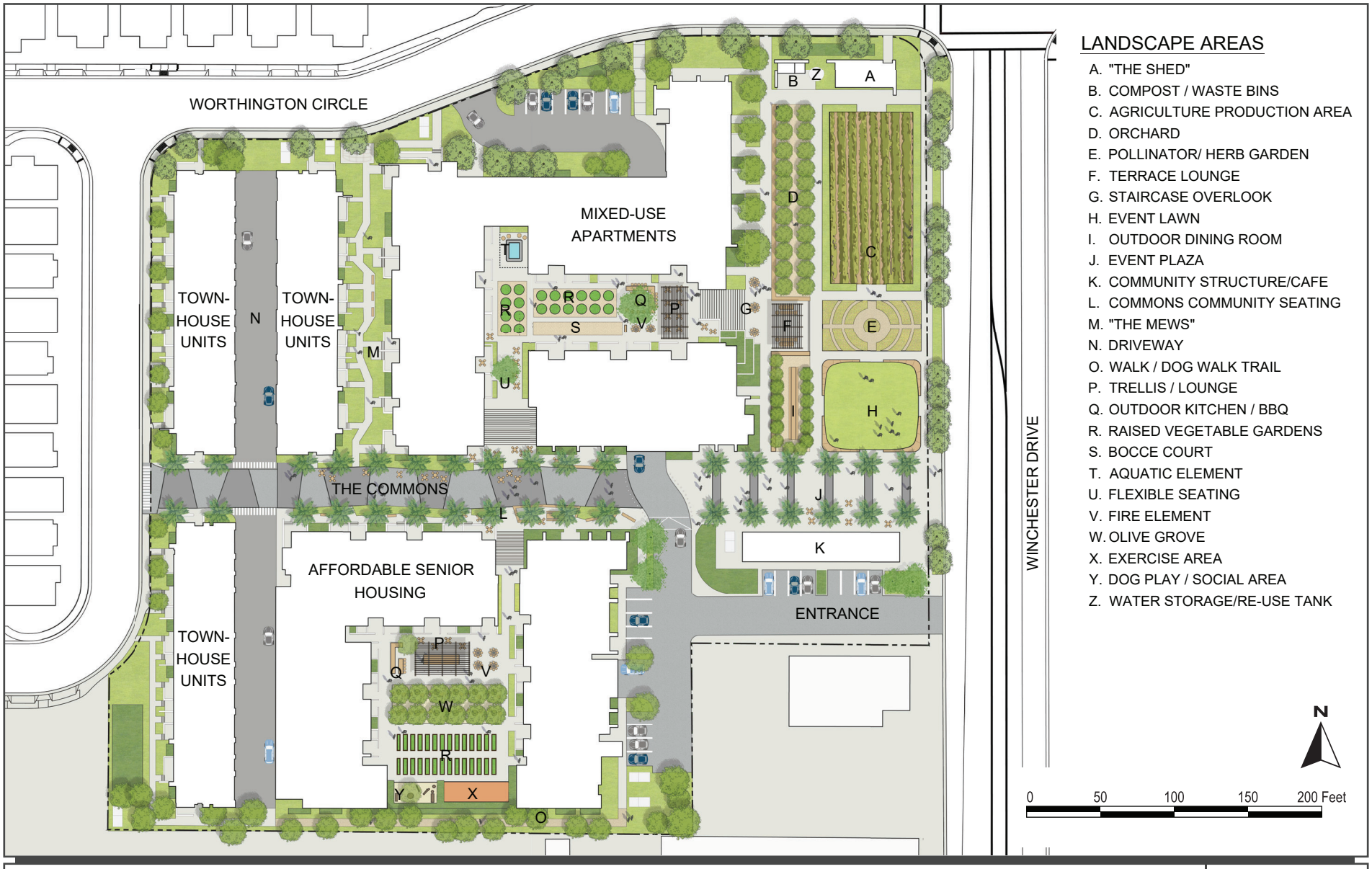
SITE PLAN

FIGURE 4

Source: Steinberg, 1/12/18.

ELEVATIONS

FIGURE 5



LANDSCAPE AREAS

A. "THE SHED"
B. COMPOST / WASTE BINS
C. AGRICULTURE PRODUCTION AREA
D. ORCHARD
E. POLLINATOR/ HERB GARDEN
F. TERRACE LOUNGE
G. STAIRCASE OVERLOOK
H. EVENT LAWN
I. OUTDOOR DINING ROOM
J. EVENT PLAZA
K. COMMUNITY STRUCTURE/CAFE
L. COMMONS COMMUNITY SEATING
M. "THE MEWS"
N. DRIVEWAY
O. WALK / DOG WALK TRAIL
P. TRELLIS / LOUNGE
Q. OUTDOOR KITCHEN / BBQ
R. RAISED VEGETABLE GARDENS
S. BOCCE COURT
T. AQUATIC ELEMENT
U. FLEXIBLE SEATING
V. FIRE ELEMENT
W. OLIVE GROVE
X. EXERCISE AREA
Y. DOG PLAY / SOCIAL AREA
Z. WATER STORAGE/RE-USE TANK

LANDSCAPE PLAN

FIGURE 6

Statement of Purpose and Need for the Proposal [40 CFR 1508.9(b)]:

The purpose of the Agrihood is to provide affordable housing for senior citizens and low-income persons in the City of Santa Clara and surrounding areas in Santa Clara County. The proposed project includes 165 affordable senior apartments, 36 market-rate townhomes, and 160 multi-family apartments; of which 16 units would be reserved for low-income individuals. The Core Companies propose to finance construction of the affordable senior apartments and 16 low-income apartments through a combination of federal and state subsidy programs including project-based Section 8 vouchers, Low-Income Housing Tax Credit equity, and Santa Clara County Measure A funding, as well as the Federal Home Loan Bank's Affordable Housing Program.

The City has adopted a series of five-year consolidated plans (Consolidated Plan) to govern the allocation of affordable housing funding, in accordance with U.S. Department of Housing and Urban Development (HUD) requirements. Policies included in the Consolidated Plan and the City's Housing Element are incorporated in the City's General Plan and various Specific Plans. The most recent General Plan update was adopted by the City Council in December 2014 to incorporate the City's Housing Element. The City also provides the Tenant Based Rental Assistance (TBRA) Program. The TBRA Program provides housing assistance to homeless families with children, and households experiencing domestic violence.

These policies contribute to the creation of a comprehensive Citywide housing vision and ensure that affordable housing resources are distributed equitably and serve those most in need. Faced with competing priorities and limited resources, the City has developed policies that balance these concerns while continuing to provide the greatest good to the largest number of residents.

The proposed project would help meet the City of Santa Clara's goals for housing that are listed in the General Plan, including: (1) providing housing in a range of housing densities, especially higher densities, and product types, including rental and for-sale housing, to address the needs of an economically, demographically, and culturally diverse population; (2) increasing, preserving, and improving Santa Clara's affordable housing stock; (3) creating and maintaining safe and high quality housing that contributes to the creation of great neighborhoods and great places; and (4) providing housing that minimizes the consumption of natural resources and advances the City's fiscal, climate change, and environmental goals. The Agrihood development would make a positive impact in addressing the need for affordable and permanent supportive housing in Santa Clara while enhancing the overall look and feel of the neighborhood.

Existing Conditions and Trends [24 CFR 58.40(a)]:

Regional Outlook

The Bay Area continues to be one of the most expensive real estate markets in the country. Most Bay Area residences continue to be unaffordable for individuals and families with average household incomes. As detailed in the City of Santa Clara Housing Element, despite the prevalence of highly skilled, high-wage workers in Silicon Valley, 36 percent of renters and 34 percent of homeowners

were overpaying for housing in the City in 2010.[1] Approximately 75 percent of very low-income households ($50,950 or less) and 54 percent of low-income households ($81,520 or less) overpaid for housing in the City in 2010.

The City's Housing Element shows a divergent trend in the region. 45 percent of Santa Clara County's workforce command high salaries of $100,000 or greater per year, the majority of whom work in the finance and high-tech industries. These industries account for only 25 percent of the jobs in Santa Clara County; thus, the remaining jobs consist of much lower salaried positions.[2] While people with finance and high-tech jobs can afford to buy or rent homes in Santa Clara County, the remaining population struggles to pay for housing costs without creating a housing burden. Low levels of housing production relative to demand contribute to this region's high housing costs. Further, the market has not produced housing that is naturally affordable to low-income households, and public resources for affordable housing have been significantly diminished in recent years. As such, both the existing and future need for affordable housing in the City of Santa Clara is considerable and far exceeds available supply.

Apartments can provide affordable options for seniors, who are typically over 55 years of age and rely on limited fixed incomes. The low-income senior population is growing in the Bay Area. Apartments can vary in price, but are typically more affordable than single-family houses. Seniors who sell or are displaced from their single-family houses have challenges finding new affordable housing options due to the rising housing costs in the Bay Area.

Local Perspective

According to the Santa Clara County Housing Needs Allocation, 2014 to 2022 (see Table 1 below) prepared by the Association of Bay Area Governments, the City of Santa Clara should add 4,093 new units by 2022 (of which 1,050 would be very low, 695 would be classified for low incomes, and 755 would be moderate incomes) in order to meet the need for affordable housing.

Table 1: Santa Clara County Housing Needs Allocation, 2014-2022

Jurisdiction	Very Low <50 Percent	Low < 80 Percent	Moderate <120 Percent	Above Moderate	Total
Campbell	253	138	151	391	933
Cupertino	356	207	231	270	1,064
Gilroy	236	160	217	475	1,088
Los Altos	169	99	112	97	477
Los Altos Hills	46	28	32	15	121

[1] Based on 2010 U.S. Census data. According to HUD, a household is considered "cost-burdened" (i.e., overpaying for housing) if more than 30 percent of gross income is spent on housing-related costs. Households are severely "cost-burdened" if they pay more than 50 percent of their income on housing costs.
[2] City of Santa Clara. *2010-2035 General Plan*. November 16, 2010.

Table 1: Santa Clara County Housing Needs Allocation, 2014-2022					
Jurisdiction	**Very Low <50 Percent**	**Low < 80 Percent**	**Moderate <120 Percent**	**Above Moderate**	**Total**
Los Gatos	201	112	132	174	619
Milpitas	1,004	570	565	1,151	3,290
Monte Sereno	23	13	13	12	61
Morgan Hill	273	154	185	316	928
Mountain View	814	492	527	1,093	2,926
Palo Alto	691	432	278	587	1,988
San José	9,233	5,428	6,188	14,231	35,080
Santa Clara	1,050	695	755	1,593	4,093
Saratoga	147	95	104	93	439
Sunnyvale	1,640	906	932	1,974	5,452
Unincorporated	22	13	214	28	277
Santa Clara Total	**16,158**	**9,542**	**10,636**	**22,500**	**58,836**

Physical Setting/ Existing Conditions

The City of Santa Clara is centrally located in Santa Clara County. The County is located at the southern end of San Francisco Bay. The City covers an area of approximately 18 square miles and is bounded by the cities of San José, Sunnyvale, and Cupertino. The City of Santa Clara has a population of approximately 123,983 people.

The General Plan land use designation for the project site is Medium Density Residential and the site is zoned PD-Planned Development. The 5.8-acre project site is currently vacant and undeveloped. The site is generally surrounded by single-family residential land uses to the north, south, and west. Commercial uses (including Valley Fair shopping Center) are located to the east. A retail center is also located to the south.

Public transit near the project site is provided by the Santa Clara Valley Transportation Authority (VTA). VTA Bus Line 23 has two stops within walking distance of the project site, one on North Winchester Boulevard and one on Forest Avenue. VTA Bus Line 60 operates between the Winchester Transit Center and Great America theme park. VTA Bus Line 323 operates between downtown San José and De Anza College. The closest Line 323 stop within walking distance of the project site is located on Stevens Creek Boulevard (0.2 mile southeast). Vehicle access to the project site is currently provided via an existing driveway located on North Winchester Boulevard.

The project was approved by the City of Santa Clara on January 29, 2019. A California Environmental Quality Act (CEQA) Initial Study and Focused Environmental Impact Report (EIR) were prepared in 2019 and adopted by the City, including a statement of overriding considerations.

Compliance with 24 CFR 50.4, 58.5, and 58.6 Laws and Authorities

Record below the compliance or conformance determinations for each statute, executive order, or regulation. Provide credible, traceable, and supportive source documentation for each authority. Where applicable, complete the necessary reviews or consultations and obtain or note applicable permits of approvals. Clearly note citations, dates/names/titles of contacts, and page references. Attach additional documentation as appropriate.

Statutes, Executive Orders, and Regulations listed at 24 CFR 50.4, 58.5 and 58.6	Are formal compliance steps or mitigation required?	Compliance Determinations
STATUTES, EXECUTIVE ORDERS, AND REGULATIONS AT 24 CFR 50.4 and 58.6		
Airport Hazards 24 CFR Part 51 Subpart D	Yes No ☐ ☒	Project site is located approximately 2.5 miles southwest of the Norman Y. Mineta San José International Airport. The project site is not located within any airport influence area, airport clear zones, or safety zones. [Source: 1, 5, Figure 7 and Figure 9 in Appendix F]
Coastal Barrier Resources Coastal Barrier Resources Act, Coastal Barrier Improvement Act of 1990 [16 USC 3501]	Yes No ☐ ☒	The project site is an infill parcel within an urbanized area of San José. The site is not located in or near a coast zone or coastal barrier resource area. [Source: 2, 5]
Flood Insurance Flood Disaster Protection Act of 1973 and National Flood Insurance Reform Act of 1994 [42 USC 4001-4128 and 42 USC 5154a]	Yes No ☐ ☒	Project site is located within Flood Zone D, which is an area where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted (see Figure 8 [Map No. 06085C0229H, May 18, 2009] in Appendix F). Project structures or insurable property would not be located in a FEMA-designated Special Flood Hazard Area. While flood insurance may not be mandatory in this instance, HUD recommends all insurable structures maintain flood insurance under the National Flood Insurance Program. Project is in compliance. [Source: 3, 5, Figure 8 in Appendix F]

STATUTES, EXECUTIVE ORDERS, AND REGULATIONS AT 24 CFR 50.4 & 58.5		
Clean Air Clean Air Act, as amended, particularly section 176(c) & (d); 40 CFR Parts 6, 51, 93	Yes No ☐ ☒	The proposed project would conform to the federal Clean Air Act and regional Clean Air Plan. Based on the location, service area, and objectives of the project, the project would not substantially increase traffic in the project area such that air quality effects would occur. *Toxic Air Contaminants* The project would place new residences in an infill urban location that is served by transit. Proximity to busy streets, including North Winchester Boulevard and Stevens Creek Boulevard, is associated with exposure to toxic air contaminants (TACs) and fine particulate matter ($PM_{2.5}$), predominantly from vehicle emissions. A TAC assessment to evaluate the potential community health risks to future residences was completed in March 2018. The Bay Area Air Quality Management District (BAAQMD) has established single source thresholds for evaluating potential impacts to sensitive receptors from TACs. BAAQMD considers cancer risks greater than 10 cases per one million, annual $PM_{2.5}$ concentrations over $0.3 \mu g/m^3$, and a hazard index (HI) greater than 1.0 to be a significant impact. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations but they may still pose health risks for sensitive receptors, such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. The maximally exposed individual (MEI) is adjacent to the southern project site boundary. Operation of the proposed project would expose residents to substantial sources of mobile TAC emissions from North Winchester Boulevard and Stevens Creek Boulevard. In addition, there are two emergency generators powered by diesel engines in the proximity of the site that are permitted by BAAQMD.

		The maximum increased residential cancer risk during project construction would be 19.9 cases per one million, which exceeds the BAAQMD threshold. The project would be required to implement mitigation measure MM AQ-1.1 to reduce maximum cancer risk levels during construction. With implementation of MM AQ-1.1, maximum cancer risk levels would be reduced to 3.1 per million during construction. Annual $PM_{2.5}$ concentrations and the hazard index (non-cancer health hazards from TAC exposure) would be less than BAAQMD significance thresholds. Maximum cancer risk levels, annual $PM_{2.5}$ concentrations, and the hazard index would all be below BAAQMD significance thresholds during project operation. *Construction Emissions and Dust* Construction of the proposed project would not exceed BAAQMD thresholds for criteria air pollutants (i.e., reactive organic gases, nitrogen oxides, and PM_{10} and $PM_{2.5}$ exhaust). Construction of the project could, however, generate high levels of fugitive dust. Consistent with Santa Clara's General Plan Policy 5.10.2-P6, the project will implement the following basic construction mitigation measures, as recommended by BAAQMD to reduce construction fugitive dust impacts during all phases of construction. These measures would also limit diesel exhaust, which is also a known TAC: • Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • Haul trucks transporting soil, sand, or other loose material off-site shall be covered or a minimum of two feet of freeboard shall be provided. • Visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • Vehicle speeds on unpaved roads shall be limited to 15 miles per hour. • Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building

		pads shall be laid as a soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code Regulations). Clear signage shall be provided for construction workers at all access points. • Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. With implementation of these BAAQMD Basic Construction Mitigation Measures, impacts due to dust emissions and exhaust during construction of the proposed project would be reduced to a less than significant level. *Operational Criteria Pollutants* BAAQMD has established screening criteria based on project size to identify projects that could generate operational-related criteria air pollutants that exceed BAAQMD thresholds of significance. Projects that generate more than 54 pounds per day (or 10 tons per year) of reactive organic gases, nitrous oxides, or $PM_{2.5}$; or 82 pounds per day (or 15 tons per year) of PM_{10} would be considered to have a significant impact on regional air quality. The project is below the BAAQMD criteria air pollutant screening levels for condos/townhouses (451 dwelling units) and mid-rise apartments (494 dwelling units). Thus, the project would not result in operational-related criteria air pollutants in excess of BAAQMD thresholds.

		Greenhouse Gas Emissions The City of Santa Clara adopted a comprehensive greenhouse gas (GHG) emissions reduction strategy (Climate Action Plan) to achieve its fair share of statewide emissions reductions for the 2020 timeframe consistent with Assembly Bill 32. The proposed project, however, would not be completed until after 2020; therefore, the project was evaluated under Senate Bill 32, which sets a statewide GHG reduction goal of 40 percent below 1990 levels by 2030. At this time BAAQMD has not published a quantified threshold for 2030. For the purposes of this analysis, however, a Substantial Progress efficiency metric of 2.6 MT CO2e/year/service population has been calculated for 2030 based on the GHG reduction goals of Senate Bill 32 and Executive Order B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels. The City's 2010-2035 General Plan Final Environmental Impact Report (General Plan FEIR) concluded that Citywide 2035 GHG emissions, which encompass emissions from the current project, are projected to exceed efficiency standards necessary to maintain a trajectory to meet long-term 2050 state climate change reduction goals. Achieving the substantial emissions reductions would require policy decisions at the federal and state level and new and substantially advanced technologies that cannot today be anticipated, and are outside the City's control, and therefore cannot be relied upon as feasible mitigation strategies. Given the uncertainties about the feasibility of achieving the substantial 2035 emissions reductions, the City's contribution to climate change for the 2035 timeframe is conservatively determined to be cumulatively considerable. Based on this conclusion, the City found that build out of the 2035 General Plan would have a significant and unavoidable GHG emissions impact beyond 2020 and adopted overriding considerations for development assumed under the General Plan. The project exceeds the development assumptions in the General Plan. The General Plan designation for the site

		is *Medium Density Residential*, which allows up to 36 dwelling units per acre (du/ac), or a total of 209 dwelling units. The project proposes a total of 361 units, or 62.2 du/ac, thus exceeding the base density in the General Plan. This is an increase in the severity of the post-2020 GHG emissions impact previously disclosed as a significant and unavoidable impact by the City Council in adopting the Santa Clara 2010-2035 General Plan and General Plan FEIR. Implementation of the proposed project would increase the severity of the previously identified GHG emissions impact. The City adopted a statement of overriding considerations for this impact. [Source: Appendix A, 4, 5]
Coastal Zone Management Coastal Zone Management Act, sections 307(c) & (d)	Yes No ☐ ☒	The project site is not located in a coastal zone, as defined by the California Coastal Act (Public Resources Code, Division 20, Section 3000 et seq.) The nearest coastal zone is located to the west in San Mateo County. The project is in compliance with the Coastal Zone Management Act. [Source: 2]
Contamination and Toxic Substances 24 CFR Part 50.3(i) & 58.5(i)(2)	Yes No ☐ ☒	A Phase I Environmental Site Assessment report was prepared for the project site in July 2016. The project site was formerly utilized as a University of California agricultural research facility from 1928 until 2002. Hazardous materials including fertilizers, pesticides, fuels, oils, and cleaning solutions, and portable tanks and trailers were removed when the facility closed in 2002. The buildings were demolished in 2010 after lead-based paint and asbestos abatement activities were completed In 2006, the State of California Department of General Services (as the property owner) entered into a voluntary clean-up agreement (VCA) with the California Department of Toxic Substances Control (DTSC) due to historic uses of pesticides and other agricultural chemicals on site. Elevated concentrations of arsenic and dieldrin were detected in the soils and a Removal Action Workplan (RAW) was prepared to identify, evaluate, and recommend remediation alternatives for the impacted soils on site. The VCA and

		RAW were approved by DTSC in October 2007. Contaminated soils were removed and clean imported fill material was imported to the site. As of August 2010, the DTSC issued a letter indicating that the Removal Action Completion Report was reviewed and the work has been conducted in accordance with the approved RAW and remediation goals have been achieved. DTSC approved the report and concluded that the site does not pose a threat to human health or the environment. A 1,000-gallon gasoline underground storage tank (UST) and 1,000-gallon diesel UST were removed and two samples were collected beneath each UST in 1993. The soil samples did not detect any gasoline, diesel, benzene, toluene, ethylbenzene, or xylene. As a result, the City of Santa Clara Fire Department (as the authorized Certified Unified Program Agency) issued a No Further Action (NFA) letter in 1993. An additional 2,000-gallon UST was found during excavation activities in 2009. The UST was removed and soil samples collected showed low levels of petroleum-hydrocarbons, arsenic, and lead concentrations. The City of Santa Clara Fire Department again issued a NFA letter in 2010. The Phase I ESA report found no open violations near the project site that could contaminate the site. For these reasons, the project site would not expose construction workers or residents to hazardous materials or toxic substances. [Source: 5, Appendix B, Appendix D]
Endangered Species Endangered Species Act of 1973, particularly section 7; 50 CFR Part 402	Yes No ☐ ☒	The United States Fish and Wildlife Service was contacted for a list of threatened and endangered species that may occur within the boundary of the proposed project and/or be affected by the proposed project (see Appendix E). The species of concern are: • California clapper rail • California least tern • California red-legged frog • California tiger salamander • Delta smelt • Bay checkerspot butterfly

		• San Bruno elfin butterfly • Robust spineflower The project site is located in an urban area and is surrounded by existing development. Vegetation in the surrounding area consists solely of landscape trees and plants. Because of the history of development in the immediate project area and the lack of wetlands or other waterbodies on-site, no natural or sensitive habitats exist that would support the above-listed endangered, threatened, or special status wildlife species. There are no wetlands on-site and, as a result, the project would not affect any federally protected wetlands as defined by Section 404 of the Clean Water Act. Urban habitats include street trees, landscaping, lawns, and vacant lots, provide habitat for wildlife that is adapted to the modified environment. The project site is not located within any mapped critical habitat for any species. The Santa Clara Valley Habitat Plan (Habitat Plan) is a conservation program intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth on approximately 500,000 acres of southern Santa Clara County. The project site is not located within the Habitat Plan permit area. If construction of the proposed project occurs during the bird nesting season (February 1 to August 31), construction activities have the potential to impact nesting birds that are protected under the Migratory Bird Treaty Act and California Fish and Game Code. A mitigation measure (MM BIO-1.1) is included in the project to avoid the potential for construction related impacts, including the requirement to conduct preconstruction surveys. With implementation of MM BIO-1.1, the project will be compliant with the Endangered Species Act. [Source: 5, 6, 8, 9, 10, 12, Appendix D, Figure 10 and 11 in Appendix E]

Explosive and Flammable Hazards 24 CFR Part 51 Subpart C	Yes No ☐ ☒	An Explosives and Flammable Hazards Review was performed on April 29, 2019 for the proposed project. The review and survey was conducted in accordance with 24 CFR Part 51 Subpart C. There are no explosive or flammable operations on the project site. The survey identified three businesses within 2,000 feet of the site that reported storage of materials that warranted calculation of Acceptable Separation Distance (ASD). Based on the proposed site plan, all identified businesses with hazardous substances satisfy or exceed the required ASD for the quantities of the chemicals present. [Source: Appendix C]
Farmlands Protection Farmland Protection Policy Act of 1981, particularly sections 1504(b) and 1541; 7 CFR Part 658	Yes No ☐ ☒	The project is located in an urban area and would not impact any protected farmlands. The project is not actively farmed, subject to a Williamson Act Contract, or designated as Prime Farmland. The project site is designated as "urban and built-up land" on the 2016 Santa Clara County Important Farmland Map, therefore, the project complies with the Farmland Protection Policy Act. [Source: 5, 7, 12, Appendix D]
Floodplain Management Executive Order 11988, particularly section 2(a); 24 CFR Part 55	Yes No ☐ ☒	The project site is located within Zone D, which is an area where there are possible but undetermined flood hazards, as no analysis of flood hazards has been conducted. No structures would be built within a designated floodplain; thus, project structures or insurable property would not be located in a FEMA-designated Special Flood Hazard Area. [Source: 3, Figure 8 in Appendix F]
Historic Preservation National Historic Preservation Act of 1966, particularly sections 106 and 110; 36 CFR Part 800	Yes No ☐ ☒	The project site is vacant and, in addition to the surrounding properties, is not listed on the City of Santa Clara's Historic Preservation and Resource Inventory, California Register of Historic Resources, or the National Register of Historic Places; therefore, the project is in compliance with Section 106.

		The project's Area of Potential Effect for archaeological impacts is limited to the project site. Cultural resources on the project site were evaluated in the Santa Clara Gardens Development Project FEIR, which was prepared for the site in 2006. No archeological or historic resources were identified on or adjacent to the project site. No Native American tribes have sent written requests for notification of ground-disturbing projects to the City of Santa Clara. While studies indicate that there are no potential culturally significant historic or pre-historic features on the project site, there is still potential for accidental finds during construction activities. During initial excavation of the project site, therefore, a qualified archaeologist shall be on-site. After monitoring the initial excavation, the archeologist will determine if additional monitoring is necessary. In the event that prehistoric or historic resources are encountered during excavation and/or grading of the site, all activity within a 50-foot radius of the find will be stopped, and the archaeologist will examine the find and make appropriate recommendations (as described in MM CUL-1.1). In the event that human remains are encountered during excavation and/or grading of the site, all activity within a 50-foot radius of the find will be stopped, and the County Coroner will be notified to determine if the remains are of Native American origin. If the remains are of Native American origin, the Native American Heritage Commission will be notified regarding proper burial (as described in MM CUL-1.2). [Source: 5, Appendix D]
Noise Abatement and Control Noise Control Act of 1972, as amended by the Quiet Communities Act of 1978; 24 CFR Part 51 Subpart B	Yes No ☐ ☒	HUD environmental noise regulations are set forth in 24 CFR Part 51B. The following noise standards for new housing construction would be applicable to this project: Interior: • <u>Acceptable</u> – 45 DNL or less

		Exterior: • Acceptable – 65 DNL or less • Normally unacceptable –exceeding 65 DNL but not exceeding 75 DNL • Unacceptable– Exceeding 75 DNL Sources of noise in the project vicinity include traffic along North Winchester Boulevard, Stevens Creek Boulevard, and nearby commercial land uses. Aircraft headed to Norman Y. Mineta San José International Airport also contribute to the noise environment. The acoustical analysis for the project is based on information from the Agrihood Project FEIR and the City's General Plan FEIR, as well as recent acoustical studies for neighboring projects at 100 Winchester Boulevard and 350 Winchester Boulevard. *Exterior Noise Environment* The noise standard of 65 DNL for residential exterior noise would apply to common open space areas, not including the non-traditional open space uses (i.e. agricultural field) fronting North Winchester Boulevard. According to the Agrihood FEIR and acoustical studies at 100 Winchester Boulevard and 350 Winchester Boulevard, exterior noise levels at the open space uses closest to North Winchester Boulevard would be exposed to noise levels up to 67 DNL. Surface traffic noise (a "moving point" source), would typically attenuate at approximately 4.5 dBA per doubling of distance from the noise source. Noise measurements were taken approximately 40 feet from the centerline of North Winchester Boulevard; thus, the doubling distance would be 80 feet from North Winchester Boulevard. Outdoor private residential open spaces would be located at least 100 feet from the edge of North Winchester Boulevard; therefore, noise levels would be estimated to be 62.5 DNL (or less), which is in the Acceptable range specified by HUD. Common open space in the courtyards of the two apartment buildings (and open space at the townhouses) would be even more distant from North Winchester Boulevard and would be further shielded from traffic noise by the proposed buildings themselves. Thus, noise levels would be expected to be even lower in these courtyard

		areas. For these reasons, residential exterior areas would be exposed to noise levels below 65 dBA DNL and would meet the HUD compatibility criteria. *Interior Noise Environment* Future exterior noise levels at the project site are not expected to change from the current maximum of 67 dBA DNL along North Winchester Boulevard. Interior noise levels would vary depending upon the design of the buildings (relative window area to wall area) and the selected construction materials and methods. Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior noise levels range from 60 to 65 dBA CNEL, the inclusion of adequate forced-air mechanical ventilation is often the method selected to reduce noise to acceptable levels by closing the windows to control noise. Where noise levels exceed 65 dBA CNEL, forced-air mechanical ventilation systems and sound-rated construction methods are normally required. Such methods or materials may include a combination of smaller window and door sizes as a percentage of the total building façade facing the noise source, sound-rated windows and doors, sound-rated exterior wall assemblies, and mechanical ventilation so windows may be kept closed at the occupant's discretion. Because exterior noise levels would be up to 67 dBA DNL, the project would be required to incorporate noise attenuation measures to achieve the interior noise level standard. As conditions of project approval and consistent with requirements of the California Green Building Code (CalGreen) and the California Building Standards Code (CBC), the following noise insulation features shall be incorporated into the proposed project to reduce interior noise levels to 45 dBA DNL or less: • Provide a suitable form of forced-air mechanical ventilation, as determined by the local building official, so that windows can be kept closed to control noise.

		• A qualified acoustical specialist shall prepare a detailed analysis of interior residential noise levels resulting from all exterior sources during the design phase pursuant to requirements set forth in the CBC. The study will also establish appropriate criteria for noise levels inside the commercial spaces affected by environmental noise. The study will review the final site plan, building elevations, and floor plans prior to construction and recommend building treatments to reduce residential interior noise levels to 45 dBA CNEL (or lower) per CalGreen requirements. The specific determination of what noise insulation treatments are necessary shall be conducted on a unit-by-unit basis during final design of the project. Results of the analysis, including the description of the necessary noise control treatments, shall be submitted to the City of Santa Clara, along with the building plans and approved design, prior to issuance of a building permit. With the above condition of approval and consistent with the CBC and CalGreen, the project would meet the 45 dBA DNL interior noise standard. [Source: 5, 12, 15, 18, 19, Appendix D]
Sole Source Aquifers Safe Drinking Water Act of 1974, as amended, particularly section 1424(e); 40 CFR Part 149	Yes No ☐ ☒	The project is not in an area designated by the Environmental Protection Agency as being supported by a sole source aquifer. [Source: 8]
Wetlands Protection Executive Order 11990, particularly sections 2 and 5	Yes No ☐ ☒	The project site is an infill parcel located in an urban area and is surrounded by existing development. The site does not contain any wetlands or riparian habitats, therefore, no wetlands would be impacted and the project would comply with Executive Order 11990. [Source: 5, Appendix D, Figure 10 in Appendix F]
Wild and Scenic Rivers Wild and Scenic Rivers Act of 1968, particularly section 7(b) and (c)	Yes No ☐ ☒	The project site is not located within a mile of a designated wild and scenic river system. There are no such rivers in Santa Clara. [Source: 10, Figure 11 in Appendix F]

ENVIRONMENTAL JUSTICE		
Environmental Justice Executive Order 12898	Yes No ☐ ☒	The project includes afforable housing for senior citizens and low-income residents of the area and would not have any disaproportionaley high health or other negative effects on the minority or low-income populations. The project would not displace any minority owned buisnesses or residents. The project would faciliate the General Plan goals of the City of Santa Clara and provide much needed housing opportunities to benefit senior citizens and low-income populations; therefore, the project would comply with Executive Order 12898. [Source: 11]

Environmental Assessment Factors [24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27] Recorded below is the qualitative and quantitative significance of the effects of the proposal on the character, features and resources of the project area. Each factor has been evaluated and documented, as appropriate and in proportion to its relevance to the proposed action. Verifiable source documentation has been provided and described in support of each determination, as appropriate. Credible, traceable and supportive source documentation for each authority has been provided. Where applicable, the necessary reviews or consultations have been completed and applicable permits of approvals have been obtained or noted. Citations, dates/names/titles of contacts, and page references are clear. Additional documentation is attached, as appropriate. **All conditions, attenuation or mitigation measures have been clearly identified.**

Impact Codes: Use an impact code from the following list to make the determination of impact for each factor.
(1) Minor beneficial impact
(2) No impact anticipated
(3) Minor Adverse Impact – May require mitigation
(4) Significant or potentially significant impact requiring avoidance or modification which may require an Environmental Impact Statement

Environmental Assessment Factor	Impact Code	Impact Evaluation
LAND DEVELOPMENT		
Conformance with Plans/Compatible Land Use and Zoning/ Scale and Urban Design	2	The project site has a General Plan land use designation of *Medium Density Residential* and is located in a *Planned Development (PD* zoning district. The project is consistent with the General Plan designation and applicable General Plan policies, as well as with the current zoning district regulations. Surrounding lands uses include residential and commercial, which would not conflict with the proposed uses. The project

		includes landscaping around the perimeter of the site, public open space along North Winchester Boulevard, and setbacks of 15 feet from property boundaries. The proposed buildings would step back in height from the adjacent land uses in order to minimize any conflicts. [Source: 2, 5, 15, Appendix D]
Soil Suitability/ Slope/ Erosion/ Drainage/ Storm Water Runoff	2	*Soil Suitability/Slope/Erosion* The project site is located on a relatively flat site at an elevation of approximately 115 feet above mean sea level. The project site is primarily underlain by the Urbanland-Flaskan Complex and Urbanland-Campbell Complex. The Urban land-Flaskan Complex is characterized by sandy loam, gravelly sandy clay loam to very gravelly sandy loam layers and has low to moderate shrink-swell potential. The Urbanland-Campbell Complex is comprised of silt loam, silty clay loam, and silty clay layers and has moderate to very high drainage. The project site is not located in a Santa Clara County Fault Rapture or Landslide Hazard Zone. In addition, the project site is not mapped within an Alquist-Priolo Earthquake Fault Zone. The project site is located in a state-designated liquefaction zone. There is a potential expansive soils that have a moderate shrink/swell potential could be located on the project site. The project would be constructed in conformance with the CBC, which contains provisions for soil stability based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. Compliance with the CBC would ensure expansive soils are accounted for in project construction and reduce any potential impacts [Source: 5, 13, 17, Appendix D] *Drainage/Stormwater Runoff* The project site is not located in an area of high-erosion potential; however, development of the proposed project would include grading activities that may result in a temporary increase in erosion. Because the project would disturb more than one acre of ground surface, it is subject to compliance with the National Pollution Discharge Elimination System (NPDES) Construction General Permit and is required to develop and implement a Stormwater Pollution Prevention

		Plan (SWPPP). Compliance with these plans will ensure that there is no new impact due to stormwater runoff in terms of quality as a result of project-related construction activities. Post-construction, the proposed project would not result in an alteration of the existing drainage pattern of the site or area or increase the amount of runoff in a manner that could potentially exceed the capacity of existing stormwater system, or result in erosion or siltation on- or off-site. The preliminary stormwater control plan for the project includes bioretention and flow-through planters, self-treating areas, and self-retaining areas. Runoff from the project's building roof areas and podium deck surfaces would be directed into self-treating areas. The proposed treatment controls would be numerically sized and have sufficient capacity to treat the runoff from roofs, podium decks, hardscape, and driveway areas entering the storm drainage system consistent with the NPDES requirements. [Source: 5, 14, Appendix D]
Hazards and Nuisances, including Site Safety and Noise	2	The project would not create a risk of explosion, release of hazardous substances or other dangers to public health. The project provides a safe place for residents. *Seismicity* The project site is located in the San Francisco Bay Area, which is considered one of the most seismically active regions in the United States. The project site is not located within an Alquist-Priolo Earthquake Fault Zone or a Santa Clara County Earthquake Zone for fault rupture. Significant earthquakes in the Bay Area are generally associated with the San Andreas Fault system, located about 10 miles southwest of the site. The project site could experience strong seismic ground shaking and related effects in the event of an earthquake on one of the identified active or potentially active faults in the region. Required project compliance with the latest CBC requirements for new construction would reduce the associated risk of property loss and hazards to occupants from seismic shaking to a less than significant level. *Noise* Community noise levels would not be significantly affected by the development in the long term. The permanent on-going

		noise anticipated at the project site is from normal automobile traffic generated by the project and rooftop mechanical equipment neither of which would be considerable. The project may result in temporary noise during construction. The project would comply with Santa Clara City Code requirements for construction (Chapter 9.10, listed below): • Construction and demolition activities shall be limited to the period between 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturdays. No construction or demolition activities are permitted on Sundays or holidays. • Construction crews will be required to use available noise suppression devices and properly maintain and muffle internal combustion engine-driven construction equipment. • The applicant shall designate a disturbance coordinator and post the name and phone number of this person at easy reference points for the surrounding land uses. The disturbance coordinator shall respond to and address all complaints about noise. The project complies with the HUD noise abatement and control regulations of 24 CFR 51B. [Source: 5, 15, Appendix C, Appendix D]
Energy Consumption	2	The new development would not represent a wasteful use of energy. The project would be required to comply with applicable building energy efficiency standards pursuant to Title 24, Part 6 of the California Code of Regulations. At the building permit stage, the project would comply with CalGreen which establishes mandatory green building standards. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. The buildings are proposed to include the following green-building measures and design features: • Solar-ready roof; • Salvage or recycle at least 50 to 65 percent of construction waste (consistent with the City's Construction and Demolition Debris Recycling Program requirements); • Bicycle parking and dedicated bicycle repair stations; • Provision of EV charging stations for vehicles;

		• Water efficient residential plumbing fixtures; • Energy-efficient lighting fixtures; • Rainwater capture and reuse in the community garden area; • An urban farm that would produce food for on-site consumption by residents; and • Low-water landscaping and water-efficient irrigation design. [Source: 5, 15, Appendix D]
SOCIOECONOMIC		
Employment and Income Patterns	1	According to the 2017 Census, approximately 15 percent of Santa Clara households are extremely low income (earning 30 percent of median income or less), 13 percent are very low income (incomes between 31 percent and 50 percent of the area median), 11 percent are low income (between 51 percent and 80 percent of area median) and 61 percent are moderate income (above 80 percent of area median). Median income in Santa Clara was $108,609 in 2017. Approximately 10 percent of the population of Santa Clara is 65 years of age or older. The project would increase the availability of affordable housing for senior citizens and low-income residents of the City of Santa Clara and Santa Clara County. No significant change to the demographic character of the neighborhood is expected because the project is intended to serve the existing population. [Source: 16]
Demographic Character Changes, Displacement	1	The project would provide affordable housing designed to accommodate the unmet needs of the senior citizen and low-income population of the City of Santa Clara and Santa Clara County. The project does not represent a significant change to the demographics of the area or on area social services as it is intended to serve the existing population. [Source: 12]
COMMUNITY FACILITIES AND SERVICES		
Educational and Cultural Facilities	2	The project site is located within the Campbell Union School District (CUSD) and Campbell Union High School District (CUHSD) which consists of 10 elementary schools, two middle schools, and six high schools. The proposed project would increase Santa Clara's resident population and, as a result, would increase the demand on local school facilities. The 165 senior apartments would be generate fewer students than average. Full build out of the City of Santa

		Clara's General Plan (including the proposed project) would result in approximately 38 new K-8 and 42 new 9-12 grade students within the CUSD and CUHSD. While the proposed project would increase the number of school children attending school in the area, Santa Clara's General Plan FEIR concluded that Campbell K-8 and Campbell 9-12 districts are anticipated to be able to accommodate additional students by modifying school catchment areas, bussing students to schools with capacity, and adding modular classrooms. Prior to issuance of building permits, the project applicant would be required to pay all applicable school impact fees pursuant to Government Code Section 65996 to offset any impacts to school facilities associated with the project. The payment of applicable school impact fees would be deemed full and complete mitigation of any project-related school impacts. The project would not displace existing cultural facilities, nor would it affect cultural facilities by its operation. [Source: 5, Appendix D]
Commercial Facilities	2	The project site is currently vacant and would not displace existing commercial facilities nor would it affect commercial facilities by its operation. The project is located in an urban area in close proximity to shopping and commercial opportunities. [Source: 5, Appendix D]
Health Care and Social Services	1	The project is located within several miles of four major hospitals; El Camino Hospital Los Gatos located 4.5 miles from the site, O'Connor Hospital located 0.75 mile from the site, Santa Clara Valley Medical Center located 1.2 miles from the site, Good Samaritan Hospital located 5.0 miles from the site, and Kaiser Medical Center located 2.6 miles from the site. There are numerous smaller clinics, medical facilities and convalescent hospitals located nearby. There would be no significant impacts to healthcare facilities or delivery systems resulting from the project. There are 43,417 occupied housing units in the City of Santa Clara, of which about 18,000 households are low-income and below. The project would provide affordable housing designed to accommodate the unmet needs of the City of Santa Clara's population. The project does not represent a significant change

		to the demographics of the area or on area social services as it is intended to serve the existing population [Source: 5, 16, Appendix D]
Solid Waste Disposal/Recycling	2	The proposed project is not anticipated to have impacts to solid waste disposal/recycling facilities. The project would have an incremental increase in solid waste disposal and the existing landfill serving the project site (Newby Island Landfill) has adequate capacity to accommodate the project. [Source: 5, Appendix D]
Wastewater/Sanitary Sewers	2	The proposed project is not anticipated to have impacts to waste water/sanitary sewer services. The project would result in an incremental increase in wastewater and sanitary sewer services. As of 2017, the City of Santa Clara has a treatment allocation at the San José-Santa Clara Regional Wastewater Facility (RWF) of approximately 25.0 million gallons per day (mgd) and has a peak week dry weather flow of approximately 16.2 mgd. The proposed project would generate approximately 53,257 gpd of wastewater. Given the capacity at RWF (167 mgd), the City's treatment allocation at RWF (approximately 25.0 mgd), and the City's peak week dry weather flow (approximately 16.2 mgd), there is sufficient capacity at the RWF and within the City's existing treatment allocation to serve the project. Sewage generated by the project would flow to existing lines within North Winchester Boulevard and Worthington Circle, which are adequately sized and have conveyance capacity to accommodate the project. No downstream capacity issues are anticipated as a result of the project. [Source: 5, 12, Appendix D]
Water Supply	2	The proposed project is not anticipated to have an impact on water supply. The City of Santa Clara has four sources of water. These sources include two treated water sources from Santa Clara Valley Water District and the San Francisco Public Utilities Commission, groundwater pumped from the Santa Clara sub-basin through the City's owned and operated groundwater wells, and recycled water purchased from South Bay Water Recycling The project would have an incremental increase in water consumption. The proposed project would require approximately 62,655 gallons per day per day for potable water and irrigation requirements.

		While the project is consistent with the current General Plan land use designation, the inclusion of affordable housing on the site allows for a density bonus. The density bonus would result in an additional 152 residential units on the project site compared to the development assumptions of the General Plan and Urban Water Management Plan. The additional units would account for approximately 27,208 gallons of the total 65,655 gpd of water used by the project. The increased water use from the additional units represents less than one-tenth of one percent of the total daily water usage in the City. Furthermore, proposed project has already been approved by the City of Santa Clara. As a result, the increase in water usage on site relative to citywide demand would be negligible. [Source: 5, 12, Appendix D]
Public Safety - Police, Fire and Emergency Medical	2	The proposed project would not have impacts on public safety, police, or fire services. Public services are generally provided to the community as a whole and financed on a community-wide basis. The proposed project is located in an urban area that is currently served by municipal providers. The project would result in an incremental increase in the demand for public services; however, the City of Santa Clara's General Plan FEIR concluded that the existing fire and police facilities could accommodate the planned growth in the City, including the proposed project. The project would not require a significant change in emergency medical services already provided in the area. [Source: 5, 12, Appendix D]
Parks, Open Space and Recreation	2	The proposed project would not directly impact parks, open space, and recreational facilities. The project would result in an incremental increase in the demand for these facilities, but the project is subject to City of Santa Clara development fees to accommodate the incremental demand on parks and open space services. The project includes parkland in its design, however, it would not provide enough acreage to meet the City's standard. Thus, the project would be required to pay fees consistent with the Parkland Dedication Ordinance. These fees would be used to improve existing parkland and recreational facilities. [Source: (5), (12)]

Transportation and Accessibility	3	The project site is located in an urbanized area of Santa Clara that is well served by pedestrian and bicycle facilities. Regional access to the project site is provided by Interstate (I)-280, I-880, and State Route 17. The proposed project would generate 79 AM and 94 PM peak hour trips. Projects that generate fewer than 100 net new peak hour trips would be considered to have a less than significant impact on local traffic operations based on the Congestion Management Plan (CMP) criteria. The proposed project would be below this thresholds; thus, the proposed project does not include a CMP analysis or freeway level of service (LOS) analysis. A total of 13 intersections in Santa Clara, Santa Clara County, and San José were studied in a traffic operations analysis prepared for the project. Under existing plus project conditions, all study intersections are expected to operate at an acceptable LOS. Under background plus project conditions, the project would have a significant impact at the intersection of North Winchester Boulevard and Stevens Creek Boulevard in the City of San José. While the intersection would continue to operate at LOS F, the project would increase the critical movement delay and volume-to-capacity ratio above the City of San José's significance criteria. A condition of approval could be included by the City of Santa Clara City Council requiring payment of a voluntary fee to fund alternative offsetting transportation improvements, per the City of San José Protected Intersection Policy. Payment of the fee for these offsetting improvements does not, however, constitute mitigation of this significant traffic impact. San José policy would not allow the project to construct improvements at this intersection to mitigate the project's traffic impacts. Additionally, implementation of the offsetting improvements cannot be assured by the City of Santa Clara and would not reduce the project impact. The City of Santa Clara adopted a statement of overriding considerations for this impact as part of the CEQA project approval process. [Source: 5, 12, Appendix D]

NATURAL FEATURES		
Unique Natural Features, Water Resources	2	The proposed project would be located on a vacant infill lot previously used for agricultural research purposes and would not impact unique natural features or water resources. There are no surface waters on or near the project site. Saratoga Creek is approximately 2.2 mile to the west and would be unaffected by the project. [Source: 5, 12, Appendix D]
Vegetation, Wildlife	3	The project is located on a vacant in-fill lot previously used for agricultural research. The project would not impact natural habitats containing endangered species or any designated or proposed critical habitat. The project would remove up to 37 trees, but the trees would be replaced in accordance with the City of Santa Clara replacement ratios. In compliance with the MBTA and the California Fish and Game Code, the proposed project shall implement mitigation measure MM BIO-1.1, including conducting pre-construction nesting bird surveys to reduce or avoid construction-related impacts to nesting raptors and their nests, if construction cannot be scheduled between September and January (inclusive) to avoid the nesting season. [Source: 5, 6, Appendix D]
Other Factors	1	Construction of the project would provide affordable housing for senior citizens and low income residents, and bring an urban farm and open space area to a heavily developed area. [Source: 5, 12, Appendix D]

Additional Studies Performed and Field Inspection (Date and completed by):

Appendix A: Illingworth & Rodkin, Inc. *Agrihood Community Development TAC and GHG Emission Assessment*. March 28, 2018.

Appendix B: AEI Consultants. *Phase I Environmental Site Assessment 90 North Winchester*. July 5, 2016.

Appendix C: Running Moose Environmental Consulting. *HUD Explosive and Fire Hazards Review, 90 N. Winchester Agrihood NEPA*. April 29, 2019.

Appendix D: City of Santa Clara. *Agrihood Project Initial Study/Mitigated Negative Declaration and Focused EIR*. April 2018

Appendix E: United States Fish and Wildlife Service. *List of Threatened and Endangered Species Agrihood Project*. April 12, 2019.

Appendix F: Additional Figures

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]**:**

1. **Santa Clara County Airport Land Use Commission.** Mineta San José International Airport Comprehensive Land Use Plan. May 25, 2011. http://www.sccgov.org/sites/planning/Plans%20-%20Programs/Airport%20Land-Use%20Commission/Pages/Airport-Land-Use-Commission.aspx.

2. **San Francisco Bay Conservation and Development Commission.** *The San Francisco Bay Plan.* State of California. San Francisco, CA, 1969. http://www.bcdc.ca.gov/plans/sfbay_plan.html BCDC is the federally-designated state coastal management agency for the San Francisco Bay segment of the California coastal zone. This designation empowers the Commission to use the authority of the federal Coastal Zone Management Act.

3. **Federal Emergency Management Agency**. Flood Insurance Rate Map (FIRM) Number 06085C0229H, dated 5/18/09. https://msc.fema.gov/portal.

4. **Bay Area Air Quality Management District**. *CEQA Guidelines and Thresholds of Significance, effective May 2017*. http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en.

5. **City of Santa Clara.** Santa Clara Gardens Development Project Draft EIR. March 9, 2006.

6. **Santa Clara Valley Habitat Agency**. Geobrowser. 2018. http://www.hcpmaps.com/habitat/.

7. **California Department of Conservation. Farmland Mapping and Monitoring Program.** *Santa Clara County Important Farmland Map, 2016*. http://www.conservation.ca.gov/dlrp/fmmp.

8. **U.S. Environmental Protection Agency**. Sole Source Aquifers. https://www.epa.gov/dwssa.

9. **US Fish and Wildlife Service.** National Wetlands Inventory. http://www.fws.gov/wetlands/Data/Mapper.html.

10. **US Forest Service. National Wild and Scenic River System.** https://www.rivers.gov/california.php.

11. **U.S. Environmental Protection Agency.** Environmental Justice Screening and Mapping Tool. https://www.epa.gov/ejscreen.

12. **City of Santa Clara.** *City of Santa Clara 2010-2035 General Plan FEIR*. November 2010.

13. **United States Department of Agriculture, Natural Resources Conservation Service**. "Web Soil Survey." http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

14. **San Francisco Regional Water Quality Control Board**. http://www.waterboards.ca.gov/sanfranciscobay/.

15. **City of Santa Clara.** *Santa Clara City Code.* February 19, 2019. https://www.codepublishing.com/CA/SantaClara/.

16. **United States Census Bureau.** *Selected Economic Characteristics: 2013-2017 American Community Survey 5-year Estimates*, https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t.

17. **State of California, Building Standards Commission**. *2016 California Building Standards Code* (Effective July 1, 2018). https://www.dgs.ca.gov/BSC/Codes.

18. **Illingworth & Rodkin, Inc.** *350 Winchester Boulevard Mixed-Use at Santana Row Project Noise and Vibration Assessment*. April 8, 2016.

19. **Illingworth & Rodkin, Inc.** *100 Winchester Senior Housing Project Environmental Noise Assessment*. July 20, 2015.

List of Permits Obtained:

The project requires the following approvals and permits:

- Architectural Review
- Planned Development Rezoning
- Tentative Map
- Issuance of Grading, Building, Encroachment, Utility, and Occupancy Permits
- Other applicable Public Works Clearances

Public Outreach [24 CFR 50.23 & 58.43]**:**

The rezoning of the site and approval of the project was the subject of notified public hearings before the Planning Commission and City Council of the City of Santa Clara in August 2018, and January 2019, respectively.

Cumulative Impact Analysis [24 CFR 58.32]**:**

The potential environmental impacts from the proposed project are primarily short-term impacts associated with the construction of the affordable housing development. It is possible that other proposed construction schedules in the project area may overlap with the project (i.e., Westfield Valley Fair Expansion Project, Stevens Creek Subaru Project, Santana Teresa Senior Apartment Project), but the overlap is likely to be minimal, and the proposed project includes mitigation measures to limit disturbance to adjacent land uses and would not result in cumulatively considerable impacts.

Since the proposed project is not projected to generate 100 or more net new peak-hour trips, a CMP analysis (which includes a cumulative analysis) is not required.

The project would likely not be completed until late 2021 or early 2022, implementation of the project would not result in new or greater GHG emission impacts than were previously identified in the Santa Clara General Plan FEIR. Due to the nature of GHG emissions, a significant project level impact is equivalent to a significant cumulative impact.

Alternatives [24 CFR 58.40(e); 40 CFR 1508.9]

Location Alternative: The project is a high density, mixed-use, transit-oriented development proposed in an area with an appropriate General Plan designation for such a use. In order to identify an alternative site that might reasonably be considered to "feasibly accomplish most of the basic purposes" of the project, and would also mitigate some or all of the identified significant impacts, it is assumed that such a site would need to have the following characteristics:

- Approximately six or more acres in size;
- Located close to transit;
- Close proximity to other mixed-use areas;
- A General Plan designation that allows the proposed uses at a density, height, and floor area ratio similar to the proposed project site;
- Served by available infrastructure; and
- Immediately available.

Location alternatives for the project were considered, but rejected because of the lack of suitable sites that would meet the basic objectives of the project and be immediately available. Since the main objective of the project is to provide a mixed-income, transit-oriented residential project with up to 165 senior apartments, 160 multi-family apartments and 36 townhomes that provide a mix and variety of unit types and be supported by existing alternative transit, there are very limited (if any) potential locations for developments of similar size near the proposed project site.

Any alternative location within the general project area would not substantially lessen the identified impacts, in that residents would be traveling to and from the same locations and the traffic trips would generally use the same roadways. There are opportunities for redevelopment of larger sites in the northern area of the City of Santa Clara, but sites in these areas would likely have the same or

greater impacts than the proposed project site due to existing traffic congestion, incompatible General plan designations, and lack of transit infrastructure. The same GHG and construction TAC impacts would occur regardless of development location. For these reasons, an alternative location was not further analyzed.

Existing Zoning Alternative: The project site has a zoning designation of PD – Planned Development, which allows for construction of up to 165 senior residential dwelling units at the site with building heights of up to 60 feet. This development was considered as part of the Santa Clara Gardens Development Project FEIR approved by the City in 2007.

The significant construction-related air quality impact (as a result of TACs) would be lessened because the project would be smaller, the project would not include underground parking, and the construction timeframe would be shorter. The significant transportation impact at North Winchester Boulevard and Stevens Creek Boulevard would also be avoided.

While the service population would be smaller, the total number of traffic trips would be less, reducing automobile emissions. In addition, with the smaller project, all other operational emissions would also be reduced. Given the smaller project, the project would likely be fully constructed and operational by December 31, 2020, thereby allowing the project to utilize the current 2020 thresholds, which are less stringent than the 2030 thresholds. For all these reasons, GHG emissions would be less than significant under this alternative.

This alternative would not avoid the less than significant (with mitigation incorporated) biological resources, cultural resources impacts. While some of the project objectives would be realized, though to a much lesser extent than for the proposed project; the basic objectives related to the provision of high-density, transit-oriented on the site would not be met.

Reduced Intensity (340 Units) Alternative: A Reduced Intensity Alternative would allow for development of approximately 340 units where 361 are proposed. The significant transportation impact at North Winchester Boulevard and Stevens Creek Boulevard would be avoided with this alternative. The significant construction-related TACs would be comparable to the proposed project because the reduction of 21 units would not shorten the construction timeframe or significantly reduce the size of the buildings.

As with the proposed project, the GHG impact threshold would be exceeded. This alternative would not avoid the less than significant (with mitigation incorporated) biological resources, cultural resources impacts. This alternative would meet the project objectives.

No Action Alternative [24 CFR 58.40(e)]:

The No Action Alternative would not construct the proposed project. Under this alternative, the affordable housing objectives included in the project would not be achieved. The currently vacant lot may remain undeveloped, and it is possible that another residential development or commercial project could be approved for the site that may not include affordable housing units. Any project proposed that requires construction on the site would result in short-term construction period impacts similar to those of the proposed project.

Summary of Findings and Conclusions:

- The proposed project would be compatible with existing and future land uses in the vicinity of the project site.
- The proposed project would provide affordable housing in the City of Santa Clara where affordable housing options are in high demand.
- The proposed project would comply with all statutory regulations pertaining to environmental issues.
- The proposed project would result in adverse long-term environmental impacts with regard to GHG emissions and traffic. The City of Santa Clara has adopted a statement of overriding Considerations for these long-term impacts
- The proposed project could potentially result in short-term (i.e., construction-related) environmental impacts regarding air quality, noise, biological resources, cultural resources, and storm water runoff. Mitigation measures have been incorporated into the project that would minimize or avoid these short-term impacts**.**

Mitigation Measures and Conditions [40 CFR 1505.2(c)]

Summarize below all mitigation measures adopted by the Responsible Entity to reduce, avoid, or eliminate adverse environmental impacts and to avoid non-compliance or non-conformance with the above-listed authorities and factors. These measures/conditions must be incorporated into project contracts, development agreements, and other relevant documents. The staff responsible for implementing and monitoring mitigation measures should be clearly identified in the mitigation plan.

Law, Authority, or Factor	Mitigation Measure
Clean Air Measures	**MM AQ-1.1: Cancer Risk Measures.** The project applicant shall select equipment during construction to minimize emissions consistent with at least one of the following methods: • Mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days shall meet, at a minimum, United States Environmental Protection Agency particulate matter emissions standards for Tier 2 engines or equivalent; • Use of equipment that includes California Air Resources Board-certified Level 3 Diesel Particulate Filters; • Use of alternatively fueled equipment (i.e., non-diesel) would meet this requirement; or • Other measures may be the use of added exhaust devices, or a combination of measures above that are

	demonstrated to reduce community risk impacts to a less than significant level. In addition, the proposed action shall implement the following BAAQMD Basic Construction Practices: • Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • Haul trucks transporting soil, sand, or other loose material off-site shall be covered or a minimum of two feet of freeboard shall be provided. • Visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. • Vehicle speeds on unpaved roads shall be limited to 15 miles per hour. • Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as a soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code Regulations). Clear signage shall be provided for construction workers at all access points. • Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Endangered Species Measures	**MM BIO-1.1: Preconstruction Survey** In compliance with the MBTA and the California Fish and Game Code, the proposed project shall implement the following measures to reduce or avoid construction-related impacts to nesting raptors and their nests: • Construction shall be scheduled to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay Area extends from February 1st through August 31st. • If it is not possible to schedule construction and tree removal between September and January, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests are disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). • During this survey, the ornithologist shall inspect trees and other possible nesting habitats within and immediately adjacent to the construction area for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with the California Department of Fish and Wildlife, shall determine the extent of a construction-free buffer zone to be established around the nest to ensure that raptor or migratory bird nests would not be disturbed during project construction.
Historic Preservation	**MM CUL-1.1:** A qualified archaeologist shall be on-site to monitor the initial excavation of native soil once all engineered soil is removed from the project site. After monitoring the initial excavation, the archaeologist shall make recommendations for further monitoring if it is determined that the site has cultural resources. If the archaeologist determines that no resources are likely to be found on site, no additional monitoring shall be required. If a find has been made and deemed to be significant, an Archaeological Resources Treatment Plan shall be prepared by a qualified archaeologist. The plan shall be prepared and

	submitted to the Community Development Director prior to the continuance of ground disturbing activities at the project site. Consistent with the Santa Clara Gardens Development Final Environmental Impact Report, the Archaeological Resources Treatment Plan shall contain the following: • Identification of the scope of work and range of subsurface effects (including location map and development plan), including requirements for preliminary field investigations. • Description of the environmental setting (past and present) and the historic and prehistoric background of the parcel. • Development of research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information). • Detailed field strategy used to record, recover, or avoid the finds and address research goals. • Analytical methods. • Report structure and outline of document contents. • Disposition of the artifacts. • Appendices: all site records, correspondence, and consultation with Native Americans, etc. **MM CUL-1.2:** In the event that human remains are discovered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the NAHC immediately. Once NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial, which shall be implemented in accordance with Section 15064.5(e) of the CEQA Guidelines. The archaeologist shall recover scientifically-valuable information, as appropriate and in accordance with the recommendations of the most likely descendent. A report of findings documenting any data recovery shall be submitted to the Director of Community Development and the Northwest Information Center.

Noise Abatement and Control	**City Code Requirements: Construction-Period Impacts** Compliance with the following City Code requirements would reduce potential construction period noise impact to less than significant levels: • Construction and demolition activities shall be limited to the period between 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturdays. No construction or demolition activities are permitted on Sundays or holidays. • Construction crews will be required to use available noise suppression devices and properly maintain and muffle internal combustion engine-driven construction equipment. • The applicant shall designate a disturbance coordinator and post the name and phone number of this person at easy reference points for the surrounding land uses. The disturbance coordinator shall respond to and address all complaints about noise. **Condition of Approval: Interior Noise Standards** As conditions of project approval, the following noise insulation features shall be incorporated into the proposed project to reduce interior noise levels to 45 dBA CNEL or less: • Provide a suitable form of forced-air mechanical ventilation, as determined by the local building official, so that windows can be kept closed to control noise. • A qualified acoustical specialist shall prepare a detailed analysis of interior residential noise levels resulting from all exterior sources during the design phase pursuant to requirements set forth in the California Building Standards Code. The study will also establish appropriate criteria for noise levels inside the commercial spaces affected by environmental noise. The study will review the final site plan, building elevations, and floor plans prior to construction and recommend building treatments to reduce residential interior noise levels to 45 dBA CNEL or lower. The specific determination of what noise insulation treatments are necessary shall be

	conducted on a unit-by-unit basis during final design of the project. Results of the analysis, including the description of the necessary noise control treatments, shall be submitted to the City, along with the building plans and approved design, prior to issuance of a building permit.
Soil Suitability /Slope /Erosion /Drainage/Storm Water Runoff	**Storm Water Permit Conditions/Mitigation Measures:** Prior to commencement of any clearing, grading, or exaction, the project shall comply with the State Regional Water Resources Control Board's NPDES General Construction Activities Permit as follows: • The applicant shall develop, implement and maintain a SWPPP to control discharge of storm water pollutants including sediments associated with construction activities; • The applicant shall file a Notice of Intent with the State Water Resources Control Board. In addition, the following items would be required by the City as conditions of project approval to further reduce potential construction-related water quality impacts: • Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains. • Earthmoving or other dust-producing activities would be suspended during periods of high winds. • All exposed or disturbed soil surfaces would be watered at least twice daily to control dust as necessary. • Stockpiles of soil or other materials that can be blown by the wind would be watered or covered. • All trucks hauling soil, sand, and other loose materials shall be covered. • All paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites would be swept daily (with water sweepers). • Vegetation in disturbed areas would be replanted as quickly as possible.

Educational and Cultural Facilities	Standard Permit Condition: Schools: In accordance with California Government Code Section 65996, the developer shall pay a school impact fee, to the School District, to offset the increased demands on school facilities caused by the proposed project.
Parks, Open Space, and Recreation	Standard Permit Condition: The project shall conform to the City's Park Impact Ordinance and Parkland Dedication Ordinance (Municipal Code Chapter 19.38).

Agrihood Project
City of Santa Clara

Determination:

☒ **Finding of No Significant Impact** [24 CFR 58.40(g)(1); 40 CFR 1508.27]
The project will not result in a significant impact on the quality of the human environment.

☐ **Finding of Significant Impact** [24 CFR 58.40(g)(2); 40 CFR 1508.27]
The project may significantly affect the quality of the human environment.

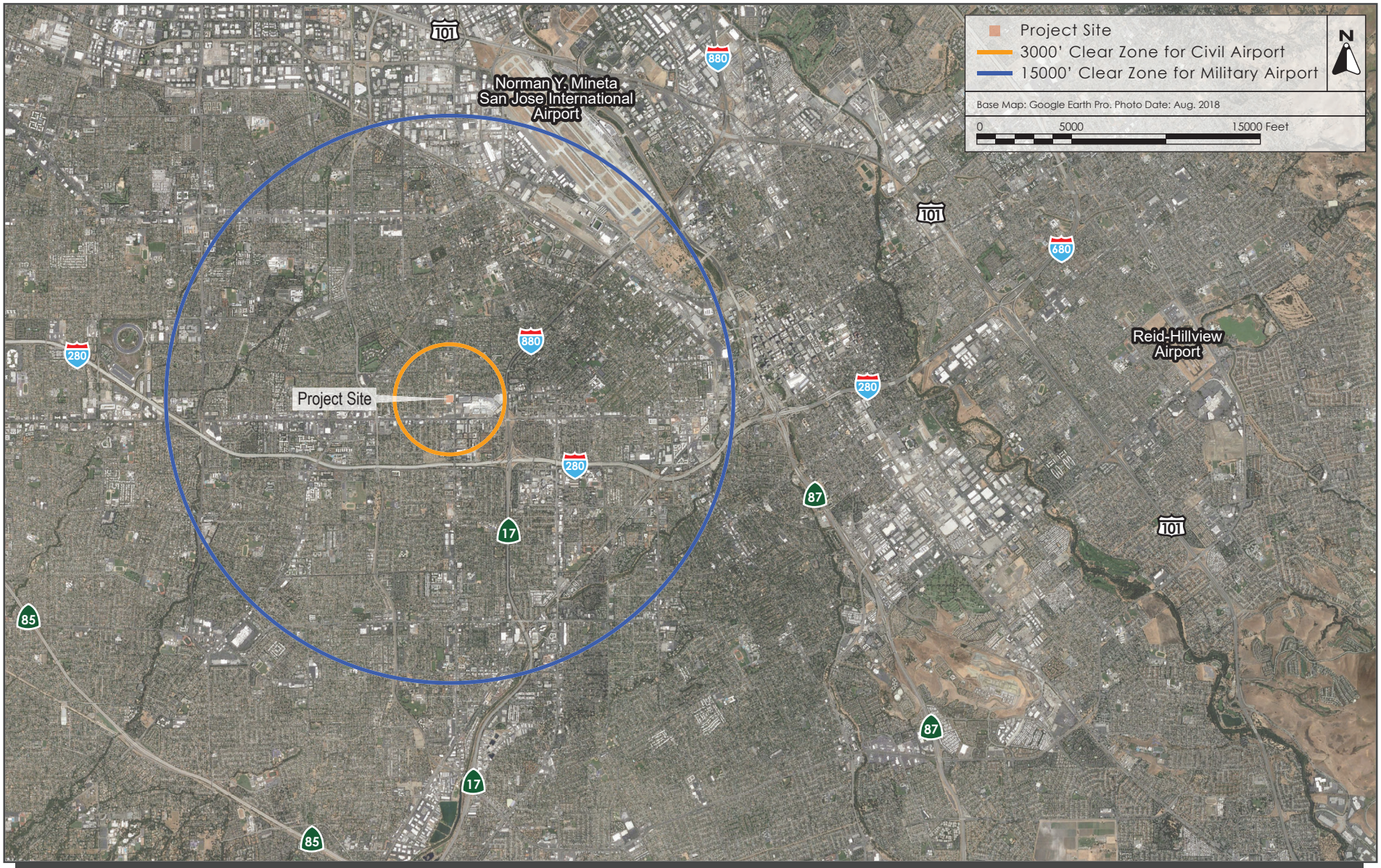
Preparer Signature: Amie Ashton Date: 5/14/2019

Name/Title/Organization: Senior Project Manager, David J. Powers & Associates, Inc.

Certifying Officer Signature: Andrew Crabtree Date: June 3, 2019

Name/Title: Andrew Crabtree/Director of Community Development

This original, signed document and related supporting material must be retained on file by the Responsible Entity in an Environmental Review Record for the activity/project (ref: 24 CFR Part 58.38) and in accordance with recordkeeping requirements for the HUD program(s).



AIRPORT CLEAR ZONES

FIGURE 7

LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513	Base Flood Elevation line and value; elevation in feet*
(EL 987)	Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

(A)———(A)	Cross section line
(23)- - - - - -(23)	Transect line
87°07'45", 32°22'30"	Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
3276000mN	1000-meter Universal Transverse Mercator grid values, zone 10N
600000 FT	5000-foot grid ticks: California State Plane coordinate system, zone III (FIPSZONE 0403), Lambert Conformal Conic projection
DX5510 ×	Bench mark (see explanation in Notes to Users section of this FIRM panel)
● M1.5	River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE
FLOOD INSURANCE RATE MAP
May 18, 2009

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

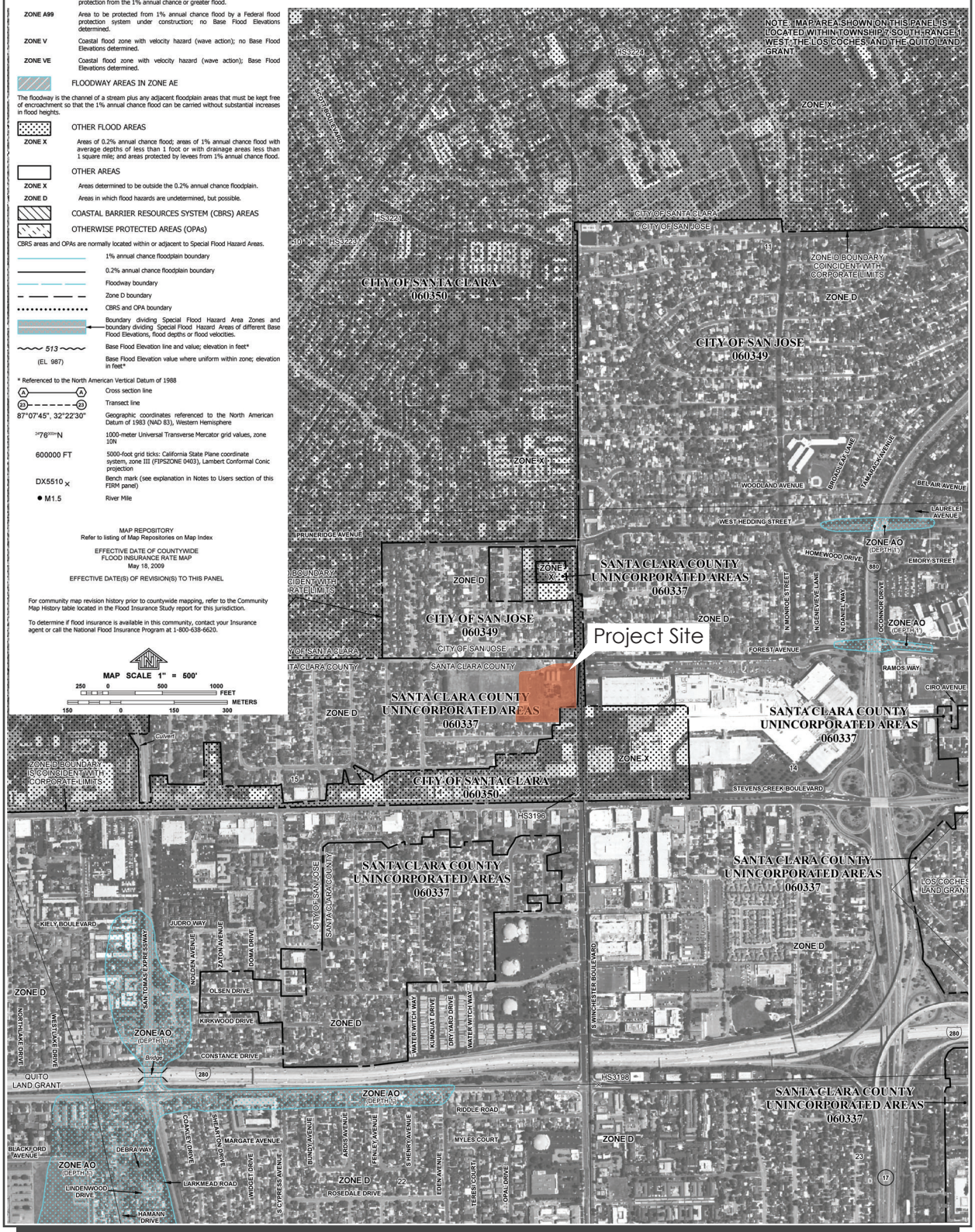
For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

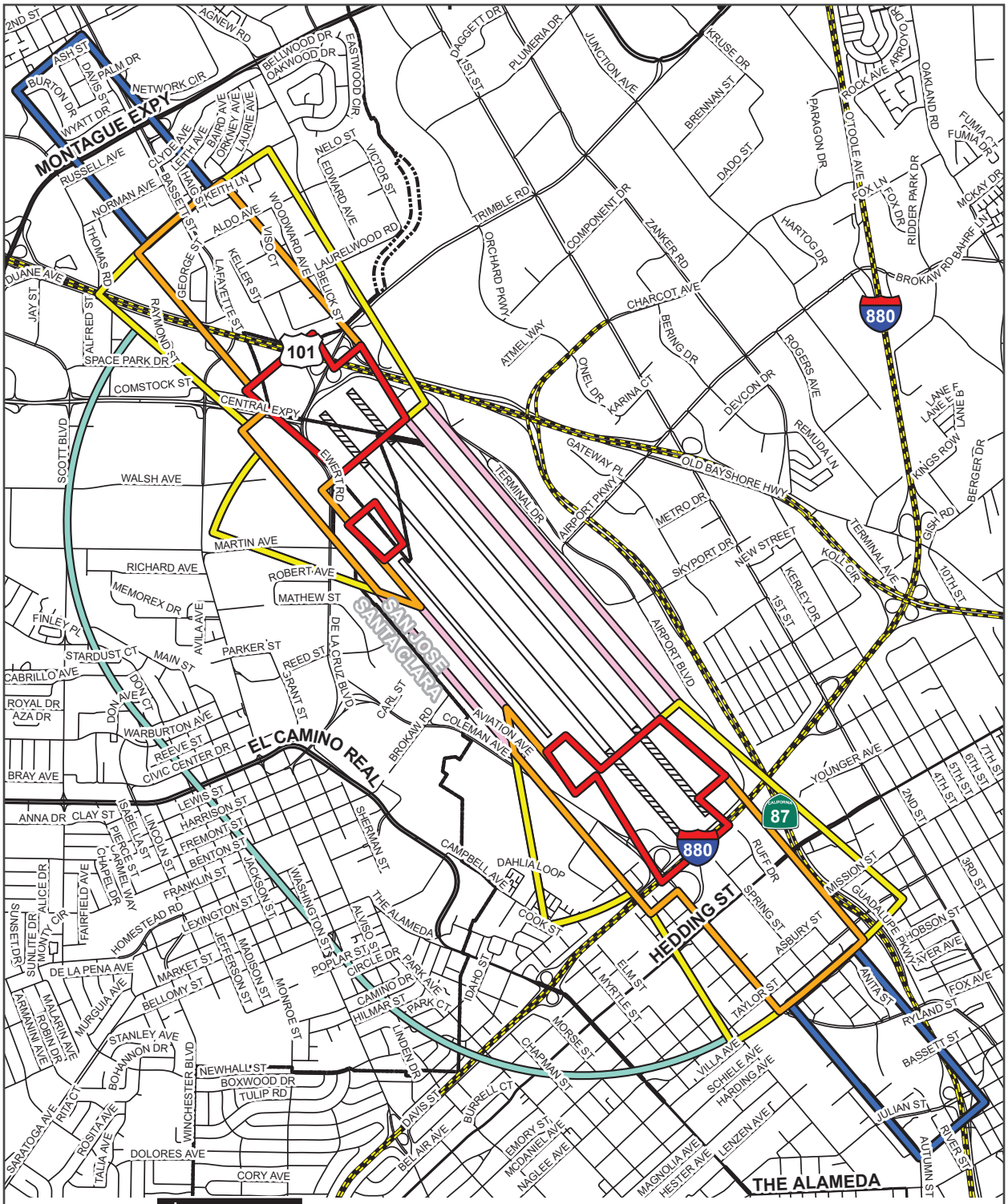
MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS



FEMA FLOOD INSURANCE RATE MAP | FIGURE 8



Safety Zones

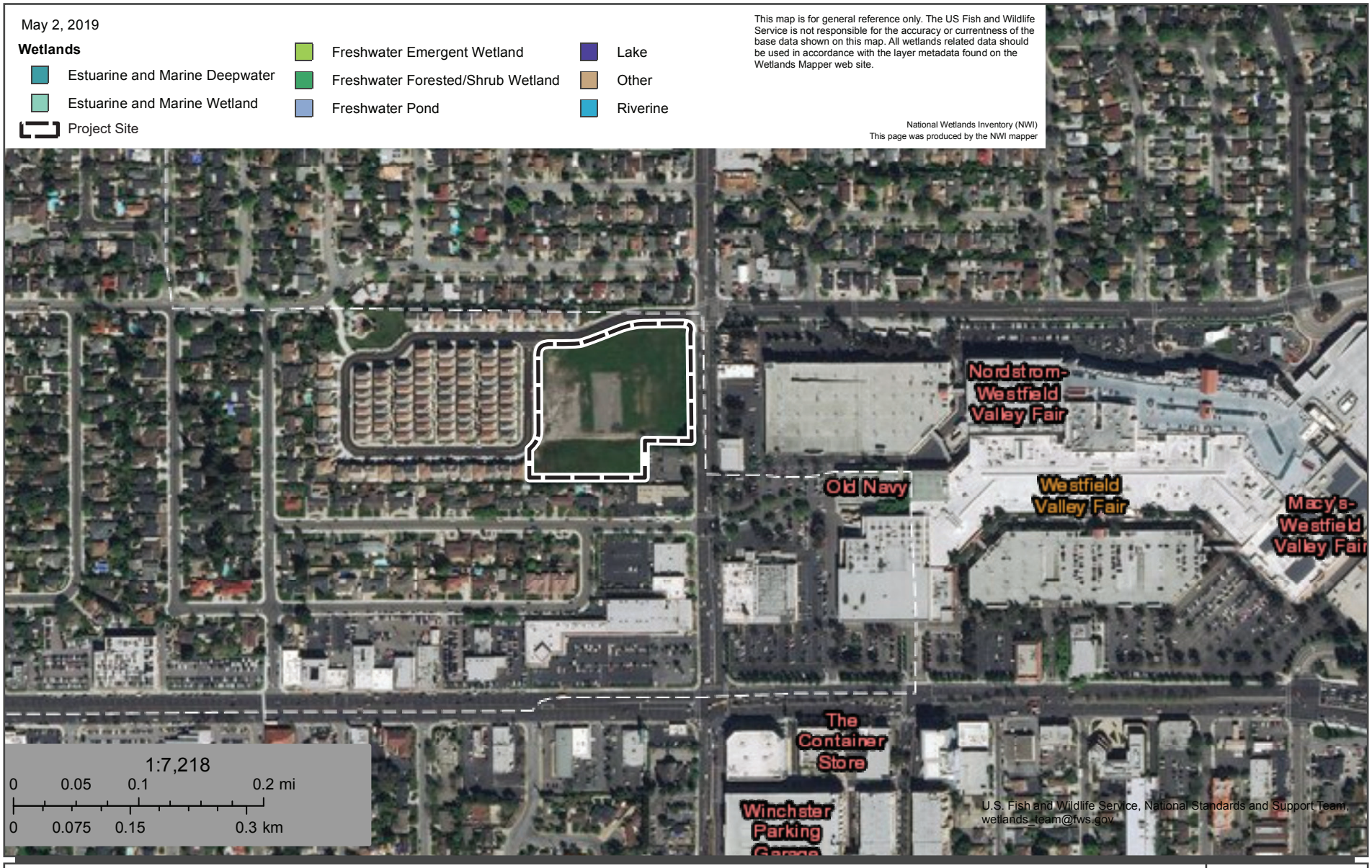
- Runway
- Runway Protection Zone
- Inner Safety Zone
- Turning Safety Zone
- Outer Safety Zone
- Sideline Safety Zone
- Proposed Runway
- Traffic Pattern Zone

0 1,000 2,000 4,000 Feet

N

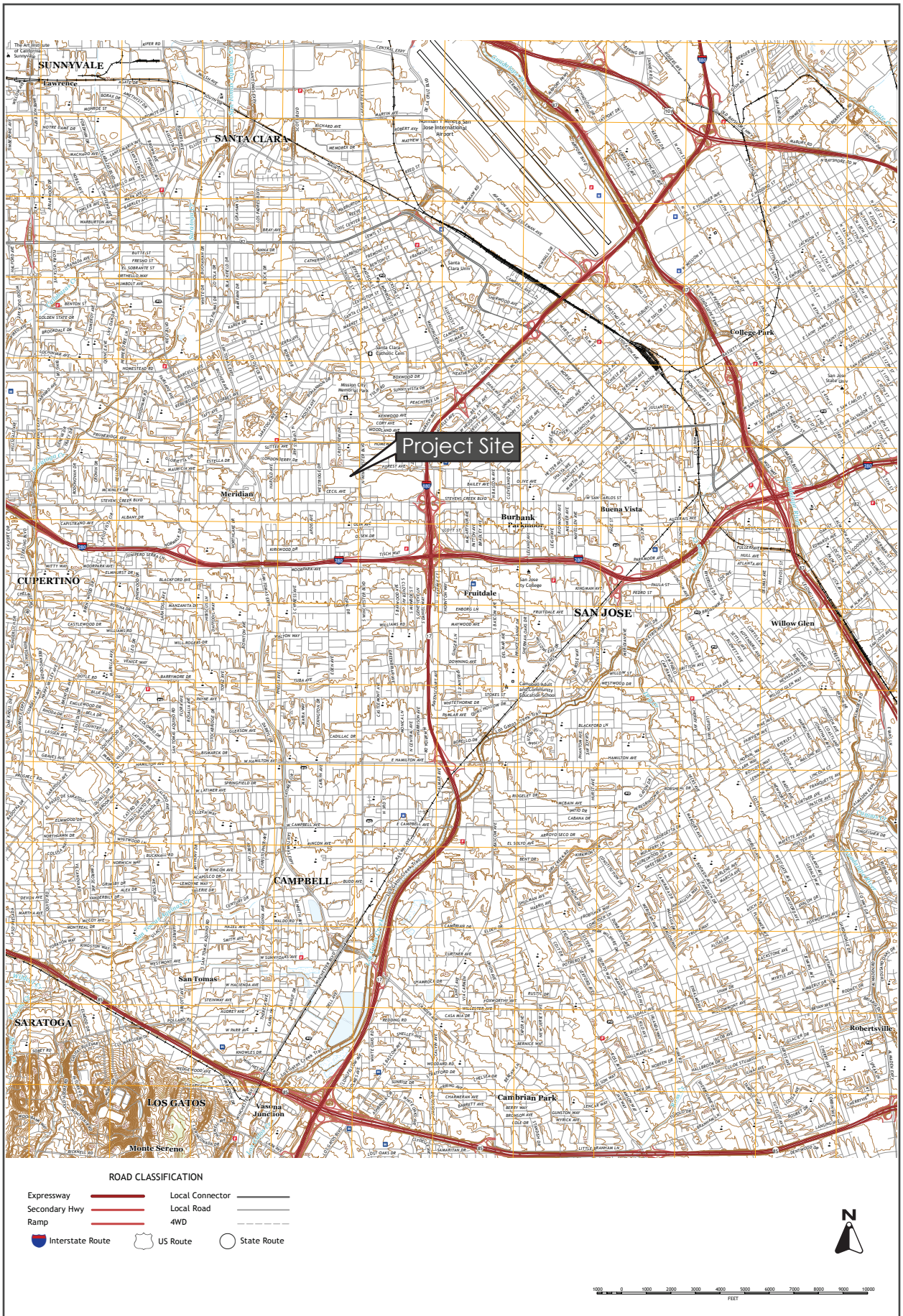
This map created by Santa Clara County Planning Office. The GIS data was compiled from various sources. While deemed reliable, the Planning Office assumes no liability.
8/3/2009 - Y:\Matt\ALUC\projects\SJ\SJ_figure7_sz_5.mxd

SAN JOSE INTERNATIONAL AIRPORT SAFETY ZONES | FIGURE 9



USFWS NATIONAL WETLANDS INVENTORY

FIGURE 10



USGS 7.5 MINUTE QUADRANGLE

FIGURE 11

Appendix A

AGRIHOOD COMMUNITY DEVELOPMENT TAC AND GHG EMISSION ASSESSMENT

Santa Clara, California

February 20, 2018
Revised March 28, 2018

Prepared for:

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Project: 18-024

Introduction

The purpose of this report is to address air quality toxic air contaminant (TAC) and greenhouse gas (GHG) emission impacts associated with the Agrihood (BAREC Property) development project at the southwest corner of Winchester Boulevard and Worthington Circle in the City of Santa Clara. The approximately 5.8-acre project site is currently undeveloped, bordering residential areas to the southwest, west and north with commercial development to the east and southeast.

The project proposes to construct the 165 affordable senior apartments. In addition, the project would construct 160 mixed-income apartments (16 to be below-market rate) and 36 townhomes. Approximately 50 percent of the total units would be affordable. The project would also provide approximately 1.5 acres of community gardens, agricultural gardens, and communal open space for the residents and the public. The majority of this space would be occupied by the community gardens and agricultural space. The remainder would be public open space for local events and recreation. A 1,650-square foot (sf) community building and café for public and resident use, and an 800 square foot garden workshop/shed would also be built as part of the project. Vehicle access to the proposed project would come from a gated, one-way driveway on the north side of the project site along Worthington Circle and a shared two-way driveway along Winchester Boulevard and along the eastside of the project side along Worthington Circle.

The project site is designated *Medium Density Residential* under the City's General Plan and has a zoning designation of *PD – Planned Development*. The *Medium Density Residential* designation is intended for residential development at densities ranging from 19 to 36 units per gross acre. This designation is intended for areas with access from arterial streets or in close proximity to neighborhood centers and mixed uses. Building types can include a combination of low-rise apartments, townhouses and row houses with garage or below-grade parking.

This air quality assessment focuses on the effect of toxic air contaminants (TACs) associated with the project upon sensitive receptors. Potential construction health risk impact to nearby sensitive receptors was evaluated by predicting construction period emissions and using dispersion modeling to predict concentrations at existing sensitive receptors near the project. The effect of existing TAC sources (e.g., local traffic) affecting the proposed residences was evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD). GHG emissions associated with the project were computed.

Setting

The project is located in the Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NOx). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. These regulations include the solid waste collection vehicle (SWCV) rule, in-use public and utility fleets, and the heavy-duty diesel truck and bus regulations. In 2008, CARB approved a new regulation to reduce emissions of DPM and nitrogen oxides from existing on-road heavy-duty diesel fueled vehicles.[1] The regulation requires affected vehicles to meet specific performance requirements between 2014 and 2023, with all affected diesel vehicles required to have 2010

[1] Available online: http://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm. Accessed: November 21, 2014.

model-year engines or equivalent by 2023. These requirements are phased in over the compliance period and depend on the model year of the vehicle.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [EPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.[2] *Attachment 1* includes detailed community risk modeling methodology.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

The BAAQMD *CEQA Air Quality Guidelines*[3] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. In June 2010, the BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of their *CEQA Guidelines*. In May 2011, the updated BAAQMD *CEQA Air Quality Guidelines* were amended to include a risk and hazards threshold for new receptors and modify procedures for assessing impacts related to risk and hazard impacts.

Local Regulations

Santa Clara General Plan

The 2010-2035 General Plan includes the following policies related to air quality TACs and odors:

5.10.2-P3 Encourage implementation of technological advances that minimize public health hazards and reduce the generation of air pollutants.

[2] Bay Area Air Quality Management District. 2011. BAAQMD CEQA Air Quality Guidelines. May.
[3] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)

5.10.2-P6 Require "Best Management Practices" for construction dust abatement.

5.10.5-P34 Implement minimum setbacks of 500 feet from roadways with average daily trips of 100,000 or more and 100 feet from railroad tracks for new residential or other uses with sensitive receptors, unless a project-specific study identifies measures, such as site design, tiered landscaping, air filtration systems, and window design, to reduce exposure, demonstrating that the potential risks can be reduced to acceptable levels.

5.10.5-P35 Establish minimum buffers between odor sources and new residential or other uses with sensitive receptors, consistent with BAAQMD guidelines, unless a project-specific study demonstrates that these risks can be reduced to acceptable levels.

The General Plan included Prerequisite Goals and Policies that relate to air quality. Some of these policies addressed significant impacts identified in the Draft Environmental Impact Report for the General Plan. The following policy related to air quality was included in the General Plan:

5.1.1-P24 Prior to the implementation of Phase III, the City will include a community Risk Reduction Plan ("CRRP") for acceptable Toxic Air Contaminant ("TAC") concentrations, consistent with the Bay Area Air Quality Management District ("BAAQMD") CEQA Guidelines, including risk and exposure reduction targets, measures to reduce emissions, monitoring procedures, and a public participations process.

Note that the City has not yet developed a CRRP, so health risk assessments are performed for projects that contain sensitive receptors near sources of air pollution or TACs. These include modeling of health risks for individual projects located within the minimum setbacks for roadways and railroads. Mitigation measures such as (but not limited to); site redesign, tiered plantings of trees, air filtration systems, and location of air intakes and design windows to reduce exposure, shall be required to reduce these risks to acceptable levels.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, and parks. For cancer risk assessments, children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children. The closest sensitive receptors to the project site are residences to the south and a senior living facility to the north of the project boundary. There are other residences at further distances to the west of the project site.

Greenhouse Gases

Global temperatures are affected by naturally occurring and anthropogenic-generated (generated by humankind) atmospheric gases, such as water vapor, carbon dioxide, methane, and nitrous oxide. Gases that trap heat in the atmosphere are called greenhouse gases (GHG). Solar radiation enters the earth's atmosphere from space, and a portion of the radiation is absorbed at the

surface. The earth emits this radiation back toward space as infrared radiation. Greenhouse gases, which are mostly transparent to incoming solar radiation, are effective in absorbing infrared radiation and redirecting some of this back to the earth's surface. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This is known as the greenhouse effect. The greenhouse effect helps maintain a habitable climate. Emissions of GHGs from human activities, such as electricity production, motor vehicle use, and agriculture, are elevating the concentration of GHGs in the atmosphere, and are reported to have led to a trend of unnatural warming of the earth's natural climate, known as global warming or global climate change. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred because it implies that there are other consequences to the global climate in addition to rising temperatures. Other than water vapor, the primary GHGs contributing to global climate change include the following gases:

- Carbon dioxide (CO_2), primarily a byproduct of fuel combustion;
- Nitrous oxide (N_2O), a byproduct of fuel combustion; also associated with agricultural operations such as the fertilization of crops;
- Methane (CH_4), commonly created by off-gassing from agricultural practices (e.g. livestock), wastewater treatment and landfill operations;
- Chlorofluorocarbons (CFCs) were used as refrigerants, propellants and cleaning solvents, but their production has been mostly prohibited by international treaty;
- Hydrofluorocarbons (HFCs) are now widely used as a substitute for chlorofluorocarbons in refrigeration and cooling; and
- Perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6) emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

These gases vary considerably in terms of Global Warming Potential (GWP), a term developed to compare the propensity of each GHG to trap heat in the atmosphere relative to another GHG. GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time of gas remains in the atmosphere. The GWP of each GHG is measured relative to CO_2. Accordingly, GHG emissions are typically measured and reported in terms of equivalent CO_2 (CO_2e). For instance, SF_6 is 22,800 times more intense in terms of global climate change contribution than CO_2.

An expanding body of scientific research supports the theory that global warming is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally-occurring resources within California could be adversely affected by the global warming trend. Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

indicates that total California emissions in 2015 were 440.4 MMT of CO_2e[4]. Approximately 37 percent of these emissions were associated with transportation (i.e., all sectors), followed by the Industrial sector at 21 percent and the Electric Power sector at 19 percent. The statewide inventory was estimated to have peaked in 2004. The current 2015 inventory is estimated to represent an overall decrease of 10 percent from 2004 levels.

Greenhouse Gas Regulatory Framework

This section summarizes key federal, State, and City statutes, regulations, and policies that would apply to the Master Plan Update. Global climate change resulting from GHG emissions is an emerging environmental concern being raised and discussed at the international, national, and statewide level. At each level, agencies are considering strategies to control emissions of gases that contribute to global climate change.

Federal Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. At this time, there are no federal regulations or policies pertaining to GHG emissions from proposed projects like the LSAP.

State Regulations

The State of California is concerned about GHG emissions and their effect on global climate change. The State recognizes that "there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures" and that "the evidence for climate change is overwhelming." The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report, the following climate change effects and conditions can be expected in California over the course of the next century:

- A diminishing Sierra snowpack declining by 70 percent to 90 percent, effecting the state's water supply;
- Increasing temperatures from 8 to 10.4 degrees Fahrenheit (°F) under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution standards are exceeded in most urban areas;

[4] See https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2015/ghg_inventory_trends_00-15.pdf accessed June 8, 2017

- Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- Increased vulnerability of forests due to pest infestation and increased temperatures;
- Increased challenges for the state's important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- Increased electricity demand, particularly in the hot summer months.

Assembly Bill 1575 (1975)

In 1975, the Legislature created the California Energy Commission (CEC). The CEC regulates electricity production that is one of the major sources of GHGs.

Title 24, Part 6 of the California Code of Regulations (1978)

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

Assembly Bill 1493 (2002)

Assembly Bill (AB) 1493 required CARB to develop and adopt regulations that reduce GHG emitted by passenger vehicles and light duty trucks.

State of California Executive Order S-3-05 (2005)

The Governor's Executive Order established aggressive emissions reductions goals: by 2010, GHG emissions must be reduced to 2000 levels; by 2020, GHG emissions must be reduced to 1990 levels; and by 2050, GHG emissions must be reduced to 80 percent below 1990 levels.

In June 2005, the Governor of California signed Executive Order S-3-05, which identified Cal/EPA as the lead coordinating State agency for establishing climate change emission reduction targets in California. A "Climate Action Team," a multi-agency group of State agencies, was set up to implement Executive Order S-3-05. Under this order, the State plans to reduce GHG emissions to 80 percent below 1990 levels by 2050. GHG emission reduction strategies and measures to reduce global warming were identified by the California Climate Action Team in 2006.

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codifies the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons of carbon dioxide equivalent (MMT CO_2e) as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 million metric tons of CO2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 million metric tons of CO2e. Thus, an estimated reduction of 80 million metric tons of CO2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the

region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

Executive Order S-13-08 (2008)

This Executive Order directed California agencies to assess and reduce the vulnerability of future construction projects to impacts associated with sea-level rise.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Executive Order EO-B-30-15 (2015) and SB 32 GHG Reduction Targets

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

The new Scoping Plan establishes a path that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings (note that new
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit oriented housing;
- Develop walkable and bikable communities
- Greatly increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;

- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and

- Reduce "super pollutants" by reducing methane and hydrofluorocarbons or HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO2e per capita by 2030 and no more than 2 metric tons CO2e per capita by 2050. The statewide per capita targets account for all emissions sectors in the State, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Bay Area Air Quality Management District

BAAQMD is the regional government agency that regulates sources of air pollution within the nine San Francisco Bay Area counties. The BAAQMD regulates GHG emissions through the following plans, programs, and guidelines.

Regional Clean Air Plans

BAAQMD and other air districts prepare clean air plans in accordance with the State and Federal Clean Air Acts. The Bay Area 2010 Clean Air Plan (CAP) is a comprehensive plan to improve Bay Area air quality and protect public health through implementation of a control strategy designed to reduce emissions and ambient concentrations of harmful pollutants. The most recent CAP also includes measures designed to reduce GHG emissions.

BAAQMD Climate Protection Program

The BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing emissions of GHG and in reducing air pollutants that affect the health of residents. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

BAAQMD CEQA Air Quality Guidelines

The BAAQMD adopted revised CEQA Air Quality Guidelines on June 2, 2010 and then adopted a modified version of the Guidelines in May, 2011. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance for greenhouse gas emissions. Under the latest CEQA Air Quality Guidelines, a local government may prepare a qualified greenhouse gas Reduction Strategy that is consistent with AB 32 goals. If a project is consistent with an adopted qualified greenhouse gas Reduction Strategy, it can be presumed that the project will not have

significant GHG emissions under CEQA.[5] The BAAQMD also developed a quantitative threshold for project- and plan-level analyses based on estimated GHG emissions, as well as per capita metrics.

Santa Clara Climate Action Plan

The Santa Clara Climate Action Plan (CAP), adopted December 3, 2013. The CAP includes measures to reduce emissions by 23.4% below 2008 levels by 2020 and a series of measures to reduce emissions beyond. The following reduction strategies would apply to this project:

- Achieve City-adopted electricity efficiency targets to reduce community-wide electricity use by5% through incentives, pilot projects, and rebate programs.
- Incentivize and facilitate the installation of 6 MW of customer-owned residential and nonresidential solar PV projects.
- Meet the water conservation goals presented in the 2010 Urban Water Management Plan to reduce per capita water use by 2020.
- Work with regional partners to increase solid waste diversion to 80% through increased recycling efforts, curbside food waste pickup, and construction and demolition waste programs.
- Support and facilitate a community-wide transition to electric outdoor lawn and garden equipment through outreach, coordination with BAAQMD, and outdoor electrical outlet requirements for new development.
- Require construction projects to comply with BAAQMD best management practices, including alternative-fueled vehicles and equipment.
- Require new development located in the city's transportation districts to implement a TDM program to reduce drive-alone trips.
- Revise parking standards for new multi-family residential and nonresidential development to allow that a minimum of one parking space, and a recommended level of 5% of all new parking spaces, be designated for electric vehicle charging.
- Create a tree-planting standard for new development and conduct a citywide tree inventory every five years to track progress of the requirements.
- Require new parking lots to be surfaced with low-albedo materials to reduce heat gain, provided it is consistent with the Building Code.

Significance Thresholds

The City uses the significance thresholds recommended by BAAQMND in their latest update to the CEQA Air Quality Guidelines. In response to the legal issues, BAAQMD revised their CEQA Guidelines in May 2017. The thresholds identified in Table 1 represent the most recent guidance provided by BAAQMD that are used by the City of Santa Clara. Though not necessarily a CEQA issue, the effect of existing TAC sources on future project receptors (residences) is analyzed to comply with BAAQMD's Clean Air Plan key goal of reducing population TAC exposure and protecting public health in the Bay Area.

[5] Bay Area Air Quality Management District, 2017. *CEQA Air Quality Guidelines*. May.

Table 1. Air Quality Significance Thresholds

Criteria Air Pollutant	Construction	Operational	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hr avg.) or 20.0 ppm (1-hr avg)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions		Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons or 4.6 metric tons per capita for 2020	

Note that BAAQMD's recommended GHG threshold of 1,100 metric tons or 4.6 metric tons per capita was developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Full development of the entire project would occur beyond 2020, so a threshold that addresses a future target is appropriate. The basis of the BAAQMD thresholds were used to develop plan level thresholds for 2040. Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.6 MT CO2e/year/service population. This is calculated for 2030 based on the GHG reduction goals of EO B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.[6]

Impact: Expose sensitive receptors to substantial pollutant concentrations? ***Less than significant with construction period mitigation.***

Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximity to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive

[6] Association of Environmental Professionals, 2016. *Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California*. April.

receptors in the project vicinity. The BAAQMD recommends using a 1,000-foot screening radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TACs. Operation of the project is not expected to cause any localized emissions that could expose sensitive receptors to unhealthy air pollutant levels. No stationary sources of TACs, such as generators, are proposed as part of the project. The project would introduce new sensitive receptors to the area in the form of future residences. There are thresholds that address both the impact of single and cumulative TAC sources upon projects that include new sensitive receptors (see Table 1). Construction activity would generate dust and equipment exhaust on a temporary basis that could affect nearby sensitive receptors.

Operational Community Risk Impacts

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of a project site. These sources include freeways or highways, busy surface streets and stationary sources identified by BAAQMD. Traffic on high volume roadways is a source of TAC emissions that may adversely affect sensitive receptors in close proximity to the roadway. For local roadways, BAAQMD considers roadways with traffic volumes of over 10,000 vehicles per day to have a potentially significant impact on a proposed project. A review of the project area indicates that traffic on Stevens Creek Boulevard and Winchester Blvd are the only substantial source of mobile TAC emissions within 1,000 feet of the residential portion of the project site. A review of BAAQMD's Google Earth map tool used to identify stationary sources revealed two sources with the potential to affect the project site. Community risk impacts from these sources upon the project are reported in Table 2. The project site and sources affecting the project (i.e., within 1,000 feet) are shown in Figure 1.

<u>High-Volume Local Roadway Impacts</u>

For local roadways, BAAQMD has provided a screening calculator to determine if roadways with traffic volumes of over 10,000 vehicles per day may have a significant effect on a proposed project. Two local roadways appear to affect the project site. Roadways evaluated include N. Winchester Blvd. and Stevens Creek Blvd. Inputs to the screening calculator include county, roadway orientation, side of the roadway the receptor is located, distance from the edge of the roadway, and the average daily traffic volume or ADT.

Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new OEHHA guidance described above. The calculator uses EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. The project is not likely to be occupied prior to 2018. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts lower emission rates. An adjustment factor of 0.5 was developed by comparing emission rates of total organic gases (TOG) for running exhaust and running losses developed using EMFAC2011 for year 2014 and those from EMFAC2014 for year 2018[7]. The predicted cancer risk was then adjusted

[7] EMFAC2014 produces emission rates for 2018 that are 54 percent less for exhaust $PM_{2.5}$ and 44 percent less for total organic gases than EMFAC2011 produces for the year 2014.

using a factor of 1.3744 to account for new OEHHA guidance. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk[8].

Traffic volumes were based on the project traffic impact assessment, using the average of the am and pm peak-hour volume and multiplying by ten to get the average daily traffic trips (ADT)[9]. The following inputs were used to model nearby roadways using the BAAQMD *Roadway Screening Analysis Calculator* for Santa Clara County:

- Stevens Creek Blvd. was modeled an east-west roadway south of the project site with a range of distances from the north side of the roadway edge, with the closes distance being about 700 feet. The ADT was computed at about 30,570 vehicles per day.

- Winchester Blvd. was modeled an north-south roadway, east of the project site with a range of distances from the west side of the roadway edge, with the closes distance being about 140 feet. The ADT was computed at about 26,465 vehicles per day.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth and identified one stationary source and their estimated risk and hazard impacts.

There are two emergency generators powered by diesel engines in proximity of the site that are permitted by BAAQMD. Plant 19388, which is a generator located at 2400 Forest Avenue operated by Nordstrom, Inc., is about 1,000 feet east of the project site. Plant 16255 is another generator at 3051 Stevens Creek Blvd., operated by Macys, about 780 feet east. The risk and $PM_{2.5}$ concentration from these sources were adjusted using the *Distance Adjustment Multiplier Tool for Diesel Internal Combustion Engines.*

Cumulative Sources – New Residences

Cumulative TAC impacts are assessed by predicting the combined community risk impacts to the project and nearby sources. Table 2 reports the combination of impacts from all sources within 1,000 feet at the project site. As shown in Table 2, community risk impacts to the project site would be less significant.

[8] Email from Virginia Lau, BAAQMD to Bill Popenuck of Illingworth & Rodkin, Inc, dated November 15, 2015.
[9] Hexagon. 2018. *Santa Clara Sustainable Project - Traffic Impact Analysis*. February 7.

Figure 1. Project Site and TAC Influence Area

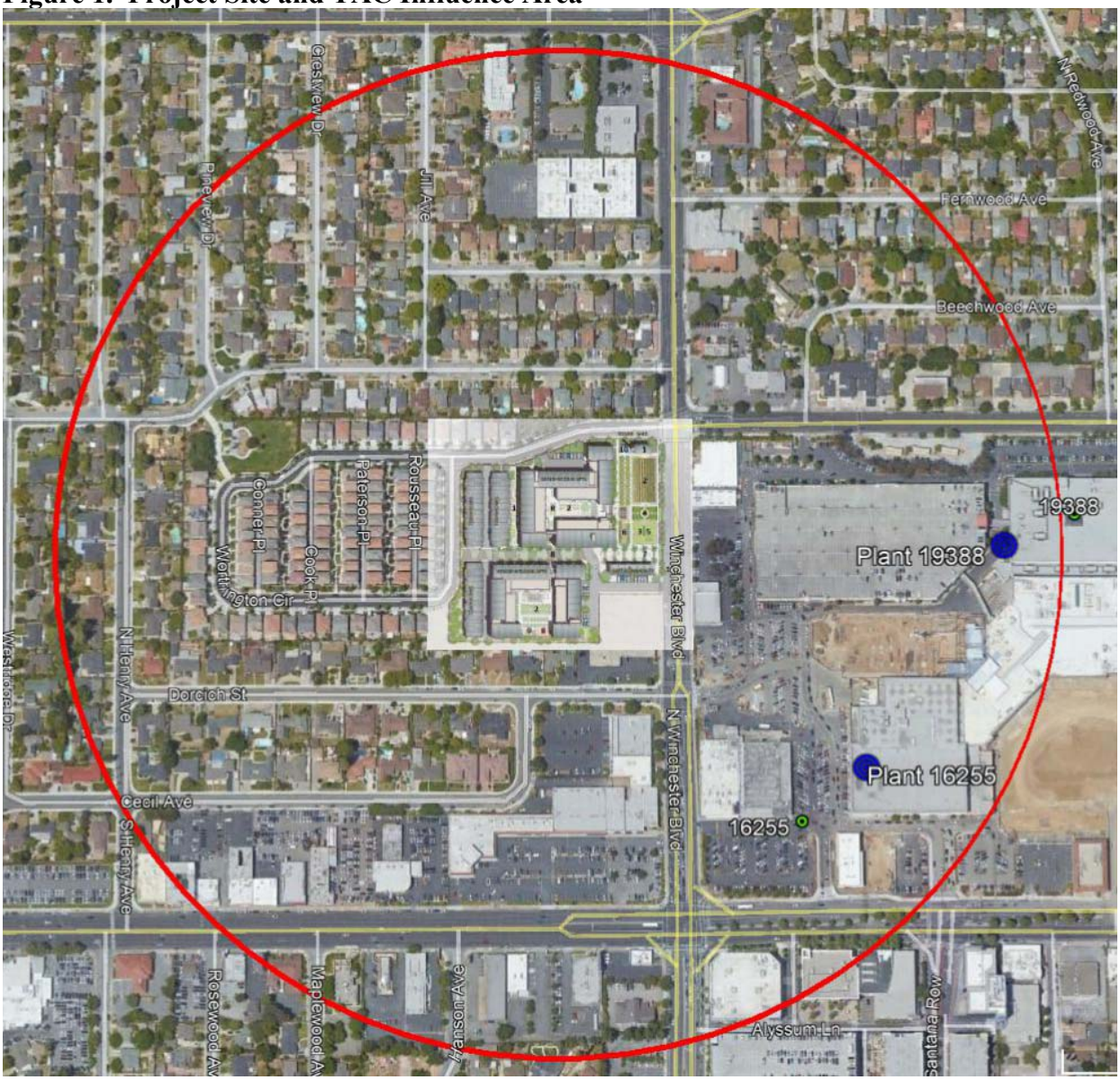

Table 2. Community Risk Impacts to New Project Residences

Source	Maximum Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Maximum Hazard Index
Stevens Creek Blvd (east-west roadway) – 700ft. north	2.1	0.06	<0.01
Winchester Blvd. (north-south roadway) – 140 ft west	4.5	0.13	<0.01
Plant 16255, Macy's Valley Fair Generator at 3051 Stevens Creek Blvd (SSIF, Diesel IC Engine distance multiplier) at ~ 780 feet	3.6	0.00	0.00
Plant 19388, Nordstrom, Inc. Generator at 2400 Forest Ave (SSIF, Diesel IC Engine distance multiplier) at ~ 1,000 feet	0.9	0.00	0.00
Single Source Maximum	4.5	0.13	0.01
BAAQMD Threshold – Single Source	>10	>0.3	>1.0
Significant?	***No***	***No***	***No***
Cumulative Total	<11.1	0.19	0.01
BAAQMD Threshold – Cumulative Sources	***>100***	***>0.8***	***>10.0***
Significant?	***No***	***No***	***No***

Note: Since screening risk is predicted at the nearest point on the project site from a given source, actual screening risk at the project MEI would be less than presented for the cumulative total.

Project Construction Activity

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects of sensitive receptors at these nearby residences from construction emissions of DPM and $PM_{2.5}$.[10] The closest sensitive receptors to the project site are residences adjacent to the southern and western project site boundaries. There are additional residences at farther distances to the north, south, west, and northeast of the project site. Dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction activity is anticipated to include demolition, grading and site preparation, trenching, building construction, and paving. Construction period emissions were modeled using the California Emissions Estimator Model, Version 2016.3.2 (CalEEMod). A build-out construction schedule including equipment usage assumptions was provided. The proposed project land uses were input into CalEEMod, which included the following:

[10] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

- 165 dwelling units entered as "Retirement Community,"
- 160 dwelling units entered as "Apartments Low Rise,"
- 36 dwelling units entered as "Condo/Townhouse,"
- 1,650 square feet entered as "High Turnover (Sit Down Restaurant)," and
- 1.50-acre entered as "City Park."

The begin and end dates for each construction phase were entered into the model, along with the anticipated equipment usage. The anticipated quantity of each equipment type along with the average daily number of hours (based on hours per day times total days, divided by number of days in the phase) was entered to the model. The model predicted truck traffic for grading based on the amount of soil hauling, which was provided as 14,000 cubic yards (cy) of export. Truck trips associated with cement import (250 roundtrips) and asphalt trucks (300 cy at 10 cy/roundtrip) were included in the modeling.

Construction Emissions

The CalEEMod model provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages of 0.0455 tons (91 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.017 tons (34 pounds) for the overall construction period.

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at existing sensitive receptors (residences) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[11] The AERMOD modeling utilized two area sources to represent the on-site construction emissions, one for exhaust emissions and one for fugitive $PM_{2.5}$ dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 6 meters (19.7 feet) was used for the area source. The elevated source height reflects the height of the equipment exhaust pipes plus an additional distance for the height of the exhaust plume above the exhaust pipes to account for plume rise of the exhaust gases. For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 2 meters (6.6 feet) was used for the area source. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when the majority of construction activity would occur. Figure 2 shows the project site and nearby sensitive receptor locations where health impacts were evaluated.

[11] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

The modeling used a five-year data set (2006-2010) of hourly meteorological data from the San Jose Airport meteorological site that was prepared for use with the AERMOD model by BAAQMD. Annual DPM and $PM_{2.5}$ concentrations from construction activities during 2019-2021 were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors. Receptor heights of 1.5 meters (5 feet) and 4.5 meters (15 feet) were used to represent the breathing heights of residents in nearby homes.

Predicted Cancer Risk, PM2.5 and Hazards from Construction

Figure 2 shows the locations where the maximum-modeled DPM and $PM_{2.5}$ concentrations occurred. The maximum concentrations occurred at a single-family residence adjacent to the southern project site boundary at the 1.5-meter (5-foot) receptor height level. Using the maximum annual modeled DPM concentrations, the maximum increased cancer risk at the location of the maximally exposed individual (MEI) was calculated using BAAQMD recommended methods. The cancer risk calculations are based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations, as described in *Attachment 1*. Infant and adult exposures were assumed to occur at all residences through the entire construction period.

Results of this assessment, shown in Table 3, indicate that the maximum increased residential cancer risks would be 19.9 in one million for an infant exposure and 0.3 in one million for an adult exposure. The maximum residential excess cancer risk would be above the BAAQMD significance threshold of 10.0 in one million for single sources. The maximum-modeled annual $PM_{2.5}$ concentration, which is based on combined exhaust and fugitive dust emissions, was 0.10 $\mu g/m^3$. This maximum annual $PM_{2.5}$ concentration would be below the BAAQMD significance threshold of greater than 0.3 $\mu g/m^3$. The location of the receptor with the maximum $PM_{2.5}$ concentration is at the same as where the maximum TAC impact would occur, and is shown in Figure 2 The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was 0.078 $\mu g/m^3$. The maximum computed HI based on this DPM concentration is 0.02, which is much lower than the BAAQMD significance criterion of a HI greater than 1.0.

Predicted Cumulative Cancer Risk, PM2.5 and Hazards from Construction

The combination of project construction health risk and the contribution from nearby sources is reported in Table 2. The same sources that affect the project site, as described above, were assessed in this cumulative risk assessment. The project would have a *significant* impact with respect to community risk caused by project construction activities, since cancer risk would be above the single-source thresholds of 10.0 per million for cancer risk. *Attachment 3* includes the emission calculations and source information used in the modeling and the cancer risk calculations.

Figure 2. Project Construction Site and Locations of Off-Site Sensitive Receptors and TAC Impacts

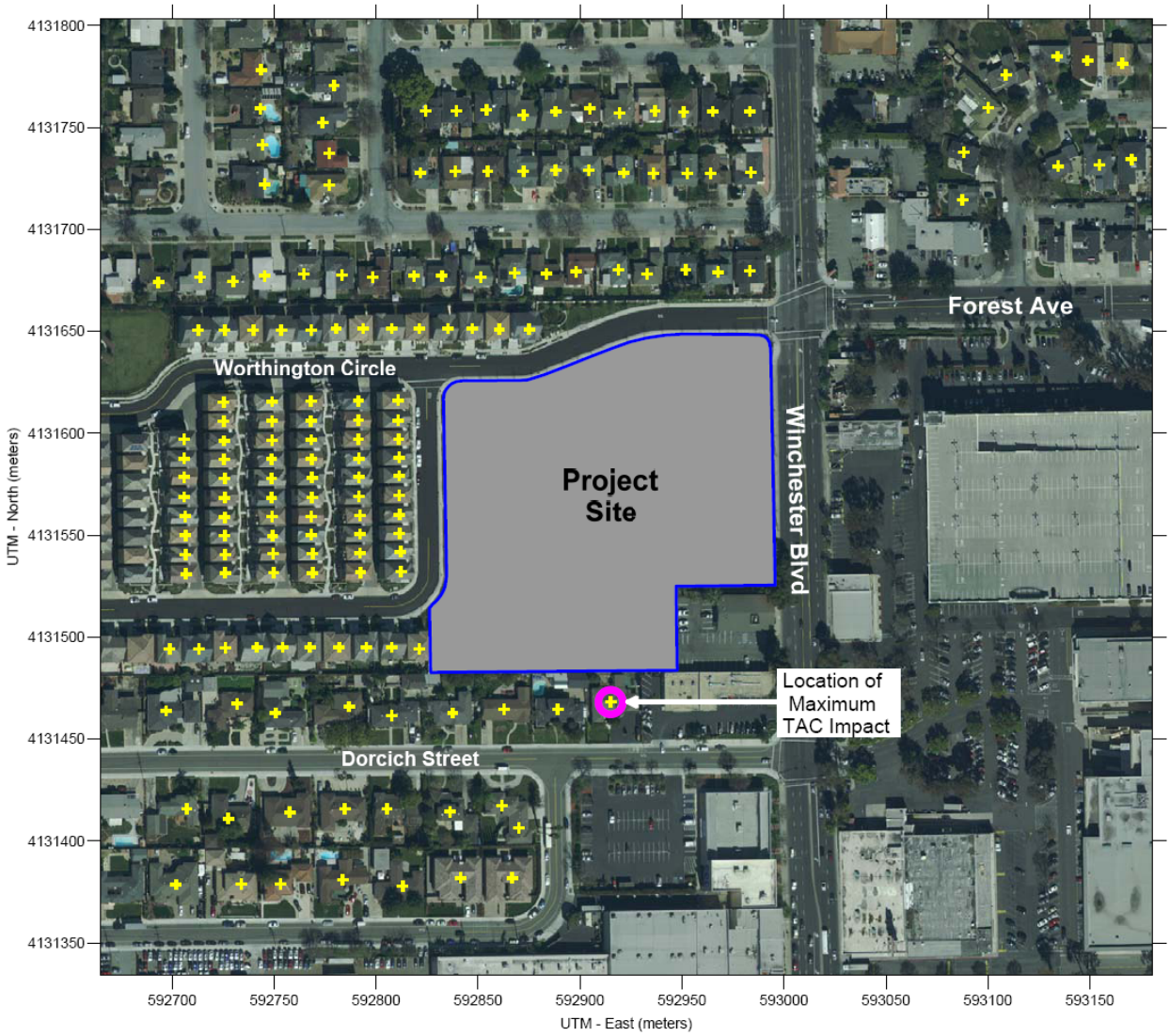

Table 3. Community Risk Impacts from Project Construction

Source	Maximum Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Maximum Hazard Index
Project Construction Unmitigated Mitigated	 **19.9** (infant) 3.1 (infant)	 0.10	 0.02
Stevens Creek Blvd (east-west roadway) – 650ft. north	2.2	0.06	<0.01
Winchester Blvd. (north-south roadway) – 320 ft west	2.0	0.06	<0.01
Plant 16255, Macy's Valley Fair Generator at 3051 Stevens Creek Blvd (SSIF, Diesel IC Engine distance multiplier) at ~900 feet	3.6	0.00	0.00
Plant 19388, Nordstrom, Inc. Generator at 2400 Forest Ave (SSIF, Diesel IC Engine distance multiplier) at greater than 1,000 feet	<0.9	0.00	0.00
Cumulative Maximum **Unmitigated Construction** **Mitigated Construction**	 28.6 11.8	 0.22 <0.22	 0.04 <0.04
BAAQMD Threshold – Single Source	>10.0	>0.3	>1.0
BAAQMD Threshold – Cumulative Sources	*>100*	*>0.8*	*>10.0*
Significant?	***Yes***	*No*	*No*

Mitigation Measures

Mitigation Measure 1: **Include basic measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less than significant level. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

***Mitigation Measure 2* Selection of equipment during construction to minimize emissions.**

Methods to meet this requirement include the following:

1. All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days shall meet, at a minimum, U.S. EPA particulate matter emissions standards for Tier 2 engines or equivalent;

2. Use of equipment that is equipped with Tier 3 or Tier 4 engines;

3. Use of equipment that includes CARB-certified Level 3 Diesel Particulate Filters[12] or

4. Alternatively-fueled equipment (i.e., non-diesel) would meet this requirement. Other measures may be the use of added exhaust devices, or a combination of measures above that are demonstrated to reduce community risk impacts to less than significant.

Effectiveness of Mitigation

Implementation of *Mitigation Measure AQ-1* is considered to reduce exhaust emissions by 5 percent and fugitive dust emissions by over 50 percent. Implementation of *Mitigation Measure AQ-2* would further reduce on-site diesel exhaust emissions. With mitigation, the computed maximum increased lifetime residential cancer risk from construction, assuming infant exposure, would be 3.1 in one million or less. This cancer risk would be below the BAAQMD threshold of 10 per one million for cancer risk. *After implementation of these recommended measures, the project would have a less-than-significant impact with respect to community risk caused by construction activities.*

[12] See http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm

GREENHOUSE GAS EMISSIONS ANALYSIS

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was also used to estimate GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above. CalEEMod provides emissions for transportation, areas sources, electricity consumption, natural gas combustion, electricity usage associated with water usage and wastewater discharge, and solid waste land filling and transport.

Mobile Emissions

Traffic-related emissions are based on the traffic trip generation rates for the various proposed land uses and the model default travel assumptions. Hexagon provided weekday daily trip generation rates[13]. Saturday and Sunday trip rates were computed by applying the ratio of the Saturday to weekday and the Sunday to weekday default CalEEMod rates to the weekday trip rate forecasted by hexagon.

Electricity Usage

Emissions rates associated with electricity consumption were applied to the project, using default usage rates assumed in CalEEMod. Silicon Valley Power (SVP) is the provider of electricity to the project. Currently, SVP emits 547 pounds of carbon dioxide (CO_2) per MW of electricity provided[14]. The City's Climate Action Plan includes goals and policies to reduce GHG emission associated with SVP's electricity generation:

> *General Plan Goal: Eliminate coal from SVP's portfolio and increase use of natural gas and renewable energy*
>
> *Policies: Replace the use of coal in Silicon Valley Power's portfolio with natural gas by 2020.*

As a result, SVP's emission rate will reduce by 40 percent to 380 pounds of CO_2 per MW by 2020. Use of this rate is considered conservative, in that other Climate Action Plan measures would be in place to reduce the 2020 rate. Other measures would increase the amount of renewable energy sources and increase energy efficiency to reduce emission from electricity generation.

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[13] Hexagon. 2018. *Santa Clara Sustainable Project - Traffic Impact Analysis*. February 7.

[14] Hughes, Kathleen. Acting Division Manager for Joint Powers, Resources Division. Silicon Valley Power. Personal communication. March 9, 2017.

Solid Waste and Water Usage/ Wastewater Generation
These emissions would be minor and were based on the model default conditions.

Service Population Estimates
The project service population efficiency rate is based on the number of future residences and full-time employees. The number of future full-time employees is estimated at 5 based on an approximate three employees per 1,000 sf of retail or office space (i.e., 3 * 1.65ksf). The number of future residences was estimated using the latest California Department of Finance (DOF) demographic data that indicates 2.73 average persons per household for Santa Clara.[15] Since there are 160 apartments and 36 townhomes proposed, the number of new residents was 535 people. The retirement community was assumed to have fewer residents per household; however, there are no published data. For this assessment, it was assumed 1.5 residents per dwelling unit, or a population of 248. Total service population was estimated as 788.

Construction Emissions

GHG emissions associated with construction were computed to be 405 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. BAAQMD has not proposed a threshold of significance for construction-related GHG emissions. Best management practices assumed to be incorporated into construction of the proposed project include but are not limited to: using local building materials of at least 10 percent and recycling or reusing at least 50 percent of construction waste or demolition materials.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to predict daily emissions associated with operation of the fully-developed site under the proposed project. In 2021, as shown in Table 3, annual net emissions resulting from operation of the proposed project are predicted to be 2,371 MT of CO_2e. Emissions were computed for 2030 that take into account lower mobile emissions predicted by CalEEMod. In 2030, total emissions would be 1,999 MT of CO_2e. Using the service population of 788 people, the annual per capita emissions would be 2.41 MT of CO_2e. The CalEEMod modeling is included as *Attachment 4*.

Table 3. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Proposed Project 2021	Proposed Project 2030
Area	19	19
Energy Consumption	524	524
Mobile	1,669	1,297
Solid Waste Generation	93	93
Water Usage	65	65
Total	**2,371**	**1,999**
Per Capita Emissions	**3.00**	**2.54**
Post 2020 Threshold		***2.6* MT/capita in 2030**

[15] California Department of Finance, 2017. *Santa Clara (city), Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2017.*

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[16] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[17] This HRA used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[18] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended in the BAAQMD guidance, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

Under previous OEHHA and BAAQMD HRA guidance, residential receptors were assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is recommended in the BAAQMD guidance if there are no schools in the project vicinity that would have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

[16] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments.* Office of Environmental Health Hazard Assessment. February.
[17] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[18] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. January 2016.

Inhalation Dose = C_{air} *x DBR x A x (EF/365) x* 10^{-6}

Where: C_{air} = concentration in air (μg/m^3)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type →*	Infant		Child		Adult
	Age Range →	3rd Trimester	0<2	2 < 9	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day)$^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	631	572	261
Inhalation Absorption Factor		1	1	1	1	1
Averaging Time (years)		70	70	70	70	70
Exposure Duration (years)		0.25	2	14	14	14
Exposure Frequency (days/year)		350	350	350	350	350
Age Sensitivity Factor		10	10	3	3	1
Fraction of Time at Home		0.85-1.0	0.85-1.0	0.72-1.0	0.72-1.0	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

BAAQMD has provided screening tools for assessing impacts from stationary sources, highways and local roadways. These tools do not incorporate the latest OEHHA guidance described above. For these sources and sources with continuous emissions evaluated using the older 2010 guidance, BAAQMD recommends adjusting the lifetime cancer risk upwards with a 1.3744 factor. This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.[19]

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter (μg/m^3).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

[19] Email from Virginia Lau, BAAQMD to Bill Popenuck, Illingworth & Rodkin, Inc, dated November 15, 2015.

Attachment 2: Screening Risk Assessment – Existing Sources

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

- County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- Side of the Roadway: Identify on which side of the roadway the project is located.
- Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	East-West
Side of the Roadway	North
Distance from Roadway	700 feet
Annual Average Daily Traffic (ADT)	30,570

Results

Santa Clara County

EAST-WEST DIRECTIONAL ROADWAY

PM2.5 annual average: 0.056 ($\mu g/m^3$)

Cancer Risk: 3.04 (per million)

Stevens CreekBlvd

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018: 2.09 (per million)

Note that EMFAC2014 predicts DSL PM2.5 aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

- County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.
- Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.
- Side of the Roadway: Identify on which side of the roadway the project is located.
- Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.
- Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	West
Distance from Roadway	140 feet
Annual Average Daily Traffic (ADT)	26,465

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average: 0.131 ($\mu g/m^3$)

Cancer Risk: 6.55 (per million)

Broadway

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018: 4.50 (per million)

Note that EMFAC2014 predicts DSL PM2.5 aggregate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Winchester ADT = 26,465
SCB ADT = 30,570

Intersectior 4
Traffix Nod 3118
Intersectior Winchester Boulevard and Stevens Creek Boulevard *
Peak Hour PM
Count Date 10/20/16

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Cc	165	767	239	130	642	377	389	427	226	269	971	273	4,875
Approved Project Trips													
n Jose ATI	22	130	123	127	75	176	173	184	110	51	59	16	1,246
(San Jose)	0	29	0	0	0	66	348	154	58	11	0	0	666
(San Jose)	0	12	0	0	0	78	60	10	34	19	0	0	213
(San Jose)	0	0	0	-1	4	0	8	0	0	0	5	0	16
(San Jose)	0	0	0	0	0	0	0	0	0	0	0	0	0
(San Jose)	0	5	0	0	0	0	0	20	22	5	0	0	52
anta Clara)	2	5	8	10	0	0	0	6	0	0	0	2	33
anta Clara)	0	0	0	0	17	0	0	0	0	0	14	0	31
a Clara ATI	13	56	0	0	67	0	0	15	28	43	126	19	367
oject Trips	37	237	131	136	163	320	589	389	252	129	204	37	2,624
Backgroun	202	1,004	370	266	805	697	978	816	478	398	1,175	310	7,499
roject Trips	3	8	14	24	0	0	0	14	0	0	0	6	69
tail Passby	0	0	0	0	0	0	0	0	0	0	0	0	0
roject Trips	3	8	14	24	0	0	0	14	0	0	0	6	69
Existing Pk	168	775	253	154	642	377	389	441	226	269	971	279	4,944
Backgroun	205	1,012	384	290	805	697	978	830	478	398	1,175	316	7,568
Winchester	3037												
Link SCB	3377												

Intersectior 4
Traffix Nod 3118
Intersectior Winchester Boulevard and Stevens Creek Boulevard *
Peak Hour AM
Count Date 10/11/16

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing Cc	72	277	94	275	1,227	313	205	741	145	83	400	98	3,930
Approved Project Trips													
n Jose ATI	5	152	29	28	23	97	70	72	37	109	21	11	654
(San Jose)	0	173	0	0	0	391	48	21	8	65	0	0	706
(San Jose)	0	5	0	0	0	23	75	5	38	6	0	0	152
(San Jose)	0	0	2	0	4	0	9	0	0	0	7	0	22
(San Jose)	0	0	0	0	0	0	0	0	0	0	0	0	0
(San Jose)	0	21	0	0	0	0	0	2	2	23	0	0	48
anta Clara)	2	5	9	5	0	0	0	3	0	0	0	1	25
anta Clara)	0	0	0	0	74	0	0	0	0	0	23	0	97
a Clara ATI	17	10	0	0	109	0	0	50	38	20	50	11	305
oject Trips	24	366	40	33	210	511	202	153	123	223	101	23	2,009
Backgroun	96	643	134	308	1,437	824	407	894	268	306	501	121	5,939
roject Trips	6	13	23	10	0	0	0	6	0	0	0	2	60
tail Passby	0	0	0	0	0	0	0	0	0	0	0	0	0
roject Trips	6	13	23	10	0	0	0	6	0	0	0	2	60
Existing Pk	78	290	117	285	1,227	313	205	747	145	83	400	100	3,990
Backgroun	102	656	157	318	1,437	824	407	900	268	306	501	123	5,999
Winchester	2256												
Link SCB	2737												

Plant 19388

19388

Santa_Clara_May_2012_schema:FID 1113
Santa_Clara_May_2012_schema:PlantNo 19388
Santa_Clara_May_2012_schema:Name Nordstrom Inc
Santa_Clara_May_2012_schema:Address 2400 FOREST AVENUE
Santa_Clara_May_2012_schema:City San Jose
Santa_Clara_May_2012_schema:UTM_East 593332.962391
Santa_Clara_May_2012_schema:UTM_North 4131591.41613
Santa_Clara_May_2012_schema:Cancer 15.90
Santa_Clara_May_2012_schema:Hazard 0.006
Santa_Clara_May_2012_schema:PM25 0.004
Santa_Clara_May_2012_schema:Type Generator
Distance Multiplier = 0.04 (for 1,000ft)

Plant 16255

16255

Santa_Clara_May_2012_schema:FID 1366
Santa_Clara_May_2012_schema:PlantNo 16255
Santa_Clara_May_2012_schema:Name Macy's Valley Fair Attn: James Skyberg
Santa_Clara_May_2012_schema:Address 3051 STEVENS CREEK BLVD
Santa_Clara_May_2012_schema:City Santa Clara
Santa_Clara_May_2012_schema:UTM_East 593111.550428
Santa_Clara_May_2012_schema:UTM_North 4131342.40149
Santa_Clara_May_2012_schema:Cancer 37.82
Santa_Clara_May_2012_schema:Hazard 0.013
Santa_Clara_May_2012_schema:PM25 0.009
Santa_Clara_May_2012_schema:Type Generator
Distance Multiplier = 0.07 (for 780ft)

Attachment 3: CalEEMod Input and Output Worksheets and Risk Calculations

Construction Schedule

Project Name: Santa Clara Sustainable					
Construction Phase	**Equipment** (***See next page for example of commonly used equipment***)	**Quantity**	**Average Hours Used Per Day**	**How Many Work Days**	**Fuel Type - if other than Diesel**
Demolition *10* **Start Date:** 10/14/19 **End Date**: 10/25/19	• Excavator	1	8	10	
	• Dozer	1	8	10	
	•				
	•				
	•				
Site Preparation *(part of grading)* *1* **Start Date:** _____ **End Date**: _____	•				
	•				
	•				
	•				
	•				
Grading/Excavation *23* **Start Date:** 10/28/19 **End Date**: 11/27/19	• Excavator	1	8	15	
	• Grader	1	8	10	
	• Loader	1	8	15	
	•				
	•				
Trenching *45* **Start Date:** 12/2/19 **End Date**: 1/31/20	• Backhoe	2	8	40	
	•				
	•				
	•				
	•				
Building – Exterior *393* **Start Date:** 4/6/20 **End Date**: 10/6/21	• Crane	1	6	4	*Assume 40*
	• Forklift	1	6	200	
	• Backhoe	1	6	30	
	• Welder	1	4	30	
	•				
Building – Interior/ Architectural Coating *323* **Start Date:** 7/13/20 **End Date**: 10/6/21	• Air Compressors	2	8	100	
	•				
	•				
	•				
	•				
Paving 20 **Start Date:** 1/13/20 **End Date**: 2/14/~~22~~ 20 assume 2020	• Paving Equipment	1	5	10	
	• Roller	1	6	20	
	• Cement Mixer	16	1	17	
	•				
	•				
OTHER – Provide as Applicable					
Soil Hauling Volume	Export volume = _____14,000____ cubic yards? Import volume = _____0_____ cubic yards?				
Demolition Volume	Square footage of buildings to be demolished, or total tons to be hauled.				

Project Name: Santa Clara Sustainable					
Construction Phase	**Equipment (*See next page for example of commonly used equipment*)**	**Quantity**	**Average Hours Used Per Day**	**How Many Work Days**	**Fuel Type - if other than Diesel**
	=__0_ square feet or =___ hauling volume (tons) Pavement demolished and hauled = 0__ tons				
Power	Line Power (Y/N) _Y__ or Generator use (Y/N) _N__? If generator use, then fuel type (diesel/gasoline/propane) ___				
Cement	Cement Trucks = _250_ Total Round-Trips OR Cement =__ cubic yards				
Asphalt	_300___ cy or ____ round trips				

Example of Equipment Commonly Used for Each Construction Phase
Demolition
Concrete/Industrial Saws
Excavators
Rubber-Tired Dozers
Site Preparation
Rubber Tired Dozers
Tractors/Loaders/Backhoes
Grading / Excavation
Excavators
Graders
Scrapers
Rubber Tired Dozers
Tractors/Loaders/Backhoes
Trenching
Excavator
Tractor/Loader/Backhoe
Building - Exterior
Cranes
Forklifts
Generator Sets
Tractors/Loaders/Backhoes
Welders
Building – Interior/ Architectural Coating
Air Compressors
Aerial Lift
Paving
Cement and Mortar Mixers
Pavers
Paving Equipment
Rollers
Tractors/Loaders/Backhoes

Construction Health Impacts Calculations

Agrihood, Santa Clara, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Emissions Model Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2019-2020*	Construction	0.0291	DPM	58.2	0.01772	2.23E-03	23,105	**9.66E-08**
2021	Construction	0.0164	DPM	32.8	0.00998	1.26E-03	23,105	**5.45E-08**
Total		***0.0455***		***91.0***	***0.0277***	***0.0035***		

* Includes about two and one-half months of emissions from 2019

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2019-2020*	Construction	FUG	0.0086	17.2	0.00524	6.60E-04	23,105	**2.86E-08**
2021	Construction	FUG	0.00824	16.5	0.00502	6.32E-04	23,105	**2.74E-08**
Total			***0.0169***	***33.7***	***0.0103***	***0.0013***		

* Includes about two and one-half months of emissions from 2019

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

DPM Construction Emissions and Modeling Emission Rates - With Mitigation

Emissions Model Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2019-2020*	Construction	0.0042	DPM	8.3	0.00253	3.18E-04	23,105	**1.38E-08**
2021	Construction	0.0029	DPM	5.7	0.00175	2.20E-04	23,105	**9.53E-09**
Total		***0.0070***		***14.0***	***0.0043***	***0.0005***		

* Includes about two and one-half months of emissions from 2019

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

PM2.5 Fugitive Dust Construction Emissions for Modeling - With Mitigation

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2019-2020*	Construction	FUG	0.00824	16.5	0.00502	6.32E-04	23,105	**2.74E-08**
2021	Construction	FUG	0.00824	16.5	0.00502	6.32E-04	23,105	**2.74E-08**
Total			***0.0165***	***33.0***	***0.0100***	***0.0013***		

* Includes about two and one-half months of emissions from 2019

Operation Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

Agrihood, Santa Clara, CA
Construction Health Impacts Summary

Maximum Impacts at Construction MEI Location - Unmitigated

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2020	0.0776	0.0238	12.8	0.2	0.016	0.10
2021	0.0438	0.0228	7.2	0.1	0.009	0.07
Total	-	-	**19.9**	**0.3**		
Maximum	0.0776	0.0238	-	-	**0.016**	**0.10**

Maximum Impacts at Construction MEI Location - With Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million): Child	Cancer Risk (per million): Adult	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2019-2020	0.0111	0.0228	1.8	0.0	0.002	0.03
2021	0.0077	0.0228	1.3	0.0	0.002	0.03
Total	-	-	**3.1**	**0.1**		
Maximum	0.0111	0.0228	-	-	**0.002**	**0.03**

Agrihood, Santa Clara, CA - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors - 1.5 meter heights

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019-2020	0.0776	10	12.75	2019-2020	0.0776	1	0.22	0.0238	0.101
2	1	1 - 2	2021	0.0438	10	7.19	2021	0.0438	1	0.13	0.0228	0.067
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**19.9**				**0.35**		

* Third trimester of pregnancy

Agrihood, Santa Clara, CA - Without Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors - 4.5 meter heights

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019-2020	0.0557	10	9.14	2019-2020	0.0557	1	0.16	0.0170	0.073
2	1	1 - 2	2021	0.0314	10	5.16	2021	0.0314	1	0.09	0.0163	0.048
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**14.30**				**0.25**		

* Third trimester of pregnancy

Agrihood, Santa Clara, CA - With Mitigation
Maximum DPM Cancer Risk Calculations From Construction
Impacts at Off-Site Receptors - 1.5 meter heights

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child				Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 9**	**2 - 16**	**16 - 30**
Parameter					
ASF =	10	10	3	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	631	572	261
A =	1	1	1	1	1
EF =	350	350	350	350	350
AT =	70	70	70	70	70
FAH =	1.00	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information			Infant/Child	Adult - Exposure Information			Adult		
			DPM Conc (ug/m3)		Age	Cancer	Modeled DPM Conc (ug/m3)		Age	Cancer		
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Risk (per million)**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	-	-	10	-	-	-	-	-		
1	1	0 - 1	2019-2020	0.0111	10	1.82	2019-2020	0.0111	1	0.03	0.0228	0.034
2	1	1 - 2	2021	0.0077	10	1.26	2021	0.0077	1	0.02	0.0228	0.030
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00		
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00		
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00		
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00		
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00		
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00		
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00		
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00		
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00		
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00		
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00		
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00		
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00		
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00		
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00		
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00		
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00		
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00		
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00		
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00		
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00		
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00		
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00		
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00		
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00		
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00		
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00		
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00		
Total Increased Cancer Risk						**3.1**				**0.05**		

* Third trimester of pregnancy

Attachment 4: CalEEMod GHG Modeling Output

CalEEMOD Output
TAC Emissions

Agrihood

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Retirement Community	165.00	Dwelling Unit	2.00	165,000.00	472
Apartments Low Rise	160.00	Dwelling Unit	2.00	160,000.00	458
Condo/Townhouse	36.00	Dwelling Unit	2.00	36,000.00	103
High Turnover (Sit Down Restaurant)	1.65	1000sqft	0.04	1,650.00	0
City Park	1.50	Acre	1.50	65,340.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVP post 2018 rate due to phase out of coal

Land Use - Based on project description with overlapping acreage

Construction Phase - based on construciton schedule except paving

Off-road Equipment - Based on provided list

Off-road Equipment - no site preperation

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Grading - Based on provided list

Trips and VMT - assume cement and asphalt trips vendor trip length

Vehicle Trips - Townhomes = 6.425 -2% = 6.30,6.14,5.25, Apts 5.33,5.91,5.01Restaraunt=78.18,97.38,81.06 park = 0.78,9.39,6.91

Construction Off-road Equipment Mitigation - Tier 2/DPF Level 3 and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	323.00
tblConstructionPhase	NumDays	230.00	393.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	10.00	1.00
tblConstructionPhase	PhaseEndDate	12/21/2020	10/6/2021
tblConstructionPhase	PhaseEndDate	10/26/2020	10/6/2021
tblConstructionPhase	PhaseEndDate	10/28/2019	10/25/2019
tblConstructionPhase	PhaseEndDate	12/9/2019	11/27/2019
tblConstructionPhase	PhaseEndDate	11/23/2020	2/7/2020
tblConstructionPhase	PhaseEndDate	11/11/2019	10/28/2019
tblConstructionPhase	PhaseStartDate	11/24/2020	7/13/2020
tblConstructionPhase	PhaseStartDate	12/10/2019	4/6/2020
tblConstructionPhase	PhaseStartDate	10/1/2019	10/14/2019
tblConstructionPhase	PhaseStartDate	11/12/2019	10/28/2019
tblConstructionPhase	PhaseStartDate	10/27/2020	1/13/2020
tblConstructionPhase	PhaseStartDate	10/29/2019	10/26/2019
tblGrading	MaterialExported	0.00	14,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblLandUse	LotAcreage	33.00	2.00
tblLandUse	LotAcreage	10.00	2.00

tblLandUse	LotAcreage	2.25	2.00
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	UsageHours	6.00	2.50
tblOffRoadEquipment	UsageHours	8.00	5.20
tblOffRoadEquipment	UsageHours	7.00	0.60
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	0.50
tblOffRoadEquipment	UsageHours	8.00	3.50
tblOffRoadEquipment	UsageHours	8.00	2.50
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	380
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	500.00
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00

tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	7.16	5.91
tblVehicleTrips	ST_TR	22.75	9.39
tblVehicleTrips	ST_TR	5.67	6.14
tblVehicleTrips	ST_TR	158.37	97.38
tblVehicleTrips	SU_TR	6.07	5.01
tblVehicleTrips	SU_TR	16.74	6.91
tblVehicleTrips	SU_TR	4.84	5.25
tblVehicleTrips	SU_TR	131.84	81.06
tblVehicleTrips	WD_TR	6.59	5.33
tblVehicleTrips	WD_TR	1.89	0.78
tblVehicleTrips	WD_TR	5.81	6.30
tblVehicleTrips	WD_TR	127.15	78.18

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0215	0.3099	0.1472	3.8000e-004	4.8300e-003	0.0100	0.0149	8.8000e-004	9.2400e-003	0.0101	0.0000	34.5998	34.5998	8.4800e-003	0.0000	34.8118
2020	1.0612	0.6554	0.5893	1.1800e-003	0.0285	0.0191	0.0476	7.7300e-003	0.0183	0.0260	0.0000	106.4277	106.4277	0.0124	0.0000	106.7381
2021	1.6507	0.6130	0.5718	1.1900e-003	0.0304	0.0164	0.0467	8.2400e-003	0.0159	0.0241	0.0000	108.2588	108.2588	0.0103	0.0000	108.5165
Maximum	**1.6507**	**0.6554**	**0.5893**	**1.1900e-003**	**0.0304**	**0.0191**	**0.0476**	**8.2400e-003**	**0.0183**	**0.0260**	**0.0000**	**108.2588**	**108.2588**	**0.0124**	**0.0000**	**108.5165**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0109	0.3191	0.1783	3.8000e-004	2.6900e-003	1.0700e-003	3.7700e-003	5.1000e-004	1.0700e-003	1.5800e-003	0.0000	34.5997	34.5997	8.4800e-003	0.0000	34.8118
2020	1.0433	0.7366	0.5956	1.1800e-003	0.0285	3.0800e-003	0.0316	7.7300e-003	3.0300e-003	0.0108	0.0000	106.4277	106.4277	0.0124	0.0000	106.7380
2021	1.6350	0.7274	0.5846	1.1900e-003	0.0304	2.8700e-003	0.0332	8.2400e-003	2.8300e-003	0.0111	0.0000	108.2587	108.2587	0.0103	0.0000	108.5165
Maximum	**1.6350**	**0.7366**	**0.5956**	**1.1900e-003**	**0.0304**	**3.0800e-003**	**0.0332**	**8.2400e-003**	**3.0300e-003**	**0.0111**	**0.0000**	**108.2587**	**108.2587**	**0.0124**	**0.0000**	**108.5165**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.62**	**-12.97**	**-3.84**	**0.00**	**3.36**	**84.55**	**37.16**	**2.20**	**84.03**	**61.13**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-1-2019**	**12-31-2019**	0.3105	0.3111
2	**1-1-2020**	**3-31-2020**	0.0664	0.0791
3	**4-1-2020**	**6-30-2020**	0.1798	0.1869

4	**7-1-2020**	**9-30-2020**	0.6931	0.7135
5	**10-1-2020**	**12-31-2020**	0.7645	0.7869
6	**1-1-2021**	**3-31-2021**	0.7304	0.7622
7	**4-1-2021**	**6-30-2021**	0.7420	0.7742
8	**7-1-2021**	**9-30-2021**	0.7502	0.7827
		Highest	0.7645	0.7869

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/14/2019	10/25/2019	5	10	
2	Site Preparation	Site Preparation	10/26/2019	10/28/2019	5	1	
3	Grading	Grading	10/28/2019	11/27/2019	5	23	
4	Ext. Building Construction	Building Construction	4/6/2020	10/6/2021	5	393	
5	Paving	Paving	1/13/2020	2/7/2020	5	20	error with provided end date
6	Int. Building Construction	Architectural Coating	7/13/2020	10/6/2021	5	323	
7	trenching	Trenching	12/2/2019	1/31/2020	5	45	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.03

Acres of Paving: 0

Residential Indoor: 731,025; Residential Outdoor: 243,675; Non-Residential Indoor: 3,675; Non-Residential Outdoor: 1,225; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Int. Building Construction	Air Compressors	2	2.50	78	0.48
Demolition	Excavators	1	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Excavators	1	5.20	158	0.38
Ext. Building Construction	Cranes	1	0.60	231	0.29
Ext. Building Construction	Forklifts	1	3.10	89	0.20
Ext. Building Construction	Generator Sets	1	1.00	84	0.74
Paving	Pavers	0	8.00	130	0.42
Paving	Rollers	1	1.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Ext. Building Construction	Tractors/Loaders/Backhoes	1	0.50	97	0.37
Grading	Graders	1	3.50	187	0.41
Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Paving	Paving Equipment	1	2.50	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Site Preparation	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Loaders	1	5.20	203	0.36
Ext. Building Construction	Welders	1	0.50	46	0.45
Paving	Cement and Mortar Mixers	16	1.00	9	0.56
trenching	Tractors/Loaders/Backhoes	2	7.10	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Int. Building Construction	2	58.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Ext. Building Construction	5	288.00	50.00	500.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Demolition	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	1,875.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Paving	18	45.00	0.00	60.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT
trenching	2	5.00	0.00	0.00	1.00	1.00	1.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9800e-003	0.0738	0.0377	7.0000e-005		3.5900e-003	3.5900e-003		3.3000e-003	3.3000e-003	0.0000	6.1532	6.1532	1.9500e-003	0.0000	6.2019
Total	**6.9800e-003**	**0.0738**	**0.0377**	**7.0000e-005**		**3.5900e-003**	**3.5900e-003**		**3.3000e-003**	**3.3000e-003**	**0.0000**	**6.1532**	**6.1532**	**1.9500e-003**	**0.0000**	**6.2019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0210	0.0210	0.0000	0.0000	0.0210
Total	**3.0000e-005**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0210**	**0.0210**	**0.0000**	**0.0000**	**0.0210**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0582	0.0422	7.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	6.1532	6.1532	1.9500e-003	0.0000	6.2019

Total	**2.0500e-003**	**0.0582**	**0.0422**	**7.0000e-005**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**6.1532**	**6.1532**	**1.9500e-003**	**0.0000**	**6.2019**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	1.0000e-005	1.8000e-004	0.0000	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0000	1.0000e-005	0.0000	0.0210	0.0210	0.0000	0.0000	0.0210
Total	**3.0000e-005**	**1.0000e-005**	**1.8000e-004**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0210**	**0.0210**	**0.0000**	**0.0000**	**0.0210**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	9.0000e-004	4.1000e-004	0.0000		5.0000e-005	5.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0654	0.0654	2.0000e-005	0.0000	0.0659
Total	**9.0000e-005**	**9.0000e-004**	**4.1000e-004**	**0.0000**	**3.8000e-004**	**5.0000e-005**	**4.3000e-004**	**2.1000e-004**	**4.0000e-005**	**2.5000e-004**	**0.0000**	**0.0654**	**0.0654**	**2.0000e-005**	**0.0000**	**0.0659**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1000e-003	2.1000e-003	0.0000	0.0000	2.1000e-003
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.1000e-003**	**2.1000e-003**	**0.0000**	**0.0000**	**2.1000e-003**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7000e-004	0.0000	1.7000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	2.0000e-005	6.4000e-004	4.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0654	0.0654	2.0000e-005	0.0000	0.0659
Total	**2.0000e-005**	**6.4000e-004**	**4.3000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0654**	**0.0654**	**2.0000e-005**	**0.0000**	**0.0659**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	2.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1000e-003	2.1000e-003	0.0000	0.0000	2.1000e-003
Total	**0.0000**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.1000e-003**	**2.1000e-003**	**0.0000**	**0.0000**	**2.1000e-003**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.5200e-003	0.0000	3.5200e-003	4.2000e-004	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3800e-003	0.0892	0.0462	1.2000e-004		3.2400e-003	3.2400e-003		2.9800e-003	2.9800e-003	0.0000	10.6639	10.6639	3.3700e-003	0.0000	10.7482
Total	**7.3800e-003**	**0.0892**	**0.0462**	**1.2000e-004**	**3.5200e-003**	**3.2400e-003**	**6.7600e-003**	**4.2000e-004**	**2.9800e-003**	**3.4000e-003**	**0.0000**	**10.6639**	**10.6639**	**3.3700e-003**	**0.0000**	**10.7482**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2800e-003	0.1004	0.0168	1.3000e-004	8.1000e-004	1.3000e-004	9.4000e-004	2.3000e-004	1.2000e-004	3.5000e-004	0.0000	12.1456	12.1456	1.4200e-003	0.0000	12.1810
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	5.0000e-005	6.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0772	0.0772	0.0000	0.0000	0.0773
Total	**2.3900e-003**	**0.1005**	**0.0174**	**1.3000e-004**	**8.8000e-004**	**1.3000e-004**	**1.0100e-003**	**2.5000e-004**	**1.2000e-004**	**3.7000e-004**	**0.0000**	**12.2227**	**12.2227**	**1.4200e-003**	**0.0000**	**12.2583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5800e-003	0.0000	1.5800e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	3.4800e-003	0.1012	0.0720	1.2000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	10.6639	10.6639	3.3700e-003	0.0000	10.7482
Total	**3.4800e-003**	**0.1012**	**0.0720**	**1.2000e-004**	**1.5800e-003**	**3.7000e-004**	**1.9500e-003**	**1.7000e-004**	**3.7000e-004**	**5.4000e-004**	**0.0000**	**10.6639**	**10.6639**	**3.3700e-003**	**0.0000**	**10.7482**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.2800e-003	0.1004	0.0168	1.3000e-004	8.1000e-004	1.3000e-004	9.4000e-004	2.3000e-004	1.2000e-004	3.5000e-004	0.0000	12.1456	12.1456	1.4200e-003	0.0000	12.1810
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	5.0000e-005	6.8000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0772	0.0772	0.0000	0.0000	0.0773
Total	**2.3900e-003**	**0.1005**	**0.0174**	**1.3000e-004**	**8.8000e-004**	**1.3000e-004**	**1.0100e-003**	**2.5000e-004**	**1.2000e-004**	**3.7000e-004**	**0.0000**	**12.2227**	**12.2227**	**1.4200e-003**	**0.0000**	**12.2583**

3.5 Ext. Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0169	0.1525	0.1292	2.1000e-004		8.9600e-003	8.9600e-003		8.4800e-003	8.4800e-003	0.0000	18.3840	18.3840	3.9100e-003	0.0000	18.4818
Total	**0.0169**	**0.1525**	**0.1292**	**2.1000e-004**		**8.9600e-003**	**8.9600e-003**		**8.4800e-003**	**8.4800e-003**	**0.0000**	**18.3840**	**18.3840**	**3.9100e-003**	**0.0000**	**18.4818**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7000e-004	0.0127	2.0800e-003	2.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	1.6028	1.6028	1.7000e-004	0.0000	1.6071
Vendor	9.1600e-003	0.3244	0.0900	4.1000e-004	4.4800e-003	5.2000e-004	5.0000e-003	1.3100e-003	5.0000e-004	1.8100e-003	0.0000	38.9347	38.9347	3.8000e-003	0.0000	39.0297
Worker	0.0310	0.0142	0.1832	2.5000e-004	0.0208	2.8000e-004	0.0211	5.5600e-003	2.6000e-004	5.8200e-003	0.0000	22.7177	22.7177	9.8000e-004	0.0000	22.7421
Total	**0.0404**	**0.3513**	**0.2753**	**6.8000e-004**	**0.0254**	**8.1000e-004**	**0.0263**	**6.9200e-003**	**7.7000e-004**	**7.6900e-003**	**0.0000**	**63.2552**	**63.2552**	**4.9500e-003**	**0.0000**	**63.3789**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3300e-003	0.1833	0.1385	2.1000e-004		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	18.3839	18.3839	3.9100e-003	0.0000	18.4818

Total	**8.3300e-003**	**0.1833**	**0.1385**	**2.1000e-004**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**18.3839**	**18.3839**	**3.9100e-003**	**0.0000**	**18.4818**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.7000e-004	0.0127	2.0800e-003	2.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	1.6028	1.6028	1.7000e-004	0.0000	1.6071
Vendor	9.1600e-003	0.3244	0.0900	4.1000e-004	4.4800e-003	5.2000e-004	5.0000e-003	1.3100e-003	5.0000e-004	1.8100e-003	0.0000	38.9347	38.9347	3.8000e-003	0.0000	39.0297
Worker	0.0310	0.0142	0.1832	2.5000e-004	0.0208	2.8000e-004	0.0211	5.5600e-003	2.6000e-004	5.8200e-003	0.0000	22.7177	22.7177	9.8000e-004	0.0000	22.7421
Total	**0.0404**	**0.3513**	**0.2753**	**6.8000e-004**	**0.0254**	**8.1000e-004**	**0.0263**	**6.9200e-003**	**7.7000e-004**	**7.6900e-003**	**0.0000**	**63.2552**	**63.2552**	**4.9500e-003**	**0.0000**	**63.3789**

3.5 Ext. Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0156	0.1422	0.1304	2.2000e-004		7.9400e-003	7.9400e-003		7.5100e-003	7.5100e-003	0.0000	18.8582	18.8582	3.9600e-003	0.0000	18.9571
Total	**0.0156**	**0.1422**	**0.1304**	**2.2000e-004**		**7.9400e-003**	**7.9400e-003**		**7.5100e-003**	**7.5100e-003**	**0.0000**	**18.8582**	**18.8582**	**3.9600e-003**	**0.0000**	**18.9571**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	0.0126	2.0500e-003	2.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	1.6269	1.6269	1.7000e-004	0.0000	1.6310
Vendor	8.3900e-003	0.3163	0.0852	4.1000e-004	4.6000e-003	2.7000e-004	4.8600e-003	1.3400e-003	2.5000e-004	1.5900e-003	0.0000	39.5574	39.5574	3.6700e-003	0.0000	39.6491
Worker	0.0290	0.0128	0.1693	2.5000e-004	0.0213	2.9000e-004	0.0216	5.7000e-003	2.6000e-004	5.9600e-003	0.0000	22.5120	22.5120	8.9000e-004	0.0000	22.5341
Total	**0.0377**	**0.3417**	**0.2566**	**6.8000e-004**	**0.0261**	**5.7000e-004**	**0.0267**	**7.0900e-003**	**5.2000e-004**	**7.6100e-003**	**0.0000**	**63.6962**	**63.6962**	**4.7300e-003**	**0.0000**	**63.8142**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5400e-003	0.1881	0.1420	2.2000e-004		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	18.8581	18.8581	3.9600e-003	0.0000	18.9571

Total	**8.5400e-003**	**0.1881**	**0.1420**	**2.2000e-004**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**18.8581**	**18.8581**	**3.9600e-003**	**0.0000**	**18.9571**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.6000e-004	0.0126	2.0500e-003	2.0000e-005	1.9000e-004	1.0000e-005	2.0000e-004	5.0000e-005	1.0000e-005	6.0000e-005	0.0000	1.6269	1.6269	1.7000e-004	0.0000	1.6310
Vendor	8.3900e-003	0.3163	0.0852	4.1000e-004	4.6000e-003	2.7000e-004	4.8600e-003	1.3400e-003	2.5000e-004	1.5900e-003	0.0000	39.5574	39.5574	3.6700e-003	0.0000	39.6491
Worker	0.0290	0.0128	0.1693	2.5000e-004	0.0213	2.9000e-004	0.0216	5.7000e-003	2.6000e-004	5.9600e-003	0.0000	22.5120	22.5120	8.9000e-004	0.0000	22.5341
Total	**0.0377**	**0.3417**	**0.2566**	**6.8000e-004**	**0.0261**	**5.7000e-004**	**0.0267**	**7.0900e-003**	**5.2000e-004**	**7.6100e-003**	**0.0000**	**63.6962**	**63.6962**	**4.7300e-003**	**0.0000**	**63.8142**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0800e-003	0.0167	0.0165	3.0000e-005		7.9000e-004	7.9000e-004		7.5000e-004	7.5000e-004	0.0000	2.3231	2.3231	5.5000e-004	0.0000	2.3369
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0800e-003**	**0.0167**	**0.0165**	**3.0000e-005**		**7.9000e-004**	**7.9000e-004**		**7.5000e-004**	**7.5000e-004**	**0.0000**	**2.3231**	**2.3231**	**5.5000e-004**	**0.0000**	**2.3369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	3.0900e-003	5.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3896	0.3896	4.0000e-005	0.0000	0.3907
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	2.3000e-004	2.9500e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3659	0.3659	2.0000e-005	0.0000	0.3663
Total	**5.7000e-004**	**3.3200e-003**	**3.4600e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.7556**	**0.7556**	**6.0000e-005**	**0.0000**	**0.7570**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.5000e-004	0.0141	0.0122	3.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	2.3231	2.3231	5.5000e-004	0.0000	2.3369

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.5000e-004**	**0.0141**	**0.0122**	**3.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**2.3231**	**2.3231**	**5.5000e-004**	**0.0000**	**2.3369**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.0000e-005	3.0900e-003	5.1000e-004	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.3896	0.3896	4.0000e-005	0.0000	0.3907
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-004	2.3000e-004	2.9500e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3659	0.3659	2.0000e-005	0.0000	0.3663
Total	**5.7000e-004**	**3.3200e-003**	**3.4600e-003**	**0.0000**	**3.6000e-004**	**0.0000**	**3.7000e-004**	**1.0000e-004**	**0.0000**	**1.0000e-004**	**0.0000**	**0.7556**	**0.7556**	**6.0000e-005**	**0.0000**	**0.7570**

3.7 Int. Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.0870	0.0946	1.5000e-004		5.7300e-003	5.7300e-003		5.7300e-003	5.7300e-003	0.0000	13.1918	13.1918	1.0200e-003	0.0000	13.2174
Total	**0.9930**	**0.0870**	**0.0946**	**1.5000e-004**		**5.7300e-003**	**5.7300e-003**		**5.7300e-003**	**5.7300e-003**	**0.0000**	**13.1918**	**13.1918**	**1.0200e-003**	**0.0000**	**13.2174**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9800e-003	1.8200e-003	0.0236	3.0000e-005	2.6700e-003	4.0000e-005	2.7100e-003	7.2000e-004	3.0000e-005	7.5000e-004	0.0000	2.9243	2.9243	1.3000e-004	0.0000	2.9274
Total	**3.9800e-003**	**1.8200e-003**	**0.0236**	**3.0000e-005**	**2.6700e-003**	**4.0000e-005**	**2.7100e-003**	**7.2000e-004**	**3.0000e-005**	**7.5000e-004**	**0.0000**	**2.9243**	**2.9243**	**1.3000e-004**	**0.0000**	**2.9274**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	5.8900e-003	0.1215	0.0947	1.5000e-004		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	13.1918	13.1918	1.0200e-003	0.0000	13.2173
Total	**0.9864**	**0.1215**	**0.0947**	**1.5000e-004**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**13.1918**	**13.1918**	**1.0200e-003**	**0.0000**	**13.2173**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9800e-003	1.8200e-003	0.0236	3.0000e-005	2.6700e-003	4.0000e-005	2.7100e-003	7.2000e-004	3.0000e-005	7.5000e-004	0.0000	2.9243	2.9243	1.3000e-004	0.0000	2.9274
Total	**3.9800e-003**	**1.8200e-003**	**0.0236**	**3.0000e-005**	**2.6700e-003**	**4.0000e-005**	**2.7100e-003**	**7.2000e-004**	**3.0000e-005**	**7.5000e-004**	**0.0000**	**2.9243**	**2.9243**	**1.3000e-004**	**0.0000**	**2.9274**

3.7 Int. Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5735					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.1266	0.1507	2.5000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003	0.0000	21.1707	21.1707	1.4500e-003	0.0000	21.2071
Total	**1.5917**	**0.1266**	**0.1507**	**2.5000e-004**		**7.8000e-003**	**7.8000e-003**		**7.8000e-003**	**7.8000e-003**	**0.0000**	**21.1707**	**21.1707**	**1.4500e-003**	**0.0000**	**21.2071**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8400e-003	2.5800e-003	0.0341	5.0000e-005	4.2900e-003	6.0000e-005	4.3500e-003	1.1500e-003	5.0000e-005	1.2000e-003	0.0000	4.5337	4.5337	1.8000e-004	0.0000	4.5381
Total	**5.8400e-003**	**2.5800e-003**	**0.0341**	**5.0000e-005**	**4.2900e-003**	**6.0000e-005**	**4.3500e-003**	**1.1500e-003**	**5.0000e-005**	**1.2000e-003**	**0.0000**	**4.5337**	**4.5337**	**1.8000e-004**	**0.0000**	**4.5381**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5735					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	9.4400e-003	0.1951	0.1519	2.5000e-004		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	21.1707	21.1707	1.4500e-003	0.0000	21.2070
Total	**1.5830**	**0.1951**	**0.1519**	**2.5000e-004**		**1.1800e-003**	**1.1800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**21.1707**	**21.1707**	**1.4500e-003**	**0.0000**	**21.2070**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8400e-003	2.5800e-003	0.0341	5.0000e-005	4.2900e-003	6.0000e-005	4.3500e-003	1.1500e-003	5.0000e-005	1.2000e-003	0.0000	4.5337	4.5337	1.8000e-004	0.0000	4.5381
Total	**5.8400e-003**	**2.5800e-003**	**0.0341**	**5.0000e-005**	**4.2900e-003**	**6.0000e-005**	**4.3500e-003**	**1.1500e-003**	**5.0000e-005**	**1.2000e-003**	**0.0000**	**4.5337**	**4.5337**	**1.8000e-004**	**0.0000**	**4.5381**

3.8 trenching - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5300e-003	0.0455	0.0448	6.0000e-005		3.0300e-003	3.0300e-003		2.7900e-003	2.7900e-003	0.0000	5.4253	5.4253	1.7200e-003	0.0000	5.4683
Total	**4.5300e-003**	**0.0455**	**0.0448**	**6.0000e-005**		**3.0300e-003**	**3.0300e-003**		**2.7900e-003**	**2.7900e-003**	**0.0000**	**5.4253**	**5.4253**	**1.7200e-003**	**0.0000**	**5.4683**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.1000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0461	0.0461	0.0000	0.0000	0.0462
Total	**7.0000e-005**	**3.0000e-005**	**4.1000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0461**	**0.0461**	**0.0000**	**0.0000**	**0.0462**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8300e-003	0.0585	0.0455	6.0000e-005		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	5.4253	5.4253	1.7200e-003	0.0000	5.4682

Total	**2.8300e-003**	**0.0585**	**0.0455**	**6.0000e-005**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**5.4253**	**5.4253**	**1.7200e-003**	**0.0000**	**5.4682**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	3.0000e-005	4.1000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0461	0.0461	0.0000	0.0000	0.0462
Total	**7.0000e-005**	**3.0000e-005**	**4.1000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0461**	**0.0461**	**0.0000**	**0.0000**	**0.0462**

3.8 trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2600e-003	0.0428	0.0464	6.0000e-005		2.7100e-003	2.7100e-003		2.4900e-003	2.4900e-003	0.0000	5.5470	5.5470	1.7900e-003	0.0000	5.5919
Total	**4.2600e-003**	**0.0428**	**0.0464**	**6.0000e-005**		**2.7100e-003**	**2.7100e-003**		**2.4900e-003**	**2.4900e-003**	**0.0000**	**5.5470**	**5.5470**	**1.7900e-003**	**0.0000**	**5.5919**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0468	0.0468	0.0000	0.0000	0.0468
Total	**6.0000e-005**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0468**	**0.0468**	**0.0000**	**0.0000**	**0.0468**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9600e-003	0.0611	0.0476	6.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.5470	5.5470	1.7900e-003	0.0000	5.5919

Total	**2.9600e-003**	**0.0611**	**0.0476**	**6.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**5.5470**	**5.5470**	**1.7900e-003**	**0.0000**	**5.5919**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	3.0000e-005	3.8000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0468	0.0468	0.0000	0.0000	0.0468
Total	**6.0000e-005**	**3.0000e-005**	**3.8000e-004**	**0.0000**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0468**	**0.0468**	**0.0000**	**0.0000**	**0.0468**

Attachment 4: CalEEMod GHG Modeling Output

Agrihood

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0
High Turnover (Sit Down Restaurant)	1.65	1000sqft	0.04	1,650.00	0
Apartments Low Rise	160.00	Dwelling Unit	2.00	160,000.00	458
Condo/Townhouse	36.00	Dwelling Unit	2.00	36,000.00	103
Retirement Community	165.00	Dwelling Unit	2.00	165,000.00	472

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVP post 2018 rate due to phase out of coal
Land Use - Based on project description with overlapping acreage
Construction Phase - based on construciton schedule except paving
Off-road Equipment - Based on provided list
Off-road Equipment - Based on provided list
Off-road Equipment - Based on provided list
Off-road Equipment - Based on provided list
Off-road Equipment - Based on provided list
Off-road Equipment - no site preperation
Off-road Equipment - Based on provided list
Trips and VMT - assume cement and asphalt trips vendor trip length
Grading - Based on provided list
Vehicle Trips - Townhomes 6.30,6.14,5.25, Apts 5.33,5.91,5.01, Sr. 4.73,4.00,3.84 Restr78.18,97.38,81.06 park0.78,9.39,6.91
Construction Off-road Equipment Mitigation - Tier 2/DPF Level 3 and BMPs
Woodstoves - No wood burning
Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3

tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	DPF	No Change	Level 3
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	16.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	323.00
tblConstructionPhase	NumDays	230.00	393.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	10.00	1.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	24.00	51.00
tblFireplaces	NumberGas	5.40	12.00
tblFireplaces	NumberGas	24.75	53.00
tblFireplaces	NumberWood	27.20	0.00
tblFireplaces	NumberWood	6.12	0.00
tblFireplaces	NumberWood	28.05	0.00
tblGrading	MaterialExported	0.00	14,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblLandUse	LotAcreage	10.00	2.00
tblLandUse	LotAcreage	2.25	2.00
tblLandUse	LotAcreage	33.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	2.50
tblOffRoadEquipment	UsageHours	7.00	0.60
tblOffRoadEquipment	UsageHours	8.00	5.20
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	3.50
tblOffRoadEquipment	UsageHours	8.00	2.50
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	0.50
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	380
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	HaulingTripNumber	0.00	500.00
tblVehicleTrips	ST_TR	7.16	5.91
tblVehicleTrips	ST_TR	22.75	9.39
tblVehicleTrips	ST_TR	5.67	6.14
tblVehicleTrips	ST_TR	158.37	97.38
tblVehicleTrips	ST_TR	2.03	4.00
tblVehicleTrips	SU_TR	6.07	5.01
tblVehicleTrips	SU_TR	16.74	6.91
tblVehicleTrips	SU_TR	4.84	5.25
tblVehicleTrips	SU_TR	131.84	81.06
tblVehicleTrips	SU_TR	1.95	3.84
tblVehicleTrips	WD_TR	6.59	5.33
tblVehicleTrips	WD_TR	1.89	0.78
tblVehicleTrips	WD_TR	5.81	6.30
tblVehicleTrips	WD_TR	127.15	78.18
tblVehicleTrips	WD_TR	2.40	4.73
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0281	0.5019	0.1918	1.0100e-003	0.0212	0.0111	0.0322	5.3600e-003	0.0102	0.0156	0.0000	95.8030	95.8030	0.0105	0.0000	96.0651
2020	1.1432	0.9723	1.2449	4.3100e-003	0.2902	0.0227	0.3129	0.0779	0.0217	0.0996	0.0000	395.8854	395.8854	0.0190	0.0000	396.3600
2021	1.7305	0.8873	1.2121	4.4100e-003	0.3095	0.0187	0.3282	0.0831	0.0181	0.1011	0.0000	404.4563	404.4563	0.0166	0.0000	404.8713
Maximum	**1.7305**	**0.9723**	**1.2449**	**4.4100e-003**	**0.3095**	**0.0227**	**0.3282**	**0.0831**	**0.0217**	**0.1011**	**0.0000**	**404.4563**	**404.4563**	**0.0190**	**0.0000**	**404.8713**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0176	0.5112	0.2230	1.0100e-003	0.0190	2.0700e-003	0.0211	4.9900e-003	2.0200e-003	7.0100e-003	0.0000	95.8030	95.8030	0.0105	0.0000	96.0651
2020	1.1252	1.0536	1.2511	4.3100e-003	0.2902	6.7400e-003	0.2970	0.0779	6.4900e-003	0.0844	0.0000	395.8854	395.8854	0.0190	0.0000	396.3599
2021	1.7148	1.0016	1.2250	4.4100e-003	0.3095	5.2100e-003	0.3147	0.0831	5.0200e-003	0.0881	0.0000	404.4563	404.4563	0.0166	0.0000	404.8713
Maximum	**1.7148**	**1.0536**	**1.2511**	**4.4100e-003**	**0.3095**	**6.7400e-003**	**0.3147**	**0.0831**	**6.4900e-003**	**0.0881**	**0.0000**	**404.4563**	**404.4563**	**0.0190**	**0.0000**	**404.8713**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**1.52**	**-8.67**	**-1.90**	**0.00**	**0.34**	**73.28**	**6.03**	**0.22**	**72.95**	**17.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-1-2019**	**12-31-2019**	0.5049	0.5055
2	**1-1-2020**	**3-31-2020**	0.0742	0.0870
3	**4-1-2020**	**6-30-2020**	0.2933	0.3004
4	**7-1-2020**	**9-30-2020**	0.8208	0.8412
5	**10-1-2020**	**12-31-2020**	0.9075	0.9299
6	**1-1-2021**	**3-31-2021**	0.8517	0.8835
7	**4-1-2021**	**6-30-2021**	0.8520	0.8842
8	**7-1-2021**	**9-30-2021**	0.8613	0.8939
		Highest	0.9075	0.9299

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7583	0.0435	2.6916	2.2000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	18.8599	18.8599	4.5200e-003	2.7000e-004	19.0521
Energy	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	520.8056	520.8056	0.0265	8.8100e-003	524.0947
Mobile	0.4844	2.0082	5.5757	0.0182	1.6258	0.0158	1.6416	0.4352	0.0148	0.4500	0.0000	1,667.1180	1,667.1180	0.0587	0.0000	1,668.5845
Waste						0.0000	0.0000		0.0000	0.0000	37.7198	0.0000	37.7198	2.2292	0.0000	93.4492

Water						0.0000	0.0000		0.0000	0.0000	7.6209	32.4470	40.0679	0.7852	0.0190	65.3586
Total	**2.2660**	**2.2523**	**8.3597**	**0.0197**	**1.6258**	**0.0478**	**1.6736**	**0.4352**	**0.0467**	**0.4820**	**45.3407**	**2,239.2305**	**2,284.5712**	**3.1041**	**0.0281**	**2,370.5391**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.7583	0.0435	2.6916	2.2000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	18.8599	18.8599	4.5200e-003	2.7000e-004	19.0521
Energy	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	520.8056	520.8056	0.0265	8.8100e-003	524.0947
Mobile	0.4844	2.0082	5.5757	0.0182	1.6258	0.0158	1.6416	0.4352	0.0148	0.4500	0.0000	1,667.1180	1,667.1180	0.0587	0.0000	1,668.5845
Waste						0.0000	0.0000		0.0000	0.0000	37.7198	0.0000	37.7198	2.2292	0.0000	93.4492
Water						0.0000	0.0000		0.0000	0.0000	7.6209	32.4470	40.0679	0.7852	0.0190	65.3586
Total	**2.2660**	**2.2523**	**8.3597**	**0.0197**	**1.6258**	**0.0478**	**1.6736**	**0.4352**	**0.0467**	**0.4820**	**45.3407**	**2,239.2305**	**2,284.5712**	**3.1041**	**0.0281**	**2,370.5391**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/14/2019	10/25/2019	5	10	
2	Site Preparation	Site Preparation	10/26/2019	10/28/2019	5	1	
3	Grading	Grading	10/28/2019	11/27/2019	5	23	
4	trenching	Trenching	12/2/2019	1/31/2020	5	45	
5	Paving	Paving	1/13/2020	2/7/2020	5	20	error with provided end date
6	Ext. Building Construction	Building Construction	4/6/2020	10/6/2021	5	393	
7	Int. Building Construction	Architectural Coating	7/13/2020	10/6/2021	5	323	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 5.03

Acres of Paving: 0

Residential Indoor: 731,025; Residential Outdoor: 243,675; Non-Residential Indoor: 3,675; Non-Residential Outdoor: 1,225; Striped

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	1	1.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Excavators	1	5.20	158	0.38
Grading	Graders	1	3.50	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Loaders	1	5.20	203	0.36

Grading	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Ext. Building Construction	Cranes	1	0.60	231	0.29
Ext. Building Construction	Forklifts	1	3.10	89	0.20
Ext. Building Construction	Generator Sets	1	1.00	84	0.74
Ext. Building Construction	Tractors/Loaders/Backhoes	1	0.50	97	0.37
Ext. Building Construction	Welders	1	0.50	46	0.45
Paving	Cement and Mortar Mixers	16	1.00	9	0.56
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	1	2.50	132	0.36
Paving	Rollers	1	1.00	80	0.38
Int. Building Construction	Air Compressors	2	2.50	78	0.48
trenching	Tractors/Loaders/Backhoes	2	7.10	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	1,875.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Ext. Building Construction	5	288.00	50.00	500.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	18	45.00	0.00	60.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Int. Building Construction	2	58.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
trenching	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.9800e-003	0.0738	0.0377	7.0000e-005		3.5900e-003	3.5900e-003		3.3000e-003	3.3000e-003	0.0000	6.1532	6.1532	1.9500e-003	0.0000	6.2019
Total	**6.9800e-003**	**0.0738**	**0.0377**	**7.0000e-005**		**3.5900e-003**	**3.5900e-003**		**3.3000e-003**	**3.3000e-003**	**0.0000**	**6.1532**	**6.1532**	**1.9500e-003**	**0.0000**	**6.2019**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1756
Total	**9.0000e-005**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1755**	**0.1755**	**0.0000**	**0.0000**	**0.1756**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0582	0.0422	7.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	6.1532	6.1532	1.9500e-003	0.0000	6.2019
Total	**2.0500e-003**	**0.0582**	**0.0422**	**7.0000e-005**		**2.2000e-004**	**2.2000e-004**		**2.2000e-004**	**2.2000e-004**	**0.0000**	**6.1532**	**6.1532**	**1.9500e-003**	**0.0000**	**6.2019**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1755	0.1755	0.0000	0.0000	0.1756
Total	**9.0000e-005**	**7.0000e-005**	**7.0000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1755**	**0.1755**	**0.0000**	**0.0000**	**0.1756**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.8000e-004	0.0000	3.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.0000e-005	9.0000e-004	4.1000e-004	0.0000		5.0000e-005	5.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.0654	0.0654	2.0000e-005	0.0000	0.0659
Total	**9.0000e-005**	**9.0000e-004**	**4.1000e-004**	**0.0000**	**3.8000e-004**	**5.0000e-005**	**4.3000e-004**	**2.1000e-004**	**4.0000e-005**	**2.5000e-004**	**0.0000**	**0.0654**	**0.0654**	**2.0000e-005**	**0.0000**	**0.0659**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0176	0.0176	0.0000	0.0000	0.0176
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0176**	**0.0176**	**0.0000**	**0.0000**	**0.0176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.7000e-004	0.0000	1.7000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0000e-005	6.4000e-004	4.3000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0654	0.0654	2.0000e-005	0.0000	0.0659
Total	**2.0000e-005**	**6.4000e-004**	**4.3000e-004**	**0.0000**	**1.7000e-004**	**0.0000**	**1.7000e-004**	**8.0000e-005**	**0.0000**	**8.0000e-005**	**0.0000**	**0.0654**	**0.0654**	**2.0000e-005**	**0.0000**	**0.0659**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0176	0.0176	0.0000	0.0000	0.0176
Total	**1.0000e-005**	**1.0000e-005**	**7.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**1.0000e-005**	**0.0000**	**1.0000e-005**	**0.0000**	**0.0176**	**0.0176**	**0.0000**	**0.0000**	**0.0176**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.5200e-003	0.0000	3.5200e-003	4.2000e-004	0.0000	4.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.3800e-003	0.0892	0.0462	1.2000e-004		3.2400e-003	3.2400e-003		2.9800e-003	2.9800e-003	0.0000	10.6639	10.6639	3.3700e-003	0.0000	10.7482
Total	**7.3800e-003**	**0.0892**	**0.0462**	**1.2000e-004**	**3.5200e-003**	**3.2400e-003**	**6.7600e-003**	**4.2000e-004**	**2.9800e-003**	**3.4000e-003**	**0.0000**	**10.6639**	**10.6639**	**3.3700e-003**	**0.0000**	**10.7482**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	8.5200e-003	0.2919	0.0577	7.5000e-004	0.0159	1.1200e-003	0.0170	4.3700e-003	1.0700e-003	5.4400e-003	0.0000	72.2480	72.2480	3.3900e-003	0.0000	72.3326
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.5000e-004	2.5700e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6459	0.6459	2.0000e-005	0.0000	0.6464
Total	**8.8500e-003**	**0.2921**	**0.0602**	**7.6000e-004**	**0.0166**	**1.1200e-003**	**0.0177**	**4.5600e-003**	**1.0700e-003**	**5.6400e-003**	**0.0000**	**72.8939**	**72.8939**	**3.4100e-003**	**0.0000**	**72.9790**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5800e-003	0.0000	1.5800e-003	1.7000e-004	0.0000	1.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4800e-003	0.1012	0.0720	1.2000e-004		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	10.6639	10.6639	3.3700e-003	0.0000	10.7482
Total	**3.4800e-003**	**0.1012**	**0.0720**	**1.2000e-004**	**1.5800e-003**	**3.7000e-004**	**1.9500e-003**	**1.7000e-004**	**3.7000e-004**	**5.4000e-004**	**0.0000**	**10.6639**	**10.6639**	**3.3700e-003**	**0.0000**	**10.7482**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	8.5200e-003	0.2919	0.0577	7.5000e-004	0.0159	1.1200e-003	0.0170	4.3700e-003	1.0700e-003	5.4400e-003	0.0000	72.2480	72.2480	3.3900e-003	0.0000	72.3326
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.3000e-004	2.5000e-004	2.5700e-003	1.0000e-005	7.3000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6459	0.6459	2.0000e-005	0.0000	0.6464
Total	**8.8500e-003**	**0.2921**	**0.0602**	**7.6000e-004**	**0.0166**	**1.1200e-003**	**0.0177**	**4.5600e-003**	**1.0700e-003**	**5.6400e-003**	**0.0000**	**72.8939**	**72.8939**	**3.4100e-003**	**0.0000**	**72.9790**

3.5 trenching - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5500e-003	0.0456	0.0450	6.0000e-005		3.0500e-003	3.0500e-003		2.8000e-003	2.8000e-003	0.0000	5.4474	5.4474	1.7200e-003	0.0000	5.4905
Total	**4.5500e-003**	**0.0456**	**0.0450**	**6.0000e-005**		**3.0500e-003**	**3.0500e-003**		**2.8000e-003**	**2.8000e-003**	**0.0000**	**5.4474**	**5.4474**	**1.7200e-003**	**0.0000**	**5.4905**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.5000e-004	1.5400e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3862	0.3862	1.0000e-005	0.0000	0.3864
Total	**2.0000e-004**	**1.5000e-004**	**1.5400e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3862**	**0.3862**	**1.0000e-005**	**0.0000**	**0.3864**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8400e-003	0.0587	0.0457	6.0000e-005		3.6000e-004	3.6000e-004		3.6000e-004	3.6000e-004	0.0000	5.4474	5.4474	1.7200e-003	0.0000	5.4905
Total	**2.8400e-003**	**0.0587**	**0.0457**	**6.0000e-005**		**3.6000e-004**	**3.6000e-004**		**3.6000e-004**	**3.6000e-004**	**0.0000**	**5.4474**	**5.4474**	**1.7200e-003**	**0.0000**	**5.4905**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	1.5000e-004	1.5400e-003	0.0000	4.4000e-004	0.0000	4.4000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3862	0.3862	1.0000e-005	0.0000	0.3864
Total	**2.0000e-004**	**1.5000e-004**	**1.5400e-003**	**0.0000**	**4.4000e-004**	**0.0000**	**4.4000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3862**	**0.3862**	**1.0000e-005**	**0.0000**	**0.3864**

3.5 trenching - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2800e-003	0.0430	0.0465	6.0000e-005		2.7200e-003	2.7200e-003		2.5000e-003	2.5000e-003	0.0000	5.5696	5.5696	1.8000e-003	0.0000	5.6146
Total	**4.2800e-003**	**0.0430**	**0.0465**	**6.0000e-005**		**2.7200e-003**	**2.7200e-003**		**2.5000e-003**	**2.5000e-003**	**0.0000**	**5.5696**	**5.5696**	**1.8000e-003**	**0.0000**	**5.6146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4400e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	**1.9000e-004**	**1.4000e-004**	**1.4400e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3911**	**0.3911**	**1.0000e-005**	**0.0000**	**0.3913**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.9700e-003	0.0614	0.0478	6.0000e-005		3.7000e-004	3.7000e-004		3.7000e-004	3.7000e-004	0.0000	5.5696	5.5696	1.8000e-003	0.0000	5.6146
Total	**2.9700e-003**	**0.0614**	**0.0478**	**6.0000e-005**		**3.7000e-004**	**3.7000e-004**		**3.7000e-004**	**3.7000e-004**	**0.0000**	**5.5696**	**5.5696**	**1.8000e-003**	**0.0000**	**5.6146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.4000e-004	1.4400e-003	0.0000	4.6000e-004	0.0000	4.6000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.3911	0.3911	1.0000e-005	0.0000	0.3913
Total	**1.9000e-004**	**1.4000e-004**	**1.4400e-003**	**0.0000**	**4.6000e-004**	**0.0000**	**4.6000e-004**	**1.2000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.3911**	**0.3911**	**1.0000e-005**	**0.0000**	**0.3913**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0800e-003	0.0167	0.0165	3.0000e-005		7.9000e-004	7.9000e-004		7.5000e-004	7.5000e-004	0.0000	2.3231	2.3231	5.5000e-004	0.0000	2.3369
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**2.0800e-003**	**0.0167**	**0.0165**	**3.0000e-005**		**7.9000e-004**	**7.9000e-004**		**7.5000e-004**	**7.5000e-004**	**0.0000**	**2.3231**	**2.3231**	**5.5000e-004**	**0.0000**	**2.3369**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	2.5000e-004	8.7100e-003	1.7800e-003	2.0000e-005	5.1000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.2881	2.2881	1.0000e-004	0.0000	2.2907
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	1.0700e-003	0.0113	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.0607	3.0607	8.0000e-005	0.0000	3.0626
Total	**1.7400e-003**	**9.7800e-003**	**0.0130**	**5.0000e-005**	**4.0800e-003**	**5.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1400e-003**	**0.0000**	**5.3488**	**5.3488**	**1.8000e-004**	**0.0000**	**5.3533**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.5000e-004	0.0141	0.0122	3.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	2.3231	2.3231	5.5000e-004	0.0000	2.3369
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.5000e-004**	**0.0141**	**0.0122**	**3.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**2.3231**	**2.3231**	**5.5000e-004**	**0.0000**	**2.3369**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.5000e-004	8.7100e-003	1.7800e-003	2.0000e-005	5.1000e-004	3.0000e-005	5.4000e-004	1.4000e-004	3.0000e-005	1.7000e-004	0.0000	2.2881	2.2881	1.0000e-004	0.0000	2.2907
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4900e-003	1.0700e-003	0.0113	3.0000e-005	3.5700e-003	2.0000e-005	3.5900e-003	9.5000e-004	2.0000e-005	9.7000e-004	0.0000	3.0607	3.0607	8.0000e-005	0.0000	3.0626
Total	**1.7400e-003**	**9.7800e-003**	**0.0130**	**5.0000e-005**	**4.0800e-003**	**5.0000e-005**	**4.1300e-003**	**1.0900e-003**	**5.0000e-005**	**1.1400e-003**	**0.0000**	**5.3488**	**5.3488**	**1.8000e-004**	**0.0000**	**5.3533**

3.7 Ext. Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0169	0.1525	0.1292	2.1000e-004		8.9600e-003	8.9600e-003		8.4800e-003	8.4800e-003	0.0000	18.3840	18.3840	3.9100e-003	0.0000	18.4818
Total	**0.0169**	**0.1525**	**0.1292**	**2.1000e-004**		**8.9600e-003**	**8.9600e-003**		**8.4800e-003**	**8.4800e-003**	**0.0000**	**18.3840**	**18.3840**	**3.9100e-003**	**0.0000**	**18.4818**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	1.0300e-003	0.0358	7.3300e-003	1.0000e-004	3.7000e-003	1.2000e-004	3.8200e-003	9.7000e-004	1.1000e-004	1.0800e-003	0.0000	9.4126	9.4126	4.3000e-004	0.0000	9.4233
Vendor	0.0192	0.5522	0.1471	1.3200e-003	0.0319	2.7400e-003	0.0346	9.2200e-003	2.6200e-003	0.0118	0.0000	126.7998	126.7998	5.8100e-003	0.0000	126.9451
Worker	0.0928	0.0667	0.6991	2.1000e-003	0.2216	1.4300e-003	0.2230	0.0589	1.3200e-003	0.0602	0.0000	190.0066	190.0066	4.6600e-003	0.0000	190.1231
Total	**0.1130**	**0.6547**	**0.8536**	**3.5200e-003**	**0.2572**	**4.2900e-003**	**0.2615**	**0.0691**	**4.0500e-003**	**0.0732**	**0.0000**	**326.2189**	**326.2189**	**0.0109**	**0.0000**	**326.4915**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.3300e-003	0.1833	0.1385	2.1000e-004		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003	0.0000	18.3839	18.3839	3.9100e-003	0.0000	18.4818
Total	**8.3300e-003**	**0.1833**	**0.1385**	**2.1000e-004**		**1.0400e-003**	**1.0400e-003**		**1.0400e-003**	**1.0400e-003**	**0.0000**	**18.3839**	**18.3839**	**3.9100e-003**	**0.0000**	**18.4818**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0300e-003	0.0358	7.3300e-003	1.0000e-004	3.7000e-003	1.2000e-004	3.8200e-003	9.7000e-004	1.1000e-004	1.0800e-003	0.0000	9.4126	9.4126	4.3000e-004	0.0000	9.4233
Vendor	0.0192	0.5522	0.1471	1.3200e-003	0.0319	2.7400e-003	0.0346	9.2200e-003	2.6200e-003	0.0118	0.0000	126.7998	126.7998	5.8100e-003	0.0000	126.9451
Worker	0.0928	0.0667	0.6991	2.1000e-003	0.2216	1.4300e-003	0.2230	0.0589	1.3200e-003	0.0602	0.0000	190.0066	190.0066	4.6600e-003	0.0000	190.1231
Total	**0.1130**	**0.6547**	**0.8536**	**3.5200e-003**	**0.2572**	**4.2900e-003**	**0.2615**	**0.0691**	**4.0500e-003**	**0.0732**	**0.0000**	**326.2189**	**326.2189**	**0.0109**	**0.0000**	**326.4915**

3.7 Ext. Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0156	0.1422	0.1304	2.2000e-004		7.9400e-003	7.9400e-003		7.5100e-003	7.5100e-003	0.0000	18.8582	18.8582	3.9600e-003	0.0000	18.9571
Total	**0.0156**	**0.1422**	**0.1304**	**2.2000e-004**		**7.9400e-003**	**7.9400e-003**		**7.5100e-003**	**7.5100e-003**	**0.0000**	**18.8582**	**18.8582**	**3.9600e-003**	**0.0000**	**18.9571**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	9.9000e-004	0.0339	7.3800e-003	1.0000e-004	3.7100e-003	1.1000e-004	3.8200e-003	9.7000e-004	1.0000e-004	1.0800e-003	0.0000	9.5327	9.5327	4.3000e-004	0.0000	9.5435
Vendor	0.0162	0.5112	0.1361	1.3400e-003	0.0327	1.1300e-003	0.0339	9.4600e-003	1.0800e-003	0.0106	0.0000	128.8671	128.8671	5.6200e-003	0.0000	129.0075
Worker	0.0883	0.0611	0.6555	2.0800e-003	0.2273	1.4300e-003	0.2287	0.0604	1.3200e-003	0.0618	0.0000	188.1386	188.1386	4.2800e-003	0.0000	188.2456
Total	**0.1055**	**0.6062**	**0.7990**	**3.5200e-003**	**0.2637**	**2.6700e-003**	**0.2664**	**0.0709**	**2.5000e-003**	**0.0734**	**0.0000**	**326.5384**	**326.5384**	**0.0103**	**0.0000**	**326.7966**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5400e-003	0.1881	0.1420	2.2000e-004		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	18.8581	18.8581	3.9600e-003	0.0000	18.9571
Total	**8.5400e-003**	**0.1881**	**0.1420**	**2.2000e-004**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**18.8581**	**18.8581**	**3.9600e-003**	**0.0000**	**18.9571**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.9000e-004	0.0339	7.3800e-003	1.0000e-004	3.7100e-003	1.1000e-004	3.8200e-003	9.7000e-004	1.0000e-004	1.0800e-003	0.0000	9.5327	9.5327	4.3000e-004	0.0000	9.5435
Vendor	0.0162	0.5112	0.1361	1.3400e-003	0.0327	1.1300e-003	0.0339	9.4600e-003	1.0800e-003	0.0106	0.0000	128.8671	128.8671	5.6200e-003	0.0000	129.0075
Worker	0.0883	0.0611	0.6555	2.0800e-003	0.2273	1.4300e-003	0.2287	0.0604	1.3200e-003	0.0618	0.0000	188.1386	188.1386	4.2800e-003	0.0000	188.2456
Total	**0.1055**	**0.6062**	**0.7990**	**3.5200e-003**	**0.2637**	**2.6700e-003**	**0.2664**	**0.0709**	**2.5000e-003**	**0.0734**	**0.0000**	**326.5384**	**326.5384**	**0.0103**	**0.0000**	**326.7966**

3.8 Int. Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0125	0.0870	0.0946	1.5000e-004		5.7300e-003	5.7300e-003		5.7300e-003	5.7300e-003	0.0000	13.1918	13.1918	1.0200e-003	0.0000	13.2174
Total	**0.9930**	**0.0870**	**0.0946**	**1.5000e-004**		**5.7300e-003**	**5.7300e-003**		**5.7300e-003**	**5.7300e-003**	**0.0000**	**13.1918**	**13.1918**	**1.0200e-003**	**0.0000**	**13.2174**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0119	8.5800e-003	0.0900	2.7000e-004	0.0285	1.8000e-004	0.0287	7.5900e-003	1.7000e-004	7.7500e-003	0.0000	24.4582	24.4582	6.0000e-004	0.0000	24.4732
Total	**0.0119**	**8.5800e-003**	**0.0900**	**2.7000e-004**	**0.0285**	**1.8000e-004**	**0.0287**	**7.5900e-003**	**1.7000e-004**	**7.7500e-003**	**0.0000**	**24.4582**	**24.4582**	**6.0000e-004**	**0.0000**	**24.4732**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9805					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8900e-003	0.1215	0.0947	1.5000e-004		7.4000e-004	7.4000e-004		7.4000e-004	7.4000e-004	0.0000	13.1918	13.1918	1.0200e-003	0.0000	13.2173
Total	**0.9864**	**0.1215**	**0.0947**	**1.5000e-004**		**7.4000e-004**	**7.4000e-004**		**7.4000e-004**	**7.4000e-004**	**0.0000**	**13.1918**	**13.1918**	**1.0200e-003**	**0.0000**	**13.2173**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0119	8.5800e-003	0.0900	2.7000e-004	0.0285	1.8000e-004	0.0287	7.5900e-003	1.7000e-004	7.7500e-003	0.0000	24.4582	24.4582	6.0000e-004	0.0000	24.4732
Total	**0.0119**	**8.5800e-003**	**0.0900**	**2.7000e-004**	**0.0285**	**1.8000e-004**	**0.0287**	**7.5900e-003**	**1.7000e-004**	**7.7500e-003**	**0.0000**	**24.4582**	**24.4582**	**6.0000e-004**	**0.0000**	**24.4732**

3.8 Int. Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5735					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0182	0.1266	0.1507	2.5000e-004		7.8000e-003	7.8000e-003		7.8000e-003	7.8000e-003	0.0000	21.1707	21.1707	1.4500e-003	0.0000	21.2071
Total	**1.5917**	**0.1266**	**0.1507**	**2.5000e-004**		**7.8000e-003**	**7.8000e-003**		**7.8000e-003**	**7.8000e-003**	**0.0000**	**21.1707**	**21.1707**	**1.4500e-003**	**0.0000**	**21.2071**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0178	0.0123	0.1320	4.2000e-004	0.0458	2.9000e-004	0.0461	0.0122	2.7000e-004	0.0124	0.0000	37.8890	37.8890	8.6000e-004	0.0000	37.9106
Total	**0.0178**	**0.0123**	**0.1320**	**4.2000e-004**	**0.0458**	**2.9000e-004**	**0.0461**	**0.0122**	**2.7000e-004**	**0.0124**	**0.0000**	**37.8890**	**37.8890**	**8.6000e-004**	**0.0000**	**37.9106**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.5735					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.4400e-003	0.1951	0.1519	2.5000e-004		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	21.1707	21.1707	1.4500e-003	0.0000	21.2070
Total	**1.5830**	**0.1951**	**0.1519**	**2.5000e-004**		**1.1800e-003**	**1.1800e-003**		**1.1800e-003**	**1.1800e-003**	**0.0000**	**21.1707**	**21.1707**	**1.4500e-003**	**0.0000**	**21.2070**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0178	0.0123	0.1320	4.2000e-004	0.0458	2.9000e-004	0.0461	0.0122	2.7000e-004	0.0124	0.0000	37.8890	37.8890	8.6000e-004	0.0000	37.9106
Total	**0.0178**	**0.0123**	**0.1320**	**4.2000e-004**	**0.0458**	**2.9000e-004**	**0.0461**	**0.0122**	**2.7000e-004**	**0.0124**	**0.0000**	**37.8890**	**37.8890**	**8.6000e-004**	**0.0000**	**37.9106**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4844	2.0082	5.5757	0.0182	1.6258	0.0158	1.6416	0.4352	0.0148	0.4500	0.0000	1,667.1180	1,667.1180	0.0587	0.0000	1,668.5845
Unmitigated	0.4844	2.0082	5.5757	0.0182	1.6258	0.0158	1.6416	0.4352	0.0148	0.4500	0.0000	1,667.1180	1,667.1180	0.0587	0.0000	1,668.5845

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	852.80	945.60	801.60	1,983,359	1,983,359

City Park	1.17	14.09	10.37	9,241	9,241
Condo/Townhouse	226.80	221.04	189.00	509,447	509,447
High Turnover (Sit Down Restaurant)	129.00	160.68	133.75	155,709	155,709
Retirement Community	780.45	660.00	633.60	1,714,339	1,714,339
Total	1,990.22	2,001.40	1,768.31	4,372,095	4,372,095

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
High Turnover (Sit Down Restaurant)	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
City Park	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Condo/Townhouse	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
High Turnover (Sit Down Restaurant)	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761
Retirement Community	0.607897	0.037434	0.184004	0.107261	0.014919	0.004991	0.012447	0.020659	0.002115	0.001554	0.005334	0.000623	0.000761

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	289.6519	289.6519	0.0221	4.5700e-003	291.5674
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	289.6519	289.6519	0.0221	4.5700e-003	291.5674
NaturalGas Mitigated	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	231.1537	231.1537	4.4300e-003	4.2400e-003	232.5273
NaturalGas Unmitigated	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	231.1537	231.1537	4.4300e-003	4.2400e-003	232.5273

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.63182e+006	8.8000e-003	0.0752	0.0320	4.8000e-004		6.0800e-003	6.0800e-003		6.0800e-003	6.0800e-003	0.0000	87.0799	87.0799	1.6700e-003	1.6000e-003	87.5974
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	674028	3.6300e-003	0.0311	0.0132	2.0000e-004		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	35.9687	35.9687	6.9000e-004	6.6000e-004	36.1825
High Turnover (Sit Down Restaurant)	343002	1.8500e-003	0.0168	0.0141	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3039	18.3039	3.5000e-004	3.4000e-004	18.4127
Retirement Community	1.68281e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.8012	89.8012	1.7200e-003	1.6500e-003	90.3348

Total		**0.0234**	**0.2006**	**0.0923**	**1.2700e-003**		**0.0161**	**0.0161**		**0.0161**	**0.0161**	**0.0000**	**231.1537**	**231.1537**	**4.4300e-003**	**4.2500e-003**	**232.5273**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.63182e+006	8.8000e-003	0.0752	0.0320	4.8000e-004		6.0800e-003	6.0800e-003		6.0800e-003	6.0800e-003	0.0000	87.0799	87.0799	1.6700e-003	1.6000e-003	87.5974
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	674028	3.6300e-003	0.0311	0.0132	2.0000e-004		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	35.9687	35.9687	6.9000e-004	6.6000e-004	36.1825
High Turnover (Sit Down Restaurant)	343002	1.8500e-003	0.0168	0.0141	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3039	18.3039	3.5000e-004	3.4000e-004	18.4127
Retirement Community	1.68281e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.8012	89.8012	1.7200e-003	1.6500e-003	90.3348
Total		**0.0234**	**0.2006**	**0.0923**	**1.2700e-003**		**0.0161**	**0.0161**		**0.0161**	**0.0161**	**0.0000**	**231.1537**	**231.1537**	**4.4300e-003**	**4.2500e-003**	**232.5273**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	695808	119.9330	9.1500e-003	1.8900e-003	120.7262
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	181635	31.3076	2.3900e-003	4.9000e-004	31.5147
High Turnover (Sit Down Restaurant)	53988	9.3057	7.1000e-004	1.5000e-004	9.3672
Retirement Community	749024	129.1056	9.8500e-003	2.0400e-003	129.9594
Total		**289.6519**	**0.0221**	**4.5700e-003**	**291.5674**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	695808	119.9330	9.1500e-003	1.8900e-003	120.7262
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	181635	31.3076	2.3900e-003	4.9000e-004	31.5147
High Turnover (Sit Down Restaurant)	53988	9.3057	7.1000e-004	1.5000e-004	9.3672
Retirement Community	749024	129.1056	9.8500e-003	2.0400e-003	129.9594
Total		**289.6519**	**0.0221**	**4.5700e-003**	**291.5674**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.7583	0.0435	2.6916	2.2000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	18.8599	18.8599	4.5200e-003	2.7000e-004	19.0521
Unmitigated	1.7583	0.0435	2.6916	2.2000e-004		0.0158	0.0158		0.0158	0.0158	0.0000	18.8599	18.8599	4.5200e-003	2.7000e-004	19.0521

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4201					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4814	14.4814	2.8000e-004	2.7000e-004	14.5674
Landscaping	0.0814	0.0310	2.6863	1.4000e-004		0.0148	0.0148		0.0148	0.0148	0.0000	4.3786	4.3786	4.2400e-003	0.0000	4.4846
Total	**1.7583**	**0.0435**	**2.6916**	**2.2000e-004**		**0.0158**	**0.0158**		**0.0158**	**0.0158**	**0.0000**	**18.8599**	**18.8599**	**4.5200e-003**	**2.7000e-004**	**19.0520**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.2554					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4201					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4814	14.4814	2.8000e-004	2.7000e-004	14.5674
Landscaping	0.0814	0.0310	2.6863	1.4000e-004		0.0148	0.0148		0.0148	0.0148	0.0000	4.3786	4.3786	4.2400e-003	0.0000	4.4846
Total	**1.7583**	**0.0435**	**2.6916**	**2.2000e-004**		**0.0158**	**0.0158**		**0.0158**	**0.0158**	**0.0000**	**18.8599**	**18.8599**	**4.5200e-003**	**2.7000e-004**	**19.0520**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	40.0679	0.7852	0.0190	65.3586
Unmitigated	40.0679	0.7852	0.0190	65.3586

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.4246 / 6.57206	16.9948	0.3407	8.2400e-003	27.9676
City Park	0 / 1.78722	1.0782	8.0000e-005	2.0000e-005	1.0853
Condo/Townhouse	2.34554 / 1.47871	3.8238	0.0767	1.8500e-003	6.2927
High Turnover (Sit Down Restaurant)	0.500831 / 0.0319679	0.6453	0.0164	3.9000e-004	1.1713
Retirement Community	10.7504 / 6.77744	17.5259	0.3514	8.4900e-003	28.8416
Total		**40.0679**	**0.7852**	**0.0190**	**65.3586**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.4246 / 6.57206	16.9948	0.3407	8.2400e-003	27.9676
City Park	0 / 1.78722	1.0782	8.0000e-005	2.0000e-005	1.0853
Condo/Townhouse	2.34554 / 1.47871	3.8238	0.0767	1.8500e-003	6.2927
High Turnover (Sit Down Restaurant)	0.500831 / 0.0319679	0.6453	0.0164	3.9000e-004	1.1713
Retirement Community	10.7504 / 6.77744	17.5259	0.3514	8.4900e-003	28.8416
Total		**40.0679**	**0.7852**	**0.0190**	**65.3586**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	37.7198	2.2292	0.0000	93.4492

Unmitigated	37.7198	2.2292	0.0000	93.4492

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	73.6	14.9401	0.8829	0.0000	37.0136
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
Condo/Townhouse	16.56	3.3615	0.1987	0.0000	8.3281
High Turnover (Sit Down Restaurant)	19.63	3.9847	0.2355	0.0000	9.8720
Retirement Community	75.9	15.4070	0.9105	0.0000	38.1702
Total		**37.7198**	**2.2292**	**0.0000**	**93.4492**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	73.6	14.9401	0.8829	0.0000	37.0136
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
Condo/Townhouse	16.56	3.3615	0.1987	0.0000	8.3281
High Turnover (Sit Down Restaurant)	19.63	3.9847	0.2355	0.0000	9.8720
Retirement Community	75.9	15.4070	0.9105	0.0000	38.1702
Total		**37.7198**	**2.2292**	**0.0000**	**93.4492**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Agrihood

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	1.50	Acre	1.50	65,340.00	0
High Turnover (Sit Down Restaurant)	1.65	1000sqft	0.04	1,650.00	5
Apartments Low Rise	160.00	Dwelling Unit	2.00	46,085.00	437
Condo/Townhouse	36.00	Dwelling Unit	2.00	24,200.00	98
Retirement Community	165.00	Dwelling Unit	2.00	42,050.00	291

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	380	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVP post 2018 rate due to phase out of coal

Land Use - Based on project description with overlapping acreage

Construction Phase - based on construciton schedule except paving

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - Based on provided list

Off-road Equipment - no site preperation

Off-road Equipment - Based on provided list

Trips and VMT - assume cement and asphalt trips vendor trip length

Grading - Based on provided list

Vehicle Trips - Townhomes 6.30,6.14,5.25, Apts 5.33,5.91,5.01, Sr. 4.73,4.00,3.84 Restr78.18,97.38,81.06 park0.78,9.39,6.91

Woodstoves - No wood burning

Energy Use -

Construction Off-road Equipment Mitigation - Tier 2/DPF Level 3 and BMPs

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	323.00
tblConstructionPhase	NumDays	230.00	393.00
tblConstructionPhase	NumDays	20.00	10.00
tblConstructionPhase	NumDays	20.00	23.00
tblConstructionPhase	NumDays	10.00	1.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	24.00	51.00
tblFireplaces	NumberGas	5.40	12.00
tblFireplaces	NumberGas	24.75	53.00
tblFireplaces	NumberWood	27.20	0.00
tblFireplaces	NumberWood	6.12	0.00
tblFireplaces	NumberWood	28.05	0.00
tblGrading	AcresOfGrading	5.03	10.00
tblLandUse	LandUseSquareFeet	160,000.00	46,085.00

tblLandUse	LandUseSquareFeet	36,000.00	24,200.00
tblLandUse	LandUseSquareFeet	165,000.00	42,050.00
tblLandUse	LotAcreage	10.00	2.00
tblLandUse	LotAcreage	2.25	2.00
tblLandUse	LotAcreage	33.00	2.00
tblLandUse	Population	0.00	5.00
tblLandUse	Population	458.00	437.00
tblLandUse	Population	103.00	98.00
tblLandUse	Population	472.00	291.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	UsageHours	6.00	2.50
tblOffRoadEquipment	UsageHours	7.00	0.60
tblOffRoadEquipment	UsageHours	8.00	5.20
tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	3.50
tblOffRoadEquipment	UsageHours	8.00	2.50
tblOffRoadEquipment	UsageHours	8.00	1.00

tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	0.50
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	0.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	380
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripLength	20.00	1.00
tblTripsAndVMT	HaulingTripNumber	0.00	1,875.00
tblTripsAndVMT	HaulingTripNumber	0.00	60.00
tblTripsAndVMT	HaulingTripNumber	0.00	500.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	VendorTripLength	7.30	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblTripsAndVMT	WorkerTripLength	10.80	1.00
tblVehicleTrips	ST_TR	7.16	5.91

tblVehicleTrips	ST_TR	22.75	9.39
tblVehicleTrips	ST_TR	5.67	6.14
tblVehicleTrips	ST_TR	158.37	97.38
tblVehicleTrips	ST_TR	2.03	4.00
tblVehicleTrips	SU_TR	6.07	5.01
tblVehicleTrips	SU_TR	16.74	6.91
tblVehicleTrips	SU_TR	4.84	5.25
tblVehicleTrips	SU_TR	131.84	81.06
tblVehicleTrips	SU_TR	1.95	3.84
tblVehicleTrips	WD_TR	6.59	5.33
tblVehicleTrips	WD_TR	1.89	0.78
tblVehicleTrips	WD_TR	5.81	6.30
tblVehicleTrips	WD_TR	127.15	78.18
tblVehicleTrips	WD_TR	2.40	4.73
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6107	0.0433	2.6787	2.2000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	18.8599	18.8599	4.4500e-003	2.7000e-004	19.0503
Energy	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	520.8056	520.8056	0.0265	8.8100e-003	524.0947

Mobile	0.2896	1.2483	3.2881	0.0141	1.6254	9.4700e-003	1.6349	0.4350	8.8000e-003	0.4438	0.0000	1,296.2209	1,296.2209	0.0375	0.0000	1,297.1581
Waste						0.0000	0.0000		0.0000	0.0000	37.7198	0.0000	37.7198	2.2292	0.0000	93.4492
Water						0.0000	0.0000		0.0000	0.0000	7.6209	32.4470	40.0679	0.7852	0.0190	65.3586
Total	**0.9237**	**1.4922**	**6.0592**	**0.0156**	**1.6254**	**0.0415**	**1.6669**	**0.4350**	**0.0408**	**0.4758**	**45.3407**	**1,868.3334**	**1,913.6741**	**3.0829**	**0.0281**	**1,999.1109**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6107	0.0433	2.6787	2.2000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	18.8599	18.8599	4.4500e-003	2.7000e-004	19.0503
Energy	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	520.8056	520.8056	0.0265	8.8100e-003	524.0947
Mobile	0.2896	1.2483	3.2881	0.0141	1.6254	9.4700e-003	1.6349	0.4350	8.8000e-003	0.4438	0.0000	1,296.2209	1,296.2209	0.0375	0.0000	1,297.1581
Waste						0.0000	0.0000		0.0000	0.0000	37.7198	0.0000	37.7198	2.2292	0.0000	93.4492
Water						0.0000	0.0000		0.0000	0.0000	7.6209	32.4470	40.0679	0.7852	0.0190	65.3586
Total	**0.9237**	**1.4922**	**6.0592**	**0.0156**	**1.6254**	**0.0415**	**1.6669**	**0.4350**	**0.0408**	**0.4758**	**45.3407**	**1,868.3334**	**1,913.6741**	**3.0829**	**0.0281**	**1,999.1109**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2896	1.2483	3.2881	0.0141	1.6254	9.4700e-003	1.6349	0.4350	8.8000e-003	0.4438	0.0000	1,296.2209	1,296.2209	0.0375	0.0000	1,297.1581
Unmitigated	0.2896	1.2483	3.2881	0.0141	1.6254	9.4700e-003	1.6349	0.4350	8.8000e-003	0.4438	0.0000	1,296.2209	1,296.2209	0.0375	0.0000	1,297.1581

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	852.80	945.60	801.60	1,983,359	1,983,359
City Park	1.17	14.09	10.37	9,241	9,241
Condo/Townhouse	226.80	221.04	189.00	509,447	509,447
High Turnover (Sit Down Restaurant)	129.00	160.68	133.75	155,709	155,709
Retirement Community	780.45	660.00	633.60	1,714,339	1,714,339
Total	1,990.22	2,001.40	1,768.31	4,372,095	4,372,095

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
High Turnover (Sit Down	9.50	7.30	7.30	8.50	72.50	19.00	37	20	43
Retirement Community	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

City Park	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Condo/Townhouse	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
High Turnover (Sit Down Restaurant)	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Retirement Community	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	289.6519	289.6519	0.0221	4.5700e-003	291.5674
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	289.6519	289.6519	0.0221	4.5700e-003	291.5674
NaturalGas Mitigated	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	231.1537	231.1537	4.4300e-003	4.2400e-003	232.5273
NaturalGas Unmitigated	0.0234	0.2006	0.0923	1.2700e-003		0.0161	0.0161		0.0161	0.0161	0.0000	231.1537	231.1537	4.4300e-003	4.2400e-003	232.5273

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					

Apartments Low Rise	1.63182e+006	8.8000e-003	0.0752	0.0320	4.8000e-004		6.0800e-003	6.0800e-003		6.0800e-003	6.0800e-003	0.0000	87.0799	87.0799	1.6700e-003	1.6000e-003	87.5974
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	674028	3.6300e-003	0.0311	0.0132	2.0000e-004		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	35.9687	35.9687	6.9000e-004	6.6000e-004	36.1825
High Turnover (Sit Down Restaurant)	343002	1.8500e-003	0.0168	0.0141	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3039	18.3039	3.5000e-004	3.4000e-004	18.4127
Retirement Community	1.68281e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.8012	89.8012	1.7200e-003	1.6500e-003	90.3348
Total		**0.0234**	**0.2006**	**0.0923**	**1.2700e-003**		**0.0161**	**0.0161**		**0.0161**	**0.0161**	**0.0000**	**231.1537**	**231.1537**	**4.4300e-003**	**4.2500e-003**	**232.5273**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.63182e+006	8.8000e-003	0.0752	0.0320	4.8000e-004		6.0800e-003	6.0800e-003		6.0800e-003	6.0800e-003	0.0000	87.0799	87.0799	1.6700e-003	1.6000e-003	87.5974
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	674028	3.6300e-003	0.0311	0.0132	2.0000e-004		2.5100e-003	2.5100e-003		2.5100e-003	2.5100e-003	0.0000	35.9687	35.9687	6.9000e-004	6.6000e-004	36.1825
High Turnover (Sit Down Restaurant)	343002	1.8500e-003	0.0168	0.0141	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3039	18.3039	3.5000e-004	3.4000e-004	18.4127
Retirement Community	1.68281e+006	9.0700e-003	0.0775	0.0330	4.9000e-004		6.2700e-003	6.2700e-003		6.2700e-003	6.2700e-003	0.0000	89.8012	89.8012	1.7200e-003	1.6500e-003	90.3348
Total		**0.0234**	**0.2006**	**0.0923**	**1.2700e-003**		**0.0161**	**0.0161**		**0.0161**	**0.0161**	**0.0000**	**231.1537**	**231.1537**	**4.4300e-003**	**4.2500e-003**	**232.5273**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e

Land Use	kWh/yr	MT/yr			
Apartments Low Rise	695808	119.9330	9.1500e-003	1.8900e-003	120.7262
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	181635	31.3076	2.3900e-003	4.9000e-004	31.5147
High Turnover (Sit Down Restaurant)	53988	9.3057	7.1000e-004	1.5000e-004	9.3672
Retirement Community	749024	129.1056	9.8500e-003	2.0400e-003	129.9594
Total		**289.6519**	**0.0221**	**4.5700e-003**	**291.5674**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	695808	119.9330	9.1500e-003	1.8900e-003	120.7262
City Park	0	0.0000	0.0000	0.0000	0.0000
Condo/Townhouse	181635	31.3076	2.3900e-003	4.9000e-004	31.5147
High Turnover (Sit Down Restaurant)	53988	9.3057	7.1000e-004	1.5000e-004	9.3672
Retirement Community	749024	129.1056	9.8500e-003	2.0400e-003	129.9594
Total		**289.6519**	**0.0221**	**4.5700e-003**	**291.5674**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6107	0.0433	2.6787	2.2000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	18.8599	18.8599	4.4500e-003	2.7000e-004	19.0503
Unmitigated	0.6107	0.0433	2.6787	2.2000e-004		0.0159	0.0159		0.0159	0.0159	0.0000	18.8599	18.8599	4.4500e-003	2.7000e-004	19.0503

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0804					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4489					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4814	14.4814	2.8000e-004	2.7000e-004	14.5674
Landscaping	0.0800	0.0308	2.6734	1.4000e-004		0.0149	0.0149		0.0149	0.0149	0.0000	4.3786	4.3786	4.1700e-003	0.0000	4.4828
Total	**0.6107**	**0.0433**	**2.6787**	**2.2000e-004**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**18.8599**	**18.8599**	**4.4500e-003**	**2.7000e-004**	**19.0503**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0804					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4489					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4600e-003	0.0125	5.3200e-003	8.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	14.4814	14.4814	2.8000e-004	2.7000e-004	14.5674
Landscaping	0.0800	0.0308	2.6734	1.4000e-004		0.0149	0.0149		0.0149	0.0149	0.0000	4.3786	4.3786	4.1700e-003	0.0000	4.4828
Total	**0.6107**	**0.0433**	**2.6787**	**2.2000e-004**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**18.8599**	**18.8599**	**4.4500e-003**	**2.7000e-004**	**19.0503**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	40.0679	0.7852	0.0190	65.3586
Unmitigated	40.0679	0.7852	0.0190	65.3586

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments Low Rise	10.4246 / 6.57206	16.9948	0.3407	8.2400e-003	27.9676
City Park	0 / 1.78722	1.0782	8.0000e-005	2.0000e-005	1.0853
Condo/Townhouse	2.34554 / 1.47871	3.8238	0.0767	1.8500e-003	6.2927
High Turnover (Sit Down Restaurant)	0.500831 / 0.0319679	0.6453	0.0164	3.9000e-004	1.1713
Retirement Community	10.7504 / 6.77744	17.5259	0.3514	8.4900e-003	28.8416
Total		**40.0679**	**0.7852**	**0.0190**	**65.3586**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	10.4246 / 6.57206	16.9948	0.3407	8.2400e-003	27.9676
City Park	0 / 1.78722	1.0782	8.0000e-005	2.0000e-005	1.0853
Condo/Townhouse	2.34554 / 1.47871	3.8238	0.0767	1.8500e-003	6.2927
High Turnover (Sit Down Restaurant)	0.500831 / 0.0319679	0.6453	0.0164	3.9000e-004	1.1713
Retirement Community	10.7504 / 6.77744	17.5259	0.3514	8.4900e-003	28.8416
Total		**40.0679**	**0.7852**	**0.0190**	**65.3586**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	37.7198	2.2292	0.0000	93.4492
Unmitigated	37.7198	2.2292	0.0000	93.4492

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	73.6	14.9401	0.8829	0.0000	37.0136
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
Condo/Townhouse	16.56	3.3615	0.1987	0.0000	8.3281
High Turnover (Sit Down Restaurant)	19.63	3.9847	0.2355	0.0000	9.8720
Retirement Community	75.9	15.4070	0.9105	0.0000	38.1702
Total		**37.7198**	**2.2292**	**0.0000**	**93.4492**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	73.6	14.9401	0.8829	0.0000	37.0136
City Park	0.13	0.0264	1.5600e-003	0.0000	0.0654
Condo/Townhouse	16.56	3.3615	0.1987	0.0000	8.3281
High Turnover (Sit Down Restaurant)	19.63	3.9847	0.2355	0.0000	9.8720
Retirement Community	75.9	15.4070	0.9105	0.0000	38.1702
Total		**37.7198**	**2.2292**	**0.0000**	**93.4492**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

AEI Consultants
Environmental & Engineering Services

Environmental & Engineering Due Diligence

Site Investigation & Remediation

Energy Performance & Benchmarking

Industrial Hygiene

Construction Consulting

Construction, Site Stabilization & Stormwater Services

Zoning Analysis Reports & ALTA Surveys

July 5, 2016

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Property Identification:
90 North Winchester
Santa Clara, Santa Clara County, California 95050

AEI Project No. 356064

Prepared For:

Core Winchester, LLC
470 S. Market Street
San Jose, California 95113

Prepared By:
AEI Consultants
2500 Camino Diablo, Suite 100
Walnut Creek, California 94597
(925) 746-6000

National Presence
Regional Focus
Local Solutions

July 5, 2016

Core Winchester, LLC
470 S. Market Street
San Jose, California 95113

Subject: **PHASE I ENVIRONMENTAL SITE ASSESSMENT**
90 North Winchester, Santa Clara, California 95050
AEI Project No. 356064

Dear Paul Ring:

AEI Consultants is pleased to provide the results of the Phase I Environmental Site Assessment (Phase I ESA) report of the above referenced address (the "subject property"). This assessment was authorized and performed in accordance with the scope of services outlined in the proposal, the scope and limitations of ASTM Standard Practice E1527-13, the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (40 CFR Part 312).

We appreciate the opportunity to provide services to you. If you have any questions concerning this report, or if we can assist you in any other matter, please contact Peter McIntyre, PG at (925) 746-6000 or pmcintyre@aeiconsultants.com.

Sincerely,

Peter McIntyre, PG
AEI Consultants

PROJECT SUMMARY

90 North Winchester, Santa Clara, Santa Clara County, California 95050

Report Section		No Further Action	REC	CREC	HREC	Other Environmental Considerations	Recommended Action
2.1	Site Location and Description	✔					
2.2	Site and Vicinity Characteristics	✔					
3.1	Historical Summary	✔			✔		
4.0	Regulatory Agency Records Review	✔			✔		
5.0	Regulatory Database Records Review	✔			✔		
5.2	Vapor Migration	✔					
6.3	Previous Reports and Other Provided Documentation	✔					
7.1	Subject Property Reconnaissance Findings	✔					
7.2	Adjacent Property Reconnaissance Findings	✔					
8.1	Asbestos-Containing Building Materials	✔					
8.2	Lead-Based Paint	✔					
8.3	Radon	✔					
8.4	Drinking Water Sources and Lead in Drinking Water	✔					
8.5	Mold/Indoor Air Quality Issues	✔					

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APPENDIX F: ENVIRONMENTAL LIEN SEARCH AND/OR CHAIN OF TITLE
APPENDIX G: QUALIFICATIONS

LIST OF COMMONLY USED ACRONYMS

AST	Aboveground Storage Tank
AUL	Activity and Use Limitation
APCD	Air Pollution Control District
AHERA	Asbestos Hazard Emergency Response Act
AQMD	Air Quality Management District
ACM	Asbestos-Containing Material
APN	Assessor's Parcel Number
ASTM	American Society for Testing and Materials
bgs	Below Ground Surface
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
COC	Contaminant of Concern
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
CREC	Controlled Recognized Environmental Condition
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
HAZNET	Facility and Manifest Data
GPR	Ground-Penetrating Radar
HWS	Hazardous Waste Site
HVAC	Heating, Ventilation and Air Conditioning
HREC	Historical Recognized Environmental Condition
LLP	Landowner Liability Protection
LQG	Large Quantity Generator
LBP	Lead-Based Paint
LCP	Lead Containing Paint
LUST	Leaking Underground Storage Tank
MSDS	Material Safety Data Sheet
MCL	Maximum Contaminant Level
MTBE	Methyl Tertiary Butyl Ether
µg/L	Micrograms per Liter
mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
NESHAP	National Emission Standards for Hazardous Air Pollutants
NPL	National Priorities List
NFA	No Further Action
ND	None Detected
NOV	Notice of Violation
NTC	Notice to Comply
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
ppb	Parts per Billion
ppm	Parts per Million
PCE	Perchloroethylene, Tetrachloroethylene, Tetrachloroethene, PERC
PTO	Permit to Operate
pCi/L	PicoCuries per Liter
PCB	Polychlorinated Biphenyl
REC	Recognized Environmental Condition
RCRA	Resource Conservation and Recovery Act
RP	Responsible Party
SVOC	Semi-Volatile Organic Compound
SQG	Small Quantity Generator
SLIC	Spills, Leaks, Investigation, and Cleanup
TPH	Total Petroleum Hydrocarbons
TPHd	Total Petroleum Hydrocarbons (diesel range)
TPHg	Total Petroleum Hydrocarbons (gasoline range)
TPHo	Total Petroleum Hydrocarbons (oil range)
TRPH	Total Recoverable Petroleum Hydrocarbons
TCE	Trichloroethylene, Trichloroethene
UST	Underground Storage Tank
USDA	United States Department of Agriculture
USGS	United States Geological Survey
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

AEI Consultants (AEI) was retained by Core Winchester, LLC to conduct a Phase I ESA in conformance with the proposal and the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 90 North Winchester, Santa Clara, Santa Clara County, California. Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

PROPERTY DESCRIPTION

PROPERTY INFORMATION	
Street Address(es)	90 North Winchester
City	Santa Clara
State	California
Location	Southwest of the intersection of Worthington Circle and North Winchester Boulevard
Vicinity Characteristics	Commercial and residential
Approximate Site Acreage/Source	6.0 acres/Client Provided
Property Type	Vacant Land
Subject Property Use(s)	Vacant land
Assessor Parcel Number(s)	303-17-053-parcel 3
SITE AND BUILDING INFORMATION	
Number of Buildings	N/A
Additional Improvements	None identified
Current On-site Operations	None identified
Current Use of Hazardous Substances	None identified
UTILITY PROVIDER INFORMATION	
Natural Gas Provider	Available from PG&E per Mr. Jay Greenwood
Electricity Provider	Available from SUP per Mr. Jay Greenwood
Heating System Fuel Source	N/A per Mr. Jay Greenwood
Cooling System Power Source	N/A per Mr. Jay Greenwood
Potable Water Provider or Source	Available from City of Santa Clara per Mr. Jay Greenwood
Sewage Disposal Provider or Treatment System	Available from City of Santa Clara per Mr. Jay Greenwood
REGULATORY INFORMATION	
Regulatory Database Listings	Yes; HAZNET (twice), FINDS (twice), ECHO (twice), Envirostor, VCP, NPDES, Hist UST
Institutional Controls	None identified
Engineering Controls	None identified
Environmental Liens	None identified

Based on a review of historical sources, the western portion of the subject property (along with the adjacent site to the west) was occupied by the Holderman Sanitarium (formerly Women's Relief Corps hospital for widows and children of Civil War veterans) from at least 1928 until sometime between 1962 and 1968 when the building was demolished. The rest of the subject property was occupied by the University of California BAREC agricultural research facility from at

least 1928 to 2003. Activities on-site included research on fertilizers, irrigation, characteristics of crops, and crop disease control, including research and development of pesticides. Operations on-site ceased in 2003 when the facility closed. From 2006 to 2010 investigation and remediation activities were conducted on-site in relation to soil contamination from former research activities. In 2010, all of the buildings on-site were demolished, and the subject property has remained vacant since that time.

The following historical addresses were associated with the subject property: 125 North Winchester Boulevard and 90 and 125 Santa Clara-Los Gatos Road. These addresses were also researched as part of this assessment, except for with the DTSC, the Bay Area Air Quality Management District, and the Santa Clara Environmental Health Department Hazardous Materials Division. However, based on the primary use of the address 90 North Winchester Boulevard with regulatory agencies, this limitation is not expected to alter the findings of this assessment.

The immediately surrounding properties consist of the following:

Direction from Site	Tenant/Use (Address)	Regulatory Database Listing(s)
North	Worthington Circle, followed by: Residences(1825-1845 Worthington Circle and 2502-2540 Forest Avenue)	None identified
Northeast	The intersection of North Winchester Boulevard and Forest avenue, followed by: Burger Barn (2485 Forest Avenue)	None identified
East	North Winchester Boulevard, followed by: Old Navy (3501 Stevens Creek Boulevard) Wells Fargo (65 North Winchester Boulevard) Goodyear Tire and Service (486 North Winchester Boulevard) Parking lot (498 North Winchester Boulevard)	EDR Hist Auto, CUPA Listings, San Jose Hazmat (486 North Winchester Boulevard) RCRA-SQG, FINDS, ECHO, EDR Hist Auto (498 North Winchester Boulevard)
South	Veterans Services Office (68 North Winchester Boulevard) Commercial Shopping Center (3101 Dorich Street) Residences (3131-3151 Dorinch Street)	None identified
West	A residence (1989 Worthington Circle) Worthington Circle, followed by: Residences (1992-2028 Worthington Circle)	Associated with the subject property listings

If the surrounding properties are listed in the regulatory database, please refer to Section 5.1 for discussion.

Based upon topographic map interpretation, the direction of groundwater flow beneath the subject property is inferred to be to the north. Based on groundwater monitoring data for a nearby site at 690 North Winchester Boulevard (located approximately 0.10 mile north-northeast of the subject property) obtained from GeoTracker, groundwater is presumed to be present at an estimated depth of 20-32 feet bgs.

FINDINGS

Recognized Environmental Condition (REC) is defined by the ASTM Standard Practice E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to 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.

- AEI did not identify evidence of RECs during the course of this assessment.

Controlled Recognized Environmental Condition (CREC) is defined by the ASTM Standard Practice E1527-13 as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

- AEI did not identify evidence of CRECs during the course of this assessment.

Historical Recognized Environmental Condition (HREC) is defined by the ASTM Standard Practice E1527-13 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.

- Review of the records available with the DTSC both on-line and in-person indicate that the subject property and western adjoining property were utilized as an agricultural experimental field station from 1928 until 2003, with activities including research on fertilizers, irrigation, characteristics of crops, and crop disease control, including research and development of pesticides. The site was known as the University of California (UC) Bay Area Research Extension Center (BAREC). Hazardous materials (i.e.: fertilizers, pesticides, fuels, oils, cleaning solutions), portable tanks and trailers were removed by UC personnel in 2003 when the facility closed. The single irrigation well on the western portion of the subject property was abandoned in 2005. Buildings and related utilities remained in place until they were demolished in 2010 after completion of lead-based paint and asbestos abatement activities were completed.

  In 2006, the owner of the subject property, State of California Department of General Services, entered into a voluntary clean-up agreement (VCA) with the DTSC based on the historic use of pesticides and former agricultural practices conducted on-site. Subsequent site investigations identified elevated concentrations of arsenic and dieldrin in surface soil at the site. A Removal Action Workplan (RAW) was prepared to identify, evaluate, and recommend remediation alternatives for the impacted soils at the site. The primary objective of the RAW was to ensure the protection of human health and the environment. The RAW was approved by the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) on October 9, 2007. The Final (approved) RAW stated that the removal action objectives (RAOs) for the site were: 1) minimize exposure of future site residents to surface soil containing arsenic above the 20 mg/kg (parts per million) background level; 2) ensure the mean concentration of dieldrin

in an individual field is below 30 ug/kg (parts per billion) and; 3) leave the site in a physical condition that is compatible with single-family residential use.

Areas of concern that were located on the subject property included part of Field 4, Hot Spot #3 (appears slightly north of the middle of the subject property within Worthington Circle), Hot Spot #5 (in the northern part of the subject property, south of Hot Spot #3), Hot Spot #6 and Hot Spot #7 (located in the southeast corner of the subject property), and Building 100 (former offices and laboratory located in the northeast corner of the subject property). Excavation of the areas of concern was conducted in May and June of 2010. Field 4 was excavated to depths of one to three feet below ground surface (bgs) with a total of approximately 3,783 cubic yards of contaminated soil removed from an area of approximately 1.6 acres. Hot Spot #3 and #5 along with the area of the former pesticide storage Building 208 was excavated to a depth of up to three feet bgs with an area of approximately 508 cubic yards removed from Hot Spot #3 in an area of 6,808 square feet, and with approximately 1,264 cubic yards removed from an area of approximately 0.35 acres in size. Hot Spot #6 and Hot Spot #7 were excavated to a depth of three feet below ground surface with an area of approximately ten foot by 10 foot in each of the two locations. The area of the former offices and laboratory Building 100 was excavated to a depth of three feet bgs and up to eleven feet bgs in the basement area with a total of approximately 83 cubic yards removed from an area of approximately 739 square feet in size. Clean imported fill was screened for contaminants prior to being used to backfill the excavations. Sampling was conducted to confirm that the RAOs were met. Air monitoring was conducted throughout the excavation process to ensure that dust control was effective. The removal action at the site was completed in accordance with the Final RAW and all RAOs were met.

Based on records with the DTSC and with the Santa Clara Fire Department, a 2,000-gallon UST was found during these excavation activities that was presumed to be fuel oil for a former steam boiler system. The UST was located in Field 4 (on the west side of the subject property). The UST was removed and soil samples were collected from beneath the UST. Minor staining typical of small overfill spills was observed near the top of the UST, but otherwise the tank appeared to be in good condition with no holes observed. The tank pit was overexcavated to a total depth of approximately 9 feet bgs. Two soil samples were then collected from the bottom of the pit and analyzed for VOCs and fuel oxygenates, TPHd, organochlorine pesticides, and metals. 1.5 mg/kg of TPHd, along with a maximum of 4.9 mg/kg arsenic and 5.7 mg/kg lead were identified. All other contaminants were non-detect. Based on the low levels of TPHd, lead, and arsenic found, The City of Santa Clara Fire Department issued an NFA letter for the UST on June 29, 2010.

It was also noted in records with the DTSC and with the Santa Clara Fire Department that in 1993, a 1,000-gallon gasoline UST (next to Building 201-AKA 101), just north of the subject property boundary) and a 1,000-gallon diesel UST (next to Building 207-AKA 103 shed, on the southwestern portion of the subject property) were removed with two samples collected from beneath each UST. The USTs were observed to be in good condition upon removal and no visual signs of a release were observed. The samples were analyzed for gasoline, diesel, and BTEX and all were non-detect based on

analytical results on-file with the Santa Clara Fire Department. The City of Santa Clara Fire Department issued an NFA letter on October 7, 1993 for these two former USTs.

It was noted in the soil characterization report (October 2003) that the former sanitary sewer leach pit, former excavation pond and sediment trap had no evidence of subsurface soils and/or groundwater impact and no further investigation was required based on sampling results (no significant impact was reported).

On August 11, 2010, the DTSC issued a letter indicating that the Removal Action Completion Report was reviewed and the work has been conducted in accordance with the approved RAW and remediation goals have been achieved. DTSC approved the Completion Report and indicated that "With completion of this remediation, the BAREC site does not pose a threat to human health or the environment under any land use, including unrestricted residential development and is safe for occupancy for single family homes. Therefore, DTSC determines that no further action is necessary with respect to investigation and remediation of hazardous substances at the site." On April 13, 2016. AEI spoke with Ms. Karen Toth, the project manager with the DTSC for the subject property clean-up case. According to Ms. Toth, DTSC determined that no further action was needed at this site and that it met unrestricted use standards. Ms. Toth also noted that the DTSC will not be involved in the future development of the subject property. Based on this information, the former use of the subject property as the BAREC agricultural research facility represents an HREC.

Other Environmental Considerations warrant discussion, but do not qualify as RECs as defined by the ASTM Standard Practice E1527-13. These include, but are not limited to, de minimis conditions and/or environmental considerations such as the presence of ACMs, LBP, radon, mold, and lead in drinking water, which can affect the liabilities and financial obligations of the client, the health and safety of site occupants, and the value and marketability of the subject property.

- AEI did not identify an Other Environmental Considerations during the course of this assessment.

CONCLUSIONS, OPINIONS, AND RECOMMENDATIONS

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) of 90 North Winchester, Santa Clara, Santa Clara County, California, the *subject property*. Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

AEI did not identify evidence of RECs or CRECs in connection with the subject property during the course of this assessment.

1.0 INTRODUCTION

This report documents the methods and findings of the Phase I ESA performed in conformance with the proposal and scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 90 North Winchester, Santa Clara, Santa Clara County, California (Appendix A: Figures and Appendix B: Property Photographs).

1.1 SCOPE OF WORK

The purpose of the Phase I ESA is to assist the client in identifying potential RECs, in accordance with ASTM E1527-13, associated with the presence of any hazardous substances or petroleum products, their use, storage, and disposal at and in the vicinity of the subject property. Property assessment activities focused on: 1) a review of federal, state, tribal, and local databases that identify and describe underground fuel tank sites, leaking underground fuel tank sites, hazardous waste generation sites, and hazardous waste storage and disposal facility sites within the ASTM approximate minimum search distance; 2) a property and surrounding site reconnaissance, and interviews with the past and present owners and current occupants and operators to identify potential environmental contamination; and 3) a review of historical sources to help ascertain previous land use at the site and in the surrounding area.

1.2 ADDITIONAL SERVICES

Other Environmental Considerations such as ACMs, LBP, lead in drinking water, radon, mold, and wetlands can result in business environmental risks for property owners which may disrupt current or planned operations or cash flow and are generally beyond the scope of a Phase I assessment as defined by ASTM E1527-13. Based upon the agreed-on scope of services this ESA did not include subsurface or other invasive assessments, business environmental risks, or other services not specifically identified and discussed herein.

1.3 SIGNIFICANT ASSUMPTIONS

The following assumptions are made by AEI in this report. AEI relied on information derived from secondary sources including governmental agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, and personal interviews. AEI has reviewed and evaluated the thoroughness and reliability of the information derived from secondary sources including government agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, or personal interviews. It appears that all information obtained from outside sources and reviewed for this assessment is thorough and reliable. However, AEI cannot guarantee the thoroughness or reliability of this information.

Groundwater flow, unless otherwise specified by on-site well data or well data from the subject property or nearby sites, is inferred from contour information depicted on the USGS topographic maps. AEI assumes the property has been correctly and accurately identified by the client, designated representative of the client, property contact, property owner, and property owner's representatives.

1.4 LIMITATIONS

Property conditions, as well as local, state, tribal, and federal regulations can change significantly over time. Therefore, the recommendations and conclusions presented as a result of this assessment apply strictly to the environmental regulations and property conditions existing at the time the assessment was performed. Available information has been analyzed using currently accepted assessment techniques and it is believed that the inferences made are reasonably representative of the property. AEI makes no warranty, expressed or implied, except that the services have been performed in accordance with generally accepted environmental property assessment practices applicable at the time and location of the assessment.

Considerations identified by ASTM as beyond the scope of a Phase I ESA that may affect business environmental risk at a given property include the following: ACMs, radon, LBP, lead in drinking water, wetlands, regulatory compliance, cultural and historical resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, mold, and high voltage lines. These environmental issues or conditions may warrant assessment based on the type of the property transaction; however, they are considered non-scope issues under ASTM Standard Practice E1527-13.

If requested by the client, these non-scope issues are discussed herein. Otherwise, the purpose of this assessment is solely to satisfy one of the requirements for qualification of the innocent landowner defense, contiguous property owner or bona fide prospective purchaser under CERCLA. ASTM Standard Practice E1527-13 and the United States EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) constitute the "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in:

1. 42 U.S.C. § 9601(35)(B), referenced in the ASTM Standard Practice E1527-13.
2. Sections 101(35)(B) (ii) and (iii) of CERCLA and referenced in the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312).
3. 42 U.S.C. § 9601(40) and 42 U.S.C. § 9607(q).

The Phase I ESA is not, and should not be construed as, a warranty or guarantee about the presence or absence of environmental contaminants that may affect the property. Neither is the assessment intended to assure clear title to the property in question. The sole purpose of assessment into property title records is to ascertain a historical basis of prior land use. All findings, conclusions, and recommendations stated in this report are based upon facts, circumstances, and industry-accepted procedures for such services as they existed at the time this report was prepared (i.e., federal, state, and local laws, rules, regulations, market conditions, economic conditions, political climate, and other applicable matters). All findings, conclusions, and recommendations stated in this report are based on the data and information provided, and observations and conditions that existed on the date and time of the property reconnaissance.

Responses received from local, state, or federal agencies or other secondary sources of information after the issuance of this report may change certain facts, findings, conclusions, or circumstances to the report. A change in any fact, circumstance, or industry-accepted procedure upon which this report was based may adversely affect the findings, conclusions, and recommendations expressed in this report.

AEI's limited radon screening, if included, is intended to provide a preliminary screening to evaluate the potential presence of elevated radon concentrations at the site. The proposed scope is not intended to define the full extent of the presence of radon at the subject property. As such, the results should be used for lending purposes only. The recommendations and conclusions presented as a result of the limited preliminary radon screening apply strictly to the property conditions existing at the time the sampling was performed. The sample analytical results are only valid for the time, place, and condition of the site at the time of collection and AEI does not warrant that the results will be repeatable or are representative of past or future conditions.

1.5 LIMITING CONDITIONS/DEVIATIONS

The performance of this Phase I ESA was limited by the following:

- The following historical addresses were associated with the subject property: 125 North Winchester Boulevard and 90 and 125 Santa Clara-Los Gatos Road. These addresses were also researched as part of this assessment, except for with the DTSC, the Bay Area Air Quality Management District, and the Santa Clara Environmental Health Department Hazardous Materials Division. However, based on the primary use of the address 90 North Winchester Boulevard with regulatory agencies, this limitation is not expected to alter the findings of this assessment.
- The subject property owner was not interviewed during this assessment. Based on information obtained from other sources, including the key site manager, this limiting condition is not expected to alter the overall findings of this assessment.
- Due to the size of the subject property, AEI performed a site inspection of the property utilizing a field technique of traversing the site in an attempt to provide an overlapping field of view. Due to the size of the property and the vegetation present on site, isolated areas of the site may have not been accessible for direct observation during AEI's inspection. Based on the vacant nature of the property, this limitation is not expected to significantly alter the Findings of this assessment.

1.6 DATA GAPS AND DATA FAILURE

According to ASTM E1527-13, data gaps occur when the Environmental Professional is unable to obtain information required by the Standard, despite good faith efforts to gather such information. Pursuant to ASTM E1527-13, only significant data gaps, defined as those that affect the ability of the Environmental Professional to identify RECs, need to be documented.

Data failure is one type of data gap. According to ASTM E1527-13, data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met. Pursuant to ASTM E1527-13, historical sources are required to document property use back to the property's first developed use or back to 1940, whichever is earlier, or periods of five years or greater.

1.6.1 DATA FAILURE

The following data failure was identified during the course of this assessment:

Data Failure	Historical sources were not obtained at five-year intervals dating back to first developed use, whichever is earlier. AEI was not able to track the history of the subject property between the years 1913 and 1926 and between 1926 and 1937 as none of the historical sources utilized as part of this assessment covered this time period. In the 1913 and 1926 topographic maps, the subject property was shown to be vacant. In the 1937 aerial photograph, the subject property appears developed with agricultural fields and several buildings. Thus, it is assumed that during the 1913 and 1926 time period, the subject property would have been agricultural if not undeveloped and between 1926 and 1937, the subject property would have been agricultural with several structures (noted to be a sanitarium). Therefore, this data failure is not expected to alter the Findings of this assessment.
Information/Sources Consulted	City directories, Sanborn fire insurance maps, aerial photographs, agency records, local history documentation, previous reports, interviews

1.6.2 DATA GAPS

AEI did not identify significant data gaps which affected our ability to identify RECs.

1.7 RELIANCE

All reports, both verbal and written, are for the benefit of Core Winchester, LLC, City of Santa Clara Housing Authority and the City of Santa Clara, who may rely on this report. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors, or assigns. Reliance is provided in accordance with AEI's proposal and Standard Terms and Conditions executed by Core Winchester, LLC on March 24, 2016. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

2.0 SITE AND VICINITY DESCRIPTION

2.1 SITE LOCATION AND DESCRIPTION

PROPERTY INFORMATION	
Street Address(es)	90 North Winchester
City	Santa Clara
State	California
Location	Southwest of the intersection of Worthington Circle and North Winchester Boulevard
Vicinity Characteristics	Commercial and residential
Approximate Site Acreage/Source	6.0 acres/Client Provided
Property Type	Vacant Land
Subject Property Use(s)	Vacant land
Assessor Parcel Number(s)	303-17-053-parcel 3
SITE AND BUILDING INFORMATION	
Number of Buildings	N/A
Additional Improvements	None identified
Current On-site Operations	None identified
Current Use of Hazardous Substances	None identified
UTILITY PROVIDER INFORMATION	
Natural Gas Provider	Available from PG&E per Mr. Jay Greenwood
Electricity Provider	Available from SUP per Mr. Jay Greenwood
Heating System Fuel Source	N/A per Mr. Jay Greenwood
Cooling System Power Source	N/A per Mr. Jay Greenwood
Potable Water Provider or Source	Available from City of Santa Clara per Mr. Jay Greenwood
Sewage Disposal Provider or Treatment System	Available from City of Santa Clara per Mr. Jay Greenwood
REGULATORY INFORMATION	
Regulatory Database Listings	Yes; HAZNET (twice), FINDS (twice), ECHO (twice), Envirostor, VCP, NPDES, Hist UST
Institutional Controls	None identified
Engineering Controls	None identified
Environmental Liens	None identified

Refer to Appendix A: Figures and Appendix B: Property Photographs for site location and description.

2.2 SITE AND VICINITY CHARACTERISTICS

The immediately surrounding properties consist of the following:

Direction from Site	Tenant/Use (Address)	Regulatory Database Listing(s)
North	Worthington Circle, followed by: Residences(1825-1845 Worthington Circle and 2502-2540 Forest Avenue)	None identified

Direction from Site	Tenant/Use (Address)	Regulatory Database Listing(s)
Northeast	The intersection of North Winchester Boulevard and Forest avenue, followed by: Burger Barn (2485 Forest Avenue)	None identified
East	North Winchester Boulevard, followed by: Old Navy (3501 Stevens Creek Boulevard) Wells Fargo (65 North Winchester Boulevard) Goodyear Tire and Service (486 North Winchester Boulevard) Parking lot (498 North Winchester Boulevard)	EDR Hist Auto, CUPA Listings, San Jose Hazmat (486 North Winchester Boulevard) RCRA-SQG, FINDS, ECHO, EDR Hist Auto (498 North Winchester Boulevard)
South	Veterans Services Office (68 North Winchester Boulevard) Commercial Shopping Center (3101 Dorich Street) Residences (3131-3151 Dorinch Street)	None identified
West	A residence (1989 Worthington Circle) Worthington Circle, followed by: Residences (1992-2028 Worthington Circle)	Associated with the subject property listings

If the surrounding properties are listed in the regulatory database, please refer to Section 5.1 for discussion.

2.3 PHYSICAL SETTING

Geology: According to information obtained from the USGS, the area surrounding the subject property is underlain by alluvial deposits of the Holocene era. Based on a review of the USDA Soil Survey for the area of the subject property, the soils in the vicinity of the subject property are classified as the Urban Land Flaskan and Campbell complexes. The Urban Land designation indicates that more than 85 percent of the original soils have been disturbed or covered by paved surfaces, buildings or other structures. Due to the variability of the soil material, on-site investigation would be required to determine the specific soil composition at the subject property.

USGS Topographic Map:	San Jose West, California Quadrangle
Nearest surface water to subject property:	Saratoga Creek/Approximately 1.70 mile northwest
Gradient Direction/Source:	North/Topographic map interpretation
Estimated Depth to Groundwater/Source:	20-32 feet bgs/Groundwater monitoring data on-file for the site located at 690 North Winchester Boulevard (located approximately 0.10 mile north-northeast) obtaind from the GeoTracker website

Note: Groundwater flow direction can be influenced locally and regionally by the presence of local wetland features, surface topography, recharge and discharge areas, horizontal and vertical inconsistencies in the types and location of subsurface soils, and proximity to water pumping wells. Depth and gradient of the water table can change seasonally in response to variation in precipitation and recharge, and over time, in response to urban development such as storm water controls, impervious surfaces, pumping wells, cleanup activities, dewatering, seawater intrusion barrier projects near the coast, and other factors.

3.0 HISTORICAL REVIEW OF SITE AND VICINITY

3.1 HISTORICAL SUMMARY

Reasonably ascertainable standard historical sources as outlined in ASTM Standard E1527-13 were used to determine previous uses and occupancies of the subject property that are likely to have led to RECs in connection with the subject property. A chronological summary of historical data found, including but not limited to aerial photographs, historical city directories, Sanborn fire insurance maps, and agency records, is as follows:

Date Range	Subject Property Description/Use	Source(s)
1897-1928	The subject property appears to be vacant, undeveloped land	Topographic maps
1928-sometime between 1962 and 1968	The western portion of the property was part of the Holderman Sanitarium (formerly Women's Relief Corps hospital for widows and children of Civil War veterans) while the eastern portion of the property was used for agricultural research by the University of California BAREC	Aerial photographs, topographic maps, city directories, and regulatory agency records
1968-2003	University of California BAREC	Aerial photographs, topographic maps, city directories, and regulatory agency records
2003-2010	Unoccupied	Aerial Photographs, regulatory agency records
2010-Present	Vacant land	Aerial Photographs, regulatory agency records

Based on a review of historical sources, the western portion of the subject property (along with the adjacent site to the west) was occupied by the Holderman Sanitarium (formerly Women's Relief Corps hospital for widows and children of Civil War veterans) from at least 1928 until sometime between 1962 and 1968 when the building was demolished. The rest of the subject property was occupied by the University of California BAREC agricultural research facility from at least 1928 to 2003. Activities on-site included research on fertilizers, irrigation, characteristics of crops, and crop disease control, including research and development of pesticides. Operations on-site ceased in 2003 when the facility closed. From 2006 to 2010 investigation and remediation activities were conducted on-site in relation to soil contamination from former research activities. In 2010, all of the buildings on-site were demolished, and the subject property has remained vacant since that time.

The following historical addresses were associated with the subject property: 125 North Winchester Boulevard and 90 and 125 Santa Clara-Los Gatos Road. These addresses were also researched as part of this assessment, except for with the DTSC, the Bay Area Air Quality Management District, and the Santa Clara Environmental Health Department Hazardous Materials Division. However, based on the primary use of the address 90 North Winchester Boulevard with regulatory agencies, this limitation is not expected to alter the findings of this assessment.

Please refer to Section 4.7 for discussion of the former agricultural research operations conducted on-site.

3.2 AERIAL PHOTOGRAPHS

AEI reviewed aerial photographs of the subject property and surrounding area. A search was made of the EDR collection of aerial photographs. Aerial photographs were reviewed for the following years:

Year(s)	Subject Property Description	Adjacent Site Descriptions
1937	Agricultural use with row crops, orchards, and fields. A road runs through the central portion of the property, and there are buildings on the northern and southern portions of the property with a portion of the western property including a building also associated with the adjacent site to the west.	NORTH: Several buildings associated with the subject property and orchards NORTHEAST: North Winchester Boulevard, followed by orchards EAST: North Winchester Boulevard, followed by orchards SOUTH: Orchards WEST: Orchards and buildings associated with the subject property
1948, 1950	No significant changes	NORTH: No significant changes NORTHEAST: North Winchester Boulevard, followed by orchards and a residence EAST: North Winchester Boulevard, followed by orchards and esidences SOUTH: No significant changes WEST: No significant changes
1956	No significant changes	NORTH: Some of the existing residences NORTHEAST: The intersection of North Winchester Boulevard and Forest Avenue, followed by no significant changes EAST: No significant changes SOUTH: An orchard and the existing residences WEST: No significant changes
1968	Developed with agricultural row crops and fields, with buildings to the northern and southern portions of the property. The buildings on the western portion of the property are no longer present	NORTH: No significant changes NORTHEAST: The intersection of North Winchester Boulevard and Forest Avenue, followed by the existing building EAST: North Winchester Boulevard, followed by a gas station, two of the existing buildings, and a parking lot SOUTH: One of the existing buildings and the existing residences WEST: Agricultural fields associated with the subject property
1974	No significant changes except there are three additional buildings on the northern portion of the subject property	No significant changes

Year(s)	Subject Property Description	Adjacent Site Descriptions
1982,	No significant changes	NORTH: No significant changes NORTHEAST: No significant changes EAST: No significant changes SOUTH: The two existing buildings and residences WEST: No significant changes
1993, 2005, 2009	No significant changes	NORTH: No significant changes NORTHEAST: No significant changes except the gas station is no longer present EAST: No significant changes SOUTH: No significant changes WEST: No significant changes
2012	Vacant land	NORTH: Under construction with two of the existing residences and the existing residences NORTHEAST: No significant changes EAST: No significant changes SOUTH: No significant changes WEST: Under construction with the existing residences

Based on the review of aerial photographs, the subject property, along with the adjacent site to the west, was historically used for agricultural research purposes. In addition, from at least 1937 to 1956 the western portion of the subject property and the adjacent site to the west was also occupied by the Holderman Sanitarium. Please refer below and to section 4.7 for discussion.

The adjacent site to the east was identified as a gas station from at least 1968 to 1982. Please refer to Section 5.1 for discussion.

If available, copies of historical aerial photographs are provided in the report appendices.

3.3 Sanborn Fire Insurance Maps

Sanborn Fire Insurance maps were developed in the late 1800s and early 1900s for use as an assessment tool for fire insurance rates in urbanized areas. A search was made of the EDR collection of Sanborn Fire Insurance maps.

Sanborn map coverage was not available for the subject property.

3.4 City Directories

A search of historical city directories was conducted for the subject property utilizing AEI's Collection of Haine's Criss-Cross Directories. The following table summarizes the results of the city directory search.

Year(s)	Address - Occupant Listed
1971	Street listed, address not listed
1976	125 North Winchester Boulevard - Univ Calif Research
1981	125 North Winchester Boulevard - U CA Deciduous Stn

Year(s)	Address - Occupant Listed
1986, 1990-1991, 1995-1996, 2001, 2006	125 North Winchester Boulevard - University of CA Deciduous Fruit

Please refer below and to section 4.7 for discussion.

If available, copies of historical city directories are provided in the report appendices.

3.5 Historical Topographic Maps

A search of historical topographic maps was conducted for the subject property utilizing HistoricAerials.com. Topographic maps were reviewed for the following years:

Year(s)	Subject Property Description	Adjacent Site Descriptions
1897, 1899, 1901, 1905, 1909, 1913, 1926, 1939, 1946	Vacant land (no structures depicted)	NORTH: Vacant land NORTHEAST: A road, followed by vacant land EAST: A road, followed by vacant land SOUTH: Two structures WEST: Vacant land
1955, 1959	Developed with several structures	NORTH: Urban development NORTHEAST: North Winchester Boulevard followed by urban development EAST: North Winchester Boulevard, followed by urban development and orchards SOUTH: Urban development WEST: Vacant land
1962, 1963, 1966, 1967, 1969	Developed with several structures and labeled as the Holderman Sanitarium.	NORTH: Urban development NORTHEAST: North Winchester Boulevard followed by urban development EAST: North Winchester Boulevard, followed by several structures SOUTH: Several structures WEST: Appears to be associated with the Holderman Sanitarium
1975	The property is still marked as the Holderman Sanitarium, however there are only structures on the northern portion of the property and one on the southern portion of the property	NORTH: Urban development NORTHEAST: North Winchester Boulevard followed by urban development EAST: North Winchester Boulevard, followed by several structures SOUTH: Several structures WEST: Appears to be associated with the Holderman Sanitarium

Based on the review of topographic maps, records on-file with he DTSC and the Santa Clara Fire Department, as well as on-line research, the western portion of the subject property and the site adjacent to he west was historically occupied by the Holderman Sanitarium (previously

Women's Relief Corps Home) from at least 1928 to the 1960s. On-line research indicates that from at least 1928 to 1962 the property housed widows and children of veterans (primarily Civil War Veterans). In 1954, the Holdermans changed the name of the facility and began to admit veterans as patients. In 1958, the adjacent Veterans Service Office to the south of the subject property, which is still in operation today, was opened. Sometime prior to 1968 the the Holderman Sanitarium was closed and demolished for use as agricultural fields for the BAREC agricultural research facility, which had already occupied the majority of the subject property since 1928.

Please refer to Section 4.7 for a discussion of the BAREC facility which operated on the subject property from 1928 to 2003.

If available, copies of historical topographic maps are provided in the report appendices.

3.6 CHAIN OF TITLE

In accordance with our approved scope of services, a chain of title search was not performed as part of this assessment.

4.0 REGULATORY AGENCY RECORDS REVIEW

Local and state agencies, such as environmental health departments, fire prevention bureaus, and building and planning departments are contacted to identify any current or previous reports of hazardous substance use, storage, and/or unauthorized releases that may have impacted the subject property. In addition, information pertaining to AULs, defined as legal or physical restrictions, or limitations on the use of, or access to, a site or facility, is requested.

4.1 LOCAL ENVIRONMENTAL HEALTH DEPARTMENT AND/OR STATE ENVIRONMENTAL AGENCY

On March 28, 2016, AEI contacted the Santa Clara County Department of Environmental Health via email for information on the subject property. Files at this agency may contain information regarding hazardous substance storage and use, underground storage tanks, unauthorized releases of petroleum hydrocarbons or other contaminants that may affect the soil or groundwater in the area, wells and/or septic systems.

AEI spoke with Ms. Susanna Reyna, who indicated that evidence of current or prior use or storage of hazardous substances was not on file for the subject property with the Santa Clara County Department of Environmental Health. AEI was referred to the on-line LOP website, the Santa Clara Valley Water District, and the Santa Clara Fire Department. AEI searched the on-line LOP database. No records were available for the subject property. Please refer below for information obtained from the Santa Clara Valley Water District and the Santa Clara Fire Department.

4.2 FIRE DEPARTMENT

On April 12, 2016, AEI contacted the Santa Clara County Fire Department via office visit for information on the subject property to identify any evidence of previous or current hazardous substance usage, and/or for any historical information available for the subject property.

According to Ms. Monica Nguyen, the following information was on file for the subject property:

Records on-file with the Santa Clara County Fire Department indicated the former use of a large quantity of pesticides on-site by the BAREC agricultural research facility. In addition, records on-file addressed three former USTs located on the subject property, as well as clean-up actions and site investigations completed after the closure of the BAREC facility. Please refer to Section 4.7 for complete discussion of these records reviewed.

4.3 BUILDING DEPARTMENT

On June 16, 2016, AEI contacted the Santa Clara Building Department via their on-line portal for information on the subject property in order to identify historical tenants, features of concern and property use.

Please refer to the following table for a listing of permits reviewed:

Year(s)	Owner/Applicant	Description of Permit and Building Use
2007	The University of California Regents	Applications for a grading permit and plumbing permit (application expired)

Year(s)	Owner/Applicant	Description of Permit and Building Use
2008	Summerhill Homes	Application to demolish storage sheds, a greenhouse, and an office building (application expired) Application for a rough grading permit for site clean-up (application expired) Application for landscaping, irrigation, retaining walls, mailboxes, and arbors (application expired)
2008	N/A	Application for a temporary hydrant for model homes (application expired)
2010	N/A	Permit to remove an approx. 2,000-gallon UST (with Fire Department)
1993	N/A	Permit to remove one 1,000-gallon diesel UST and one 1,000-gallon gasoline UST (with Fire Department)
2003	N/A	Application to re-zone the subejct property from agricultural use to planned development for the new residential community planned including a city park
2004	N/A	Permit to construct 110 Single family residences
2007	Summerhill Homes	Application to build a new single family residence (application expired)

Please refer to Section 4.7 for discussion of the USTs formerly located on-site.

4.4 Planning Department

On June 16, 2016, AEI contacted the Santa Clara Planning Department via telephone for information on the subject property in order to identify AULs associated with the subject property.

AEI spoke with an employee with the planning department, who indicated that evidence indicating the existence of AULs was not on file for the subject property with the Santa Clara Planning Department.

4.5 County Assessor Office

On March 28, 2016, AEI visited the Santa Clara County assessor's office website for information on the subject property in order to determine the earliest recorded date of development and use.

According to the Santa Clara County assessor's office, the subject property APN is 303-17-53.

4.6 Oil and Gas Wells/Pipelines

On March 28, 2016, AEI reviewed the Department of Gas and Geothermal Resources (DOGGR) maps and the National Pipeline Mapping System (NPMS) Public Map Viewer concerning the subject property and nearby properties. The maps contain information regarding oil and gas development.

According to the DOGGR map, oil or gas wells are not located within 500 feet of the subject property. AEI did not identify evidence of environmental concerns during the map review.

According to the NPMS Public Map Viewer, pipelines are not located within 500 feet of the subject property. AEI did not identify evidence of environmental concerns during the map review.

4.7 OTHER AGENCIES SEARCHED

On March 28, 2016, AEI contacted The Bay Area Air Quality Management District (BAAQMD) for information regarding any records of Permits to Operate (PTO), Notices of Violation (NOV), or Notices to Comply (NTC) issued to occupants of the subject property and associated with air emissions equipment primarily related to stationary sources of air pollution, such as dry cleaning machines, boiler, and/or underground storage tanks (USTs) .

There were no records on file for the subject property with the BAAQMD.

On March 28, 2016, AEI visited the GeoTracker website maintained by the Regional Water Quality Control Board (RWQCB) for information regarding unauthorized releases of hazardous materials to the groundwater. Cases typically handled by the RWQCB include releases from USTs.

No information indicating any release of hazardous materials on the subject property was found on the GeoTracker website.

On March 28, 2016, AEI visited the Hazardous Waste Tracking System (HWTS) online database maintained by the California Department of Toxic Substances Control (DTSC) for information regarding documented hazardous wastes generated at the subject property.

Based on the records on-file for the subject property on the DTSC HWTS, large quantities of hazardous waste, including asbestos containing waste, inorganic solid waste, unspecified oil containing waste, alkaline solutions without metals, waste oil and mixed oil, pesticides and pesticide production waste, tank bottom waste, laboratory waste chemicals, liquids with mercury, polychlorinated biphenyls, empty containers, and contaminated soils from site clean-up were generated on-site in 2002 and 2010. Please refer to the discussion below for further information about hazardous wastes generated on-site during site remediation and clean-up activities.

On March 28, 2016, AEI visited the EnviroStor website maintained by the California Department of Toxic Substances Control (DTSC) for information indication any release of hazardous materials on the subject property. In addition, on April 26, 2016, AEI visited the DTSC Berkeley Regional Office to review records on-file for the subject property which had been archived.

Review of the records available with the DTSC both on-line and in-person indicate that the subject property and western adjoining property were utilized as an agricultural experimental field station from 1928 until 2003, with activities including research on fertilizers, irrigation, characteristics of crops, and crop disease control, including research and development of pesticides. The site was known as the University of California (UC) Bay Area Research Extension Center (BAREC). Hazardous materials (i.e.: fertilizers, pesticides, fuels, oils, cleaning solutions), portable tanks and trailers were removed by UC personnel in 2003 when the facility closed. The single irrigation well on the western portion of the subject property was abandoned in

2005. Buildings and related utilities remained in place until they were demolished in 2010 after completion of lead-based paint and asbestos abatement activities were completed.

In 2006, the owner of the subject property, State of California Department of General Services, entered into a voluntary clean-up agreement (VCA) with the DTSC based on the historic use of pesticides and former agricultural practices conducted on-site. Subsequent site investigations identified elevated concentrations of arsenic and dieldrin in surface soil at the site. A Removal Action Workplan (RAW) was prepared to identify, evaluate, and recommend remediation alternatives for the impacted soils at the site. The primary objective of the RAW was to ensure the protection of human health and the environment. The RAW was approved by the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) on October 9, 2007. The Final (approved) RAW stated that the removal action objectives (RAOs) for the site were: 1) minimize exposure of future site residents to surface soil containing arsenic above the 20 mg/kg (parts per million) background level; 2) ensure the mean concentration of dieldrin in an individual field is below 30 ug/kg (parts per billion) and; 3) leave the site in a physical condition that is compatible with single-family residential use.

Areas of concern that were located on the subject property included part of Field 4, Hot Spot #3 (appears slightly north of the middle of the subject property within Worthington Circle), Hot Spot #5 (in the northern part of the subject property, south of Hot Spot #3), Hot Spot #6 and Hot Spot #7 (located in the southeast corner of the subject property), and Building 100 (former offices and laboratory located in the northeast corner of the subject property). Excavation of the areas of concern was conducted in May and June of 2010. Field 4 was excavated to depths of one to three feet below ground surface (bgs) with a total of approximately 3,783 cubic yards of contaminated soil removed from an area of approximately 1.6 acres. Hot Spot #3 and #5 along with the area of the former pesticide storage Building 208 was excavated to a depth of up to three feet bgs with an area of approximately 508 cubic yards removed from Hot Spot #3 in an area of 6,808 square feet, and with approximately 1,264 cubic yards removed from an area of approximately 0.35 acres in size. Hot Spot #6 and Hot Spot #7 were excavated to a depth of three feet below ground surface with an area of approximately ten foot by 10 foot in each of the two locations. The area of the former offices and laboratory Building 100 was excavated to a depth of three feet bgs and up to eleven feet bgs in the basement area with a total of approximately 83 cubic yards removed from an area of approximately 739 square feet in size. Clean imported fill was screened for contaminants prior to being used to backfill the excavations. Sampling was conducted to confirm that the RAOs were met. Air monitoring was conducted throughout the excavation process to ensure that dust control was effective. The removal action at the site was completed in accordance with the Final RAW and all RAOs were met.

Based on records with the DTSC and with the Santa Clara Fire Department, a 2,000-gallon UST was found during these excavation activities that was presumed to be fuel oil for a former steam boiler system. The UST was located in Field 4 (on the west side of the subject property). The UST was removed and soil samples were collected from beneath the UST. Minor staining typical of small overfill spills was observed near the top of the UST, but otherwise the tank appeared to be in good condition with no holes observed. The tank pit was overexcavated to a total depth of approximately 9 feet bgs. Two soil samples were then collected from the bottom of the pit and analyzed for VOCs and fuel oxygenates, TPHd, organochlorine pesticides, and metals. 1.5 mg/kg of TPHd, along with a maximum of 4.9 mg/kg arsenic and 5.7 mg/kg lead were identified. All

other contaminants were non-detect. Based on the low levels of TPHd, lead, and arsenic found, The City of Santa Clara Fire Department issued an NFA letter for the UST on June 29, 2010.

It was also noted in records with the DTSC and with the Santa Clara Fire Department that in 1993, a 1,000-gallon gasoline UST (next to Building 201-AKA 101), just north of the subject property boundary) and a 1,000-gallon diesel UST (next to Building 207-AKA 103 shed, on the southwestern portion of the subject property) were removed with two samples collected from beneath each UST. The USTs were observed to be in good condition upon removal and no visual signs of a release were observed. The samples were analyzed for gasoline, diesel, and BTEX and all were non-detect based on analytical results on-file with the Santa Clara Fire Department. The City of Santa Clara Fire Department issued an NFA letter on October 7, 1993 for these two former USTs.

It was noted in the soil characterization report (October 2003) that the former sanitary sewer leach pit, former excavation pond and sediment trap had no evidence of subsurface soils and/ or groundwater impact and no further investigation was required based on sampling results (no significant impact was reported).

On August 11, 2010, the DTSC issued a letter indicating that the Removal Action Completion Report was reviewed and the work has been conducted in accordance with the approved RAW and remediation goals have been achieved. DTSC approved the Completion Report and indicated that "With completion of this remediation, the BAREC site does not pose a threat to human health or the environment under any land use, including unrestricted residential development and is safe for occupancy for single family homes. Therefore, DTSC determines that no further action is necessary with respect to investigation and remediation of hazardous substances at the site." On April 13, 2016. AEI spoke with Ms. Karen Toth, the project manager with the DTSC for the subject property clean-up case. According to Ms. Toth, DTSC determined that no further action was needed at this site and that it met unrestricted use standards. Ms. Toth also noted that the DTSC will not be involved in the future development of the subject property. Based on this information, the former use of the subject property as the BAREC agricultural research facility represents an HREC.

On March 28, 2016, AEI contacted the Santa Clara Valley Water District for information regarding unauthorized releases of hazardous materials to the groundwater on the subject property. According to Ms. Roberta Stewart, no records were on-file with the Santa Clara Valley Water District or the district's on-line database for the subject property. According to Ms. Barbara Murray with the Santa Clara Valley Water District, one well was formerly located on the western portion of the subject property. Records indicate the well was decommissioned and therefore is not expected to represent an environmental concern.

4.8 STATE ENVIRONMENTAL SUPERLIENS AND PROPERTY TRANSFER LAWS

In accordance with our approved scope of services, AEI did not assess whether the subject property is subject to any state environmental superliens and/or property transfer laws.

5.0 REGULATORY DATABASE RECORDS REVIEW

AEI contracted Environmental Data Resoucres (EDR) to conduct a search of publicly available information from federal, state, tribal, and local databases containing known and suspected sites of environmental contamination and sites of potential environmental significance. Data gathered during the current regulatory database search is compiled by EDR into one regulatory database report. Location information for listed sites is designated using geocoded information provided by federal, state, or local agencies and commonly used mapping databases with the exception of "Orphan" sites. Due to poor or inadequate address information, Orphan sites are identified but not geocoded/mapped by EDR, rather, information is provided based upon vicinity zip codes, city name, and state. The number of listed sites identified within the approximate minimum search distance from the federal and state environmental records database listings specified in ASTM Standard E1527-13 is summarized in Section 5.1, along with the total number of Orphan sites. A copy of the regulatory database report is included in Appendix C of this report.

The subject property was identified in the database as a HAZNET (twice), FINDS (twice), ECHO (twice), Envirostor, VCP, NPDES, and a HIST UST site. Please refer below for discussion.

In determining if a listed site is a potential environmental concern to the subject property, AEI generally applies the following criteria to classify the site as lower potential environmental concern: 1) the site only holds an operating permit (which does not imply a release), 2) the site's distance from, and/or topographic position relative to, the subject property, and/or 3) the site has recently been granted "No Further Action" by the appropriate regulatory agency.

5.1 RECORDS SUMMARY

Database	Search Distance (Miles)	Subject Property Listed	Number of Listings within Search Distance	Recognized Environmental Condition or Other Environmental Consideration (Yes or No)
NPL	1	No	0	
DELISTED NPL	0.5	No	0	
CERCLIS	0.5	No	0	
CERCLIS NFRAP	0.5	No	0	
RCRA CORRACTS	1	No	0	
RCRA-TSDF	0.5	No	0	
RCRA LQG, SQG, CESQGs, VGN, NLR	SP/ADJ	No	1	No, please see discussion below
US ENG CONTROLS	SP	No	0	
US INST CONTROLS	SP	No	0	
ERNS	SP	No	0	
STATE/TRIBAL HWS	1	**Yes**	5	Please see discussion of the subject property below
STATE/TRIBAL SWLF	0.5	No	0	
STATE/TRIBAL REGISTERED STORAGE TANKS	SP/ADJ	No	0	
STATE/TRIBAL LUST	0.5	No	19	No

Database	Search Distance (Miles)	Subject Property Listed	Number of Listings within Search Distance	Recognized Environmental Condition or Other Environmental Consideration (Yes or No)
STATE/TRIBAL EC and IC	SP	No	0	
STATE/TRIBAL VCP	0.5	**Yes**	1	Please see discussion of the subject property below
STATE/TRIBAL BROWNFIELD	0.5	No	0	
ORPHAN	N/A	No	0	
ADDITIONAL ENVIRONMENTAL RECORD SOURCES	SP/ADJ	**Yes**	14	Please see discussion of the subject property and adjacent sites below

Facility Name: State of California, Bay Area Research Extension Center, Bay Area Research Annex, Vanderbilt, University of California
Database(s): HAZNET (twice), FINDS (twice), ECHO (twice), Envirostor, VCP, NPDES Address: 90 North Winchester Boulevard Distance: Subject property (also associated with the adjacent site to the west) Direction: N/A
Comments: The subject property was listed in the regulatory database for hazardous waste generated on-site, for hazardous materials utilized on-site, for a voluntary clean-up agreement with the DTSC for soil remediation and removal related to former agricultural research use of the subject property. Please refer to Section 4.7 for discussion of these listings and this former use of the subject property.

Facility Name: Deciduous Fruit Field
Database(s): Hist UST Address: 125 North Winchester Boulevard Distance: Subject property (also associated with the adjacent site to the west) Direction: N/A
Comments: The subject property was also listed in the database for three former USTs located on-site which held diesel fuel and gasoline. Please refer to section 4.7 for discussion of these former USTs and their removal from the subject property.

Facility Name: Goodyear Auto Service Center
Database(s): EDR Hit Auto, CUPA Listings, San Jose HAZMAT Address: 486 North Winchester Boulevard Distance: Adjacent (approximately 95 feet) Direction: East (hydrologically cross-gradient)
Comments: Based on information in the database and off-site reconnaissance. This site is an active auto repair facility. the database suggests that this site generates less than five tons of hazardous waste per year, and has operated since at least 2009. Based on the lack of a documented release, the lack of additional listings, and the inferred direction of groundwater flow, these listings are not expected to represent an environmental concern.

Facility Name: Acc U Tune and Break, Dowler S Jim Flying A Service Station

Database(s): EDR Hist Auto, RCRA-SQG, FINDS, ECHO Address: 498 North Winchester Boulevard Distance: Adjacent (approximately 95 feet) Direction: East (hydrologically cross-gradient)
Comments: Based on information in the regulatory database and aerial photographs reviewed, this site was occupied by a gas station from at least 1966 to 1982. In addition, this site was listed for generating small quantities of hazardous waste on-site. No violations in connection with these materials were noted in the database. Based on the lack of a documented release, the lack of violations, and the inferred direction of groundwater flow, the review of regulatory agency records was not deemed necessary and these listings are not expected to represent an environmental concern.

5.2 VAPOR MIGRATION

AEI reviewed reasonably ascertainable information for the subject and nearby properties, including a regulatory database, files for nearby release sites, and/or historical documentation, to determine if potential vapor-phase migration concerns may be present which could impact the subject property.

Based on a review of available resources as documented in this report, AEI did not identify significant on-site concerns and/or regulated listings from nearby sites which suggest that a vapor-phase migration concern currently exists at the subject property.

6.0 INTERVIEWS AND USER PROVIDED INFORMATION

6.1 INTERVIEWS

Pursuant to ASTM E1527-13, the following interviews were performed during this assessment in order to obtain information indicating RECs in connection with the subject property.

6.1.1 INTERVIEW WITH OWNER

AEI requested an interview with the representative of the subject property owner; however, the subject property owner has not responded as of this report date. Based on the quality of information obtained from other sources, this limitation is not expected to alter the overall Findings of this assessment.

6.1.2 INTERVIEW WITH KEY SITE CONTACT

The key site contact, Mr. Jay Greenwood of The Core Companies, was contacted in person on June 16, 2016. Mr. Jay Greenwood stated that the subject property has undergone significant remediation because of historic agricultural use. Please refer to section 4.7 for discussion of the historic use and subsequent remediation. Mr. Jay Greenwood was asked if he was aware of any of the following:

	Yes	No
Any knowledge of USTs, clarifiers or oil/water separators, sumps, or other subsurface features.		✔
Any knowledge of previous environmental investigations conducted on site.	✔	
Any knowledge of current or past industrial operations and/or other operations which would involve the use of hazardous substances and/or petroleum products.	✔	
Any known plans for site redevelopment or change in site use.	✔	
Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property.		✔
Any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property.		✔
Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.		✔
Any incidents of flooding, leaks, or other water intrusion, and/or complaints related to indoor air quality.		✔
Comments: **According to Mr. greenwood, the subject property is slated for residential redevelopment. In addition, he explained that the subject property has undergone significant remediation because of historic agricultural use. Please refer to section 4.7 for discussion of the historic use and subsequent remediation.**		

6.1.3 Past Owners, Operators, and Occupants

AEI did not attempt to interview past owners, operators, and occupants of the subject property because information from these sources would likely be duplicative of information already obtained from other sources.

6.1.4 Interview with Others

Information obtained during interviews with local government officials is incorporated into the appropriate segments of this section.

6.2 User Provided Information

User provided information is intended to help identify the possibility of RECs in connection with the subject property. According to ASTM E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), certain items should be researched by the prospective landowner or grantee, and the results of such inquiries may be provided to the Environmental Professional. The responsibility for qualifying for LLPs by conducting the inquiries ultimately rests with the User, and providing the information to the Environmental Professional would be prudent if such information is available.

The User Questionnaire was completed by Mr. Jay Greenwood of The Core Companies . Sections 6.2.1 through 6.2.6 represent information contained therein.

6.2.1 Environmental Liens

In accordance with our approved scope of services, AEI contracted AFX Corp. Inc. to perform an environmental lien search for the subject property.

According to AFX Corp. Inc, environmental liens were not identified during the review of historical ownership documentation. A copy of the AFX Corp. Inc. report is provided in the appendices.

6.2.2 Activity and Land Use Limitations

AEI was not informed by the User of any AULs, such as engineering controls, land use restrictions, or institutional controls, that are in place at the subject property and/or have been filed or recorded in a registry under federal, tribal, state, or local law.

6.2.3 Specialized Knowledge

AEI was not informed by the User of any specialized knowledge or experience related to the subject property or nearby properties.

6.2.4 Valuation Reduction for Environmental Issues

The User did not indicate to AEI any information to suggest that the valuation of the subject property is significantly less than the valuation for comparable properties due to environmental factors.

6.2.5 Commonly Known or Reasonably Ascertainable Information

The User did not inform AEI of any commonly known or reasonably ascertainable information about the subject property which aided AEI in identifying conditions indicative of a release or threatened release.

6.2.6 Knowledge of Presence or Likely Presence of Contamination

The User did not inform AEI of any obvious indicators that pointed to the presence or likely presence of contamination at the subject property.

6.3 Previous Reports and Other Provided Documentation

AEI was provided several previous reports which were also on-file with the DTSC EnviroStor website. Please refer to Section 4.7 for further discussion.

7.0 SITE RECONNAISSANCE

Site Reconnaissance Date	June 16, 2016
AEI Site Assessor(s)	Elizabeth Scudero
Property Escort(s)/Relationship(s) to Property	Mr. Jay Greenwood/Key Site Contact
Units/Areas Observed	Representative area of the subject property
Area(s) not accessed and reason(s)	Due to the size of the subject property, AEI performed a site inspection of the property utilizing a field technique of traversing the site in an attempt to provide an overlapping field of view. Due to the size of the property and the vegetation present on site, isolated areas of the site may have not been accessible for direct observation during AEI's inspection. Based on the vacant nature of the property, this limitation is not expected to alter the Findings of this assessment.
Weather	Sunny and warm, approximately 85 degrees Fahrenheit

7.1 SUBJECT PROPERTY RECONNAISSANCE FINDINGS

Yes	No	Observation
	✔	Regulated Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use
	✔	Aboveground/Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs/USTs)
	✔	Hazardous Substance and Petroleum Product Containers Not in Connection with Property Use
	✔	Unidentified Substance Containers
	✔	Electrical or Mechanical Equipment Likely to Contain Fluids
	✔	Interior Stains or Corrosion
	✔	Strong, Pungent, or Noxious Odors
	✔	Pools of Liquid
✔		Drains, Sumps, and Clarifiers
	✔	Pits, Ponds, and Lagoons
	✔	Stained Soil or Pavement
	✔	Stressed Vegetation
	✔	Solid Waste Disposal or Evidence of Fill Materials
	✔	Waste Water Discharges
	✔	Wells
	✔	Septic Systems
	✔	Biomedical Wastes
	✔	Other

The subject property is currently vacant land.

DRAINS, SUMPS, AND CLARIFIERS

One storm drain was observed on the southeastern corner of the subject property. AEI did not observe evidence of hazardous substances or petroleum products in the vicinity of the drain.

Based on the use of the drain solely for storm water runoff, the presence of the drain is not expected to represent an environmental concern.

7.2 Adjacent Property Reconnaissance Findings

Yes	No	Observation
✔		Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use
	✔	Aboveground/Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs/USTs)
	✔	Hazardous Substance and Petroleum Product Containers Not in Connection with Property Use
	✔	Unidentified Substance Containers
✔		Electrical or Mechanical Equipment Likely to Contain Fluids
	✔	Strong, Pungent, or Noxious Odors
	✔	Pools of Liquid
	✔	Drains, Sumps, and Clarifiers
	✔	Pits, Ponds, and Lagoons
	✔	Stained Soil or Pavement
	✔	Stressed Vegetation
	✔	Solid Waste Disposal or Evidence of Fill Materials
	✔	Waste Water Discharges
	✔	Wells
	✔	Septic Systems
	✔	Other

Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use

The adjacent site to the east is occupied by a Goodyear Tire and Service auto repair facility. Based on the nature of use, AEI presumes that various quantities of hazardous materials are stored on site. This site was previously discussed in Section 5.1 of this report.

Electrical or Mechanical Equipment Likely to Contain Fluids

Toxic PCBs were commonly used historically in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors. According to United States EPA regulation 40 CFR, Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered "Non-PCB"; between 50 and 500 ppm is considered "PCB-Contaminated"; and >500 ppm is considered "PCB-Containing". Pursuant to 15 U.S.C. 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

Transformers

The management of potential PCB-containing transformers is the responsibility of the local utility or the transformer owner. Actual material samples need to be collected to determine if transformers are PCB-containing.

Several pole-mounted and pad-mounted were observed on the adjacent sites during the site reconnaissance. No spills, staining, or leaks were observed on or around the transformers. Based on the good condition of the equipment, the transformers are not expected to represent an environmental concern.

8.0 OTHER ENVIRONMENTAL CONSIDERATIONS

8.1 ASBESTOS-CONTAINING BUILDING MATERIALS

The subject property is currently vacant land or lacks structures. Consequently, no building components containing suspect asbestos containing materials were identified during the site inspection.

8.2 LEAD-BASED PAINT

The subject property is currently vacant land or lacks structures. Consequently, AEI did not observe building components likely to contain suspect LBP during the site reconnaissance.

8.3 RADON

Radon sampling was not requested as part of this assessment. According to the California Department of Health Services Radon Database, 18 tests were conducted for radon levels in the subject property zip code (95050) in 2010. Only one of the tests exceeded the action level of 4.0 pCi/L set forth by the US EPA. Based on the vacant nature of the property and the lack of subsurface areas, radon does not appear to be a concern. However, radon sampling would be required to determine site-specific radon levels.

8.4 DRINKING WATER SOURCES AND LEAD IN DRINKING WATER

The subject property is currently vacant land and AEI understands potable water is not currently supplied to the subject property. Therefore, lead in drinking water was not assessed as part of this assessment.

8.5 MOLD/INDOOR AIR QUALITY ISSUES

The subject property is currently vacant land or lacks structures. Consequently, mold was not addressed as part of this assessment.

9.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR Part 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared By:

Elizabeth Scudero
Project Manager

Reviewed By:

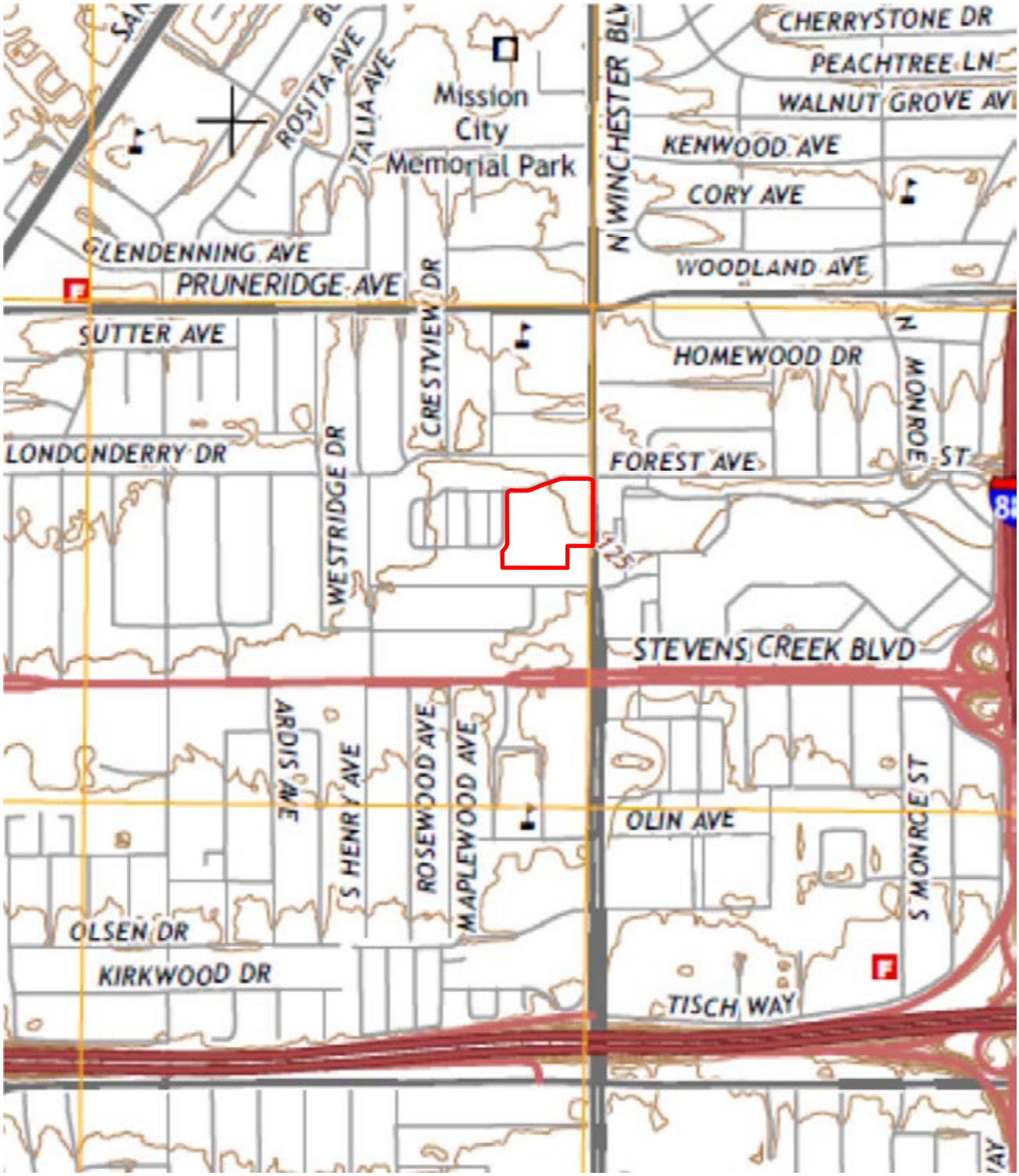
Shannon Lefebvre
Senior Author

10.0 REFERENCES

Item	Date(s)	Source
Soils Information	1993	USDA Web Soil Survey http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
Topographic Map	2015	USGS
Depth to Groundwater Information	2016	GeoTracker website
Aerial Photographs	1937, 1948, 1950, 1956, 1968, 1974, 1982, 1993, 2005, 2009, 2012	EDR
Sanborn Map Search	March 28, 2016	EDR
City Directories	1971, 1976, 1981, 1986, 1990-1991, 1995-1996, 2001, 2006	AEI's Collection of Haine's Criss-Cross Directories
Historical Topographic Maps	1897, 1899, 1901, 1905, 1909, 1913, 1926, 1939, 1946, 1955, 1962, 1963, 1966, 1967, 1969, 1975	HistoricAerials.com
Environmental Health Department/ State Environmental Agency	March 28, 2016	Santa Clara County Department of Environmental Health
Fire Department	April 12, 2016	Santa Clara County Fire Department
Building Department	June 16, 2016	Santa Clara Building Department
Planning Department	June 16, 2016	Santa Clara Planning Department
Assessor's Information and Parcel Map	March 28, 2016	Santa Clara County assessor's office
Oil and Gas Wells/Pipelines	March 28, 2016	DOGGR
Other Agencies Searched	March 28, 2016	BAAQMD, DTSC HWTS, DTSC Berkeley Regional Office, Santa Clara Valley Water District, Envirostor Website, GeoTracker website
Regulatory Database Report	March 25, 2016	EDR
Interview with Key Site Manager	June 16, 2016	Mr. Jay Greenwood
Lien Search	March 25, 2016	AFX Corp. Inc.
Radon Zone Information	1993	US EPA Map of Radon Zones http://www.epa.gov/radon/zonemap.html

APPENDIX A

FIGURES



Legend: Approximate Property Boundary

Source: USGS Topographic Map *San Jose, California* (2015)

N

Figure 1: TOPOGRAPHIC MAP

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Estimated Groundwater Flow Direction

Approximate Property Boundary

Listed in Environmental Database Report *

Former UST

Hot Spot

Former Building

Former Field

Storm Drain

N

Figure 2: SITE MAP

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

APPENDIX B

PROPERTY PHOTOGRAPHS

1. View of the subject property from across the intersection of Worthington Circle, facing southeast.

2. View of the subject property from across North Winchester Boulevard, facing northwest.

3. View of the subject property from across the intersection of Forest Avenue, North Winchester Boulevard, and Worthington Circle, facing southwest.

4. View of the subject property from across Worthington Circle, facing south.

5. View of the western side of the subject property along North Winchester Boulevard, facing south.

6. View of the eastern side of the subject property along Worthington Circle, facing south.

7. View of the northern side of the subject property along Worthington Circle, facing east.

8. View of the entrance to the subject property along North Winchester Boulevard,

9. View of the storm drain observed on the southeastern corner of the subject property.

10. View of the subject property, facing southwest.

11. View of the eastern side of the subject property, facing north.

12. View of the southern portion of the subject property, facing south.

13. View of the southern portion of the subject property, facing west.

14. View of the subject property, facing north.

15. View of the subject property, facing northeast.

16. View of the northern portion of the subject property, facing east.

17. View of the residences adjacent to the north from across North Winchester Boulevard.

18. View of the adjacent site to the northeast from across Forest Avenue.

19. View of the adjacent sites to the east from across North Winchester Boulevard.

20. View of the adjacent sites to the south from across North Winchester Boulevard.

21. View of the adjacent residences to the west from across Worthington Circle.

APPENDIX C

REGULATORY DATABASE

356064
90 North Winchester
Santa Clara, CA 95050

Inquiry Number: 4574489.2s
March 25, 2016

The EDR Radius Map™ Report

Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

90 NORTH WINCHESTER
SANTA CLARA, CA 95050

COORDINATES

Latitude (North):	37.3261030 - 37˚ 19' 33.97''
Longitude (West):	121.9512970 - 121˚ 57' 4.66''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	592913.1
UTM Y (Meters):	4131360.8
Elevation:	127 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640416 SAN JOSE WEST, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20120520
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
90 NORTH WINCHESTER
SANTA CLARA, CA 95117

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	STATE OF CALIFORNIA	90 N WINCHESTER BLVD	HAZNET		TP
A2	BAY AREA RESEARCH EX	90 NORTH WINCHESTER	FINDS, ECHO		TP
A3	BAY AREA RESEARCH AN	90 N WINCHESTER BLVD	HAZNET		TP
A4	VANDERBILT	90 WINCHESTER BLVD	ENVIROSTOR, VCP, NPDES		TP
A5	UNIVERSITY OF CALIFO	90 N WINCHESTER	FINDS, ECHO		TP
B6		486 N WINCHESTER BLV	EDR Hist Auto	Lower	186, 0.035, NE
B7	GOODYEAR AUTO SVC CT	486 N WINCHESTER BL	CUPA Listings, SAN JOSE HAZMAT	Lower	186, 0.035, NE
B8	ACC U TUNE & BRAKE	498 N WINCHESTER BLV	RCRA-SQG, FINDS, ECHO	Lower	200, 0.038, NE
B9	DOWLER S JIM FLYING	498 N WINCHESTER BLV	EDR Hist Auto	Lower	200, 0.038, NE
C10	CAMPBELL & MORTON	34 S WINCHESTER BLVD	EDR Hist Auto	Higher	399, 0.076, SSE
C11	NORMENT S UNION SERV	199 N WINCHESTER BLV	EDR Hist Auto	Higher	418, 0.079, SSE
D12	DECIDUOUS FRUIT FIEL	125 N WINCHESTER BLV	HIST UST	Lower	493, 0.093, NNE
D13	DUNN-EDWARDS CORPORA	690 NORTH WINCHESTER	RCRA-SQG, LUST, SWEEPS UST, HIST UST, FINDS, CUPA...	Lower	627, 0.119, NNE
D14	DUNN-EDWARDS PAINTS	690 N WINCHESTER BLV	LUST, HIST LUST	Lower	627, 0.119, NNE
E15	COURTESY MITSUBISHI	3155 STEVENS CREEK B	RCRA NonGen / NLR, FINDS, HAZNET, SAN JOSE HAZMAT,...	Higher	734, 0.139, SSW
16	BIG 5 SPORTING GOODS	3132 STEVENS CREEK B	SAN JOSE HAZMAT	Higher	764, 0.145, South
E17	GOODYEAR AUTO SERVIC	3146 STEVENS CREEK B	CUPA Listings	Higher	765, 0.145, South
E18	GOODYEAR AUTO SERVIC	3146 STEVENS CREEK B	SAN JOSE HAZMAT	Higher	765, 0.145, South
E19	FIRESTONE STORES	3150 STEVENS CREEK B	LUST, HIST LUST, SWEEPS UST, HIST CORTESE	Higher	767, 0.145, SSW
E20	COURTESY HYUNDAI	3207 STEVENS CREEK B	RCRA-SQG, FINDS, ECHO	Higher	799, 0.151, SSW
E21	CELEBRITY DODGE	3209 STEVENS CREEK B	RCRA-SQG, FINDS, HAZNET, ECHO	Higher	801, 0.152, SSW
E22	SERVICE DEPT	3209 STEVENS CREEK B	HIST UST	Higher	801, 0.152, SSW
F23	CVS PHARMACY NO 9944	3081 STEVENS CREEK B	RCRA-LQG, FINDS, ECHO	Higher	814, 0.154, SSE
F24	GOODWILL INDUSTRIES	3071 STEVENS CREEK B	SWRCY	Higher	825, 0.156, SSE
G25	WALGREENS #2612	200 N WINCHESTER BLV	RCRA-SQG, FINDS, ECHO	Lower	864, 0.164, NNE
G26	PIERCE PROPERTY	780 N WINCHESTER BLV	LUST, HIST LUST, HIST CORTESE	Lower	898, 0.170, NNE
G27	MOBILE SERVICE STATI	230 WINCHESTER BLVD	SWEEPS UST, CA FID UST	Lower	923, 0.175, NNE
G28	MOBIL	230 N WINCHESTER BLV	LUST, HIST LUST	Lower	923, 0.175, NNE
G29	MOBIL	230 WINCHESTER	HIST CORTESE	Lower	923, 0.175, NNE
G30	MOBIL	230 N WINCHESTER BLV	LUST	Lower	923, 0.175, NNE
F31	TOWN & COUNTRY VILLA	2980 & 3030 STEVENS	RESPONSE, ENVIROSTOR, HIST Cal-Sites, DEED,...	Higher	969, 0.184, SSE
F32	COURTESY CHEVROLET	3030 STEVENS CREEK B	LUST, HIST LUST, SWEEPS UST, HIST UST, HIST...	Higher	996, 0.189, SE
33	RV CLOUD CO	300 WINCHESTER BLVD	HIST UST	Higher	1055, 0.200, SSE
34	O/B (NEW CINGULAR WI	2400 FOREST AV SUITE	SAN JOSE HAZMAT	Lower	1211, 0.229, ENE
H35	STEVENS CREEK MITSUB	3333 STEVENS CREEK B	HIST UST, HAZNET	Higher	1301, 0.246, SW
36	FAIRCHILD PROPERTY	824 N. WINCHESTER BL	LUST	Lower	1342, 0.254, NNE
H37	STEVENS CREEK NISSAN	3565 STEVENS CREEK B	LUST, HIST LUST, SWEEPS UST, HIST UST, CA FID UST,...	Higher	1430, 0.271, SW
I38	CHEVRON #9-9079	2910 STEVENS CREEK B	LUST, HIST LUST	Higher	1558, 0.295, SE
I39	CHEVRON	2910 STEVENS CREEK	LUST, HIST CORTESE	Higher	1558, 0.295, SE

MAPPED SITES SUMMARY

Target Property Address:
90 NORTH WINCHESTER
SANTA CLARA, CA 95117

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
J40	EXXON	425 WINCHESTER	HIST CORTESE	Higher	1665, 0.315, South
J41	QUALITY TUNE-UP #63	425 S WINCHESTER BL	RCRA-SQG, LUST, SWEEPS UST, FINDS, CUPA Listings,...	Higher	1665, 0.315, South
J42	EXXON #7-3667	425 S WINCHESTER BLV	LUST, HIST LUST	Higher	1665, 0.315, South
K43	UNOCAL	2850 STEVENS CREEK	LUST, SWEEPS UST, HIST UST, CUPA Listings, HIST...	Higher	2072, 0.392, ESE
K44	TOSCO/76 #3969	2850 STEVENS CREEK B	LUST, HIST LUST	Higher	2072, 0.392, ESE
K45	UNOCAL #3969	2850 STEVENS CREEK B	LUST, HIST LUST	Higher	2072, 0.392, ESE
K46	ECONO-CAR	342 S CLOVER	LUST, HIST LUST	Higher	2112, 0.400, ESE
K47	ECONO CAR	342 S CLOVER AV	HIST UST, HIST CORTESE	Higher	2112, 0.400, ESE
K48	TEXACO SERVICE STATI	2812 STEVENS CREEK B	RCRA-SQG, LUST, HIST LUST, HIST UST, FINDS, CUPA...	Higher	2191, 0.415, ESE
49	TEXACO	3500 STEVENS CREEK B	LUST, HIST LUST, HIST CORTESE	Higher	2343, 0.444, WSW
50	485 SOUTH MONROE	485 SOUTH MONROE STR	ENVIROSTOR, VCP, NPDES	Higher	3009, 0.570, SE

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
STATE OF CALIFORNIA 90 N WINCHESTER BLVD SANTA CLARA, CA 95050	HAZNET GEPAID: CAC002652233	N/A
BAY AREA RESEARCH EX 90 NORTH WINCHESTER SANTA CLARA, CA 95050	FINDS Registry ID:: 110033617156 ECHO	N/A
BAY AREA RESEARCH AN 90 N WINCHESTER BLVD SANTA CLARA, CA 95050	HAZNET GEPAID: CAD981975329	N/A
VANDERBILT 90 WINCHESTER BLVD SANTA CLARA, CA 95050	ENVIROSTOR Facility Id: 43010031 Status: Certified VCP Status: Certified Facility Id: 43010031 NPDES Facility Status: Active	N/A
UNIVERSITY OF CALIFO 90 N WINCHESTER SANTA CLARA, CA 95050	FINDS Registry ID:: 110055717755 ECHO	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

EXECUTIVE SUMMARY

Proposed NPL ..... Proposed National Priority List Sites
NPL LIENS ..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ..... Federal Facility Site Information listing
SEMS ..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ..... Superfund Enterprise Management System Archive

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-CESQG ..... RCRA - Conditionally Exempt Small Quantity Generator

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 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
SLIC ..... Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ..... Underground Storage Tank Listing
UST ..... Active UST Facilities
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

EXECUTIVE SUMMARY

State and tribal Brownfields sites

BROWNFIELDS ..... Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ..... Waste Management Unit Database
HAULERS ..... Registered Waste Tire Haulers Listing
INDIAN ODI ..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ..... Torres Martinez Reservation Illegal Dump Site Locations
ODI ..... Open Dump Inventory

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ..... Delisted National Clandestine Laboratory Register
SCH ..... School Property Evaluation Program
CDL ..... Clandestine Drug Labs
Toxic Pits ..... Toxic Pits Cleanup Act Sites
US CDL ..... National Clandestine Laboratory Register

Local Land Records

LIENS ..... Environmental Liens Listing
LIENS 2 ..... CERCLA Lien Information

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

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
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

EXECUTIVE SUMMARY

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
CA BOND EXP. PLAN	Bond Expenditure Plan
DRYCLEANERS	Cleaner Facilities
EMI	Emissions Inventory Data
ENF	Enforcement Action Listing
Financial Assurance	Financial Assurance Information Listing
HWP	EnviroStor Permitted Facilities Listing
HWT	Registered Hazardous Waste Transporter Database
MINES	Mines Site Location Listing
MWMP	Medical Waste Management Program Listing
PEST LIC	Pesticide Regulation Licenses Listing
PROC	Certified Processors Database
Notify 65	Proposition 65 Records
UIC	UIC Listing
WASTEWATER PITS	Oil Wastewater Pits Listing
WDS	Waste Discharge System
WIP	Well Investigation Program Case List
FUELS PROGRAM	EPA Fuels Program Registered Listing

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner	EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF	Recovered Government Archive Solid Waste Facilities List
RGA LUST	Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Elevations have been determined from the USGS 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. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: 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.

A review of the RCRA-LQG list, as provided by EDR, and dated 06/09/2015 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CVS PHARMACY NO 9944	***3081 STEVENS CREEK B***	***SSE 1/8 - 1/4 (0.154 mi.)***	***F23***	***42***

RCRA-SQG: 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.

A review of the RCRA-SQG list, as provided by EDR, and dated 06/09/2015 has revealed that there are 5 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COURTESY HYUNDAI	***3207 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.151 mi.)***	***E20***	***37***
CELEBRITY DODGE	***3209 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.152 mi.)***	***E21***	***39***

Lower Elevation	Address	Direction / Distance	Map ID	Page
ACC U TUNE & BRAKE	***498 N WINCHESTER BLV***	***NE 0 - 1/8 (0.038 mi.)***	***B8***	***22***
DUNN-EDWARDS CORPORA	***690 NORTH WINCHESTER***	***NNE 0 - 1/8 (0.119 mi.)***	***D13***	***26***
WALGREENS #2612	***200 N WINCHESTER BLV***	***NNE 1/8 - 1/4 (0.164 mi.)***	***G25***	***45***

EXECUTIVE SUMMARY

State- and tribal - equivalent NPL

RESPONSE: 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.

A review of the RESPONSE list, as provided by EDR, and dated 02/01/2016 has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TOWN & COUNTRY VILLA Status: Certified / Operation & Maintenance Facility Id: 43590001	***2980 & 3030 STEVENS***	***SSE 1/8 - 1/4 (0.184 mi.)***	***F31***	***54***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: 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.

A review of the ENVIROSTOR list, as provided by EDR, and dated 02/01/2016 has revealed that there are 2 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TOWN & COUNTRY VILLA Facility Id: 43590001 Status: Certified / Operation & Maintenance	***2980 & 3030 STEVENS***	***SSE 1/8 - 1/4 (0.184 mi.)***	***F31***	***54***
485 SOUTH MONROE Facility Id: 60001465 Status: Certified	***485 SOUTH MONROE STR***	***SE 1/2 - 1 (0.570 mi.)***	***50***	***134***

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the State Water Resources Control Board Leaking Underground Storage Tank Information System.

A review of the LUST list, as provided by EDR, and dated 12/14/2015 has revealed that there are 19 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FIRESTONE STORES	***3150 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.145 mi.)***	***E19***	***35***

SCVWD ID: 07S1W15J02F
Date Closed: 07/23/1998
Global Id: T0608502027
date9: 7/23/1998
Status: Completed - Case Closed
Facility Status: Case Closed

COURTESY CHEVROLET	***3030 STEVENS CREEK B***	***SE 1/8 - 1/4 (0.189 mi.)***	***F32***	***92***

SCVWD ID: 07S1W14M02F
Date Closed: 11/18/1996
Global Id: T0608525806
date9: 11/18/1996
Status: Completed - Case Closed
Facility Status: Case Closed

STEVENS CREEK NISSAN	***3565 STEVENS CREEK B***	***SW 1/4 - 1/2 (0.271 mi.)***	***H37***	***103***

SCVWD ID: 07S1W15K01F
Date Closed: 10/16/1992
Global Id: T0608517510
date9: 10/16/1992
Status: Completed - Case Closed
Facility Status: Case Closed

CHEVRON #9-9079	***2910 STEVENS CREEK B***	***SE 1/4 - 1/2 (0.295 mi.)***	***I38***	***107***

date9: 7/17/2000
Facility Status: Case Closed

CHEVRON	***2910 STEVENS CREEK***	***SE 1/4 - 1/2 (0.295 mi.)***	***I39***	***108***

SCVWD ID: 07S1W14M01F
Date Closed: 07/17/2000
Global Id: T0608500372
Status: Completed - Case Closed

QUALITY TUNE-UP #63	***425 S WINCHESTER BL***	***S 1/4 - 1/2 (0.315 mi.)***	***J41***	***112***

SCVWD ID: 07S1W15J01F
Date Closed: 11/25/1996
Global Id: T0608500575
Status: Completed - Case Closed

EXXON #7-3667	***425 S WINCHESTER BLV***	***S 1/4 - 1/2 (0.315 mi.)***	***J42***	***116***

date9: 11/25/1996
Facility Status: Case Closed

UNOCAL	***2850 STEVENS CREEK***	***ESE 1/4 - 1/2 (0.392 mi.)***	***K43***	***117***

SCVWD ID: 07S1W14L04F
SCVWD ID: 07S1W14L02F
Date Closed: 12/08/2004
Date Closed: 07/07/1995
Global Id: T0608501514
Global Id: T0608578615
Status: Completed - Case Closed

TOSCO/76 #3969	***2850 STEVENS CREEK B***	***ESE 1/4 - 1/2 (0.392 mi.)***	***K44***	***122***

Facility Status: Preliminary site assessment underway

UNOCAL #3969	***2850 STEVENS CREEK B***	***ESE 1/4 - 1/2 (0.392 mi.)***	***K45***	***122***

date9: 7/7/1995
Facility Status: Case Closed

ECONO-CAR	***342 S CLOVER***	***ESE 1/4 - 1/2 (0.400 mi.)***	***K46***	***123***

SCVWD ID: 07S1W14L03F

Date Closed: 10/27/1998 Global Id: T0608502117 date9: 10/27/1998 Status: Completed - Case Closed Facility Status: Case Closed				
TEXACO SERVICE STATI SCVWD ID: 07S1W14L01F Date Closed: 01/29/2002 Global Id: T0608587629 date9: 1/29/2002 Status: Completed - Case Closed Facility Status: Case Closed	***2812 STEVENS CREEK B***	***ESE 1/4 - 1/2 (0.415 mi.)***	***K48***	***126***
TEXACO SCVWD ID: 07S1W15L01F Date Closed: 07/14/2000 Global Id: T0608524143 date9: 7/14/2000 Status: Completed - Case Closed Facility Status: Case Closed	***3500 STEVENS CREEK B***	***WSW 1/4 - 1/2 (0.444 mi.)***	***49***	***132***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUNN-EDWARDS CORPORA SCVWD ID: 07S1W14D01F Date Closed: 08/17/1998 Global Id: T0608501223 Status: Completed - Case Closed	***690 NORTH WINCHESTER***	***NNE 0 - 1/8 (0.119 mi.)***	***D13***	***26***
DUNN-EDWARDS PAINTS date9: 8/17/1998 Facility Status: Case Closed	***690 N WINCHESTER BLV***	***NNE 0 - 1/8 (0.119 mi.)***	***D14***	***30***
PIERCE PROPERTY SCVWD ID: 07S1W14D02F Date Closed: 09/06/1995 Global Id: T0608501779 date9: 9/6/1995 Status: Completed - Case Closed Facility Status: Case Closed	***780 N WINCHESTER BLV***	***NNE 1/8 - 1/4 (0.170 mi.)***	***G26***	***48***
MOBIL date9: 4/20/1998 Facility Status: Case Closed	***230 N WINCHESTER BLV***	***NNE 1/8 - 1/4 (0.175 mi.)***	***G28***	***52***
MOBIL Global Id: T0608500929 Status: Completed - Case Closed	230 N WINCHESTER BLV	NNE 1/8 - 1/4 (0.175 mi.)	G30	52
FAIRCHILD PROPERTY SCVWD ID: 07S1W14D03F Date Closed: 08/08/2013 Global Id: T0608595356 Status: Completed - Case Closed	824 N. WINCHESTER BL	NNE 1/4 - 1/2 (0.254 mi.)	36	99

EXECUTIVE SUMMARY

HIST LUST: 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.

A review of the HIST LUST list, as provided by EDR, and dated 03/29/2005 has revealed that there are 13 HIST LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FIRESTONE STORES SCVWD ID: 07S1W15J02	***3150 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.145 mi.)***	***E19***	***35***
COURTESY CHEVROLET SCVWD ID: 07S1W14M02	***3030 STEVENS CREEK B***	***SE 1/8 - 1/4 (0.189 mi.)***	***F32***	***92***
STEVENS CREEK NISSAN SCVWD ID: 07S1W15K01	***3565 STEVENS CREEK B***	***SW 1/4 - 1/2 (0.271 mi.)***	***H37***	***103***
CHEVRON #9-9079 SCVWD ID: 07S1W14M01	***2910 STEVENS CREEK B***	***SE 1/4 - 1/2 (0.295 mi.)***	***I38***	***107***
EXXON #7-3667 SCVWD ID: 07S1W15J01	***425 S WINCHESTER BLV***	***S 1/4 - 1/2 (0.315 mi.)***	***J42***	***116***
TOSCO/76 #3969 SCVWD ID: 07S1W14L04	***2850 STEVENS CREEK B***	***ESE 1/4 - 1/2 (0.392 mi.)***	***K44***	***122***
UNOCAL #3969 SCVWD ID: 07S1W14L02	***2850 STEVENS CREEK B***	***ESE 1/4 - 1/2 (0.392 mi.)***	***K45***	***122***
ECONO-CAR SCVWD ID: 07S1W14L03	***342 S CLOVER***	***ESE 1/4 - 1/2 (0.400 mi.)***	***K46***	***123***
TEXACO SERVICE STATI SCVWD ID: 07S1W14L01	***2812 STEVENS CREEK B***	***ESE 1/4 - 1/2 (0.415 mi.)***	***K48***	***126***
TEXACO SCVWD ID: 07S1W15L01	***3500 STEVENS CREEK B***	***WSW 1/4 - 1/2 (0.444 mi.)***	***49***	***132***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUNN-EDWARDS PAINTS SCVWD ID: 07S1W14D01	***690 N WINCHESTER BLV***	***NNE 0 - 1/8 (0.119 mi.)***	***D14***	***30***
PIERCE PROPERTY SCVWD ID: 07S1W14D02	***780 N WINCHESTER BLV***	***NNE 1/8 - 1/4 (0.170 mi.)***	***G26***	***48***
MOBIL SCVWD ID: 07S1W15A01	***230 N WINCHESTER BLV***	***NNE 1/8 - 1/4 (0.175 mi.)***	***G28***	***52***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 12/14/2015 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GOODWILL INDUSTRIES	3071 STEVENS CREEK B	SSE 1/8 - 1/4 (0.156 mi.)	F24	45

EXECUTIVE SUMMARY

Cert Id: RC4418

Local Lists of Hazardous waste / Contaminated Sites

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TOWN & COUNTRY VILLA	***2980 & 3030 STEVENS***	***SSE 1/8 - 1/4 (0.184 mi.)***	***F31***	***54***

Local Lists of Registered Storage Tanks

SWEEPS UST: 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.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 4 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FIRESTONE STORES Status: A Tank Status: A Comp Number: 401673	***3150 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.145 mi.)***	***E19***	***35***
COURTESY CHEVROLET Status: A Tank Status: A Comp Number: 400164	***3030 STEVENS CREEK B***	***SE 1/8 - 1/4 (0.189 mi.)***	***F32***	***92***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DUNN-EDWARDS CORPORA Comp Number: 400103	***690 NORTH WINCHESTER***	***NNE 0 - 1/8 (0.119 mi.)***	***D13***	***26***
MOBILE SERVICE STATI Comp Number: 91113	***230 WINCHESTER BLVD***	***NNE 1/8 - 1/4 (0.175 mi.)***	***G27***	***50***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 6 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SERVICE DEPT	3209 STEVENS CREEK B	SSW 1/8 - 1/4 (0.152 mi.)	E22	42

Facility Id: 00000049270				
COURTESY CHEVROLET Facility Id: 00000039127	***3030 STEVENS CREEK B***	***SE 1/8 - 1/4 (0.189 mi.)***	***F32***	***92***
RV CLOUD CO Facility Id: 00000008351	300 WINCHESTER BLVD	SSE 1/8 - 1/4 (0.200 mi.)	33	97
STEVENS CREEK MITSUB Facility Id: 00000001319	***3333 STEVENS CREEK B***	***SW 1/8 - 1/4 (0.246 mi.)***	***H35***	***98***

Lower Elevation	Address	Direction / Distance	Map ID	Page
DECIDUOUS FRUIT FIEL Facility Id: 00000024728	125 N WINCHESTER BLV	NNE 0 - 1/8 (0.093 mi.)	D12	25
DUNN-EDWARDS CORPORA Facility Id: 00000000745	***690 NORTH WINCHESTER***	***NNE 0 - 1/8 (0.119 mi.)***	***D13***	***26***

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there is 1 CA FID UST site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MOBILE SERVICE STATI Facility Id: 43001005 Status: I	***230 WINCHESTER BLVD***	***NNE 1/8 - 1/4 (0.175 mi.)***	***G27***	***50***

Local Land Records

DEED: The use of recorded land use restrictions is one of the methods the DTSC uses to protect the public from unsafe exposures to hazardous substances and wastes .

A review of the DEED list, as provided by EDR, and dated 12/07/2015 has revealed that there is 1 DEED site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TOWN & COUNTRY VILLA Status: CERTIFIED / OPERATION & MAINTENANCE Envirostor ID: 43590001	***2980 & 3030 STEVENS***	***SSE 1/8 - 1/4 (0.184 mi.)***	***F31***	***54***

Other Ascertainable Records

RCRA NonGen / NLR: 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.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 06/09/2015 has revealed that

there is 1 RCRA NonGen / NLR site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COURTESY MITSUBISHI	***3155 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.139 mi.)***	***E15***	***31***

Cortese: 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).

A review of the Cortese list, as provided by EDR, and dated 12/28/2015 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TOWN & COUNTRY VILLA	***2980 & 3030 STEVENS***	***SSE 1/8 - 1/4 (0.184 mi.)***	***F31***	***54***
Envirostor Id: 43590001				
Cleanup Status: CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS				

CUPA Listings: 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.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 3 CUPA Listings sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GOODYEAR AUTO SERVIC	3146 STEVENS CREEK B	S 1/8 - 1/4 (0.145 mi.)	E17	34

Lower Elevation	Address	Direction / Distance	Map ID	Page
GOODYEAR AUTO SVC CT	***486 N WINCHESTER BL***	***NE 0 - 1/8 (0.035 mi.)***	***B7***	***22***
DUNN-EDWARDS CORPORA	***690 NORTH WINCHESTER***	***NNE 0 - 1/8 (0.119 mi.)***	***D13***	***26***

HIST CORTESE: 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.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 11 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
FIRESTONE STORES	***3150 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.145 mi.)***	***E19***	***35***
Reg Id: 43-2209				
COURTESY CHEVROLET	***3030 STEVENS CREEK B***	***SE 1/8 - 1/4 (0.189 mi.)***	***F32***	***92***
Reg Id: 43-1867				
STEVENS CREEK NISSAN	***3565 STEVENS CREEK B***	***SW 1/4 - 1/2 (0.271 mi.)***	***H37***	***103***
Reg Id: 43-0056				
CHEVRON	***2910 STEVENS CREEK***	***SE 1/4 - 1/2 (0.295 mi.)***	***I39***	***108***
Reg Id: 43-0315				
EXXON	425 WINCHESTER	S 1/4 - 1/2 (0.315 mi.)	J40	111

Reg Id: 43-0533				
UNOCAL Reg Id: 43-1552	***2850 STEVENS CREEK***	***ESE 1/4 - 1/2 (0.392 mi.)***	***K43***	***117***
ECONO CAR Reg Id: 43-2304	***342 S CLOVER AV***	***ESE 1/4 - 1/2 (0.400 mi.)***	***K47***	***125***
TEXACO SERVICE STATI Reg Id: 43-1446	***2812 STEVENS CREEK B***	***ESE 1/4 - 1/2 (0.415 mi.)***	***K48***	***126***
TEXACO Reg Id: 43-1450	***3500 STEVENS CREEK B***	***WSW 1/4 - 1/2 (0.444 mi.)***	***49***	***132***

Lower Elevation	Address	Direction / Distance	Map ID	Page
PIERCE PROPERTY Reg Id: 43-1853	***780 N WINCHESTER BLV***	***NNE 1/8 - 1/4 (0.170 mi.)***	***G26***	***48***
MOBIL Reg Id: 43-0924	230 WINCHESTER	NNE 1/8 - 1/4 (0.175 mi.)	G29	52

SAN JOSE HAZMAT: San Jose Hazmat Facilities.

A review of the SAN JOSE HAZMAT list, as provided by EDR, and dated 11/17/2015 has revealed that there are 6 SAN JOSE HAZMAT sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COURTESY MITSUBISHI File Num: 408866	***3155 STEVENS CREEK B***	***SSW 1/8 - 1/4 (0.139 mi.)***	***E15***	***31***
BIG 5 SPORTING GOODS File Num: 400978	3132 STEVENS CREEK B	S 1/8 - 1/4 (0.145 mi.)	16	34
GOODYEAR AUTO SERVIC File Num: 400950	3146 STEVENS CREEK B	S 1/8 - 1/4 (0.145 mi.)	E18	34

Lower Elevation	Address	Direction / Distance	Map ID	Page
GOODYEAR AUTO SVC CT File Num: 402970	***486 N WINCHESTER BL***	***NE 0 - 1/8 (0.035 mi.)***	***B7***	***22***
DUNN-EDWARDS CORPORA File Num: 400103	***690 NORTH WINCHESTER***	***NNE 0 - 1/8 (0.119 mi.)***	***D13***	***26***
O/B (NEW CINGULAR WI File Num: 409975	2400 FOREST AV SUITE	ENE 1/8 - 1/4 (0.229 mi.)	34	97

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: 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.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 4 EDR Hist Auto sites within approximately 0.125 miles of the target property.

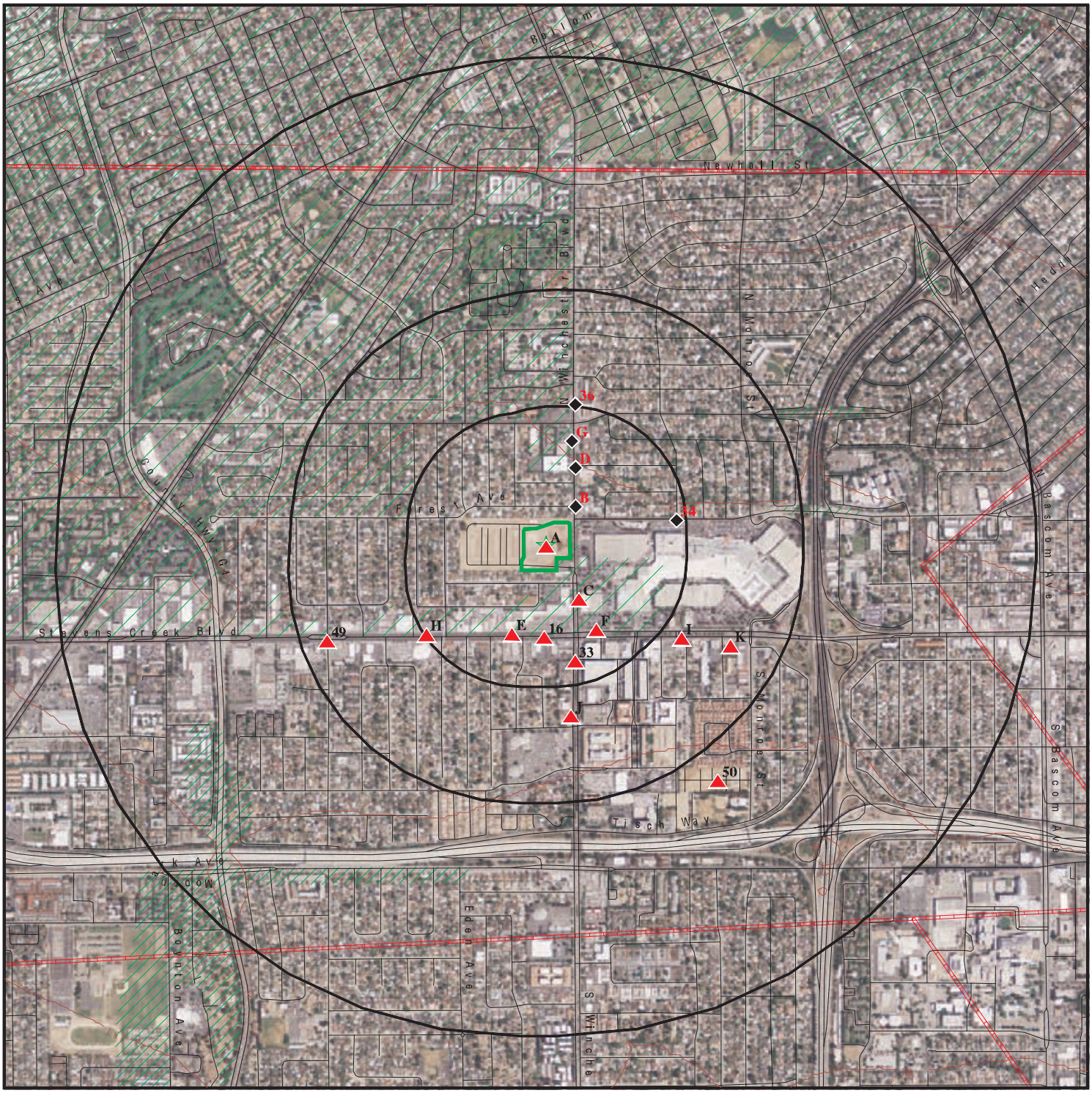
Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CAMPBELL & MORTON	34 S WINCHESTER BLVD	SSE 0 - 1/8 (0.076 mi.)	C10	24
NORMENT S UNION SERV	199 N WINCHESTER BLV	SSE 0 - 1/8 (0.079 mi.)	C11	24

Lower Elevation	Address	Direction / Distance	Map ID	Page
Not reported	486 N WINCHESTER BLV	NE 0 - 1/8 (0.035 mi.)	B6	22
DOWLER S JIM FLYING	498 N WINCHESTER BLV	NE 0 - 1/8 (0.038 mi.)	B9	24

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4574489.2S



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

Pipelines

100-year flood zone

500-year flood zone

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:	356064	CLIENT:	AEI Consultants
ADDRESS:	90 North Winchester Santa Clara CA 95050	CONTACT:	Kimberly Butler
		INQUIRY #:	4574489.2s
LAT/LONG:	37.326103 / 121.951297	DATE:	March 25, 2016 2:48 pm

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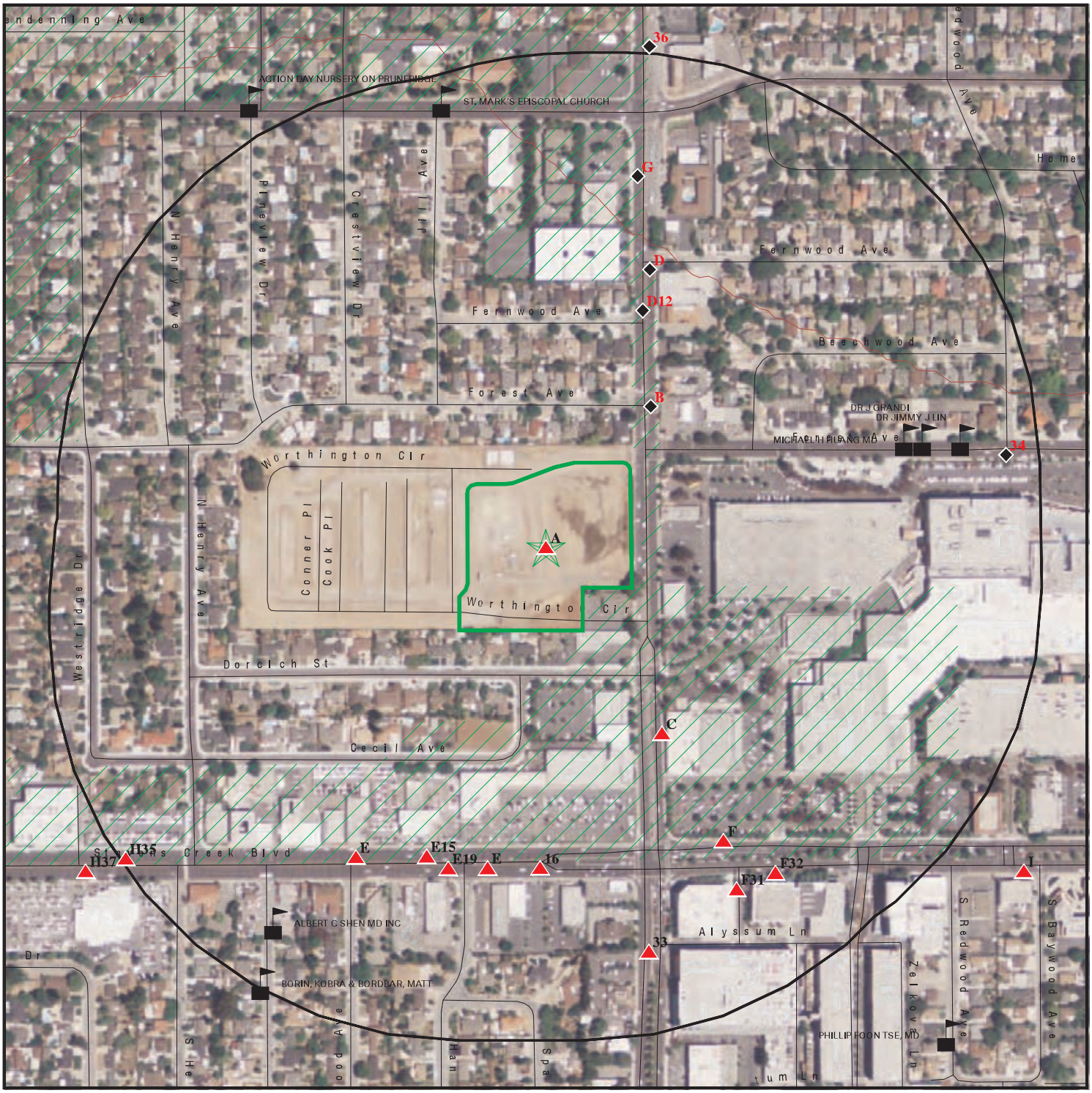
DETAIL MAP - 4574489.2S



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

Indian Reservations BIA

100-year flood zone

500-year flood zone

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:	356064	CLIENT:	AEI Consultants
ADDRESS:	90 North Winchester Santa Clara CA 95050	CONTACT:	Kimberly Butler
		INQUIRY #:	4574489.2s
LAT/LONG:	37.326103 / 121.951297	DATE:	March 25, 2016 2:49 pm

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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	TP		NR	NR	NR	NR	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		0	0	0	NR	NR	0
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	1	NR	NR	NR	1
RCRA-SQG	0.250		2	3	NR	NR	NR	5
RCRA-CESQG	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	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	1	0	0	NR	1
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000	1	0	1	0	1	NR	3
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		2	5	12	NR	NR	19

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
SLIC	0.500		0	0	0	NR	NR	0
HIST LUST	0.500		1	4	8	NR	NR	13
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
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								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500	1	0	0	0	NR	NR	1
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		0	0	0	NR	NR	0
SWRCY	0.500		0	1	0	NR	NR	1
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	1	0	0	NR	1
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		1	3	NR	NR	NR	4
HIST UST	0.250		2	4	NR	NR	NR	6
CA FID UST	0.250		0	1	NR	NR	NR	1
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	1	0	NR	NR	1
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	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
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	1	NR	NR	NR	1
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	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	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	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP	2	NR	NR	NR	NR	NR	2
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	1	0	NR	NR	1
CUPA Listings	0.250		2	1	NR	NR	NR	3
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP	2	NR	NR	NR	NR	NR	2
HIST CORTESE	0.500		0	4	7	NR	NR	11
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	TP		NR	NR	NR	NR	NR	0
MWMP	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
NPDES	TP	1	NR	NR	NR	NR	NR	1
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
SAN JOSE HAZMAT	0.250		2	4	NR	NR	NR	6
UIC	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
ECHO	TP	2	NR	NR	NR	NR	NR	2
FUELS PROGRAM	0.250		0	0	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		4	NR	NR	NR	NR	4
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		9	16	37	27	1	0	90

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 Target Property | **STATE OF CALIFORNIA GENERAL SERVICES**
90 N WINCHESTER BLVD
SANTA CLARA, CA 95050 | **HAZNET** | **S113459498**
N/A

Site 1 of 5 in cluster A

Actual: 127 ft.

HAZNET:

envid:	S113459498
Year:	2010
GEPAID:	CAC002652233
Contact:	DAVID PERRY
Telephone:	9163754907
Mailing Name:	Not reported
Mailing Address:	707 3RD ST 4TH FLR STE 4-430
Mailing City,St,Zip:	WEST SACRAMENTO, CA 95605
Gen County:	Not reported
TSD EPA ID:	CAD009466392
TSD County:	Not reported
Waste Category:	Other empty containers 30 gallons or more
Disposal Method:	Other Treatment
Tons:	1
Cat Decode:	Other empty containers 30 gallons or more
Method Decode:	Other Treatment
Facility County:	Santa Clara

envid:	S113459498
Year:	2010
GEPAID:	CAC002652233
Contact:	DAVID PERRY
Telephone:	9163754907
Mailing Name:	Not reported
Mailing Address:	707 3RD ST 4TH FLR STE 4-430
Mailing City,St,Zip:	WEST SACRAMENTO, CA 95605
Gen County:	Not reported
TSD EPA ID:	CAD028409019
TSD County:	Not reported
Waste Category:	Other inorganic solid waste
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.05
Cat Decode:	Other inorganic solid waste
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Santa Clara

envid:	S113459498
Year:	2010
GEPAID:	CAC002652233
Contact:	DAVID PERRY
Telephone:	9163754907
Mailing Name:	Not reported
Mailing Address:	707 3RD ST 4TH FLR STE 4-430
Mailing City,St,Zip:	WEST SACRAMENTO, CA 95605
Gen County:	Not reported
TSD EPA ID:	CAD981382732
TSD County:	Not reported
Waste Category:	Polychlorinated biphenyls and material containing PCBs
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)

STATE OF CALIFORNIA GENERAL SERVICES (Continued) **S113459498**

Tons:	0.35044
Cat Decode:	Polychlorinated biphenyls and material containing PCBs
Method Decode:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County:	Santa Clara

envid:	S113459498
Year:	2010
GEPAID:	CAC002652233
Contact:	DAVID PERRY
Telephone:	9163754907
Mailing Name:	Not reported
Mailing Address:	707 3RD ST 4TH FLR STE 4-430
Mailing City,St,Zip:	WEST SACRAMENTO, CA 95605
Gen County:	Not reported
TSD EPA ID:	CAD980887418
TSD County:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Tons:	10.425
Cat Decode:	Unspecified oil-containing waste
Method Decode:	Discharge To Sewer/Potw Or Npdes(With Prior Storage--With Or Without Treatment)
Facility County:	Santa Clara

envid:	S113459498
Year:	2010
GEPAID:	CAC002652233
Contact:	DAVID PERRY
Telephone:	9163754907
Mailing Name:	Not reported
Mailing Address:	707 3RD ST 4TH FLR STE 4-430
Mailing City,St,Zip:	WEST SACRAMENTO, CA 95605
Gen County:	Not reported
TSD EPA ID:	CAD981382732
TSD County:	Not reported
Waste Category:	Asbestos containing waste
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	1.6
Cat Decode:	Asbestos containing waste
Method Decode:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County:	Santa Clara

Click this hyperlink while viewing on your computer to access
1 additional CA_HAZNET: record(s) in the EDR Site Report.

A2 Target Property | **BAY AREA RESEARCH EXTENSION CENTER** | **FINDS** | **1010725182**
90 NORTH WINCHESTER BLVD. | **ECHO** | **N/A**
SANTA CLARA, CA 95050

Site 2 of 5 in cluster A

Actual: 127 ft.

FINDS:

Registry ID: 110033617156

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.

ECHO:

Envid:	1010725182
Registry ID:	110033617156
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110033617156

A3 Target Property | **BAY AREA RESEARCH AND EXTENSION CENTER** | **HAZNET** | **S113011086**
90 N WINCHESTER BLVD | **N/A**
SANTA CLARA, CA 95050

Site 3 of 5 in cluster A

Actual: 127 ft.

HAZNET:

envid:	S113011086
Year:	2002
GEPAID:	CAD981975329
Contact:	FRED PERRY DIRECTOR
Telephone:	5307523930
Mailing Name:	Not reported
Mailing Address:	AGRICULTURAL FIELD STATION BLDG
Mailing City,St,Zip:	DAVIS, CA 956169999
Gen County:	Not reported
TSD EPA ID:	NED981723513
TSD County:	Not reported
Waste Category:	Alkaline solution without metals pH >= 12.5
Disposal Method:	Not reported
Tons:	0
Cat Decode:	Alkaline solution without metals pH >= 12.5
Method Decode:	Not reported
Facility County:	Santa Clara

envid:	S113011086
Year:	2002
GEPAID:	CAD981975329
Contact:	FRED PERRY DIRECTOR
Telephone:	5307523930
Mailing Name:	Not reported
Mailing Address:	AGRICULTURAL FIELD STATION BLDG
Mailing City,St,Zip:	DAVIS, CA 956169999

BAY AREA RESEARCH AND EXTENSION CENTER (Continued) **S113011086**

Gen County:	Not reported
TSD EPA ID:	NED981723513
TSD County:	Not reported
Waste Category:	Asbestos containing waste
Disposal Method:	Not reported
Tons:	0.31
Cat Decode:	Asbestos containing waste
Method Decode:	Not reported
Facility County:	Santa Clara

envid:	S113011086
Year:	2002
GEPAID:	CAD981975329
Contact:	FRED PERRY DIRECTOR
Telephone:	5307523930
Mailing Name:	Not reported
Mailing Address:	AGRICULTURAL FIELD STATION BLDG
Mailing City,St,Zip:	DAVIS, CA 956169999
Gen County:	Not reported
TSD EPA ID:	NED981723513
TSD County:	Not reported
Waste Category:	Liquids with mercury >= 20 Mg./L
Disposal Method:	Not reported
Tons:	0
Cat Decode:	Liquids with mercury >= 20 Mg./L
Method Decode:	Not reported
Facility County:	Santa Clara

envid:	S113011086
Year:	2002
GEPAID:	CAD981975329
Contact:	FRED PERRY DIRECTOR
Telephone:	5307523930
Mailing Name:	Not reported
Mailing Address:	AGRICULTURAL FIELD STATION BLDG
Mailing City,St,Zip:	DAVIS, CA 956169999
Gen County:	Not reported
TSD EPA ID:	NED981723513
TSD County:	Not reported
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	Not reported
Tons:	0
Cat Decode:	Off-specification, aged or surplus organics
Method Decode:	Not reported
Facility County:	Santa Clara

envid:	S113011086
Year:	2002
GEPAID:	CAD981975329
Contact:	FRED PERRY DIRECTOR
Telephone:	5307523930
Mailing Name:	Not reported
Mailing Address:	AGRICULTURAL FIELD STATION BLDG
Mailing City,St,Zip:	DAVIS, CA 956169999
Gen County:	Not reported
TSD EPA ID:	NED981723513
TSD County:	Not reported

BAY AREA RESEARCH AND EXTENSION CENTER (Continued) **S113011086**

Waste Category:	Laboratory waste chemicals
Disposal Method:	Not reported
Tons:	0
Cat Decode:	Laboratory waste chemicals
Method Decode:	Not reported
Facility County:	Santa Clara

Click this hyperlink while viewing on your computer to access
1 additional CA_HAZNET: record(s) in the EDR Site Report.

A4 Target Property | **VANDERBILT** | **ENVIROSTOR** | **S106568333**
90 WINCHESTER BLVD | **VCP** | **N/A**
SANTA CLARA, CA 95050 | **NPDES**

Site 4 of 5 in cluster A

Actual: 127 ft.

ENVIROSTOR:

Facility ID:	43010031
Status:	Certified
Status Date:	08/11/2010
Site Code:	201766
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	17
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Karen Toth
Supervisor:	Karen Toth
Division Branch:	Cleanup Berkeley
Assembly:	25
Senate:	10
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	37.32620
Longitude:	-121.9525
APN:	303-17-048, 303-17-049, 303-17-053
Past Use:	RESEARCH - AGRICULTURAL
Potential COC:	Arsenic Dieldrin
Confirmed COC:	Arsenic Dieldrin
Potential Description:	SOIL
Alias Name:	BAREC
Alias Type:	Alternate Name
Alias Name:	BAY AREA RESEARCH AND EXTENSION CENTER
Alias Type:	Alternate Name
Alias Name:	303-17-048
Alias Type:	APN
Alias Name:	303-17-049
Alias Type:	APN
Alias Name:	303-17-053
Alias Type:	APN
Alias Name:	110033617156
Alias Type:	EPA (FRS #)
Alias Name:	201464
Alias Type:	Project Code (Site Code)
Alias Name:	201766

VANDERBILT (Continued) **S106568333**

Alias Type: Project Code (Site Code)
Alias Name: 43010031
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: 08/09/2006
Comments: Overdue invoice letter sent

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 08/11/2010
Comments: No further action required at the site. The site was cleaned up to residential standards.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Responsible Agency Review
Completed Date: 10/19/2007
Comments: A Notice of Determination (NOD) was filed. The NOD found that the EIR prepared by the City pof Santa Clara was adequate and that the cleanup project will not have a significant effect on the environment. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 08/11/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 10/19/2007
Comments: The RAW was approved. The RAW consists of excavation of soil contaminated with dieldrin and arsenic and offsite disposal.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 06/30/2010
Comments: All fieldwork related to contaminated soils and implementation of the RAW has been completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 03/17/2006
Comments: Fact Sheet completed. Public Comment period for Draft RAW runs from March 22 through April 21, 2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 03/14/2006

VANDERBILT (Continued) **S106568333**

Comments: Public Notice completed. Comment period for Draft RAW runs from March 22 through April 21, 2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 11/10/2003
Comments: The Report indicates that the chemicals of concern in soil are dieldrin and arsenic.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Report
Completed Date: 11/07/2006
Comments: DTSC approves revised screening level risk assessment.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 09/23/2008
Comments: The H&S Plan was approved to ensure protection of the workers and the public during implementation of the Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 08/24/2009
Comments: Transmittal of data collected in response to the toxic tort case. Data correlates with previous data and will be used when defining actual excavations. This report has been reviewed, but does not require DTSC approval.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 08/31/2003
Comments: Community Profile Approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan
Completed Date: 04/15/2010
Comments: Health and Safety Plan accepted for Environ Corp. Environ will oversee activities at the site and will conduct air monitoring and confirmation sampling during the removal action.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan
Completed Date: 04/15/2010
Comments: Health and Safety Plan accepted for EBS. EBS will conduct excavation and backfilling work as part of the removal action. EBS will also demolish the structures on site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan

VANDERBILT (Continued) **S106568333**

Completed Date: 06/02/2010
Comments: HASP updated to address underground tank found at site. DTSC had no comments on the document.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan
Completed Date: 06/04/2010
Comments: HASP updated to address underground tank found at site. DTSC had no comments on the document.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/11/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Litigation Support
Completed Date: 09/09/2010
Comments: Met with attorney and reviewed files.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/12/2003
Comments: A Voluntary Cleanup Agreement was signed with the California Department of General Services.

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

VCP:
Facility ID: 43010031
Site Type: Voluntary Cleanup
Site Type Detail: Voluntary Cleanup
Site Mgmt. Req.: NONE SPECIFIED
Acres: 17
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Karen Toth
Supervisor: Karen Toth
Division Branch: Cleanup Berkeley
Site Code: 201766
Assembly: 25
Senate: 10
Special Programs Code: Voluntary Cleanup Program

VANDERBILT (Continued) **S106568333**

Status:	Certified
Status Date:	08/11/2010
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	37.32620 / -121.9525
APN:	303-17-048, 303-17-049, 303-17-053
Past Use:	RESEARCH - AGRICULTURAL
Potential COC:	30001, 30207
Confirmed COC:	30001,30207
Potential Description:	SOIL
Alias Name:	BAREC
Alias Type:	Alternate Name
Alias Name:	BAY AREA RESEARCH AND EXTENSION CENTER
Alias Type:	Alternate Name
Alias Name:	303-17-048
Alias Type:	APN
Alias Name:	303-17-049
Alias Type:	APN
Alias Name:	303-17-053
Alias Type:	APN
Alias Name:	110033617156
Alias Type:	EPA (FRS #)
Alias Name:	201464
Alias Type:	Project Code (Site Code)
Alias Name:	201766
Alias Type:	Project Code (Site Code)
Alias Name:	43010031
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:	08/09/2006
Comments:	Overdue invoice letter sent

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	08/11/2010
Comments:	No further action required at the site. The site was cleaned up to residential standards.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Responsible Agency Review
Completed Date:	10/19/2007
Comments:	A Notice of Determination (NOD) was filed. The NOD found that the EIR prepared by the City pof Santa Clara was adequate and that the cleanup project will not have a significant effect on the environment. Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	08/11/2010
Comments:	Not reported

VANDERBILT (Continued) **S106568333**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 10/19/2007
Comments: The RAW was approved. The RAW consists of excavation of soil contaminated with dieldrin and arsenic and offsite disposal.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 06/30/2010
Comments: All fieldwork related to contaminated soils and implementation of the RAW has been completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 03/17/2006
Comments: Fact Sheet completed. Public Comment period for Draft RAW runs from March 22 through April 21, 2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 03/14/2006
Comments: Public Notice completed. Comment period for Draft RAW runs from March 22 through April 21, 2006.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 11/10/2003
Comments: The Report indicates that the chemicals of concern in soil are dieldrin and arsenic.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Risk Assessment Report
Completed Date: 11/07/2006
Comments: DTSC approves revised screening level risk assessment.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 09/23/2008
Comments: The H&S Plan was approved to ensure protection of the workers and the public during implementation of the Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 08/24/2009
Comments: Transmittal of data collected in response to the toxic tort case. Data correlates with previous data and will be used when defining actual excavations. This report has been reviewed, but does not require DTSC approval.

VANDERBILT (Continued) **S106568333**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 08/31/2003
Comments: Community Profile Approved

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan
Completed Date: 04/15/2010
Comments: Health and Safety Plan accepted for Environ Corp. Environ will oversee activities at the site and will conduct air monitoring and confirmation sampling during the removal action.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan
Completed Date: 04/15/2010
Comments: Health and Safety Plan accepted for EBS. EBS will conduct excavation and backfilling work as part of the removal action. EBS will also demolish the structures on site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan
Completed Date: 06/02/2010
Comments: HASP updated to address underground tank found at site. DTSC had no comments on the document.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Health & Safety Plan
Completed Date: 06/04/2010
Comments: HASP updated to address underground tank found at site. DTSC had no comments on the document.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 08/11/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Litigation Support
Completed Date: 09/09/2010
Comments: Met with attorney and reviewed files.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 05/12/2003
Comments: A Voluntary Cleanup Agreement was signed with the California Department of General Services.

Future Area Name: Not reported
Future Sub Area Name: Not reported

VANDERBILT (Continued) **S106568333**

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

NPDES:

Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	2
Regulatory Measure Id:	421082
Order No:	Not reported
Regulatory Measure Type:	Construction
Place Id:	Not reported
WDID:	2 43C362339
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	10/28/2011
PROCESSED DATE:	11/2/2011
STATUS CODE NAME:	Active
STATUS DATE:	11/2/2011
PLACE SIZE:	11
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	Paul Medeiros
FACILITY CONTACT TITLE:	VP Site Development
FACILITY CONTACT PHONE:	925--24-4-75
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	pmedeiros@shhomes.com
OPERATOR NAME:	SummerHill Winchester
OPERATOR ADDRESS:	3000 Executive Parkway suite 450
OPERATOR CITY:	San Ramon
OPERATOR STATE:	California
OPERATOR ZIP:	94583
OPERATOR CONTACT NAME:	Chris Neighbor
OPERATOR CONTACT TITLE:	SVP
OPERATOR CONTACT PHONE:	925-244-7582
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	cneighbor@shhomes.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	SummerHill Winchester
DEVELOPER ADDRESS:	3000 Executive Parkway suite 450
DEVELOPER CITY:	San Ramon
DEVELOPER STATE:	California
DEVELOPER ZIP:	94583
DEVELOPER CONTACT NAME:	Paul Medeiros
DEVELOPER CONTACT TITLE:	VP Site Development

VANDERBILT (Continued) **S106568333**

CONSTYPE LINEAR UTILITY IND:	N
EMERGENCY PHONE NO:	408-529-6020
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Y
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Chris Neighbor
CERTIFIER TITLE:	SVP Land & Construction
CERTIFICATION DATE:	28-OCT-11
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	CAS000002
Facility Status:	Active
Agency Id:	0
Region:	2
Regulatory Measure Id:	421082
Order No:	2009-0009-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	2 43C362339
Program Type:	Construction
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	11/02/2011
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	SummerHill Winchester
Discharge Address:	3000 Executive Parkway suite 450
Discharge City:	San Ramon
Discharge State:	California
Discharge Zip:	94583
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported

VANDERBILT (Continued) **S106568333**

FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

A5 **UNIVERSITY OF CALIFORNIA** **FINDS** **1016423399**
Target **90 N WINCHESTER** **ECHO** **N/A**
Property **SANTA CLARA, CA 95050**

Site 5 of 5 in cluster A

Actual:
127 ft.

FINDS:

Registry ID: 110055717755

Environmental Interest/Information System

UNIVERSITY OF CALIFORNIA (Continued) **1016423399**

STATE MASTER

ECHO:
Envid: 1016423399
Registry ID: 110055717755
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110055717755

B6 **EDR Hist Auto** **1015516236**
NE **486 N WINCHESTER BLVD** **N/A**
< 1/8 **SAN JOSE, CA 95128**
0.035 mi.
186 ft. **Site 1 of 4 in cluster B**

Relative:
Lower

Actual:
124 ft.

EDR Historical Auto Stations:
Name: GOODYEAR AUTO SERVICE CENTER 8766
Year: 2009
Address: 486 N WINCHESTER BLVD

Name: GOODYEAR AUTO SERVICE CENTERS
Year: 2012
Address: 486 N WINCHESTER BLVD

B7 **GOODYEAR AUTO SVC CTR #8766** **CUPA Listings** **S104575503**
NE **486 N WINCHESTER BL** **SAN JOSE HAZMAT** **N/A**
< 1/8 **SAN JOSE, CA 95128**
0.035 mi.
186 ft. **Site 2 of 4 in cluster B**

Relative:
Lower

Actual:
124 ft.

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: BP03
Program Description: HMBP FACILITY, 7-9 CHEMICALS

Region: SANTA CLARA
PE#: 2205
Program Description: GENERATES 100 KG YR TO <5 TONS/YR

SAN JOSE HAZMAT:
Region: SAN JOSE
File Num: 402970
Class: Auto Repair

B8 **ACC U TUNE & BRAKE** **RCRA-SQG** **1000135158**
NE **498 N WINCHESTER BLVD** **FINDS** **CAD982483570**
< 1/8 **SAN JOSE, CA 95128** **ECHO**
0.038 mi.
200 ft. **Site 3 of 4 in cluster B**

Relative:
Lower

Actual:
123 ft.

RCRA-SQG:
Date form received by agency: 03/13/1990
Facility name: ACC U TUNE & BRAKE
Facility address: 498 N WINCHESTER BLVD
SAN JOSE, CA 95128

ACC U TUNE & BRAKE (Continued) **1000135158**

EPA ID:	CAD982483570
Mailing address:	2510 OLD MIDDLEFIELD WAY MOUNTAIN VIEW, CA 94043
Contact:	ENVIRONMENTAL MANAGER
Contact address:	498 N WINCHESTER BLVD SAN JOSE, CA 95128
Contact country:	US
Contact telephone:	(415) 968-8863
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:	CARTER HAWLEY & HALE P A
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
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
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

Violation Status: No violations found

ACC U TUNE & BRAKE (Continued) **1000135158**

FINDS:

Registry ID: 110002826489

Environmental Interest/Information System
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.

ECHO:
Envid: 1000135158
Registry ID: 110002826489
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110002826489

B9 **DOWLER S JIM FLYING A SERVICE** **EDR Hist Auto** **1009001375**
NE **498 N WINCHESTER BLVD** **N/A**
< 1/8 **SAN JOSE, CA**
0.038 mi.
200 ft. **Site 4 of 4 in cluster B**

Relative:
Lower

Actual:
123 ft.

EDR Historical Auto Stations:
Name: DOWLER S JIM FLYING A SERVICE
Year: 1966
Type: GASOLINE STATIONS

C10 **CAMPBELL & MORTON** **EDR Hist Auto** **1009001293**
SSE **34 S WINCHESTER BLVD** **N/A**
< 1/8 **SAN JOSE, CA**
0.076 mi.
399 ft. **Site 1 of 2 in cluster C**

Relative:
Higher

Actual:
131 ft.

EDR Historical Auto Stations:
Name: CAMPBELL & MORTON
Year: 1940
Type: AUTOMOBILE REPAIRING

C11 **NORMENT S UNION SERVICE** **EDR Hist Auto** **1009001934**
SSE **199 N WINCHESTER BLVD** **N/A**
< 1/8 **SAN JOSE, CA**
0.079 mi.
418 ft. **Site 2 of 2 in cluster C**

Relative:
Higher

Actual:
131 ft.

EDR Historical Auto Stations:
Name: NORMENT S UNION SERVICE
Year: 1966
Type: GASOLINE STATIONS

Name: NORMENT S UNION SERVICE
Year: 1970
Type: GASOLINE STATIONS

NORMENT S UNION SERVICE (Continued) **1009001934**

Name: WINCHESTER UNION SERVICE
Year: 1975
Type: GASOLINE STATIONS

D12 NNE < 1/8 0.093 mi. 493 ft. | **DECIDUOUS FRUIT FIELD STATION** | **HIST UST** | **U001602958**
125 N WINCHESTER BLVD | **N/A**
SAN JOSE, CA 95128

Site 1 of 3 in cluster D

Relative: Lower

Actual: 121 ft.

HIST UST:

File Number:	00020A64
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020A64.pdf
Region:	STATE
Facility ID:	00000024728
Facility Type:	Other
Other Type:	RESEARCH STATION
Contact Name:	THOMAS M. KRETCHUN
Telephone:	4082961672
Owner Name:	UNIVERSITY OF CALIFORNIA
Owner Address:	AGREICULTURAL FIELD STATIONS
Owner City,St,Zip:	DAVIS, CA 95616
Total Tanks:	0003
Tank Num:	001
Container Num:	DFFS #1
Year Installed:	1970
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor, None
Tank Num:	002
Container Num:	DFFS #2
Year Installed:	1978
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	10
Leak Detection:	Stock Inventor, None
Tank Num:	003
Container Num:	DF #3
Year Installed:	1973
Tank Capacity:	00000842
Tank Used for:	Not reported
Type of Fuel:	Not reported
Container Construction Thickness:	.030
Leak Detection:	None

Click here for Geo Tracker PDF:

D13 **NNE** **< 1/8** **0.119 mi.** **627 ft.** **Relative:** **Lower** **Actual:** **121 ft.**	**DUNN-EDWARDS CORPORATION** **690 NORTH WINCHESTER BLVD** **SAN JOSE, CA 95128** **Site 2 of 3 in cluster D**	**RCRA-SQG** **LUST** **SWEEPS UST** **HIST UST** **FINDS** **CUPA Listings** **SAN JOSE HAZMAT** **ECHO**	**1000306658** **CAD981398977**

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	DUNN-EDWARDS CORPORATION
Facility address:	690 NORTH WINCHESTER BLVD SAN JOSE, CA 95128
EPA ID:	CAD981398977
Mailing address:	4885 EAST FIFTY SECOND PLACE LOS ANGELES, CA 90040
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:	RUSSELL T JACOBS PRES
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
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
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

DUNN-EDWARDS CORPORATION (Continued) **1000306658**

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:	04/25/1986
Site name:	DUNN-EDWARDS CORPORATION
Classification:	Large Quantity Generator
Violation Status:	No violations found

LUST:

Region:	STATE
Global Id:	T0608501223
Latitude:	37.32837
Longitude:	-121.949691
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	08/17/1998
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Other Petroleum
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608501223
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608501223
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

DUNN-EDWARDS CORPORATION (Continued) **1000306658**

Status History:

Global Id:	T0608501223
Status:	Completed - Case Closed
Status Date:	08/17/1998
Global Id:	T0608501223
Status:	Open - Case Begin Date
Status Date:	11/14/1991
Global Id:	T0608501223
Status:	Open - Site Assessment
Status Date:	11/14/1991

Regulatory Activities:

Global Id:	T0608501223
Action Type:	ENFORCEMENT
Date:	01/17/1992
Action:	Notice of Responsibility - #39559
Global Id:	T0608501223
Action Type:	RESPONSE
Date:	08/17/1998
Action:	Other Report / Document
Global Id:	T0608501223
Action Type:	Other
Date:	01/02/1992
Action:	Leak Reported
Global Id:	T0608501223
Action Type:	REMEDIATION
Date:	11/14/1991
Action:	Excavation
Global Id:	T0608501223
Action Type:	REMEDIATION
Date:	11/14/1991
Action:	Pump & Treat (P&T) Groundwater
Global Id:	T0608501223
Action Type:	REMEDIATION
Date:	11/14/1991
Action:	Free Product Removal
Global Id:	T0608501223
Action Type:	ENFORCEMENT
Date:	08/17/1998
Action:	Closure/No Further Action Letter

LUST SANTA CLARA:

Region:	SANTA CLARA
SCVWD ID:	07S1W14D01F
Date Closed:	08/17/1998
EDR Link ID:	07S1W14D01F

DUNN-EDWARDS CORPORATION (Continued) **1000306658**

SWEEPS UST:

Status:	Not reported
Comp Number:	400103
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400103-000001
Tank Status:	Not reported
Capacity:	550
Active Date:	Not reported
Tank Use:	PETROLEUM
STG:	PRODUCT
Content:	Not reported
Number Of Tanks:	1

HIST UST:

File Number:	0002D2C1
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002D2C1.pdf
Region:	STATE
Facility ID:	00000000745
Facility Type:	Other
Other Type:	RETAILER
Contact Name:	PAT EILERS
Telephone:	2137713330
Owner Name:	DUNN-EDWARDS CORPORATION
Owner Address:	4885 E. 52ND PLACE
Owner City,St,Zip:	LOS ANGELES, CA 90040
Total Tanks:	0002
Tank Num:	001
Container Num:	11-T-1
Year Installed:	1965
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	002
Container Num:	10-T-1
Year Installed:	1959
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

Click here for Geo Tracker PDF:

FINDS:

Registry ID: 110002693764

DUNN-EDWARDS CORPORATION (Continued) **1000306658**

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

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.

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2205
Program Description:	GENERATES 100 KG YR TO <5 TONS/YR
Region:	SANTA CLARA
PE#:	BP01
Program Description:	HMBP FACILITY, 1-3 CHEMICALS

SAN JOSE HAZMAT:

Region:	SAN JOSE
File Num:	400103
Class:	Auto Wrecking/Misc Simple Facility

ECHO:

Envid:	1000306658
Registry ID:	110002693764
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110002693764

D14 **DUNN-EDWARDS PAINTS** **LUST** **S103454505**
NNE **690 N WINCHESTER BLVD** **HIST LUST** **N/A**
< 1/8 **SAN JOSE, CA 95128**
0.119 mi.
627 ft. **Site 3 of 3 in cluster D**

Relative:
Lower

Actual:
121 ft.

LUST REG 2:

Region:	2
Facility Id:	Not reported
Facility Status:	Case Closed
Case Number:	07S1W14D01f
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Leak Confirmed:	Not reported
Oversight Program:	LUST
Prelim. Site Assesment Wokplan Submitted:	Not reported
Preliminary Site Assesment Began:	11/14/1991
Pollution Characterization Began:	11/14/1991
Pollution Remediation Plan Submitted:	Not reported
Date Remediation Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

DUNN-EDWARDS PAINTS (Continued) **S103454505**

HIST LUST SANTA CLARA:

Region:	SANTA CLARA
Region Code:	2
SCVWD ID:	07S1W14D01
Oversite Agency:	SCVWD
Date Listed:	1992-01-15 00:00:00
Closed Date:	1998-08-17 00:00:00

E15
SSW
1/8-1/4
0.139 mi.
734 ft.

COURTESY MITSUBISHI
3155 STEVENS CREEK BLVD
SAN JOSE, CA 95117

Site 1 of 7 in cluster E

RCRA NonGen / NLR **1000818993**
FINDS **CAD983649377**
HAZNET
SAN JOSE HAZMAT
ECHO

Relative:
Higher

Actual:
133 ft.

RCRA NonGen / NLR:

Date form received by agency:	07/16/2001
Facility name:	COURTESY MITSUBISHI
Facility address:	3155 STEVENS CREEK BLVD SAN JOSE, CA 95117
EPA ID:	CAD983649377
Contact:	MICHELE AHLSTROM
Contact address:	4425 STEVENS CREEK BLVD SANTA CLARA, CA 95051
Contact country:	US
Contact telephone:	(408) 984-0404
Contact email:	Not reported
EPA Region:	09
Classification:	Non-Generator
Description:	Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:

Owner/operator name:	COURTESY MITSUBISHI
Owner/operator address:	3155 STEVENS CREEK BLVD SAN JOSE, CA 95117
Owner/operator country:	Not reported
Owner/operator telephone:	(408) 984-0404
Legal status:	Private
Owner/Operator Type:	Owner
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

COURTESY MITSUBISHI (Continued) **1000818993**

Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002885389

Environmental Interest/Information System
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.

HAZNET:

envid:	1000818993
Year:	2006
GEPAID:	CAD983649377
Contact:	INACTIVE MOVED OUT
Telephone:	4089840404
Mailing Name:	Not reported
Mailing Address:	4425 STEVENS CREEK BLVD
Mailing City,St,Zip:	SANTA CLARA, CA 950500000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Tons:	0.29
Cat Decode:	Unspecified organic liquid mixture
Method Decode:	Recycler
Facility County:	Santa Clara

envid:	1000818993
Year:	2005
GEPAID:	CAD983649377
Contact:	INACTIVE MOVED OUT
Telephone:	4089840404
Mailing Name:	Not reported
Mailing Address:	4425 STEVENS CREEK BLVD
Mailing City,St,Zip:	SANTA CLARA, CA 950500000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Tons:	3.62
Cat Decode:	Unspecified organic liquid mixture
Method Decode:	Recycler
Facility County:	Santa Clara

envid:	1000818993
Year:	2004
GEPAID:	CAD983649377

COURTESY MITSUBISHI (Continued) **1000818993**

Contact:	INACTIVE MOVED OUT
Telephone:	4089840404
Mailing Name:	Not reported
Mailing Address:	4425 STEVENS CREEK BLVD
Mailing City,St,Zip:	SANTA CLARA, CA 950500000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Tons:	5.33
Cat Decode:	Unspecified organic liquid mixture
Method Decode:	Recycler
Facility County:	Santa Clara

envid:	1000818993
Year:	2004
GEPAID:	CAD983649377
Contact:	INACTIVE MOVED OUT
Telephone:	4089840404
Mailing Name:	Not reported
Mailing Address:	4425 STEVENS CREEK BLVD
Mailing City,St,Zip:	SANTA CLARA, CA 950500000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Not reported
Tons:	0.25
Cat Decode:	Unspecified organic liquid mixture
Method Decode:	Not reported
Facility County:	Santa Clara

envid:	1000818993
Year:	2003
GEPAID:	CAD983649377
Contact:	INACTIVE MOVED OUT
Telephone:	4089840404
Mailing Name:	Not reported
Mailing Address:	4425 STEVENS CREEK BLVD
Mailing City,St,Zip:	SANTA CLARA, CA 950500000
Gen County:	Not reported
TSD EPA ID:	CAD009452657
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Recycler
Tons:	6.58
Cat Decode:	Unspecified organic liquid mixture
Method Decode:	Recycler
Facility County:	Santa Clara

Click this hyperlink while viewing on your computer to access
14 additional CA_HAZNET: record(s) in the EDR Site Report.

SAN JOSE HAZMAT:

Region:	SAN JOSE
File Num:	408866

COURTESY MITSUBISHI (Continued) **1000818993**

Class: Auto Repair

ECHO:
Envid: 1000818993
Registry ID: 110002885389
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110002885389

16
South
1/8-1/4
0.145 mi.
764 ft.

BIG 5 SPORTING GOODS #31
3132 STEVENS CREEK BL
SAN JOSE, CA 95117

SAN JOSE HAZMAT **S102622384**
N/A

Relative:
Higher

Actual:
134 ft.

SAN JOSE HAZMAT:
Region: SAN JOSE
File Num: 400978
Class: Auto Wrecking/Misc Simple Facility

E17
South
1/8-1/4
0.145 mi.
765 ft.

GOODYEAR AUTO SERVICE CENTER
3146 STEVENS CREEK BL
SAN JOSE, CA 95117

CUPA Listings **S102823570**
N/A

Site 2 of 7 in cluster E

Relative:
Higher

Actual:
134 ft.

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: BP03
Program Description: HMBP FACILITY, 7-9 CHEMICALS

Region: SANTA CLARA
PE#: 2205
Program Description: GENERATES 100 KG YR TO <5 TONS/YR

E18
South
1/8-1/4
0.145 mi.
765 ft.

GOODYEAR AUTO SERVICE CENT
3146 STEVENS CREEK BL SUITE A
SAN JOSE, CA 95117

SAN JOSE HAZMAT **S105419900**
N/A

Site 3 of 7 in cluster E

Relative:
Higher

Actual:
134 ft.

SAN JOSE HAZMAT:
Region: SAN JOSE
File Num: 400950
Class: Auto Repair

E19 SSW 1/8-1/4 0.145 mi. 767 ft.

FIRESTONE STORES
3150 STEVENS CREEK BLVD
SAN JOSE, CA 95117

Site 4 of 7 in cluster E

LUST
HIST LUST
SWEEPS UST
HIST CORTESE

S103972465
N/A

Relative: Higher

Actual: 133 ft.

LUST:

Region:	STATE
Global Id:	T0608502027
Latitude:	37.323163
Longitude:	-121.952272
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/23/1998
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Waste Oil / Motor / Hydraulic / Lubricating
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608502027
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608502027
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608502027
Status:	Completed - Case Closed
Status Date:	07/23/1998

Global Id:	T0608502027
Status:	Open - Case Begin Date
Status Date:	12/16/1997

Global Id:	T0608502027
Status:	Open - Site Assessment
Status Date:	02/04/1998

FIRESTONE STORES (Continued) **S103972465**

Regulatory Activities:

Global Id:	T0608502027
Action Type:	ENFORCEMENT
Date:	07/23/1998
Action:	Closure/No Further Action Letter
Global Id:	T0608502027
Action Type:	Other
Date:	12/16/1997
Action:	Leak Reported
Global Id:	T0608502027
Action Type:	RESPONSE
Date:	07/23/1998
Action:	Other Report / Document

LUST REG 2:

Region:	2
Facility Id:	Not reported
Facility Status:	Case Closed
Case Number:	07S1W15J02f
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Leak Confirmed:	Not reported
Oversight Program:	LUST
Prelim. Site Assesment Wokplan Submitted:	Not reported
Preliminary Site Assesment Began:	2/4/1998
Pollution Characterization Began:	2/4/1998
Pollution Remediation Plan Submitted:	Not reported
Date Remediation Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

LUST SANTA CLARA:

Region:	SANTA CLARA
SCVWD ID:	07S1W15J02F
Date Closed:	07/23/1998
EDR Link ID:	07S1W15J02F

HIST LUST SANTA CLARA:

Region:	SANTA CLARA
Region Code:	2
SCVWD ID:	07S1W15J02
Oversite Agency:	SCVWD
Date Listed:	1997-12-30 00:00:00
Closed Date:	1998-07-23 00:00:00

SWEEPS UST:

Status:	Active
Comp Number:	401673
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92

FIRESTONE STORES (Continued) **S103972465**

Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 43-060-401673-000002
Tank Status: A
Capacity: 550
Active Date: Not reported
Tank Use: OIL
STG: W
Content: Not reported
Number Of Tanks: 1

Status: Not reported
Comp Number: 401673
Number: Not reported
Board Of Equalization: Not reported
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 43-060-401673-000001
Tank Status: Not reported
Capacity: 500
Active Date: Not reported
Tank Use: OIL
STG: WASTE
Content: Not reported
Number Of Tanks: 1

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-2209

E20 SSW 1/8-1/4 0.151 mi. 799 ft. | **COURTESY HYUNDAI** | **RCRA-SQG FINDS ECHO** | **1000818975 CAD983649161**
3207 STEVENS CREEK BLVD
SAN JOSE, CA 95117

Site 5 of 7 in cluster E

Relative: Higher

Actual: 133 ft.

RCRA-SQG:
Date form received by agency: 09/19/1992
Facility name: COURTESY HYUNDAI
Facility address: 3207 STEVENS CREEK BLVD
SAN JOSE, CA 95117
EPA ID: CAD983649161
Mailing address: STEVENS CREEK BLVD
SAN JOSE, CA 95117
Contact: LARRY AIELLO
Contact address: 3207 STEVENS CREEK BLVD
SAN JOSE, CA 95117
Contact country: US
Contact telephone: (408) 984-2001
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

COURTESY HYUNDAI (Continued) **1000818975**

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:	COURTESY HYUNDAI
Owner/operator address:	3207 STEVENS CREEK BLVD SAN JOSE, CA 95117
Owner/operator country:	Not reported
Owner/operator telephone:	(408) 984-2001
Legal status:	Private
Owner/Operator Type:	Owner
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

Violation Status: No violations found

FINDS:

Registry ID: 110002885236

Environmental Interest/Information System

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.

ECHO:

Envid:	1000818975
Registry ID:	110002885236
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110002885236

E21 SSW 1/8-1/4 0.152 mi. 801 ft.	**CELEBRITY DODGE 3209 STEVENS CREEK BLVD SAN JOSE, CA 95117 Site 6 of 7 in cluster E**	**RCRA-SQG FINDS HAZNET ECHO**	**1000200502 CAD982000549**

Relative:
Higher

Actual:
133 ft.

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	CELEBRITY DODGE
Facility address:	3209 STEVENS CREEK BLVD SAN JOSE, CA 95117
EPA ID:	CAD982000549
Mailing address:	STEVENS CREEK BLVD SAN JOSE, CA 95117
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:	CELEBRITY DODGE
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
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
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

CELEBRITY DODGE (Continued) **1000200502**

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

Violation Status: No violations found

FINDS:

Registry ID: 110002772447

Environmental Interest/Information System
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.

HAZNET:
envid: 1000200502
Year: 1998
GEPAID: CAD982000549
Contact: Not reported
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: 3209 STEVENS CREEK BLVD
Mailing City,St,Zip: SAN JOSE, CA 951170000
Gen County: Not reported
TSD EPA ID: CAD093459485
TSD County: Not reported
Waste Category: Aqueous solution with total organic residues less than 10 percent
Disposal Method: Transfer Station
Tons: .0166
Cat Decode: Aqueous solution with total organic residues less than 10 percent
Method Decode: Transfer Station
Facility County: Santa Clara

envid: 1000200502
Year: 1998
GEPAID: CAD982000549
Contact: Not reported
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: 3209 STEVENS CREEK BLVD
Mailing City,St,Zip: SAN JOSE, CA 951170000
Gen County: Not reported
TSD EPA ID: CAD093459485
TSD County: Not reported
Waste Category: Unspecified solvent mixture
Disposal Method: Transfer Station
Tons: .0332
Cat Decode: Unspecified solvent mixture

CELEBRITY DODGE (Continued) **1000200502**

Method Decode: Transfer Station
Facility County: Santa Clara

envid: 1000200502
Year: 1997
GEPAID: CAD982000549
Contact: Not reported
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: 3209 STEVENS CREEK BLVD
Mailing City,St,Zip: SAN JOSE, CA 951170000
Gen County: Not reported
TSD EPA ID: CAD093459485
TSD County: Not reported
Waste Category: Unspecified solvent mixture
Disposal Method: Transfer Station
Tons: .0664
Cat Decode: Unspecified solvent mixture
Method Decode: Transfer Station
Facility County: Santa Clara

envid: 1000200502
Year: 1996
GEPAID: CAD982000549
Contact: Not reported
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: 3209 STEVENS CREEK BLVD
Mailing City,St,Zip: SAN JOSE, CA 951170000
Gen County: Not reported
TSD EPA ID: CAD093459485
TSD County: Not reported
Waste Category: Unspecified solvent mixture
Disposal Method: Transfer Station
Tons: .0664
Cat Decode: Unspecified solvent mixture
Method Decode: Transfer Station
Facility County: Santa Clara

envid: 1000200502
Year: 1995
GEPAID: CAD982000549
Contact: Not reported
Telephone: 0000000000
Mailing Name: Not reported
Mailing Address: 3209 STEVENS CREEK BLVD
Mailing City,St,Zip: SAN JOSE, CA 951170000
Gen County: Not reported
TSD EPA ID: CAD093459485
TSD County: Not reported
Waste Category: Unspecified solvent mixture
Disposal Method: Transfer Station
Tons: .0332
Cat Decode: Unspecified solvent mixture
Method Decode: Transfer Station
Facility County: Santa Clara

CELEBRITY DODGE (Continued) **1000200502**

Click this hyperlink while viewing on your computer to access
2 additional CA_HAZNET: record(s) in the EDR Site Report.

ECHO:

Envid:	1000200502
Registry ID:	110002772447
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110002772447

E22 SSW 1/8-1/4 0.152 mi. 801 ft. **SERVICE DEPT** **HIST UST** **U001602712**
3209 STEVENS CREEK BLVD **N/A**
SAN JOSE, CA 95117

Site 7 of 7 in cluster E

Relative: Higher

Actual: 133 ft.

HIST UST:

File Number:	0002D236
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002D236.pdf
Region:	STATE
Facility ID:	00000049270
Facility Type:	Other
Other Type:	CAR DEALERSHIP
Contact Name:	ED SANTOS
Telephone:	4082466454
Owner Name:	D&R AUTO, INC.
Owner Address:	3209 STEVENS CREEK BLVD.
Owner City,St,Zip:	SAN JOSE, CA 95117
Total Tanks:	0001
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00000100
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	None

Click here for Geo Tracker PDF:

F23 SSE 1/8-1/4 0.154 mi. 814 ft. **CVS PHARMACY NO 9944** **RCRA-LQG** **1016168155**
3081 STEVENS CREEK BLVD **FINDS** **CAR000240564**
SANTA CLARA, CA 95050 **ECHO**

Site 1 of 4 in cluster F

Relative: Higher

Actual: 133 ft.

RCRA-LQG:

Date form received by agency:	06/19/2013
Facility name:	CVS PHARMACY NO 9944
Facility address:	3081 STEVENS CREEK BLVD SANTA CLARA, CA 95050
EPA ID:	CAR000240564
Mailing address:	ONE CVS DR WOONSOCKET, RI 02895
Contact:	WENDY L BRANT
Contact address:	ONE CVS DR WOONSOCKET, RI 02895

CVS PHARMACY NO 9944 (Continued) **1016168155**

Contact country:	US
Contact telephone:	401-765-1500
Contact email:	WENDY.BRANT@CVSCAREMARK.COM
EPA Region:	09
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	LONGS DRUG STORES CALIFORNIA LLC
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	10/22/2008
Owner/Op end date:	Not reported

Owner/operator name:	SAFEWAY INC
Owner/operator address:	5918 STONERIDGE MALL RD PLEASANTON, CA 94588
Owner/operator country:	US
Owner/operator telephone:	925-467-2055
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	07/20/1971
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

CVS PHARMACY NO 9944 (Continued) **1016168155**

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D009
. Waste name: MERCURY

. Waste code: D011
. Waste name: SILVER

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P042
. Waste name: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: P081
. Waste name: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

Violation Status: No violations found

FINDS:

Registry ID: 110055523143

Environmental Interest/Information System
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

Registry ID: 110055760993

Environmental Interest/Information System
STATE MASTER

ECHO:
Envid: 1016168155
Registry ID: 110055760993
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110055760993

Envid: 1016168155
Registry ID: 110055523143

CVS PHARMACY NO 9944 (Continued) **1016168155**

DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110055523143

F24 SSE 1/8-1/4 0.156 mi. 825 ft. | **GOODWILL INDUSTRIES** | **SWRCY** | **S108219227**
3071 STEVENS CREEK BLVD | **N/A**
SANTA CLARA, CA 95050

Site 2 of 4 in cluster F

Relative: Higher

Actual: 133 ft.

SWRCY:

Reg Id:	27510
Cert Id:	RC4418
Mailing Address:	1080 N 7th St
Mailing City:	San Jose
Mailing State:	CA
Mailing Zip Code:	95112
Website:	Not reported
Email:	ryang@goodwillsv.org
Phone Number:	(408) 998-5774
Grand Father:	N
Rural:	N
Operation Begin Date:	10/24/1991
Aluminium:	Y
Glass:	Y
Plastic:	Y
Bimetal:	Y
Agency:	N/A
Monday Hours Of Operation:	8:00 am - 2:30 pm
Tuesday Hours Of Operation:	8:00 am - 2:30 pm
Wednesday Hours Of Operation:	8:00 am - 2:30 pm
Thursday Hours Of Operation:	8:00 am - 2:30 pm
Friday Hours Of Operation:	8:00 am - 2:30 pm
Saturday Hours Of Operation:	CLOSED
Sunday Hours Of Operation:	CLOSED
Organization ID:	18917
Organization Name:	Goodwill Industries of Santa Clara County

G25 NNE 1/8-1/4 0.164 mi. 864 ft. | **WALGREENS #2612** | **RCRA-SQG FINDS ECHO** | **1001195258**
200 N WINCHESTER BLVD | **CAR000018234**
SANTA CLARA, CA 95050

Site 1 of 6 in cluster G

Relative: Lower

Actual: 119 ft.

RCRA-SQG:

Date form received by agency:	06/09/2014
Facility name:	WALGREENS #2612
Facility address:	200 N WINCHESTER BLVD SANTA CLARA, CA 95050
EPA ID:	CAR000018234
Mailing address:	GREY HAWK CT, STE 200 CARLSBAD, CA 92010
Contact:	KARINA E ROMERO
Contact address:	N LAKE AVE PASADENA, CA 91101
Contact country:	Not reported
Contact telephone:	(760) 602-8887
Contact email:	KROMERO@3ECOMPANY.COM

WALGREENS #2612 (Continued) **1001195258**

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: WALGREEN CO
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 09/02/2005
Owner/Op end date: Not reported

Owner/operator name: WALGREENS 2612
Owner/operator address: 200 N WINCHESTER BLVD
SANTA CLARA, CA 95050
Owner/operator country: Not reported
Owner/operator telephone: (408) 247-1173
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: WALTRUST PROPERTIES
Owner/operator address: WILMOT RD
DEERFIELD, IL 60015
Owner/operator country: Not reported
Owner/operator telephone: (847) 315-4139
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 09/02/2005
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

WALGREENS #2612 (Continued) **1001195258**

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D009
. Waste name: MERCURY

. Waste code: D010
. Waste name: SELENIUM

. Waste code: D024
. Waste name: M-CRESOL

. Waste code: P001
. Waste name: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

. Waste code: P075
. Waste name: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

. Waste code: U034
. Waste name: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

. Waste code: U165
. Waste name: NAPHTHALENE

Historical Generators:
Date form received by agency: 02/07/2002
Site name: WALGREENS 2612
Classification: Large Quantity Generator

Date form received by agency: 02/07/2002
Site name: WALGREENS 2612
Classification: Small Quantity Generator

Date form received by agency: 03/04/1997
Site name: WALGREENS 2612
Classification: Small Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110002916275

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

WALGREENS #2612 (Continued) **1001195258**

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.

HAZARDOUS WASTE BIENNIAL REPORTER

STATE MASTER

ECHO:

Envid:	1001195258
Registry ID:	110002916275
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110002916275

G26 **PIERCE PROPERTY** **LUST** **S101309356**
NNE **780 N WINCHESTER BLVD** **HIST LUST** **N/A**
1/8-1/4 **SAN JOSE, CA 95128** **HIST CORTESE**
0.170 mi.
898 ft. **Site 2 of 6 in cluster G**

Relative:
Lower

Actual:
119 ft.

LUST:

Region:	STATE
Global Id:	T0608501779
Latitude:	37.345191
Longitude:	-121.950616
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	09/06/1995
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608501779
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608501779
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300

PIERCE PROPERTY (Continued) **S101309356**

City: SAN JOSE
Email: Not reported
Phone Number: 4089183400

Status History:
Global Id: T0608501779
Status: Completed - Case Closed
Status Date: 09/06/1995

Global Id: T0608501779
Status: Open - Case Begin Date
Status Date: 01/01/1993

Global Id: T0608501779
Status: Open - Site Assessment
Status Date: 10/20/1994

Regulatory Activities:
Global Id: T0608501779
Action Type: ENFORCEMENT
Date: 09/06/1995
Action: Closure/No Further Action Letter

Global Id: T0608501779
Action Type: ENFORCEMENT
Date: 01/27/1994
Action: Notice of Responsibility - #39560

Global Id: T0608501779
Action Type: Other
Date: 01/01/1993
Action: Leak Reported

Global Id: T0608501779
Action Type: RESPONSE
Date: 01/30/1995
Action: Other Report / Document

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W14D02f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 10/20/1994
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

PIERCE PROPERTY (Continued) **S101309356**

LUST SANTA CLARA:
Region: SANTA CLARA
SCVWD ID: 07S1W14D02F
Date Closed: 09/06/1995
EDR Link ID: 07S1W14D02F

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W14D02
Oversite Agency: SCVWD
Date Listed: 1994-04-20 00:00:00
Closed Date: 1995-09-06 00:00:00

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-1853

G27 **MOBILE SERVICE STATION** **SWEEPS UST** **S101594444**
NNE **230 WINCHESTER BLVD** **CA FID UST** **N/A**
1/8-1/4 **SANTA CLARA, CA 95050**
0.175 mi.
923 ft. **Site 3 of 6 in cluster G**

Relative:
Lower

Actual:
119 ft.

SWEEPS UST:
Status: Not reported
Comp Number: 91113
Number: Not reported
Board Of Equalization: 44-000400
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 43-010-091113-000001
Tank Status: Not reported
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 4

Status: Not reported
Comp Number: 91113
Number: Not reported
Board Of Equalization: 44-000400
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 43-010-091113-000002
Tank Status: Not reported
Capacity: 8000
Active Date: Not reported

MOBILE SERVICE STATION (Continued) **S101594444**

Tank Use: M.V. FUEL
STG: PRODUCT
Content: LEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 91113
Number: Not reported
Board Of Equalization: 44-000400
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 43-010-091113-000003
Tank Status: Not reported
Capacity: 8000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 91113
Number: Not reported
Board Of Equalization: 44-000400
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 43-010-091113-000004
Tank Status: Not reported
Capacity: 550
Active Date: Not reported
Tank Use: OIL
STG: WASTE
Content: WASTE OIL
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 43001005
Regulated By: UTNKI
Regulated ID: Not reported
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 4082473131
Mail To: Not reported
Mailing Address: 3800 W ALAMEDA
Mailing Address 2: Not reported
Mailing City,St,Zip: SANTA CLARA 95050
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Inactive

G28 NNE 1/8-1/4 0.175 mi. 923 ft. | **MOBIL** | **LUST** | **S105034820**
230 N WINCHESTER BLVD | **HIST LUST** | **N/A**
SANTA CLARA, CA 95050

Site 4 of 6 in cluster G

Relative: Lower

Actual: 119 ft.

LUST REG 2:

Region:	2
Facility Id:	Not reported
Facility Status:	Case Closed
Case Number:	07S1W15A01f
How Discovered:	Not reported
Leak Cause:	Not reported
Leak Source:	Not reported
Date Leak Confirmed:	Not reported
Oversight Program:	LUST
Prelim. Site Assesment Wokplan Submitted:	Not reported
Preliminary Site Assesment Began:	6/4/1985
Pollution Characterization Began:	3/28/1990
Pollution Remediation Plan Submitted:	Not reported
Date Remediation Action Underway:	Not reported
Date Post Remedial Action Monitoring Began:	Not reported

HIST LUST SANTA CLARA:

Region:	SANTA CLARA
Region Code:	2
SCVWD ID:	07S1W15A01
Oversite Agency:	SCVWD
Date Listed:	1986-01-01 00:00:00
Closed Date:	1998-04-20 00:00:00

G29 NNE 1/8-1/4 0.175 mi. 923 ft. | **MOBIL** | **HIST CORTESE** | **S104397036**
230 WINCHESTER | **N/A**
SANTA CLARA, CA 95050

Site 5 of 6 in cluster G

Relative: Lower

Actual: 119 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	43
Reg By:	LTNKA
Reg Id:	43-0924

G30 NNE 1/8-1/4 0.175 mi. 923 ft. | **MOBIL** | **LUST** | **S104575412**
230 N WINCHESTER BLVD | **N/A**
SANTA CLARA, CA 95050

Site 6 of 6 in cluster G

Relative: Lower

Actual: 119 ft.

LUST:

Region:	STATE
Global Id:	T0608500929
Latitude:	37.3355
Longitude:	-121.9491
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	04/20/1998
Lead Agency:	SANTA CLARA COUNTY LOP

MOBIL (Continued) **S104575412**

Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	Stored on Microfiche
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Kerosene
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608500929
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608500929
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608500929
Status:	Completed - Case Closed
Status Date:	04/20/1998

Global Id:	T0608500929
Status:	Open - Case Begin Date
Status Date:	06/04/1985

Global Id:	T0608500929
Status:	Open - Site Assessment
Status Date:	06/04/1985

Global Id:	T0608500929
Status:	Open - Site Assessment
Status Date:	03/28/1990

Regulatory Activities:

Global Id:	T0608500929
Action Type:	ENFORCEMENT
Date:	10/09/1990
Action:	Notice of Responsibility - #39567

Global Id:	T0608500929
Action Type:	ENFORCEMENT
Date:	06/15/1997
Action:	Staff Letter - #22004

MOBIL (Continued) **S104575412**

Global Id:	T0608500929
Action Type:	Other
Date:	06/28/1985
Action:	Leak Reported
Global Id:	T0608500929
Action Type:	REMEDIATION
Date:	10/02/1985
Action:	Excavation
Global Id:	T0608500929
Action Type:	ENFORCEMENT
Date:	10/15/1997
Action:	Staff Letter - #22002
Global Id:	T0608500929
Action Type:	RESPONSE
Date:	10/29/1997
Action:	Monitoring Report - Quarterly
Global Id:	T0608500929
Action Type:	RESPONSE
Date:	09/23/1997
Action:	Monitoring Report - Quarterly

F31 **TOWN & COUNTRY VILLAGE SHOPPING CENTER** **RESPONSE** **S102564483**
SSE **2980 & 3030 STEVENS CREEK BOULEVARD** **ENVIROSTOR** **N/A**
1/8-1/4 **SAN JOSE, CA 95113** **HIST Cal-Sites**
0.184 mi. **DEED**
969 ft. **Site 3 of 4 in cluster F** **Cortese**
Financial Assurance

Relative:
Higher

Actual:
134 ft.

RESPONSE:

Facility ID:	43590001
Site Type:	State Response
Site Type Detail:	State Response or NPL
Acres:	40
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Alex Lee
Supervisor:	Mark Piros
Division Branch:	Cleanup Berkeley
Site Code:	200916
Site Mgmt. Req.:	REM, ASP, FOUN, DAY, HOS, LUC, EX, NOWN, NUSE, NSUB, HS, SCH, COV
Assembly:	28
Senate:	15
Special Program Status:	Prospective Purchaser Program
Status:	Certified / Operation & Maintenance
Status Date:	03/23/2005
Restricted Use:	YES
Funding:	Responsible Party
Latitude:	37.31985
Longitude:	-121.9489
APN:	277-33-008, 277-33-016, 277-40-004, 277-40-005, 277-40-011, 277-40-012, 277-40-014, 277-40-015, 277-40-016, 277-40-020, 277-40-022, 277-44-001, 277-45-001, 277-45-002, 277-46-001

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Past Use:	AGRICULTURAL - ORCHARD, RETAIL - VEHICLES
Potential COC :	Arsenic DDD DDE DDT Lead
Confirmed COC:	Arsenic DDD DDE DDT Lead
Potential Description:	SOIL
Alias Name:	SANTANA ROAD
Alias Type:	Alternate Name
Alias Name:	Santana Row
Alias Type:	Alternate Name
Alias Name:	TOWN AND COUNTRY VILLAGE SHOPPING CENTER
Alias Type:	Alternate Name
Alias Name:	277-33-008
Alias Type:	APN
Alias Name:	277-33-016
Alias Type:	APN
Alias Name:	277-40-004
Alias Type:	APN
Alias Name:	277-40-005
Alias Type:	APN
Alias Name:	277-40-011
Alias Type:	APN
Alias Name:	277-40-012
Alias Type:	APN
Alias Name:	277-40-014
Alias Type:	APN
Alias Name:	277-40-015
Alias Type:	APN
Alias Name:	277-40-016
Alias Type:	APN
Alias Name:	277-40-020
Alias Type:	APN
Alias Name:	277-40-022
Alias Type:	APN
Alias Name:	277-44-001
Alias Type:	APN
Alias Name:	277-45-001
Alias Type:	APN
Alias Name:	277-45-002
Alias Type:	APN
Alias Name:	277-46-001
Alias Type:	APN
Alias Name:	110033609575
Alias Type:	EPA (FRS #)
Alias Name:	200916
Alias Type:	Project Code (Site Code)
Alias Name:	43590001
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Land Use Restriction - Site Inspection/Visit
Completed Date:	03/02/2005
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Prospective Purchaser Agreement
Completed Date:	02/04/1997

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Comments: Signed PPA with Federal Realty Investment Trust. The PPA will be open for comment until March 16, 1997. After comments are addressed the Settling Respondent will ensure that remediation takes place under DTSC oversight.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Voluntary Cleanup Agreement Completion
Completed Date: 03/03/1997
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Prospective Purchaser Agreement
Completed Date: 03/03/1997
Comments: Amendment to Prospective Purchaser Agreement

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 2A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 07/26/2004
Comments: Signed O&M Agreement.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 10/26/1999
Comments: Initial Study/Negative Declaration done by DTSC in conjunction with Removal Action Workplan to comply with CEQA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 03/23/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/31/1997
Comments: Signed VCA with Federal Realty Investment Trust, to review and finalize a Preliminary Endangerment Assessment. The PEA was used to support their application for a Prospective Purchaser Agreement (PPA). Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 13A recorded

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 16B recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction of Lot 14 A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 11 A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 10 Tract 9275 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 9A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Parcel A, Tract 9391 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 7, Tract 9275 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 6, Tract 9275 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Parcels A, B, and C, Tract 9393 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Date: 07/27/2004
Comments: Deed Restriction for Parcel A, Tract 9392 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 1A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot A2 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 03/03/2005
Comments: Deed Restriction for Parcel A, Tract 9430 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 03/03/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 04/25/2008
Comments: The sidewalks, streets and parking lots were well maintained and in good condition.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/21/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 05/20/2010
Comments: Site does not violate land use restrictions.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Plan
Completed Date: 07/13/2004
Comments: Approved O&M Plan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 12/10/2001
Comments: Amended RAW to include Courtesy Chevrolet Site.

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 01/10/2003
Comments: Completed Phase II RA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 05/02/2001
Comments: Completed Phase I RA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 10/26/1999
Comments: Approved RAW. The RAW required excavation of soils to remove contaminants to regional background or levels which do not exceed the US EPA Region 9 residential Preliminary Remediation Goals (PRGs) from those areas which will have unrestricted use. Areas with unrestricted use could be utilized for the establishment of single family homes. Soils with contaminants at levels below hazardous waste designations may be consolidated on site in the proposed commercial areas with restricted use. Any soils remaining on site will not have contaminants at levels which would pose a threat to construction workers on the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/30/1997
Comments: Completed PEA. The investigations indicated widespread contamiantion of the soil by arsenic and selected contamination by chlorinated pesticides, lead, and chlorinated solvents. The Investigation Report was approved as a PEA equivalent conditional on further investigations to determine the potential impact of the chlorinated solvents on groundwater.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 06/10/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/25/2006
Comments: Report submitted and approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Design
Completed Date: 03/12/2002
Comments: Approve the design plans for the Phase II work on-site.

Completed Area Name: PROJECT WIDE

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 10/24/2001
Comments: Fact Sheet announcing the availability of a draft amendment to the Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 08/30/1999
Comments: Issued public notice announcing the availability of the draft Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 08/30/1999
Comments: Issued Fact Sheet announcing the availability of the draft Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/18/2005
Comments: Implementation Report documents activities that occurred on Lots 9 and 11.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/14/2005
Comments: RP inspection report noted no problems.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/07/2004
Comments: RP annual cap inspection report noted no problems.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 06/25/2002
Comments: Report documents removal and replacement of soils at the Building 12 area.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Design
Completed Date: 06/23/2000
Comments: Removal Design for Phase I activities

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/19/2007
Comments: Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 07/13/2007
Comments: DTSC approves the Notice of Planned Construction. A draft revised land use covent is currenty being reviewed by OLC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 01/16/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Correspondence - Received
Completed Date: 03/21/2008
Comments: no comments

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 07/01/2008
Comments: Approval of excavation for new speed ramp. A work notice is required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/12/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 08/15/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 03/29/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 04/01/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 07/23/2010
Comments: Report approved. Data meets residential RAOs.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Document Type: Operations and Maintenance Report
Completed Date: 11/22/2010
Comments: Report approved without comments. Inspection reveals no significant damage to CAP.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/07/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/18/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/21/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/24/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 04/29/2010
Comments: Soil approved for non-restricted use.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 01/23/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 01/26/2012
Comments: Work notice regarding construction activities on Lot 8B was approved by DTSC and hand-delivered on January 27, 2012.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 04/01/2012
Comments: The excavation in preparation for the building to be constructed on Lot 8B has been completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Document Type: Technical Workplan
Completed Date: 08/20/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Financial Assurance Documentation
Completed Date: 07/14/2014
Comments: Financial Assurance documentation is approved: No issues were found.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 11/05/2014
Comments: A Work Notice was sent on Nov 3, 2014 to inform the community of excavation and grading work to start on Nov 10, 2014. The work is in connection with the construction of a commercial building with underground garage on Lot 11.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Financial Assurance Documentation
Completed Date: 05/28/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 07/31/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 06/01/2009
Comments: The sidewalks, streets and parking lots were well maintained and in good condition. The selected remedial action remains protective of human health and the environment.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 06/16/2011
Comments: DTSC made an annual site visit and prepared a report of the visit. The Site use has not changed and all restrictions and requirements of the land use covenants that are in place are being followed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Release/Rescission
Completed Date: 05/26/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 12/14/2011

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/06/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 03/09/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/18/2013
Comments: DTSC letter with oversight cost estimate for fiscal year 2013/2014.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/15/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 12/10/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 03/23/2007
Comments: No problems noted during the inspection.

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2017
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: 5 Year Review Reports
Future Due Date: 2019
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2018
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2019
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Future Due Date:	2020
Future Area Name:	PROJECT WIDE
Future Sub Area Name:	Not reported
Future Document Type:	Operations and Maintenance Report
Future Due Date:	2021
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

ENVIROSTOR:

Facility ID:	43590001
Status:	Certified / Operation & Maintenance
Status Date:	03/23/2005
Site Code:	200916
Site Type:	State Response
Site Type Detailed:	State Response or NPL
Acres:	40
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Alex Lee
Supervisor:	Mark Piros
Division Branch:	Cleanup Berkeley
Assembly:	28
Senate:	15
Special Program:	Prospective Purchaser Program
Restricted Use:	YES
Site Mgmt Req:	REM, ASP, FOUN, DAY, HOS, LUC, EX, NOWN, NUSE, NSUB, HS, SCH, COV
Funding:	Responsible Party
Latitude:	37.31985
Longitude:	-121.9489
APN:	277-33-008, 277-33-016, 277-40-004, 277-40-005, 277-40-011, 277-40-012, 277-40-014, 277-40-015, 277-40-016, 277-40-020, 277-40-022, 277-44-001, 277-45-001, 277-45-002, 277-46-001
Past Use:	AGRICULTURAL - ORCHARD, RETAIL - VEHICLES
Potential COC:	Arsenic DDD DDE DDT Lead
Confirmed COC:	Arsenic DDD DDE DDT Lead
Potential Description:	SOIL
Alias Name:	SANTANA ROAD
Alias Type:	Alternate Name
Alias Name:	Santana Row
Alias Type:	Alternate Name
Alias Name:	TOWN AND COUNTRY VILLAGE SHOPPING CENTER
Alias Type:	Alternate Name
Alias Name:	277-33-008
Alias Type:	APN
Alias Name:	277-33-016
Alias Type:	APN
Alias Name:	277-40-004
Alias Type:	APN
Alias Name:	277-40-005
Alias Type:	APN
Alias Name:	277-40-011
Alias Type:	APN
Alias Name:	277-40-012

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Alias Type:	APN
Alias Name:	277-40-014
Alias Type:	APN
Alias Name:	277-40-015
Alias Type:	APN
Alias Name:	277-40-016
Alias Type:	APN
Alias Name:	277-40-020
Alias Type:	APN
Alias Name:	277-40-022
Alias Type:	APN
Alias Name:	277-44-001
Alias Type:	APN
Alias Name:	277-45-001
Alias Type:	APN
Alias Name:	277-45-002
Alias Type:	APN
Alias Name:	277-46-001
Alias Type:	APN
Alias Name:	110033609575
Alias Type:	EPA (FRS #)
Alias Name:	200916
Alias Type:	Project Code (Site Code)
Alias Name:	43590001
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Land Use Restriction - Site Inspection/Visit
Completed Date:	03/02/2005
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Prospective Purchaser Agreement
Completed Date:	02/04/1997
Comments:	Signed PPA with Federal Realty Investment Trust. The PPA will be open for comment until March 16, 1997. After comments are addressed the Settling Respondent will ensure that remediation takes place under DTSC oversight.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	*Voluntary Cleanup Agreement Completion
Completed Date:	03/03/1997
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Prospective Purchaser Agreement
Completed Date:	03/03/1997
Comments:	Amendment to Prospective Purchaser Agreement

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Land Use Restriction
Completed Date:	07/27/2004

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Comments: Deed Restriction for Lot 2A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operation & Maintenance Order/Agreement
Completed Date: 07/26/2004
Comments: Signed O&M Agreement.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 10/26/1999
Comments: Initial Study/Negative Declaration done by DTSC in conjunction with Removal Action Workplan to comply with CEQA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 03/23/2005
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/31/1997
Comments: Signed VCA with Federal Realty Investment Trust, to review and finalize a Preliminary Endangerment Assessment. The PEA was used to support their application for a Prospective Purchaser Agreement (PPA). Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 13A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 16B recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction of Lot 14 A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 11 A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 10 Tract 9275 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 9A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Parcel A, Tract 9391 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 7, Tract 9275 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 6, Tract 9275 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Parcels A, B, and C, Tract 9393 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Parcel A, Tract 9392 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot 1A recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 07/27/2004
Comments: Deed Restriction for Lot A2 recorded

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction
Completed Date: 03/03/2005
Comments: Deed Restriction for Parcel A, Tract 9430 recorded

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Amendment - Order/Agreement
Completed Date: 03/03/1999
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 04/25/2008
Comments: The sidewalks, streets and parking lots were well maintained and in good condition.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/21/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 05/20/2010
Comments: Site does not violate land use restrictions.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Plan
Completed Date: 07/13/2004
Comments: Approved O&M Plan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 12/10/2001
Comments: Amended RAW to include Courtesy Chevrolet Site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 01/10/2003
Comments: Completed Phase II RA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 05/02/2001
Comments: Completed Phase I RA.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 10/26/1999
Comments: Approved RAW. The RAW required excavation of soils to remove contaminants to regional background or levels which do not exceed the US EPA Region 9 residential Preliminary Remediation Goals (PRGs) from those areas which will have unrestricted use. Areas with unrestricted

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

use could be utilized for the establishment of single family homes. Soils with contaminants at levels below hazardous waste designations may be consolidated on site in the proposed commercial areas with restricted use. Any soils remaining on site will not have contaminants at levels which would pose a threat to construction workers on the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 06/30/1997
Comments: Completed PEA. The investigations indicated widespread contamiantion of the soil by arsenic and selected contamination by chlorinated pesticides, lead, and chlorinated solvents. The Investigation Report was approved as a PEA equivalent conditional on further investigations to determine the potential impact of the chlorinated solvents on groundwater.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 06/10/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/25/2006
Comments: Report submitted and approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Design
Completed Date: 03/12/2002
Comments: Approve the design plans for the Phase II work on-site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 10/24/2001
Comments: Fact Sheet announcing the availability of a draft amendment to the Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 08/30/1999
Comments: Issued public notice announcing the availability of the draft Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 08/30/1999
Comments: Issued Fact Sheet announcing the availability of the draft Removal Action Workplan.

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/18/2005
Comments: Implementation Report documents activities that occurred on Lots 9 and 11.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/14/2005
Comments: RP inspection report noted no problems.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/07/2004
Comments: RP annual cap inspection report noted no problems.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 06/25/2002
Comments: Report documents removal and replacement of soils at the Building 12 area.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Design
Completed Date: 06/23/2000
Comments: Removal Design for Phase I activities

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/19/2007
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 07/13/2007
Comments: DTSC approves the Notice of Planned Construction. A draft revised land use covent is currenty being reviewed by OLC.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 01/16/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Correspondence - Received
Completed Date: 03/21/2008
Comments: no comments

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 07/01/2008
Comments: Approval of excavation for new speed ramp. A work notice is required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/12/2009
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 5 Year Review Reports
Completed Date: 08/15/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 03/29/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 04/01/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 07/23/2010
Comments: Report approved. Data meets residential RAOs.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/22/2010
Comments: Report approved without comments. Inspection reveals no significant damage to CAP.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/07/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 10/18/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Document Type: Operations and Maintenance Report
Completed Date: 10/21/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Operations and Maintenance Report
Completed Date: 11/24/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Investigation Report
Completed Date: 04/29/2010
Comments: Soil approved for non-restricted use.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 01/23/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 01/26/2012
Comments: Work notice regarding construction activities on Lot 8B was approved by DTSC and hand-delivered on January 27, 2012.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 04/01/2012
Comments: The excavation in preparation for the building to be constructed on Lot 8B has been completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 08/20/2012
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Financial Assurance Documentation
Completed Date: 07/14/2014
Comments: Financial Assurance documentation is approved: No issues were found.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 11/05/2014
Comments: A Work Notice was sent on Nov 3, 2014 to inform the community of excavation and grading work to start on Nov 10, 2014. The work is in connection with the construction of a commercial building with underground garage on Lot 11.

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Financial Assurance Documentation
Completed Date: 05/28/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 07/31/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 06/01/2009
Comments: The sidewalks, streets and parking lots were well maintained and in good condition. The selected remedial action remains protective of human health and the environment.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 06/16/2011
Comments: DTSC made an annual site visit and prepared a report of the visit. The Site use has not changed and all restrictions and requirements of the land use covenants that are in place are being followed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Release/Rescission
Completed Date: 05/26/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 12/14/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/06/2010
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 03/09/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/18/2013
Comments: DTSC letter with oversight cost estimate for fiscal year 2013/2014.

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 10/15/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 12/10/2001
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Land Use Restriction - Site Inspection/Visit
Completed Date: 03/23/2007
Comments: No problems noted during the inspection.

Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2017
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: 5 Year Review Reports
Future Due Date: 2019
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2018
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2019
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2020
Future Area Name: PROJECT WIDE
Future Sub Area Name: Not reported
Future Document Type: Operations and Maintenance Report
Future Due Date: 2021
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

Calsite:
Region: BERKELEY
Facility ID: 43590001
Facility Type: RP
Type: RESPONSIBLE PARTY
Branch: NC
Branch Name: NORTH COAST
File Name: Not reported
State Senate District: 03232005

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Status:	CERTIFIED OPERATION AND MAINTENANCE, ALL PLANNED ACTIVITIES IMPLEMENTED, REMEDIATION CONTINUES
Status Name:	CERTIFIED / OPERATION & MAINTENANCE
Lead Agency:	DEPT OF TOXIC SUBSTANCES CONTROL
NPL:	Not Listed
SIC Code:	59
SIC Name:	MISCELLANEOUS RETAIL
Access:	Uncontrolled
Cortese:	Not reported
Hazardous Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Unknown
Staff Member Responsible for Site:	TPARK
Supervisor Responsible for Site:	Not reported
Region Water Control Board:	SF
Region Water Control Board Name:	SAN FRANCISCO BAY
Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	Not reported
State Assembly District Code:	24
State Senate District Code:	13
Facility ID:	43590001
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	VCP
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	01311997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	PPA
Activity Name:	PROSPECTIVE PURCHASER AGREEMENT
AWP Code:	ORDER
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	02041997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	PEA
Activity Name:	PRELIMINARY ENDANGERMENT ASSESSMENT
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	06301997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	VCOMP
Activity Name:	VCA - COMPLETION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03031997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	PPA
Activity Name:	PROSPECTIVE PURCHASER AGREEMENT
AWP Code:	AMEND
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	03031997
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	RAW
Activity Name:	REMOVAL ACTION WORKPLAN
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	10261999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	PHAS1
Proposed Budget:	0

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	05022001
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	24000
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	24,000 CUBIC YARDS OF CONTAMINATED SOIL WAS CONSOLIDATED INTO ASMALLER AREA.
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	CERT
Activity Name:	CERTIFICATION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	10312004
Revised Due Date:	03312005
Comments Date:	03232005
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	CEQA
Activity Name:	CEQA INCLUDING NEGATIVE DECS
AWP Code:	NEGD
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	10261999
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	PHAS2
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	01102003
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	RAW
Activity Name:	REMOVAL ACTION WORKPLAN
AWP Code:	AMEND
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	12102001
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	OM
Activity Name:	OPERATION & MAINTENANCE
AWP Code:	PLAN
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07132004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	ORDER
Activity Name:	I/SE, IORSE, FFA, FFSRA, VCA, EA
AWP Code:	OM
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07262004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT2A
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOTA2
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT1A
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	9392
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	9393
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT 6
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT 7
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	9391
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT9A
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT10
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT11
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT14
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT16

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	43590001
Activity:	DEED
Activity Name:	DEED RESTRICTIONS
AWP Code:	LOT13
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	07272004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Alternate Address:	2980 & 3030 STEVENS CREEK BOULEVARD
Alternate City,St,Zip:	SAN JOSE, CA 95113
Alternate Address:	360 WINCHESTER BLVD
Alternate City,St,Zip:	SAN JOSE, CA 95113
Background Info:	This 40-acre project covers the properties located at 2980, 3030 Stevens Creek Boulevard, and 360 Winchester Boulevard in San Jose. Until the early 1960, primarily orchards existed on the properties. Arsenic containing pesticides as well as chlorinated pesticides such as DDT was routinely applied. Then, a low-density strip shopping mall was constructed and occupied with up to 139 businesses in eleven different buildings.
Comments Date:	01102003
Comments:	Completed Phase II RA.

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Comments Date:	01311997
Comments:	Signed VCA with Federal Realty Investment Trust, to review and
Comments Date:	01311997
Comments:	finalize a Preliminary Endangerment Assessment. The PEA was
Comments Date:	01311997
Comments:	used to support their application for a Prospective Purchaser
Comments Date:	01311997
Comments:	Agreement (PPA).
Comments Date:	02041997
Comments:	Signed PPA with Federal Realty Investment Trust. The PPA will
Comments Date:	02041997
Comments:	be open for comment until March 16, 1997. After comments are
Comments Date:	02041997
Comments:	addressed the Settling Respondent will ensure that remediation
Comments Date:	02041997
Comments:	takes place under DTSC oversight.
Comments Date:	03032005
Comments:	Recorded Deed Restriction for Lot 5A.
Comments Date:	05022001
Comments:	Completed Phase I RA.
Comments Date:	06301997
Comments:	Completed PEA. The investigations indicated widespread
Comments Date:	06301997
Comments:	contamiantion of the soil by arsenic and selected contamination
Comments Date:	06301997
Comments:	by chlorinated pesticides, lead, and chlorinated solvents. The
Comments Date:	06301997
Comments:	Investigation Report was approved as a PEA equivalent
Comments Date:	06301997
Comments:	conditional on further investigations to determine the potential
Comments Date:	06301997
Comments:	impact of the chlorinated solvents on groundwater.
Comments Date:	07132004
Comments:	Approved O&M Plan.
Comments Date:	07262004
Comments:	Signed O&M Agreement.
Comments Date:	07272004
Comments:	Recorded 14 Deed Restrictions covering the individual parcels at
Comments Date:	07272004
Comments:	the site. One parcel remains to be deed restricted. The
Comments Date:	07272004
Comments:	property owner and the City are clarifying the land description
Comments Date:	07272004
Comments:	of this parcel.
Comments Date:	10261999
Comments:	Approved RAW. The RAW required excavation of soils to remove
Comments Date:	10261999
Comments:	contaminants to regional background or levels which do not
Comments Date:	10261999
Comments:	exceed the US EPA Region 9 residential Preliminary Remediation
Comments Date:	10261999
Comments:	Goals (PRGs) from those areas which will have unrestricted use.
Comments Date:	10261999
Comments:	Areas with unrestricted use could be utilized for the
Comments Date:	10261999
Comments:	establishment of single family homes. Soils with contaminants
Comments Date:	10261999

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Comments: at levels below hazardous waste designations may be consolidated
Comments Date: 10261999
Comments: on site in the proposed commercial areas with restricted use.
Comments Date: 10261999
Comments: Any soils remaining on site will not have contaminants at levels
Comments Date: 10261999
Comments: which would pose a threat to construction workers on the site.
Comments Date: 12102001
Comments: Amended RAW to include Courtesy Chevrolet Site.
ID Name: CALSTARS CODE
ID Value: 200916
Alternate Name: TOWN & COUNTRY VILLAGE SHOPPING CENTERTOWN AND COUNTRY VILLAGE SHOPPING CENTERSANTANA ROAD
Special Programs Code: Not reported
Special Programs Name: Not reported

DEED:

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 03/03/2005

Envirostor ID: 43590001
Area: PROJECT WIDE
Sub Area: Not reported
Site Type: STATE RESPONSE
Status: CERTIFIED / OPERATION & MAINTENANCE
Agency: Not reported
Covenant Uploaded: Not reported
Deed Date(s): 07/27/2004

CORTESE:

Region:	CORTESE
Envirostor Id:	43590001
Site/Facility Type:	STATE RESPONSE
Cleanup Status:	CERTIFIED / OPERATION & MAINTENANCE - LAND USE RESTRICTIONS
Status Date:	03/23/2005
Site Code:	200916
Latitude:	37.319850
Longitude:	-121.94898
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	envirostor
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported

CA Financial Assurance 1:

EPA ID Number:	43590001
Sudden Amount1:	Not reported
Non Sudden Amount1:	Not reported
Closure Mechanism:	Not reported
Closure Amount:	Not reported

TOWN & COUNTRY VILLAGE SHOPPING CENTER (Continued) **S102564483**

Post Closure Mechanism:	Not reported
Post Closure Amount:	Not reported
Corrective Action Mechanism:	Not reported
Corrective Action Amount:	Not reported
Sudden Mechanism Type:	Not reported
Sudden Mechanism Amount:	Not reported
Non Sudden Mechanism Type:	Not reported
Non Sudden Mechanism Amount:	Not reported
O and M Mechanism Type:	CG
O and M Amount:	$97,200.00

F32
SE
1/8-1/4
0.189 mi.
996 ft.

COURTESY CHEVROLET
3030 STEVENS CREEK BLVD
SAN JOSE, CA 95128

Site 4 of 4 in cluster F

LUST **1000370098**
HIST LUST **N/A**
SWEEPS UST
HIST UST
HIST CORTESE

Relative:
Higher

Actual:
134 ft.

LUST:

Region:	STATE
Global Id:	T0608525806
Latitude:	37.322358
Longitude:	-121.949244
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	11/18/1996
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608525806
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608525806
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608525806

COURTESY CHEVROLET (Continued) **1000370098**

Status: Completed - Case Closed
Status Date: 11/18/1996

Global Id: T0608525806
Status: Open - Case Begin Date
Status Date: 03/30/1994

Global Id: T0608525806
Status: Open - Site Assessment
Status Date: 03/30/1994

Global Id: T0608525806
Status: Open - Site Assessment
Status Date: 04/01/1994

Regulatory Activities:
Global Id: T0608525806
Action Type: Other
Date: 03/30/1994
Action: Leak Reported

Global Id: T0608525806
Action Type: ENFORCEMENT
Date: 09/07/1995
Action: Notice of Responsibility - #39566

Global Id: T0608525806
Action Type: REMEDIATION
Date: 03/30/1994
Action: Excavation

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W14M02f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 3/30/1994
Pollution Characterization Began: 4/1/1994
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

LUST SANTA CLARA:
Region: SANTA CLARA
SCVWD ID: 07S1W14M02F
Date Closed: 11/18/1996
EDR Link ID: 07S1W14M02F

COURTESY CHEVROLET (Continued) **1000370098**

HIST LUST SANTA CLARA:

Region:	SANTA CLARA
Region Code:	2
SCVWD ID:	07S1W14M02
Oversite Agency:	SCVWD
Date Listed:	1994-07-27 00:00:00
Closed Date:	1996-11-18 00:00:00

SWEEPS UST:

Status:	Active
Comp Number:	400164
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400164-000001
Tank Status:	A
Capacity:	2000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	P
Content:	LEADED
Number Of Tanks:	4

Status:	Active
Comp Number:	400164
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400164-000002
Tank Status:	A
Capacity:	3000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	400164
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400164-000003
Tank Status:	A
Capacity:	600
Active Date:	Not reported
Tank Use:	OIL

COURTESY CHEVROLET (Continued) **1000370098**

STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 400164
Number: 9
Board Of Equalization: Not reported
Referral Date: 09-30-92
Action Date: 09-08-92
Created Date: 02-29-88
Owner Tank Id: Not reported
SWRCB Tank Id: 43-060-400164-000005
Tank Status: A
Capacity: 3000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: Not reported

Status: Not reported
Comp Number: 400164
Number: Not reported
Board Of Equalization: Not reported
Referral Date: Not reported
Action Date: Not reported
Created Date: Not reported
Owner Tank Id: Not reported
SWRCB Tank Id: 43-060-400164-000004
Tank Status: Not reported
Capacity: 2000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: REG UNLEADED
Number Of Tanks: 1

HIST UST:
File Number: 0002CEE2
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002CEE2.pdf
Region: STATE
Facility ID: 00000039127
Facility Type: Other
Other Type: AUTO DEALERSHIP
Contact Name: GIL ALCALA
Telephone: 4082493131
Owner Name: BOB HAMILTON CHEVROLET
Owner Address: 3030 STEVENS CREEK BLVD.
Owner City,St,Zip: SAN JOSE, CA 95128
Total Tanks: 0005

Tank Num: 001
Container Num: G1
Year Installed: 1959
Tank Capacity: 00002500
Tank Used for: PRODUCT

COURTESY CHEVROLET (Continued) **1000370098**

Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Visual, Stock Inventor

Tank Num:	002
Container Num:	G 2
Year Installed:	1959
Tank Capacity:	00002500
Tank Used for:	Not reported
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None, 10

Tank Num:	003
Container Num:	03
Year Installed:	1959
Tank Capacity:	00002500
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Visual, Stock Inventor

Tank Num:	004
Container Num:	W4
Year Installed:	1959
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	Visual, Stock Inventor

Tank Num:	005
Container Num:	W5
Year Installed:	1959
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	Visual, Stock Inventor

Click here for Geo Tracker PDF:

HIST CORTESE:

Region:	CORTESE
Facility County Code:	43
Reg By:	LTNKA
Reg Id:	43-1867

33 SSE 1/8-1/4 0.200 mi. 1055 ft. | **RV CLOUD CO**
300 WINCHESTER BLVD
CAMPBELL, CA 95008 | **HIST UST** | **U001600891**
N/A

Relative: Higher

Actual: 134 ft.

HIST UST:

File Number:	00020760
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020760.pdf
Region:	STATE
Facility ID:	00000008351
Facility Type:	Other
Other Type:	WHOLESALER
Contact Name:	RICHARD REILLY
Telephone:	4083787943
Owner Name:	R.V. CLOUD. CO.
Owner Address:	3000 WINCHESTER BLVD.
Owner City,St,Zip:	CAMPBELL, CA 95008
Total Tanks:	0003
Tank Num:	001
Container Num:	1
Year Installed:	1982
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	002
Container Num:	2
Year Installed:	1980
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	Not reported
Leak Detection:	Not reported
Tank Num:	003
Container Num:	3
Year Installed:	1980
Tank Capacity:	00005000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	None

Click here for Geo Tracker PDF:

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34 ENE 1/8-1/4 0.229 mi. 1211 ft. | **O/B (NEW CINGULAR WIRELESS)**
2400 FOREST AV SUITE ROOF
SAN JOSE, CA 95128 | **SAN JOSE HAZMAT** | **S115780579**
N/A

Relative: Lower

Actual: 122 ft.

SAN JOSE HAZMAT:

Date of Data:	AS OF 02/07/2014
Region:	SAN JOSE
File Num:	409975
Class:	Misc. Complex firms and labs

H35 SW 1/8-1/4 0.246 mi. 1301 ft. | **STEVENS CREEK MITSUBISHI**
3333 STEVENS CREEK BLVD
SAN JOSE, CA 95117

Site 1 of 2 in cluster H

HIST UST **U001602713**
HAZNET **N/A**

Relative: Higher

Actual: 130 ft.

HIST UST:

File Number:	0002D2A1
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002D2A1.pdf
Region:	STATE
Facility ID:	00000001319
Facility Type:	Other
Other Type:	NEW CAR DEALER
Contact Name:	BUZZ HOWELL
Telephone:	4082488800
Owner Name:	DON LUCS
Owner Address:	131 PARK CENTER PLAZA
Owner City,St,Zip:	SAN JOSE, CA 95113
Total Tanks:	0001
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	None

Click here for Geo Tracker PDF:

HAZNET:

envid:	U001602713
Year:	2013
GEPAID:	CAC002730843
Contact:	CINDY MIRLY
Telephone:	6265801366
Mailing Name:	Not reported
Mailing Address:	3534 PECK RD
Mailing City,St,Zip:	EL MONTE, CA 917313526
Gen County:	Santa Clara
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Not reported
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	13.35234
Cat Decode:	Not reported
Method Decode:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County:	Not reported
envid:	U001602713
Year:	2013
GEPAID:	CAC002751207
Contact:	ARMANDO MARCIANO
Telephone:	4084387058
Mailing Name:	Not reported
Mailing Address:	3333 STEVENS CREEK BLVD.

STEVENS CREEK MITSUBISHI (Continued) **U001602713**

Mailing City,St,Zip:	SAN JOSE, CA 95117
Gen County:	Santa Clara
TSD EPA ID:	CAT080013352
TSD County:	Los Angeles
Waste Category:	Not reported
Disposal Method:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Tons:	16.263
Cat Decode:	Not reported
Method Decode:	Other Recovery Of Reclamation For Reuse Including Acid Regeneration, Organics Recovery Ect
Facility County:	Not reported

36
NNE
1/4-1/2
0.254 mi.
1342 ft.

FAIRCHILD PROPERTY
824 N. WINCHESTER BLVD.
SAN JOSE, CA 95128

LUST **S107995879**
N/A

Relative:
Lower

Actual:
117 ft.

LUST:

Region:	STATE
Global Id:	T0608595356
Latitude:	37.3302594407893
Longitude:	-121.949894428253
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	08/08/2013
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	Not reported
Local Agency:	Not reported
RB Case Number:	14-737
LOC Case Number:	07S1W14D03f
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Site history as of July 30, 2012: The Site is currently occupied by an office building and an accompanying asphalt parking area. The Site was occupied by an operational service station from approximately 1958 to 1974 and was a vacant lot from 1974 to 1979. The current office building and parking area were built on the Site in 1980. The site vicinity map and site plan are presented on Figures 1 and 2, respectively. Three groundwater monitoring wells (MW-1 through MW-3) have been monitored at the Site on a quarterly or semiannual basis since 2005. These groundwater monitoring wells have routinely been dry, and therefore have not been sampled since 2007 prior to the first quarter 2012 groundwater sampling event. 2 CPT borings were advanced near wells MW2 and MW3 for the collection of depth discrete grab groundwater samples since the wells had gone dry. The wells were sampled again in October 2012 and were not reported to have concentrations of the COCs present above the laboratory reporting limits.

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608595356
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board

FAIRCHILD PROPERTY (Continued) **S107995879**

Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

Status History:

Global Id: T0608595356
Status: Completed - Case Closed
Status Date: 08/08/2013

Global Id: T0608595356
Status: Open - Case Begin Date
Status Date: 01/05/2005

Global Id: T0608595356
Status: Open - Eligible for Closure
Status Date: 04/16/2013

Global Id: T0608595356
Status: Open - Site Assessment
Status Date: 05/17/2005

Global Id: T0608595356
Status: Open - Site Assessment
Status Date: 08/22/2005

Global Id: T0608595356
Status: Open - Site Assessment
Status Date: 08/24/2005

Regulatory Activities:

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 05/13/2009
Action: Notice of Responsibility

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 04/17/2009
Action: Staff Letter

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 08/04/2009
Action: Staff Letter

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 07/05/2005
Action: Notice of Responsibility - #0557

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 07/07/2005
Action: Staff Letter - #0577

FAIRCHILD PROPERTY (Continued) **S107995879**

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 08/24/2005
Action: Staff Letter - #504280

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 07/31/2012
Action: Staff Letter

Global Id: T0608595356
Action Type: RESPONSE
Date: 01/31/2011
Action: Monitoring Report - Semi-Annually

Global Id: T0608595356
Action Type: RESPONSE
Date: 07/31/2011
Action: Monitoring Report - Semi-Annually

Global Id: T0608595356
Action Type: RESPONSE
Date: 01/31/2012
Action: Monitoring Report - Semi-Annually

Global Id: T0608595356
Action Type: RESPONSE
Date: 06/10/2009
Action: Soil and Water Investigation Workplan

Global Id: T0608595356
Action Type: RESPONSE
Date: 12/20/2010
Action: Soil and Water Investigation Report

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 06/04/2013
Action: Staff Letter

Global Id: T0608595356
Action Type: RESPONSE
Date: 04/22/2013
Action: Other Report / Document

Global Id: T0608595356
Action Type: RESPONSE
Date: 07/23/2012
Action: Well Installation Workplan - Regulator Responded

Global Id: T0608595356
Action Type: RESPONSE
Date: 11/30/2012
Action: Soil and Water Investigation Report - Regulator Responded

Global Id: T0608595356
Action Type: RESPONSE

FAIRCHILD PROPERTY (Continued) **S107995879**

Date: 01/30/2013
Action: Soil and Water Investigation Report - Regulator Responded

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 07/27/2005
Action: Notice of Responsibility - #5002727

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 09/15/2010
Action: Staff Letter

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 04/17/2009
Action: Notice of Responsibility

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 08/08/2013
Action: Closure/No Further Action Letter

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 04/17/2013
Action: Staff Letter

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 06/05/2012
Action: Staff Letter

Global Id: T0608595356
Action Type: Other
Date: 05/17/2005
Action: Leak Reported

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 12/14/2012
Action: Staff Letter

Global Id: T0608595356
Action Type: RESPONSE
Date: 11/28/2005
Action: Preliminary Site Assessment Report

Global Id: T0608595356
Action Type: Other
Date: 01/05/2005
Action: Leak Discovery

Global Id: T0608595356
Action Type: ENFORCEMENT
Date: 02/15/2013
Action: Staff Letter

FAIRCHILD PROPERTY (Continued) **S107995879**

Global Id:	T0608595356
Action Type:	RESPONSE
Date:	08/19/2013
Action:	Well Destruction Report

Global Id:	T0608595356
Action Type:	RESPONSE
Date:	01/31/2010
Action:	Monitoring Report - Semi-Annually

Global Id:	T0608595356
Action Type:	RESPONSE
Date:	07/31/2010
Action:	Monitoring Report - Semi-Annually

Global Id:	T0608595356
Action Type:	RESPONSE
Date:	05/24/2013
Action:	Fact Sheets - Public Participation

LUST SANTA CLARA:

Region:	SANTA CLARA
SCVWD ID:	07S1W14D03F
Date Closed:	08/08/2013
EDR Link ID:	07S1W14D03F

H37 **STEVENS CREEK NISSAN** **LUST** **1000430218**
SW **3565 STEVENS CREEK BLVD.** **HIST LUST** **N/A**
1/4-1/2 **SAN JOSE, CA 95117** **SWEEPS UST**
0.271 mi. **HIST UST**
1430 ft. **Site 2 of 2 in cluster H** **CA FID UST**
CUPA Listings
Relative: **HIST CORTESE**
Higher **SAN JOSE HAZMAT**

Actual:
130 ft.

LUST:

Region:	STATE
Global Id:	T0608517510
Latitude:	37.322781
Longitude:	-121.956314
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	10/16/1992
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608517510

STEVENS CREEK NISSAN (Continued) **1000430218**

Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608517510
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608517510
Status:	Completed - Case Closed
Status Date:	10/16/1992

Global Id:	T0608517510
Status:	Open - Case Begin Date
Status Date:	04/08/1991

Global Id:	T0608517510
Status:	Open - Site Assessment
Status Date:	05/12/1992

Regulatory Activities:

Global Id:	T0608517510
Action Type:	RESPONSE
Date:	04/15/1990
Action:	Other Report / Document

Global Id:	T0608517510
Action Type:	RESPONSE
Date:	04/15/1990
Action:	Other Report / Document

Global Id:	T0608517510
Action Type:	Other
Date:	04/08/1991
Action:	Leak Reported

Global Id:	T0608517510
Action Type:	ENFORCEMENT
Date:	10/16/1992
Action:	Closure/No Further Action Letter

Global Id:	T0608517510
Action Type:	REMEDIATION
Date:	04/08/1991
Action:	Excavation

STEVENS CREEK NISSAN (Continued) **1000430218**

Global Id: T0608517510
Action Type: ENFORCEMENT
Date: 06/03/1991
Action: Notice of Responsibility - #39570

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W15K01f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 5/12/1992
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

LUST SANTA CLARA:
Region: SANTA CLARA
SCVWD ID: 07S1W15K01F
Date Closed: 10/16/1992
EDR Link ID: 07S1W15K01F

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W15K01
Oversite Agency: SCVWD
Date Listed: 1991-05-29 00:00:00
Closed Date: 1992-10-16 00:00:00

SWEEPS UST:
Status: Active
Comp Number: 91148
Number: 1
Board Of Equalization: Not reported
Referral Date: 12-31-90
Action Date: 12-31-90
Created Date: 12-31-90
Owner Tank Id: 91148T001
SWRCB Tank Id: 43-010-091148-000001
Tank Status: A
Capacity: 2000
Active Date: 12-31-90
Tank Use: M.V. FUEL
STG: P
Content: REG UNLEADED
Number Of Tanks: 2

STEVENS CREEK NISSAN (Continued) **1000430218**

Status:	Active
Comp Number:	91148
Number:	1
Board Of Equalization:	Not reported
Referral Date:	12-31-90
Action Date:	12-31-90
Created Date:	12-31-90
Owner Tank Id:	91148T002
SWRCB Tank Id:	43-010-091148-000002
Tank Status:	A
Capacity:	2000
Active Date:	12-31-90
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

HIST UST:

File Number:	00020A8B
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020A8B.pdf
Region:	STATE
Facility ID:	00000029739
Facility Type:	Other
Other Type:	NEW CAR DEALER
Contact Name:	DAVID THOMPSON
Telephone:	4082445400
Owner Name:	W.E. BEHEL INC.
Owner Address:	3350 STEVEN CREEK BLVD
Owner City,St,Zip:	SAN JOSE, CA 95117
Total Tanks:	0002
Tank Num:	001
Container Num:	1
Year Installed:	1969
Tank Capacity:	00001000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Visual
Tank Num:	002
Container Num:	2
Year Installed:	1969
Tank Capacity:	00000400
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	Visual

Click here for Geo Tracker PDF:

CA FID UST:

Facility ID:	43012273
Regulated By:	UTNKA
Regulated ID:	Not reported
Cortese Code:	Not reported

STEVENS CREEK NISSAN (Continued) **1000430218**

SIC Code: Not reported
Facility Phone: 4089835900
Mail To: Not reported
Mailing Address: 3529 STEVENS CREEK BLVD.
Mailing Address 2: Not reported
Mailing City,St,Zip: SAN JOSE 95117
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: 2206
Program Description: GENERATES 5 TO <25 TONS/YR

Region: SANTA CLARA
PE#: BP04
Program Description: HMBP FACILITY, 10-15 CHEMICALS

Region: SANTA CLARA
PE#: 2011
Program Description: APSA FACILITY-SPCC TEMPLATE (<10,000 GAL CAP)

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-0056

SAN JOSE HAZMAT:
Region: SAN JOSE
File Num: 411057
Class: Auto Repair

I38 **CHEVRON #9-9079** **LUST** **S105030437**
SE **2910 STEVENS CREEK BLVD** **HIST LUST** **N/A**
1/4-1/2 **SAN JOSE, CA 95128**
0.295 mi.
1558 ft. **Site 1 of 2 in cluster I**

Relative:
Higher

Actual:
133 ft.

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W14M01f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 11/15/1990

CHEVRON #9-9079 (Continued) **S105030437**

Pollution Characterization Began: 8/23/1993
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: 7/23/1993

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W14M01
Oversite Agency: SCVWD
Date Listed: 1993-04-14 00:00:00
Closed Date: 2000-07-17 00:00:00

I39 **CHEVRON** **LUST** **S110060522**
SE **2910 STEVENS CREEK** **HIST CORTESE** **N/A**
1/4-1/2 **SAN JOSE, CA 95128**
0.295 mi.
1558 ft. **Site 2 of 2 in cluster I**

Relative:
Higher

Actual:
133 ft.

LUST:
Region: STATE
Global Id: T0608500372
Latitude: 37.3231768
Longitude: -121.946167
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 07/17/2000
Lead Agency: SANTA CLARA COUNTY LOP
Case Worker: UST
Local Agency: SANTA CLARA COUNTY LOP
RB Case Number: Not reported
LOC Case Number: Not reported
File Location: All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0608500372
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

Global Id: T0608500372
Contact Type: Local Agency Caseworker
Contact Name: UST CASE WORKER
Organization Name: SANTA CLARA COUNTY LOP
Address: 1555 Berger Drive, Suite 300
City: SAN JOSE
Email: Not reported
Phone Number: 4089183400

CHEVRON (Continued) **S110060522**

Status History:

Global Id:	T0608500372
Status:	Completed - Case Closed
Status Date:	07/17/2000
Global Id:	T0608500372
Status:	Open - Case Begin Date
Status Date:	10/03/1984
Global Id:	T0608500372
Status:	Open - Site Assessment
Status Date:	11/15/1990
Global Id:	T0608500372
Status:	Open - Site Assessment
Status Date:	08/23/1993
Global Id:	T0608500372
Status:	Open - Verification Monitoring
Status Date:	07/23/1993

Regulatory Activities:

Global Id:	T0608500372
Action Type:	RESPONSE
Date:	05/08/1995
Action:	Other Report / Document
Global Id:	T0608500372
Action Type:	RESPONSE
Date:	04/06/1996
Action:	Monitoring Report - Quarterly
Global Id:	T0608500372
Action Type:	RESPONSE
Date:	03/05/1997
Action:	Monitoring Report - Quarterly
Global Id:	T0608500372
Action Type:	RESPONSE
Date:	06/30/1997
Action:	Monitoring Report - Quarterly
Global Id:	T0608500372
Action Type:	RESPONSE
Date:	04/30/1999
Action:	Monitoring Report - Quarterly
Global Id:	T0608500372
Action Type:	ENFORCEMENT
Date:	09/10/1992
Action:	Notice of Violation - #39565
Global Id:	T0608500372
Action Type:	ENFORCEMENT
Date:	03/21/1988
Action:	Staff Letter - #22107

CHEVRON (Continued) **S110060522**

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 03/01/1995
Action: Staff Letter - #22111

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 05/25/1999
Action: Staff Letter - #22142

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 04/30/1996
Action: Staff Letter - #22126

Global Id: T0608500372
Action Type: Other
Date: 10/03/1984
Action: Leak Reported

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 09/02/1997
Action: Staff Letter - #22132

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 02/09/1996
Action: Staff Letter - #22122

Global Id: T0608500372
Action Type: RESPONSE
Date: 07/30/1999
Action: Monitoring Report - Quarterly

Global Id: T0608500372
Action Type: RESPONSE
Date: 07/10/1998
Action: Monitoring Report - Quarterly

Global Id: T0608500372
Action Type: RESPONSE
Date: 09/10/1997
Action: Monitoring Report - Quarterly

Global Id: T0608500372
Action Type: RESPONSE
Date: 05/06/1996
Action: Monitoring Report - Quarterly

Global Id: T0608500372
Action Type: RESPONSE
Date: 02/14/1996
Action: Monitoring Report - Quarterly

Global Id: T0608500372
Action Type: ENFORCEMENT

CHEVRON (Continued) **S110060522**

Date: 08/30/1993
Action: Staff Letter - #22109

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 02/12/1996
Action: Staff Letter - #22124

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 03/02/1997
Action: Staff Letter - #22128

Global Id: T0608500372
Action Type: ENFORCEMENT
Date: 05/26/1998
Action: Staff Letter - #22138

Global Id: T0608500372
Action Type: RESPONSE
Date: 03/30/1988
Action: Preliminary Site Assessment Report

Global Id: T0608500372
Action Type: RESPONSE
Date: 09/02/1993
Action: Other Report / Document

Global Id: T0608500372
Action Type: REMEDIATION
Date: 02/09/1988
Action: Excavation

LUST SANTA CLARA:
Region: SANTA CLARA
SCVWD ID: 07S1W14M01F
Date Closed: 07/17/2000
EDR Link ID: 07S1W14M01F

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-0315

J40 **EXXON** **HIST CORTESE** **S104397033**
South **425 WINCHESTER** **N/A**
1/4-1/2 **SAN JOSE, CA 95117**
0.315 mi.
1665 ft. **Site 1 of 3 in cluster J**

Relative:
Higher

Actual:
137 ft.

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-0533

J41
South
1/4-1/2
0.315 mi.
1665 ft.

Relative:
Higher

Actual:
137 ft.

QUALITY TUNE-UP #63
425 S WINCHESTER BL
SAN JOSE, CA 95128

Site 2 of 3 in cluster J

RCRA-SQG **1000337820**
LUST **CAD981410491**
SWEEPS UST
FINDS
CUPA Listings
SAN JOSE HAZMAT
ECHO

RCRA-SQG:

Date form received by agency:	02/24/1992
Facility name:	EXXON SERVICE STATION NO 7-3667
Site name:	EXXON CO. USA #73667
Facility address:	425 S. WINCHESTER SAN JOSE, CA 926790000
EPA ID:	CAD981410491
Mailing address:	P.O. BOX 4415 HOUSTON, TX 772104415
Contact:	ALDA S POOL
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	(713) 656-7709
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:	EXXON COMPANY USA
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
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
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

QUALITY TUNE-UP #63 (Continued) **1000337820**

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:	05/13/1986
Site name:	EXXON SERVICE STATION NO 7-3667
Classification:	Small Quantity Generator
Violation Status:	No violations found

LUST:

Region:	STATE
Global Id:	T0608500575
Latitude:	37.317825
Longitude:	-121.949
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	11/25/1996
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608500575
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608500575
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

QUALITY TUNE-UP #63 (Continued) **1000337820**

Status History:

Global Id:	T0608500575
Status:	Completed - Case Closed
Status Date:	11/25/1996
Global Id:	T0608500575
Status:	Open - Case Begin Date
Status Date:	01/31/1985
Global Id:	T0608500575
Status:	Open - Site Assessment
Status Date:	01/31/1985
Global Id:	T0608500575
Status:	Open - Site Assessment
Status Date:	09/05/1985

Regulatory Activities:

Global Id:	T0608500575
Action Type:	RESPONSE
Date:	11/25/1996
Action:	Other Report / Document
Global Id:	T0608500575
Action Type:	Other
Date:	04/11/1985
Action:	Leak Reported
Global Id:	T0608500575
Action Type:	ENFORCEMENT
Date:	11/25/1996
Action:	Closure/No Further Action Letter
Global Id:	T0608500575
Action Type:	ENFORCEMENT
Date:	05/04/1992
Action:	Notice of Violation - #39569

LUST SANTA CLARA:

Region:	SANTA CLARA
SCVWD ID:	07S1W15J01F
Date Closed:	11/25/1996
EDR Link ID:	07S1W15J01F

SWEEPS UST:

Status:	Active
Comp Number:	400632
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400632-000001

QUALITY TUNE-UP #63 (Continued) **1000337820**

Tank Status:	A
Capacity:	10000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	4

Status:	Active
Comp Number:	400632
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400632-000002
Tank Status:	A
Capacity:	10000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	P
Content:	REG UNLEADED
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	400632
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400632-000003
Tank Status:	A
Capacity:	10000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	P
Content:	LEADED
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	400632
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400632-000004
Tank Status:	A
Capacity:	1000
Active Date:	Not reported
Tank Use:	OIL
STG:	W
Content:	Not reported

QUALITY TUNE-UP #63 (Continued) **1000337820**

Number Of Tanks: Not reported

FINDS:

Registry ID: 110057100765

Environmental Interest/Information System
STATE MASTER

CUPA SANTA CLARA:

Region: SANTA CLARA
PE#: 2205
Program Description: GENERATES 100 KG YR TO <5 TONS/YR

Region: SANTA CLARA
PE#: BP02
Program Description: HMBP FACILITY, 4-6 CHEMICALS

Region: SANTA CLARA
PE#: 2399
Program Description: UNDERGROUND STORAGE TANK PROGRAM RECORD

Region: SANTA CLARA
PE#: 2240
Program Description: GENERATES < 10 GAL/YR

Region: SANTA CLARA
PE#: BP01
Program Description: HMBP FACILITY, 1-3 CHEMICALS

SAN JOSE HAZMAT:

Region: SAN JOSE
File Num: 409663
Class: Auto Repair

Region: SAN JOSE
File Num: 400632
Class: Gasoline Station

ECHO:

Envid: 1000337820
Registry ID: 110057100765
DFR URL: http://echo.epa.gov/detailed_facility_report?fid=110057100765

J42 **EXXON #7-3667** **LUST** **S103881207**
South **425 S WINCHESTER BLVD** **HIST LUST** **N/A**
1/4-1/2 **SAN JOSE, CA 95117**
0.315 mi.
1665 ft. **Site 3 of 3 in cluster J**

Relative:
Higher

Actual:
137 ft.

LUST REG 2:

Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W15J01f

EXXON #7-3667 (Continued) **S103881207**

How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 1/31/1985
Pollution Characterization Began: 9/5/1985
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W15J01
Oversite Agency: SCVWD
Date Listed: 1986-01-01 00:00:00
Closed Date: 1996-11-25 00:00:00

K43
ESE
1/4-1/2
0.392 mi.
2072 ft.

Relative:
Higher

Actual:
134 ft.

UNOCAL
2850 STEVENS CREEK
SAN JOSE, CA 95126

Site 1 of 6 in cluster K

LUST **S103993487**
SWEEPS UST **N/A**
HIST UST
CUPA Listings
HIST CORTESE
SAN JOSE HAZMAT

LUST:
Region: STATE
Global Id: T0608501514
Latitude: 37.32285
Longitude: -121.944115
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 07/07/1995
Lead Agency: SANTA CLARA COUNTY LOP
Case Worker: UST
Local Agency: SANTA CLARA COUNTY LOP
RB Case Number: Not reported
LOC Case Number: Not reported
File Location: All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0608501514
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board
Organization Name: SAN FRANCISCO BAY RWQCB (REGION 2)
Address: 1515 CLAY ST SUITE 1400
City: OAKLAND
Email: Not reported
Phone Number: Not reported

Global Id: T0608501514

UNOCAL (Continued) **S103993487**

Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608501514
Status:	Completed - Case Closed
Status Date:	07/07/1995
Global Id:	T0608501514
Status:	Open - Case Begin Date
Status Date:	11/07/1989
Global Id:	T0608501514
Status:	Open - Site Assessment
Status Date:	11/07/1989

Regulatory Activities:

Global Id:	T0608501514
Action Type:	ENFORCEMENT
Date:	12/21/1990
Action:	Notice of Responsibility - #39564
Global Id:	T0608501514
Action Type:	ENFORCEMENT
Date:	07/07/1995
Action:	Closure/No Further Action Letter
Global Id:	T0608501514
Action Type:	Other
Date:	12/04/1989
Action:	Leak Reported
Global Id:	T0608501514
Action Type:	RESPONSE
Date:	01/24/1991
Action:	Other Report / Document
Global Id:	T0608501514
Action Type:	REMEDIATION
Date:	11/07/1989
Action:	Excavation

Region:	STATE
Global Id:	T0608578615
Latitude:	37.32285
Longitude:	-121.944115
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	12/08/2004
Lead Agency:	SANTA CLARA COUNTY LOP

UNOCAL (Continued) **S103993487**

Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608578615
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608578615
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608578615
Status:	Completed - Case Closed
Status Date:	12/08/2004

Global Id:	T0608578615
Status:	Open - Case Begin Date
Status Date:	12/19/2000

Global Id:	T0608578615
Status:	Open - Site Assessment
Status Date:	12/19/2000

Regulatory Activities:

Global Id:	T0608578615
Action Type:	ENFORCEMENT
Date:	09/18/2001
Action:	Staff Letter - #22105

Global Id:	T0608578615
Action Type:	Other
Date:	02/05/2001
Action:	Leak Reported

Global Id:	T0608578615
Action Type:	RESPONSE
Date:	10/24/2001

UNOCAL (Continued) **S103993487**

Action: Soil and Water Investigation Workplan

LUST SANTA CLARA:

Region:	SANTA CLARA
SCVWD ID:	07S1W14L04F
Date Closed:	12/08/2004
EDR Link ID:	07S1W14L04F

Region:	SANTA CLARA
SCVWD ID:	07S1W14L02F
Date Closed:	07/07/1995
EDR Link ID:	07S1W14L02F

SWEEPS UST:

Status:	Active
Comp Number:	400691
Number:	9
Board Of Equalization:	Not reported
Referral Date:	09-30-92
Action Date:	09-08-92
Created Date:	02-29-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400691-000003
Tank Status:	A
Capacity:	550
Active Date:	Not reported
Tank Use:	OIL
STG:	W
Content:	Not reported
Number Of Tanks:	1

Status:	Not reported
Comp Number:	400691
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	43-060-400691-000001
Tank Status:	Not reported
Capacity:	10000
Active Date:	Not reported
Tank Use:	M.V. FUEL
STG:	PRODUCT
Content:	REG UNLEADED
Number Of Tanks:	2

Status:	Not reported
Comp Number:	400691
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported

UNOCAL (Continued) **S103993487**

Owner Tank Id: Not reported
SWRCB Tank Id: 43-060-400691-000002
Tank Status: Not reported
Capacity: 10000
Active Date: Not reported
Tank Use: M.V. FUEL
STG: PRODUCT
Content: REG UNLEADED
Number Of Tanks: Not reported

HIST UST:
File Number: 000209EF
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/000209EF.pdf
Region: Not reported
Facility ID: Not reported
Facility Type: Not reported
Other Type: Not reported
Contact Name: Not reported
Telephone: Not reported
Owner Name: Not reported
Owner Address: Not reported
Owner City,St,Zip: Not reported
Total Tanks: Not reported

Tank Num: Not reported
Container Num: Not reported
Year Installed: Not reported
Tank Capacity: Not reported
Tank Used for: Not reported
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Not reported

Click here for Geo Tracker PDF:

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: 2202
Program Description: GENERATES < 100 KG/YR

Region: SANTA CLARA
PE#: 2399
Program Description: UNDERGROUND STORAGE TANK PROGRAM RECORD

Region: SANTA CLARA
PE#: BP01
Program Description: HMBP FACILITY, 1-3 CHEMICALS

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-1552

SAN JOSE HAZMAT:

UNOCAL (Continued) **S103993487**

Region: SAN JOSE
File Num: 400691
Class: Gasoline Station

K44
ESE
1/4-1/2
0.392 mi.
2072 ft.

TOSCO/76 #3969 **LUST** **S105512923**
2850 STEVENS CREEK BLVD **HIST LUST** **N/A**
SAN JOSE, CA 95128

Site 2 of 6 in cluster K

Relative:
Higher

Actual:
134 ft.

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Preliminary site assessment underway
Case Number: 07S1W14L04f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 12/19/2000
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W14L04
Oversite Agency: SCVWD
Date Listed: 2001-02-20 00:00:00
Closed Date: 2004-12-08 00:00:00

K45
ESE
1/4-1/2
0.392 mi.
2072 ft.

UNOCAL #3969 **LUST** **1000167206**
2850 STEVENS CREEK BLVD **HIST LUST** **N/A**
SAN JOSE, CA 95128

Site 3 of 6 in cluster K

Relative:
Higher

Actual:
134 ft.

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W14L02f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 11/7/1989
Pollution Characterization Began: 11/7/1989
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported

UNOCAL #3969 (Continued) **1000167206**

Date Post Remedial Action Monitoring Began: Not reported

HIST LUST SANTA CLARA:

Region:	SANTA CLARA
Region Code:	2
SCVWD ID:	07S1W14L02
Oversite Agency:	SCVWD
Date Listed:	1990-12-17 00:00:00
Closed Date:	1995-07-07 00:00:00

K46 **ECONO-CAR** **LUST** **S104541945**
ESE **342 S CLOVER** **HIST LUST** **N/A**
1/4-1/2 **SAN JOSE, CA 95129**
0.400 mi.
2112 ft. **Site 4 of 6 in cluster K**

Relative:
Higher

Actual:
135 ft.

LUST:

Region:	STATE
Global Id:	T0608502117
Latitude:	37.3224792
Longitude:	-121.9444042
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	10/27/1998
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608502117
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608502117
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608502117

ECONO-CAR (Continued) **S104541945**

Status: Completed - Case Closed
Status Date: 10/27/1998

Global Id: T0608502117
Status: Open - Case Begin Date
Status Date: 06/23/1986

Global Id: T0608502117
Status: Open - Site Assessment
Status Date: 06/23/1986

Regulatory Activities:
Global Id: T0608502117
Action Type: ENFORCEMENT
Date: 10/27/1998
Action: Closure/No Further Action Letter

Global Id: T0608502117
Action Type: RESPONSE
Date: 09/23/1998
Action: Other Report / Document

Global Id: T0608502117
Action Type: RESPONSE
Date: 01/01/1998
Action: Other Report / Document

Global Id: T0608502117
Action Type: RESPONSE
Date: 10/20/1998
Action: Other Report / Document

Global Id: T0608502117
Action Type: RESPONSE
Date: 09/23/1998
Action: Other Report / Document

Global Id: T0608502117
Action Type: Other
Date: 09/23/1998
Action: Leak Reported

Global Id: T0608502117
Action Type: RESPONSE
Date: 10/02/1998
Action: Other Report / Document

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W14L03f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported

ECONO-CAR (Continued) **S104541945**

Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 6/23/1986
Pollution Characterization Began: Not reported
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

LUST SANTA CLARA:
Region: SANTA CLARA
SCVWD ID: 07S1W14L03F
Date Closed: 10/27/1998
EDR Link ID: 07S1W14L03F

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W14L03
Oversite Agency: SCVWD
Date Listed: 1998-10-27 00:00:00
Closed Date: 1998-10-27 00:00:00

K47 **ECONO CAR** **HIST UST** **U001602959**
ESE **342 S CLOVER AV** **HIST CORTESE** **N/A**
1/4-1/2 **SAN JOSE, CA 95128**
0.400 mi.
2112 ft. **Site 5 of 6 in cluster K**

Relative:
Higher

Actual:
135 ft.

HIST UST:
File Number: 0002CEC4
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002CEC4.pdf
Region: STATE
Facility ID: 00000011590
Facility Type: Other
Other Type: RENT A CAR
Contact Name: W.P. RUONA
Telephone: 4082491525
Owner Name: BILL RUONA ENT. INC.
Owner Address: 342 S. CLOVER AV
Owner City,St,Zip: SAN JOSE, CA 95128
Total Tanks: 0002

Tank Num: 001
Container Num: 1
Year Installed: 1982
Tank Capacity: 00010000
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: 1
Year Installed: Not reported
Tank Capacity: 00010000
Tank Used for: PRODUCT

ECONO CAR (Continued) **U001602959**

Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Click here for Geo Tracker PDF:

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-2304

K48
ESE
1/4-1/2
0.415 mi.
2191 ft.

Relative:
Higher

Actual:
134 ft.

TEXACO SERVICE STATION
2812 STEVENS CREEK BLVD
SAN JOSE, CA 95128

Site 6 of 6 in cluster K

RCRA-SQG **1000144920**
LUST **CAD982411050**
HIST LUST
HIST UST
FINDS
CUPA Listings
EMI
HIST CORTESE
SAN JOSE HAZMAT
ECHO

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: TEXACO SERVICE STATION
Facility address: 2812 STEVENS CREEK BLVD
SAN JOSE, CA 95128
EPA ID: CAD982411050
Mailing address: 4080 PIKE LANE SUITE D
CONCORD, CA 94520
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
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: TEXACO REFINING & MARKETING

TEXACO SERVICE STATION (Continued) **1000144920**

Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
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: 03/31/1988
Site name: TEXACO SERVICE STATION
Classification: Large Quantity Generator

Violation Status: No violations found

LUST:
Region: STATE
Global Id: T0608587629
Latitude: 37.323086
Longitude: -121.943669
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 01/29/2002
Lead Agency: SANTA CLARA COUNTY LOP
Case Worker: UST
Local Agency: SANTA CLARA COUNTY LOP
RB Case Number: Not reported
LOC Case Number: Not reported
File Location: All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect: Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0608587629
Contact Type: Regional Board Caseworker
Contact Name: Regional Water Board

TEXACO SERVICE STATION (Continued) **1000144920**

Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Global Id:	T0608587629
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Status History:

Global Id:	T0608587629
Status:	Completed - Case Closed
Status Date:	01/29/2002

Global Id:	T0608587629
Status:	Open - Case Begin Date
Status Date:	02/07/1985

Global Id:	T0608587629
Status:	Open - Remediation
Status Date:	10/15/1989

Global Id:	T0608587629
Status:	Open - Site Assessment
Status Date:	02/07/1985

Global Id:	T0608587629
Status:	Open - Site Assessment
Status Date:	04/23/1986

Regulatory Activities:

Global Id:	T0608587629
Action Type:	RESPONSE
Date:	07/19/1996
Action:	Corrective Action Plan / Remedial Action Plan

Global Id:	T0608587629
Action Type:	ENFORCEMENT
Date:	03/20/1991
Action:	Notice of Responsibility - #39563

Global Id:	T0608587629
Action Type:	ENFORCEMENT
Date:	01/18/1996
Action:	Staff Letter - #22268

Global Id:	T0608587629
Action Type:	Other
Date:	02/07/1985
Action:	Leak Reported

TEXACO SERVICE STATION (Continued) **1000144920**

Global Id: T0608587629
Action Type: REMEDIATION
Date: 10/15/1989
Action: Excavation

Global Id: T0608587629
Action Type: REMEDIATION
Date: 10/15/1989
Action: Other (Use Description Field)

LUST REG 2:
Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W14L01f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 2/7/1985
Pollution Characterization Began: 4/23/1986
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: 10/15/1989
Date Post Remedial Action Monitoring Began: Not reported

LUST SANTA CLARA:
Region: SANTA CLARA
SCVWD ID: 07S1W14L01F
Date Closed: 01/29/2002
EDR Link ID: 07S1W14L01F

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W14L01
Oversite Agency: SCVWD
Date Listed: 1986-01-01 00:00:00
Closed Date: 2002-01-29 00:00:00

HIST UST:
File Number: 00020986
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020986.pdf
Region: STATE
Facility ID: 00000016061
Facility Type: Gas Station
Other Type: Not reported
Contact Name: K. W. DAVIS
Telephone: 4082969022
Owner Name: TEXACO U.S.A.
Owner Address: 3350 WILSHIRE BLVD.
Owner City,St,Zip: LOS ANGELES, CA 90010
Total Tanks: 0005

TEXACO SERVICE STATION (Continued) **1000144920**

Tank Num:	001
Container Num:	1
Year Installed:	1957
Tank Capacity:	00004000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

Tank Num:	002
Container Num:	2
Year Installed:	1957
Tank Capacity:	00004000
Tank Used for:	Not reported
Type of Fuel:	REGULAR
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor, 10

Tank Num:	003
Container Num:	3
Year Installed:	1957
Tank Capacity:	00006000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor, 10

Tank Num:	004
Container Num:	4
Year Installed:	1970
Tank Capacity:	00006000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor, 10

Tank Num:	005
Container Num:	5
Year Installed:	1957
Tank Capacity:	00000550
Tank Used for:	WASTE
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

Click here for Geo Tracker PDF:

FINDS:

Registry ID: 110001191889

Environmental Interest/Information System
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

TEXACO SERVICE STATION (Continued) **1000144920**

corrective action activities required under RCRA.

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2205
Program Description:	GENERATES 100 KG YR TO <5 TONS/YR
Region:	SANTA CLARA
PE#:	BP02
Program Description:	HMBP FACILITY, 4-6 CHEMICALS

EMI:

Year:	1990
County Code:	43
Air Basin:	SF
Facility ID:	3767
Air District Name:	BA
SIC Code:	4953
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	5
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers & Smllr Tons/Yr:	0

HIST CORTESE:

Region:	CORTESE
Facility County Code:	43
Reg By:	LTNKA
Reg Id:	43-1446

SAN JOSE HAZMAT:

Region:	SAN JOSE
File Num:	406199
Class:	Auto Repair

ECHO:

Envid:	1000144920
Registry ID:	110001191889
DFR URL:	http://echo.epa.gov/detailed_facility_report?fid=110001191889

49 WSW 1/4-1/2 0.444 mi. 2343 ft. | **TEXACO 3500 STEVENS CREEK BLVD SAN JOSE, CA 95117** | **LUST HIST LUST HIST CORTESE** | **S102438583 N/A**

Relative: Higher

Actual: 129 ft.

LUST:

Region:	STATE
Global Id:	T0608524143
Latitude:	37.322971
Longitude:	-121.960114
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	07/14/2000
Lead Agency:	SANTA CLARA COUNTY LOP
Case Worker:	UST
Local Agency:	SANTA CLARA COUNTY LOP
RB Case Number:	Not reported
LOC Case Number:	Not reported
File Location:	All Files are on GeoTracker or in the Local Agency Database
Potential Media Affect:	Other Groundwater (uses other than drinking water)
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0608524143
Contact Type:	Local Agency Caseworker
Contact Name:	UST CASE WORKER
Organization Name:	SANTA CLARA COUNTY LOP
Address:	1555 Berger Drive, Suite 300
City:	SAN JOSE
Email:	Not reported
Phone Number:	4089183400

Global Id:	T0608524143
Contact Type:	Regional Board Caseworker
Contact Name:	Regional Water Board
Organization Name:	SAN FRANCISCO BAY RWQCB (REGION 2)
Address:	1515 CLAY ST SUITE 1400
City:	OAKLAND
Email:	Not reported
Phone Number:	Not reported

Status History:

Global Id:	T0608524143
Status:	Completed - Case Closed
Status Date:	07/14/2000

Global Id:	T0608524143
Status:	Open - Case Begin Date
Status Date:	01/02/1986

Global Id:	T0608524143
Status:	Open - Site Assessment
Status Date:	12/05/1990

Global Id:	T0608524143

TEXACO (Continued) **S102438583**

Status: Open - Site Assessment
Status Date: 02/01/1994

Regulatory Activities:

Global Id: T0608524143
Action Type: ENFORCEMENT
Date: 07/14/2000
Action: Closure/No Further Action Letter

Global Id: T0608524143
Action Type: Other
Date: 01/02/1986
Action: Leak Reported

Global Id: T0608524143
Action Type: ENFORCEMENT
Date: 10/13/1992
Action: Notice of Violation - #39571

Global Id: T0608524143
Action Type: ENFORCEMENT
Date: 08/01/1999
Action: Staff Letter - #22055

Global Id: T0608524143
Action Type: RESPONSE
Date: 01/21/1999
Action: Other Report / Document

Global Id: T0608524143
Action Type: RESPONSE
Date: 09/15/1999
Action: Monitoring Report - Quarterly

LUST REG 2:

Region: 2
Facility Id: Not reported
Facility Status: Case Closed
Case Number: 07S1W15L01f
How Discovered: Not reported
Leak Cause: Not reported
Leak Source: Not reported
Date Leak Confirmed: Not reported
Oversight Program: LUST
Prelim. Site Assesment Wokplan Submitted: Not reported
Preliminary Site Assesment Began: 12/5/1990
Pollution Characterization Began: 2/1/1994
Pollution Remediation Plan Submitted: Not reported
Date Remediation Action Underway: Not reported
Date Post Remedial Action Monitoring Began: Not reported

LUST SANTA CLARA:

Region: SANTA CLARA
SCVWD ID: 07S1W15L01F
Date Closed: 07/14/2000

TEXACO (Continued) **S102438583**

EDR Link ID: 07S1W15L01F

HIST LUST SANTA CLARA:
Region: SANTA CLARA
Region Code: 2
SCVWD ID: 07S1W15L01
Oversite Agency: SCVWD
Date Listed: 1987-01-01 00:00:00
Closed Date: 2000-07-14 00:00:00

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: LTNKA
Reg Id: 43-1450

50
SE
1/2-1
0.570 mi.
3009 ft.

485 SOUTH MONROE
485 SOUTH MONROE STREET
SAN JOSE, CA 95128

ENVIROSTOR **S111022966**
VCP **N/A**
NPDES

Relative:
Higher

Actual:
143 ft.

ENVIROSTOR:
Facility ID: 60001465
Status: Certified
Status Date: 11/02/2012
Site Code: 201909
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 8.21
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Jovanne Villamater
Supervisor: Mark Piros
Division Branch: Cleanup Berkeley
Assembly: 28
Senate: 15
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 37.31985
Longitude: -121.9433
APN: NONE SPECIFIED
Past Use: AGRICULTURAL - ORCHARD
Potential COC: Arsenic DDE
Confirmed COC: Arsenic DDE
Potential Description: SOIL
Alias Name: 201909
Alias Type: Project Code (Site Code)
Alias Name: 60001465
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

485 SOUTH MONROE (Continued) **S111022966**

Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 11/16/2011
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 11/02/2012
Comments: DTSC certified the completion of the removal actlion at the Site. The Site has been cleaned up to levels that allow for residential (unrestricted) land use and no further action is required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 02/07/2012
Comments: CEQA Notice of Exemption signed by DTSC on 02/07/2012. To be filed with State Clearinghouse within the week.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 03/21/2011
Comments: DTSC letter replying to 3/3/2011 letter with proposed remedial approach.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Application
Completed Date: 04/06/2011
Comments: DTSC was identified as the lead agency to oversee cleanup of the site. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Correspondence - Received
Completed Date: 03/03/2011
Comments: The letter outlines the proposed approach for cleanup of the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 12/07/2011
Comments: Final Community Profile approved by DTSC Public Participation Specialist.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 02/07/2012
Comments: DTSC approved the Final Removal Action Workplan (RAW) on February 7, 2012: no comments received during the public comment period; thus, no changes needed to be made to the Draft RAW. The site is to be cleaned to residential cleanup levels using excavation methods.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

485 SOUTH MONROE (Continued) **S111022966**

Completed Document Type: Fact Sheets
Completed Date: 12/05/2011
Comments: Fact Sheet announces the public comment period for Draft Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 12/05/2011
Comments: Public notice announces the public comment period for the Draft Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 05/08/2012
Comments: Excavation and off-site disposal of approximately 8,500 cubic yards of soil was completed. A Removal Action Completion Report is to be submitted to DTSC after infill of clean soil at site is completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 11/02/2012
Comments: DTSC approved the Removal Action Completion Report. The removal action was performed at the Site per the approved Final Removal Action Workplan. Soil contaminated with elevated levels of arsenic, lead, and DDE were excavated and hauled off-site for disposal at permitted landfills.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 02/14/2012
Comments: Work Notice announcing fieldwork scheduled to begin on 02/20/2012 was mailed to community.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 04/03/2013
Comments: DTSC concluded that fill material placed at the Lot 20 area within the larger 485 South Monroe site meets residential standards, and was suitable for use as fill at the site.

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

VCP:
Facility ID: 60001465

485 SOUTH MONROE (Continued) **S111022966**

Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	8.21
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Jovanne Villamater
Supervisor:	Mark Piros
Division Branch:	Cleanup Berkeley
Site Code:	201909
Assembly:	28
Senate:	15
Special Programs Code:	Voluntary Cleanup Program
Status:	Certified
Status Date:	11/02/2012
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	37.31985 / -121.9433
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ORCHARD
Potential COC:	30001, 30007
Confirmed COC:	30001,30007
Potential Description:	SOIL
Alias Name:	201909
Alias Type:	Project Code (Site Code)
Alias Name:	60001465
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	11/16/2011
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	11/02/2012
Comments:	DTSC certified the completion of the removal actlion at the Site. The Site has been cleaned up to levels that allow for residential (unrestricted) land use and no further action is required.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Notice of Exemption
Completed Date:	02/07/2012
Comments:	CEQA Notice of Exemption signed by DTSC on 02/07/2012. To be filed with State Clearinghouse within the week.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	03/21/2011
Comments:	DTSC letter replying to 3/3/2011 letter with proposed remedial approach.

485 SOUTH MONROE (Continued) **S111022966**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Application
Completed Date: 04/06/2011
Comments: DTSC was identified as the lead agency to oversee cleanup of the site. Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Correspondence - Received
Completed Date: 03/03/2011
Comments: The letter outlines the proposed approach for cleanup of the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 12/07/2011
Comments: Final Community Profile approved by DTSC Public Participation Specialist.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 02/07/2012
Comments: DTSC approved the Final Removal Action Workplan (RAW) on February 7, 2012: no comments received during the public comment period; thus, no changes needed to be made to the Draft RAW. The site is to be cleaned to residential cleanup levels using excavation methods.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 12/05/2011
Comments: Fact Sheet announces the public comment period for Draft Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 12/05/2011
Comments: Public notice announces the public comment period for the Draft Removal Action Workplan.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 05/08/2012
Comments: Excavation and off-site disposal of approximately 8,500 cubic yards of soil was completed. A Removal Action Completion Report is to be submitted to DTSC after infill of clean soil at site is completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 11/02/2012
Comments: DTSC approved the Removal Action Completion Report. The removal action was performed at the Site per the approved Final Removal

485 SOUTH MONROE (Continued) **S111022966**

Action Workplan. Soil contaminated with elevated levels of arsenic, lead, and DDE were excavated and hauled off-site for disposal at permitted landfills.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 02/14/2012
Comments: Work Notice announcing fieldwork scheduled to begin on 02/20/2012 was mailed to community.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 04/03/2013
Comments: DTSC concluded that fill material placed at the Lot 20 area within the larger 485 South Monroe site meets residential standards, and was suitable for use as fill at the site.

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

NPDES:
Npdes Number: CAS000002
Facility Status: Terminated
Agency Id: 0
Region: 2
Regulatory Measure Id: 422108
Order No: 2009-0009-DWQ
Regulatory Measure Type: Enrollee
Place Id: Not reported
WDID: 2 43C362580
Program Type: Construction
Adoption Date Of Regulatory Measure: Not reported
Effective Date Of Regulatory Measure: 12/07/2011
Expiration Date Of Regulatory Measure: Not reported
Termination Date Of Regulatory Measure: 12/09/2014
Discharge Name: KB Home South Bay Inc
Discharge Address: 5000 Executive Parkway Suite 125
Discharge City: San Ramon
Discharge State: California
Discharge Zip: 94583
RECEIVED DATE: Not reported
PROCESSED DATE: Not reported
STATUS CODE NAME: Not reported
STATUS DATE: Not reported
PLACE SIZE: Not reported
PLACE SIZE UNIT: Not reported
FACILITY CONTACT NAME: Not reported
FACILITY CONTACT TITLE: Not reported

485 SOUTH MONROE (Continued) **S111022966**

FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	2
Regulatory Measure Id:	422108
Order No:	Not reported
Regulatory Measure Type:	Construction
Place Id:	Not reported

485 SOUTH MONROE (Continued) **S111022966**

WDID:	2 43C362580
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	12/9/2014
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	11/30/2011
PROCESSED DATE:	12/7/2011
STATUS CODE NAME:	Terminated
STATUS DATE:	2/10/2015
PLACE SIZE:	8.2
PLACE SIZE UNIT:	Acres
FACILITY CONTACT NAME:	Bob Culcasi
FACILITY CONTACT TITLE:	Site Storm Water Manager
FACILITY CONTACT PHONE:	510-714-1471
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	bculcasi@kbhome.com
OPERATOR NAME:	KB Home South Bay Inc
OPERATOR ADDRESS:	5000 Executive Parkway Suite 125
OPERATOR CITY:	San Ramon
OPERATOR STATE:	California
OPERATOR ZIP:	94583
OPERATOR CONTACT NAME:	Henryk Tay
OPERATOR CONTACT TITLE:	Senior Director, Land Development and Planning
OPERATOR CONTACT PHONE:	925-750-1700
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	htay@kbhome.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	KB Home South Bay Inc
DEVELOPER ADDRESS:	6700 Koll Ctr Pkwy Ste 200
DEVELOPER CITY:	Pleasanton
DEVELOPER STATE:	California
DEVELOPER ZIP:	94566
DEVELOPER CONTACT NAME:	Henryk Tay
DEVELOPER CONTACT TITLE:	Senior Director, Land Development and Planning
CONSTYPE LINEAR UTILITY IND:	N
EMERGENCY PHONE NO:	510-714-1471
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Y
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported

485 SOUTH MONROE (Continued) **S111022966**

CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Los Gatos Creek
CERTIFIER NAME:	Henryk Tay
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	30-NOV-11
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

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: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2016
Next Scheduled EDR Contact: 04/18/2016
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 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

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: 10/30/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: EPA
Telephone: N/A
Last EDR Contact: 01/26/2016
Next Scheduled EDR Contact: 04/18/2016
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: 10/30/2015	Source: EPA
Date Data Arrived at EDR: 11/07/2015	Telephone: N/A
Date Made Active in Reports: 01/04/2016	Last EDR Contact: 01/26/2016
Number of Days to Update: 58	Next Scheduled EDR Contact: 04/18/2016
	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: 03/26/2015	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/08/2015	Telephone: 703-603-8704
Date Made Active in Reports: 06/11/2015	Last EDR Contact: 01/06/2016
Number of Days to Update: 64	Next Scheduled EDR Contact: 04/18/2016
	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: 01/11/2016	Source: EPA
Date Data Arrived at EDR: 01/22/2016	Telephone: 800-424-9346
Date Made Active in Reports: 03/18/2016	Last EDR Contact: 02/19/2016
Number of Days to Update: 56	Next Scheduled EDR Contact: 06/06/2016
	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: 01/11/2016
Date Data Arrived at EDR: 01/22/2016
Date Made Active in Reports: 03/18/2016
Number of Days to Update: 56

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 06/06/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - 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). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

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: 05/28/2015
Date Data Arrived at EDR: 05/29/2015
Date Made Active in Reports: 06/11/2015
Number of Days to Update: 13

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/30/2016
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: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
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: 09/10/2015
Date Data Arrived at EDR: 09/11/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 53

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
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: 06/22/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/29/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

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: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
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: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
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: 11/16/2015
Date Data Arrived at EDR: 11/18/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 64

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/17/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

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 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: Varies

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

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 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 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 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 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: Quarterly

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: Geotracker's Leaking Underground Fuel Tank Report
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. For more information on a particular leaking underground storage tank sites, please contact the appropriate regulatory agency.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

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: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

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: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/28/2015
Date Made Active in Reports: 06/22/2015
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

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: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 10/27/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases
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: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
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: Quarterly

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: Semi-Annually

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: Varies

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: Semi-Annually

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: Semi-Annually

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: Semi-Annually

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: Annually

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: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
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: 08/01/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 21

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Quarterly

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: 10/13/2015
Date Data Arrived at EDR: 10/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 118

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

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: 01/07/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 41

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

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: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 08/20/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 111

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

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: 11/05/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 52

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

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: 10/20/2015
Date Data Arrived at EDR: 10/29/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 67

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/09/2016
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: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 34

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Semi-Annually

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: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Quarterly

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

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: 12/28/2015
Next Scheduled EDR Contact: 04/11/2016
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: 12/04/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

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: 12/22/2015
Date Data Arrived at EDR: 12/23/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/22/2016
Next Scheduled EDR Contact: 07/04/2016
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: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/17/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 53

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 58

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 02/14/2016
Next Scheduled EDR Contact: 05/30/2016
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: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
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: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: No Update Planned

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: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
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: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
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: 09/30/2015
Date Data Arrived at EDR: 01/19/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 63

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Varies

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: 09/17/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 76

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/01/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Quarterly

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: 11/25/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 16

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/13/2016
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

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

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: 12/17/2015
Date Data Arrived at EDR: 12/22/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 48

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
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: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

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: 12/07/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
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: 06/24/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/02/2015
Number of Days to Update: 68

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/30/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Annually

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: 12/16/2015
Date Data Arrived at EDR: 01/27/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 55

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 01/27/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing
The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing
The State Water Resources Control Board and nine Regional Water Quality Control Boards partner with the Department of Defense (DoD) through the Defense and State Memorandum of Agreement (DSMOA) to oversee the investigation and remediation of water quality issues at military facilities.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
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: 06/09/2015
Date Data Arrived at EDR: 06/26/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/18/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

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: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
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: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
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: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
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: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/30/2016
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: 09/01/2015
Date Data Arrived at EDR: 09/03/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 61

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/30/2016
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: 02/09/2016
Next Scheduled EDR Contact: 05/23/2016
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: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 02/12/2016
Next Scheduled EDR Contact: 05/23/2016
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: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/04/2016
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: 12/31/2013
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 110

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
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: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
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: 08/01/2015
Date Data Arrived at EDR: 08/26/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 02/12/2016
Next Scheduled EDR Contact: 05/23/2016
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: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 01/12/2016
Next Scheduled EDR Contact: 04/25/2016
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: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
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: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

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: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

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: 06/26/2015
Date Data Arrived at EDR: 07/10/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 95

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

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: 01/13/2016
Next Scheduled EDR Contact: 04/25/2016
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: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/11/2016
Next Scheduled EDR Contact: 06/20/2016
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: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/29/2016
Next Scheduled EDR Contact: 05/09/2016
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: 07/07/2015
Date Data Arrived at EDR: 07/09/2015
Date Made Active in Reports: 09/16/2015
Number of Days to Update: 69

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/07/2016
Next Scheduled EDR Contact: 04/18/2016
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: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

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: 12/31/2014
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/02/2015
Number of Days to Update: 46

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
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: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/26/2016
Next Scheduled EDR Contact: 06/06/2016
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: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
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: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 86

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
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: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/26/2016
Next Scheduled EDR Contact: 04/18/2016
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: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/20/2015
Date Data Arrived at EDR: 10/27/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 69

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/24/2016
Next Scheduled EDR Contact: 07/11/2016
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: 08/18/2015
Date Data Arrived at EDR: 09/01/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 125

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/02/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Semi-Annually

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: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
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: 03/04/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

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: 07/20/2015
Date Data Arrived at EDR: 09/09/2015
Date Made Active in Reports: 11/03/2015
Number of Days to Update: 55

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
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: 12/28/2015
Date Data Arrived at EDR: 12/29/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 23

Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 12/29/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

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: 08/10/2015
Date Data Arrived at EDR: 08/27/2015
Date Made Active in Reports: 10/01/2015
Number of Days to Update: 35

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/05/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 09/25/2015
Date Made Active in Reports: 11/05/2015
Number of Days to Update: 41

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/22/2016
Next Scheduled EDR Contact: 07/04/2016
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: 01/26/2016
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 01/28/2016
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
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: 11/18/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 59

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/30/2016
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: 12/31/2014
Date Data Arrived at EDR: 10/14/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 58

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Annually

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: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 58

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
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: 01/11/2016
Date Data Arrived at EDR: 01/13/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 40

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 01/13/2016
Next Scheduled EDR Contact: 04/25/2016
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: 12/14/2015
Date Data Arrived at EDR: 12/17/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 53

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Varies

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: 11/10/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/16/2015
Date Data Arrived at EDR: 11/18/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 64

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 02/17/2016
Next Scheduled EDR Contact: 05/30/2016
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: 12/07/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 44

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/08/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/17/2015
Date Made Active in Reports: 03/01/2016
Number of Days to Update: 75

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
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: 09/10/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
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: 07/23/2015
Date Data Arrived at EDR: 09/15/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 28

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/16/2016
Next Scheduled EDR Contact: 06/27/2016
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 board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
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: 02/19/2016
Next Scheduled EDR Contact: 06/16/2016
Data Release Frequency: Quarterly

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: 12/23/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information
ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2015
Date Data Arrived at EDR: 09/23/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 103

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/23/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Quarterly

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: 11/23/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 86

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/24/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Quarterly

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 Historic Gas 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 Historic Dry 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:

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: 01/11/2016
Date Data Arrived at EDR: 01/12/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 41

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/14/2016
Date Made Active in Reports: 03/01/2016
Number of Days to Update: 47

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 11/16/2015
Date Data Arrived at EDR: 12/10/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 42

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 11/20/2014
Date Data Arrived at EDR: 11/24/2014
Date Made Active in Reports: 01/07/2015
Number of Days to Update: 44

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 02/02/2016
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 18

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 12/28/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2015
Date Data Arrived at EDR: 09/22/2015
Date Made Active in Reports: 10/14/2015
Number of Days to Update: 22

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 12/01/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 48

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 03/07/2016
Number of Days to Update: 31

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 11/30/2015
Date Data Arrived at EDR: 12/03/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 49

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

FRESNO COUNTY:

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: 01/05/2016
Date Data Arrived at EDR: 01/08/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 45

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 01/04/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Semi-Annually

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 12/02/2015
Date Data Arrived at EDR: 12/04/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 48

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 01/25/2016
Date Data Arrived at EDR: 01/27/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 26

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/14/2013
Number of Days to Update: 33

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 05/19/2015
Date Data Arrived at EDR: 06/18/2015
Date Made Active in Reports: 07/22/2015
Number of Days to Update: 34

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

KINGS COUNTY:

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: 11/19/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 18

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 27

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

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: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/24/2014
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/04/2015
Number of Days to Update: 33

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 01/08/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/19/2016
Date Data Arrived at EDR: 01/20/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 62

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 01/20/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 56

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 01/29/2015
Date Made Active in Reports: 03/10/2015
Number of Days to Update: 40

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 02/19/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/02/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 11

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 02/16/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 11/04/2015
Date Data Arrived at EDR: 11/13/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 34

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/12/2016
Date Data Arrived at EDR: 01/15/2016
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 24

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/25/2016
Data Release Frequency: Semi-Annually

MADERA COUNTY:

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: 12/11/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 03/07/2016
Number of Days to Update: 84

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 10/05/2015
Date Data Arrived at EDR: 10/08/2015
Date Made Active in Reports: 10/15/2015
Number of Days to Update: 7

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/18/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 34

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 11/24/2015
Date Data Arrived at EDR: 12/01/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 51

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 12/10/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 60

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 12/05/2011
Date Data Arrived at EDR: 12/06/2011
Date Made Active in Reports: 02/07/2012
Number of Days to Update: 63

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 01/15/2008
Date Data Arrived at EDR: 01/16/2008
Date Made Active in Reports: 02/08/2008
Number of Days to Update: 23

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/27/2016
Date Data Arrived at EDR: 02/04/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 18

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 11/01/2015
Date Data Arrived at EDR: 11/17/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 65

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 08/03/2015
Date Data Arrived at EDR: 08/10/2015
Date Made Active in Reports: 09/11/2015
Number of Days to Update: 32

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/09/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 11/01/2015
Date Data Arrived at EDR: 11/11/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 36

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 02/10/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 12/11/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 41

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Semi-Annually

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/20/2016
Date Data Arrived at EDR: 01/22/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 60

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/20/2016
Date Data Arrived at EDR: 01/22/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 60

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/02/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

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: 11/02/2015
Date Data Arrived at EDR: 01/05/2016
Date Made Active in Reports: 02/12/2016
Number of Days to Update: 38

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 01/05/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Quarterly

SAN BERNARDINO COUNTY:

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: 12/14/2015
Date Data Arrived at EDR: 12/18/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 52

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

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: 09/23/2013
Date Data Arrived at EDR: 09/24/2013
Date Made Active in Reports: 10/17/2013
Number of Days to Update: 23

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

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: 03/03/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

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: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/29/2010
Date Data Arrived at EDR: 03/10/2011
Date Made Active in Reports: 03/15/2011
Number of Days to Update: 5

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 12/18/2015
Date Data Arrived at EDR: 12/22/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 48

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 07/04/2016
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 12/07/2015
Date Data Arrived at EDR: 12/10/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 42

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/21/2016
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 10/14/2015
Date Data Arrived at EDR: 10/15/2015
Date Made Active in Reports: 11/16/2015
Number of Days to Update: 32

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 12/14/2015
Date Data Arrived at EDR: 12/17/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 53

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

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: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 11/18/2015
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 17

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

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

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: 02/29/2016
Next Scheduled EDR Contact: 06/13/2016
Data Release Frequency: Annually

Hazardous Material Facilities

Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/17/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 59

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 02/08/2016
Next Scheduled EDR Contact: 05/23/2016
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List

CUPA facility listing.

Date of Government Version: 11/18/2015
Date Data Arrived at EDR: 11/23/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 18

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List

Cupa Facility List.

Date of Government Version: 12/09/2015
Date Data Arrived at EDR: 12/10/2015
Date Made Active in Reports: 01/21/2016
Number of Days to Update: 42

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/22/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 10/30/2015
Date Data Arrived at EDR: 12/14/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 56

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 01/11/2016
Date Data Arrived at EDR: 01/14/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 39

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 01/11/2016
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/05/2016
Date Data Arrived at EDR: 01/07/2016
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 32

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 12/23/2015
Next Scheduled EDR Contact: 04/11/2016
Data Release Frequency: Quarterly

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 12/07/2015
Date Data Arrived at EDR: 12/08/2015
Date Made Active in Reports: 12/17/2015
Number of Days to Update: 9

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 03/07/2016
Next Scheduled EDR Contact: 06/20/2016
Data Release Frequency: Semi-Annually

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 10/29/2015
Date Data Arrived at EDR: 10/30/2015
Date Made Active in Reports: 12/11/2015
Number of Days to Update: 42

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 03/04/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Varies

VENTURA COUNTY:

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: 12/28/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

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: 12/30/2015
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Annually

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: 02/14/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: Quarterly

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: 12/28/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 53

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 01/25/2016
Next Scheduled EDR Contact: 05/09/2016
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 11/30/2015
Date Data Arrived at EDR: 12/17/2015
Date Made Active in Reports: 02/08/2016
Number of Days to Update: 53

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/17/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 46

Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 04/18/2016
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 02/01/2016
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 02/22/2016
Number of Days to Update: 17

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 02/01/2016
Next Scheduled EDR Contact: 05/16/2016
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: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/18/2016
Next Scheduled EDR Contact: 05/30/2016
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/17/2015
Date Made Active in Reports: 08/12/2015
Number of Days to Update: 26

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 01/15/2016
Next Scheduled EDR Contact: 04/25/2016
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: 02/01/2016
Date Data Arrived at EDR: 02/03/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 48

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 02/03/2016
Next Scheduled EDR Contact: 05/16/2016
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/24/2015
Date Made Active in Reports: 08/18/2015
Number of Days to Update: 25

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 01/19/2016
Next Scheduled EDR Contact: 05/02/2016
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 03/21/2016
Next Scheduled EDR Contact: 06/06/2016
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/14/2016
Next Scheduled EDR Contact: 06/27/2016
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: PennWell Corporation
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 PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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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, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

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 & Game
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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APPENDIX D

HISTORICAL SOURCES

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1939

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1948

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1950

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1956

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1968

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1974

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1982

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 1993

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 2005

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 2009

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

Legend

Approximate Property Boundary

N

AERIAL PHOTOGRAPH - 2012

90 North Winchester Boulevard, Santa Clara, California 95050

Project Number: 356064

AEI Consultants

356064

90 North Winchester

Santa Clara, CA 95050

Inquiry Number: 4574489.3

March 28, 2016

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

03/28/16

Site Name:	Client Name:
356064	AEI Consultants
90 North Winchester	2500 Camino Diablo
Santa Clara, CA 95050	Walnut Creek, CA 94597
EDR Inquiry # 4574489.3	Contact: Kimberly Butler

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by AEI Consultants 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 # B65E-4C21-ACF6

PO # 105568

Project 356064

Maps Provided:

1966

1961

Sanborn® Library search results

Certification #: B65E-4C21-ACF6

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✔ Library of Congress
- ✔ University Publications of America
- ✔ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Sanborn Sheet Key

This Certified Sanborn Map Report is based upon the following Sanborn Fire Insurance map sheets.

1966 Source Sheets

Volume 3, Sheet 247
1966

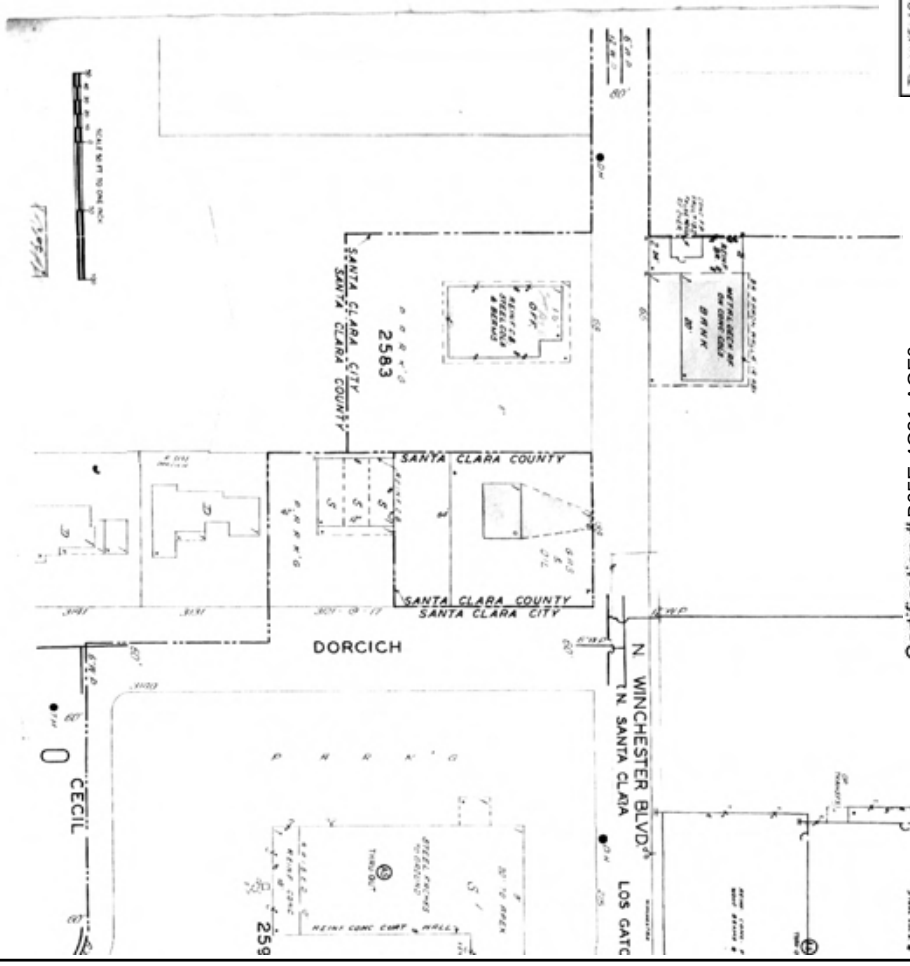
1961 Source Sheets

Volume 3, Sheet 209
1961

Volume 3, Sheet 247
1961

Certified Sanborn® Map

1966



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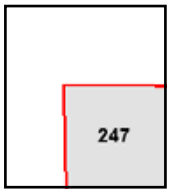
Certification # B65E-4C21-ACF6

Site Name:	356064
Address:	90 North Winchester
City, ST, ZIP:	Santa Clara, CA 95050
Client:	AEI Consultants
EDR Inquiry:	4574489.3
Order Date:	03/28/2016
Certification #	B65E-4C21-ACF6
Copyright	1966

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

0 Feet 150 300 600

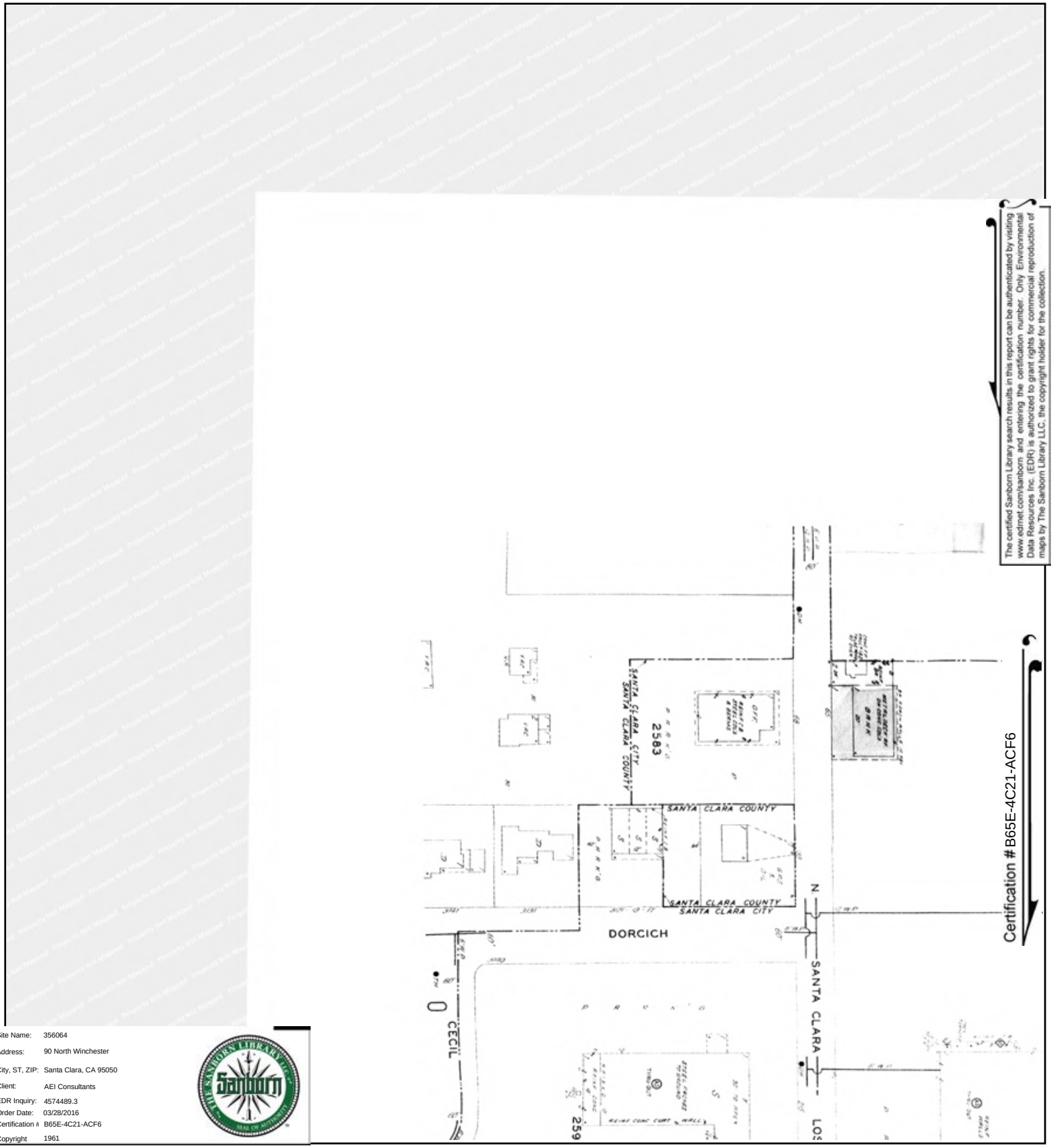


Volume 3, Sheet 247

N

Certified Sanborn® Map

1961



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Site Name:	356064
Address:	90 North Winchester
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Client:	AEI Consultants
EDR Inquiry:	4574489.3
Order Date:	03/28/2016
Certification #	B65E-4C21-ACF6
Copyright	1961

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

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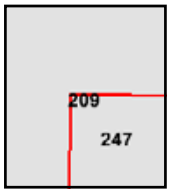
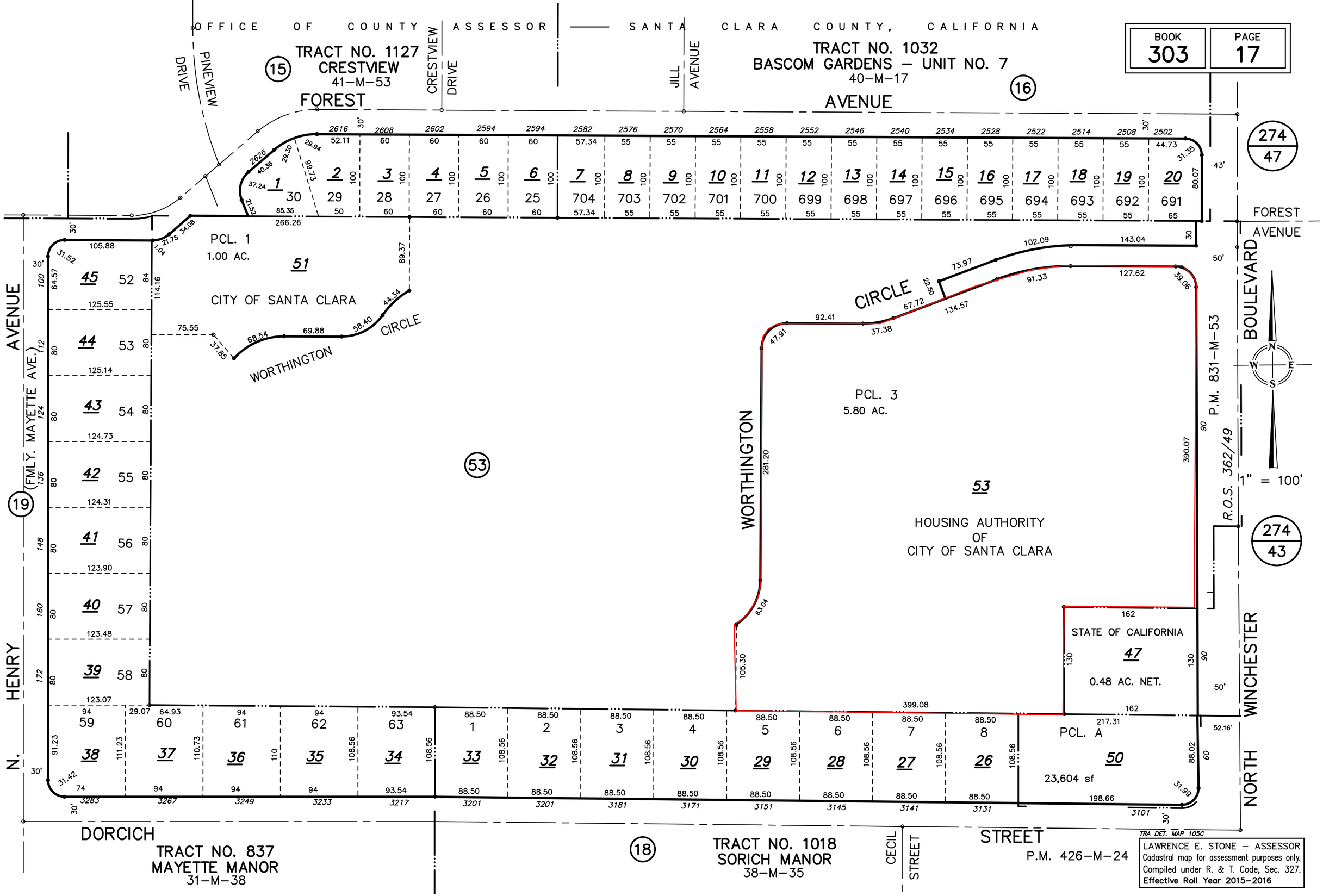


Volume 3, Sheet 247
Volume 3, Sheet 209

N

APPENDIX E

REGULATORY AGENCY RECORDS


OFFICE OF COUNTY ASSESSOR — SANTA CLARA COUNTY, CALIFORNIA
BOOK 303
PAGE 17
TRACT NO. 1127
CRESTVIEW
41-M-53
15
PINEVIEW DRIVE
CRESTVIEW DRIVE
JILL AVENUE
TRACT NO. 1032
BASCOM GARDENS – UNIT NO. 7
40-M-17
16
FOREST AVENUE
274/47
FOREST AVENUE
BOULEVARD
PCL. 1
1.00 AC.
51
CITY OF SANTA CLARA
WORTHINGTON CIRCLE
AVENUE
(FMLY. MAYETTE AVE.)
N. HENRY
19
53
WORTHINGTON CIRCLE
PCL. 3
5.80 AC.
53
HOUSING AUTHORITY
OF
CITY OF SANTA CLARA
P.M. 831-M-53
R.O.S. 362/49
1" = 100'
274/43
STATE OF CALIFORNIA
47
0.48 AC. NET.
PCL. A
50
23,604 sf
NORTH WINCHESTER
DORCICH
TRACT NO. 837
MAYETTE MANOR
31-M-38
18
TRACT NO. 1018
SORICH MANOR
38-M-35
CECIL STREET
STREET
P.M. 426-M-24
TRA DET. MAP 105C
LAWRENCE E. STONE – ASSESSOR
Cadastral map for assessment purposes only.
Compiled under R. & T. Code, Sec. 327.
Effective Roll Year 2015-2016

General Search

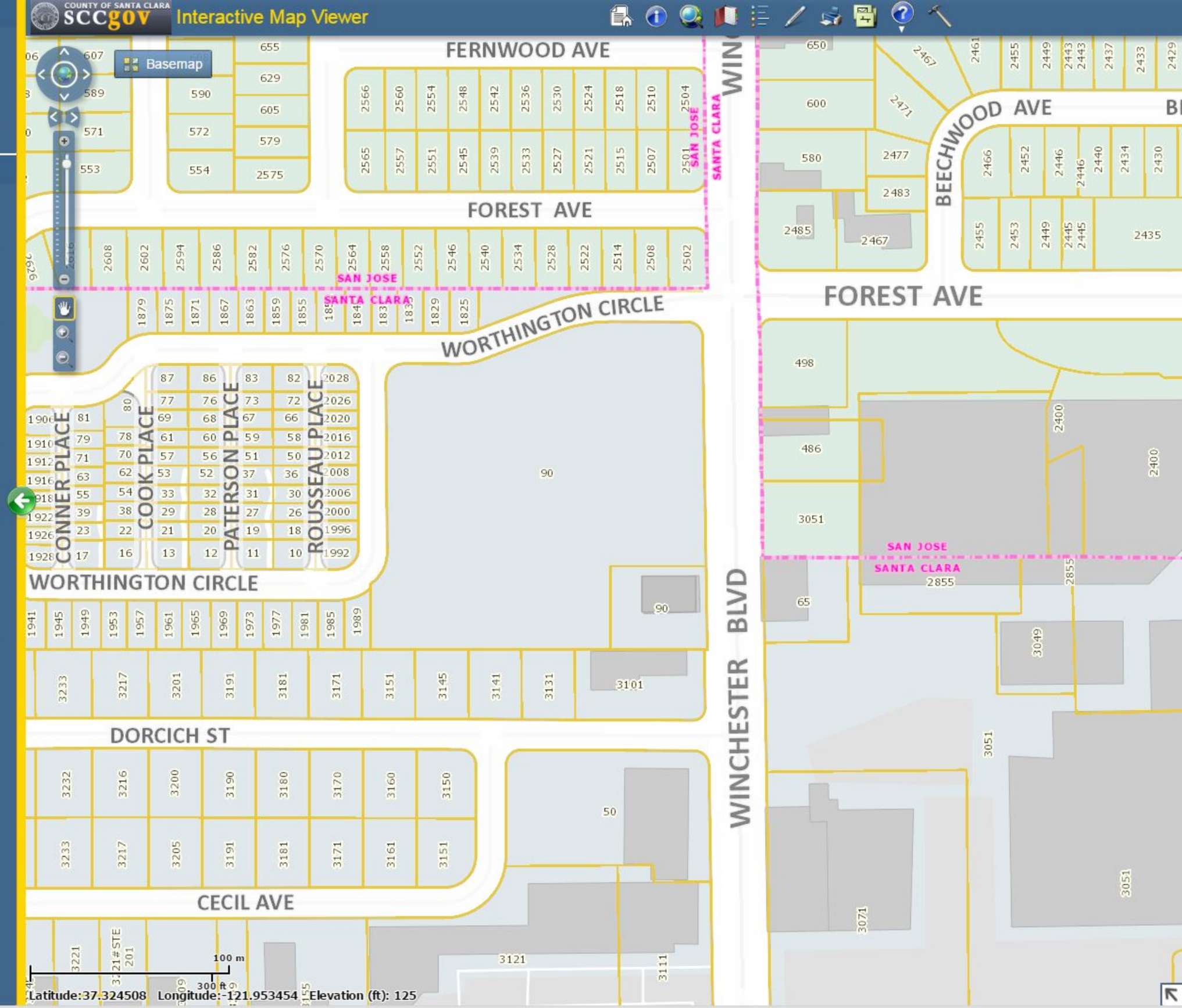
Enter a street address (ex. 321 main), street intersection (ex. main and market), assessor parcel number (ex. 23714086), or points of interest (ex. police, or hospital).

90 N WINCHESTER BLVD, SAN JOSE, 95117 ×

Layer List

Layer Visibility

- Supervisorial Districts
- City Limits
- Points of Interest
- California Counties
- Topography
- Road Names
- Road Names-Max. Zoom
- Roads
- Property
- County Parks
- Zoning | Unincorporated
- Zoning Dynamic | Unincorp.
- Flood Zones 100 Year
- Fault Rupture Zones
- Alquist-Priolo EQFZ
- Census | 2010 Demographics
- County Boundary
- Aerial | ESRI
- Aerial | 2012 NAIP USDA



Property Information - Assessor's Parcel Number (APN): 303-03-038

SEARCH AGAIN

font size | Print | PDF | Email

Situs Address(es) : 290 N WINCHESTER BL SANTA CLARA 95050-6519 — View Google Map

Mailing Address: 766 MCALISTER DR SAN JOSE CA 95128-0000 — Print Assessor's Parcel Map

Current Information | 2015 | 2014 | 2013 | School District/Tax Rate Area | Street View | FAQ

PROPERTY INFORMATION

Document No: 20737910	Document Type: GRANT DEED
Transfer Date: 6/10/2010	Tax Default Date: N/A

VALUE INFORMATION (Assessed Information as of 6/30/2015) — View or Pay your Property Tax

Real Property		Business		Exemptions		Net Assessed Value
Land:	$573,777	Fixtures:	$0	Homeowner:	$0	
Improvements:	$103,823	Structure:	$0	Other:	$0	
		Personal Property:	$0			
Total:	$677,600	Total:	$0	Total:	$0	**$677,600**

SANTA CLARA COUNTY'S GROSS ASSESSED VALUES SCORES A TOUCHDOWN

RELATED LINKS

- Real Property Search
- Mobile Home Property Search
- Search by Map
- Searching Records, Buying Maps

IMPORTANT DATES

October 23, 1992

To: Dave Towle

From: John Davidowski

SUBJECT: UST REMOVAL - BAY AREA RESEARCH & EXTENSION CENTER

At your and Fred Perry's direction, on October 20th and 21st I overlooked the removal of two UST's at the above facility. The procedure conducted for the removal was based on criteria provided by Fred. Jim Lyons from Kearney operated the backhoe for excavation and removal. Ms. Joanne Watkins from Bay Area assisted.

The day prior to removal, dry ice was introduced into the tanks and the tanks capped to drop the oxygen concentration to below 10%. The vent pipes were left open in order for the oxygen to escape. Prior to excavation and removal, oxygen readings were taken by myself using a GasTech oxygen analyzer. The analyzer was borrowed from EH&S and was calibrated.

Removal of the 1000 gallon gasoline tank behind building #101 was performed on 10/20. Approximately 20-30 gallons of residual gasoline remained. The oxygen content was taken and recorded at 9.5%. The excavation was uneventful. The tank was in good condition without evidence of damage. Close observation of the sand in which the tank was cradled and associated soil failed to detect gasoline contamination. The tank and vent pipe were relocated for storage prior to disposal. The excavation was then filled and compacted.

Removal of the 1000 gallon diesel tank located at building #207 was performed on 10/21. Approximately 10-20 gallons of residual diesel remained. The oxygen content could not be lowered below 10% and additional dry ice was added and allowed to purge the tank for approximately 2 hours. The oxygen content after the purging was taken and recorded at 9.8%. The excavation was uneventful. The tank was in good condition without evidence of damage. Close observation of the soil within the excavation failed to detect diesel contamination (note - the tank was not cradled in sand). The tank and vent pipe were relocated for storage prior to disposal. The excavation was then filled and compacted.

At all times, the utmost safety of personnel and property were observed. Communications were established at each site and a 20 pound dry chemical fire extinguisher was available.

Photos of the operation are enclosed.

SKJ

90 N WINCHESTER BLVD

UNIFIED PROGRAM CONSOLIDATED FORM

FACILITY INFORMATION

BUSINESS OWNER/OPERATOR IDENTIFICATION

I. IDENTIFICATION

FACILITY ID#: 43 010 000545

BEGINNING DATE: 8-2-02

ENDING DATE: 8-1-03

BUSINESS NAME: UC Bay Area Research & Extension Center

BUSINESS PHONE: (408) 296-1672

BUSINESS SITE ADDRESS: 90 N. Winchester Blvd.

CITY: Santa Clara

ZIP CODE: 95050

DUN & BRADSTREET: 837741784

SIC CODE (4 digits):

COUNTY: Santa Clara

BUSINESS OPERATOR NAME: M. Zak Mousli

BUSINESS OPERATOR PHONE: (408) 296-1672

II. BUSINESS OWNER

OWNER NAME: University of California Research & Extension Centers-Administrative office

OWNER PHONE: (530) 752-3930

OWNER MAILING ADDRESS: Ag. Field Stations Building One Shields Ave.

CITY: Davis

STATE: CA

ZIP CODE: 95616-8593

III. ENVIRONMENTAL CONTACT

CONTACT NAME: David Towle

CONTACT PHONE: (530) 752-0128

CONTACT MAILING ADDRESS: University of California, Research & Extension Centers Administrative office One Shields Ave

CITY: Davis

STATE: CA

ZIP CODE: 95616-8593

IV. EMERGENCY CONTACTS

-PRIMARY-	-SECONDARY-
NAME: Zak Mousli	NAME: Dave Towle
TITLE: Superintendent	TITLE: Asst. Director
BUSINESS PHONE: (408) 296-1672 (408) 507-2490	BUSINESS PHONE: (530) 752-0128
24-HOUR PHONE: (408) 779-8779	24-HOUR PHONE: (530) 752-0128
PAGER #: (408) 507-2490	PAGER #:

ADDITIONAL LOCALLY COLLECTED INFORMATION:

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE: [signature]

DATE: 8-2-02

NAME OF DOCUMENT PREPARER: M. Zak Mousli

NAME OF SIGNER (print): M. Zak

TITLE OF SIGNER: Superintendent

RECEIVED

AUG - 6 2002

S.C.F.D.

SCFDOMBP1.4

UNIFIED PROGRAM CONSOLIDATED FORM

FACILITY INFORMATION

BUSINESS ACTIVITIES

I. FACILITY IDENTIFICATION

FACILITY ID# 4 3 0 1 0

EPA ID # (Hazardous Waste Only) CAD 981-975-329

BUSINESS NAME (Same as Facility Name or DBA-Doing Business As)

UC Bay Area Research & Extension Center

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730).

Does your facility...	If Yes, please complete these pages of the UPCF...	
A. HAZARDOUS MATERIALS Have on site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☐ YES* ☒ NO 4 If "YES," see note under "E" below.	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)* OR NON-WASTE HAZARDOUS MATERIALS INVENTORY STATEMENT*
B. UNDERGROUND STORAGE TANKS (USTs)		
1. Own or operate underground storage tanks?	☐ YES ☒ NO 5	UST FACILITY (Formerly SWRCB Form A) UST TANK (one page per tank) (Formerly Form B)
2. Intend to upgrade existing or install new USTs?	☐ YES ☒ NO 6	UST FACILITY UST TANK (one per tank) UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)
3. Need to report closing a UST?	☐ YES ☒ NO 7	UST TANK (closure portion –one page per tank)
C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs) Own or operate ASTs above these thresholds: ---any tank capacity is greater than 660 gallons, or ---the total capacity for the facility is greater than 1,320 gallons?	☐ YES ☒ NO 8	NO FORM REQUIRED TO CUPAs
D. HAZARDOUS WASTE		
1. Generate hazardous waste?	☒ YES ☐ NO 9	EPA ID NUMBER – provide at the top of this page, and HAZARDOUS WASTE INVENTORY STATEMENT if not listed on Chemical Description form under "A."
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	☐ YES ☒ NO 10	RECYCLABLE MATERIALS REPORT (one per recycler)
3. Treat hazardous waste on site?	☐ YES ☒ NO 11	ONSITE HAZARDOUS WASTE TREATMENT – FACILITY (Formerly DTSC Form 1771) ONSITE HAZARDOUS WASTE TREATMENT – UNIT (one page per unit) (Formerly DTSC Forms 1772 A,B,C,D and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES ☒ NO 12	CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)
5. Consolidate hazardous waste generated at a remote site?	☐ YES ☒ NO 13	REMOTE WASTE / CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)
6. Need to report the closure/removal of a tank that was classified as hazardous waste and cleaned onsite?	☐ YES ☒ NO 14	HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)

E. LOCAL REQUIREMENTS 15

(You may also be required to provide additional information by your CUPA or local agency.)

***If you are required to fill out a hazardous materials inventory statement (YES to A. HAZARDOUS MATERIALS), please follow the directions on the sheet entitled "HAZARDOUS MATERIALS BUSINESS PLAN INFORMATION SHEET," and fill out all the forms required by that document. You may either fill out the HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION sheet (one chemical per page), or the NON-WASTE HAZARDOUS MATERIALS INVENTORY STATEMENT and the HAZARDOUS WASTE INVENTORY STATEMENT forms (spreadsheet format).**

✓U ✓BL: 8073

Santa Clara Fire Dept. Hazmat System
Hazardous Materials Inventory Statement
Last Inventory Date 04-26-98

UNIVERSITY OF CALIF
Dr. W KIMMERER
408 554-1472

Bus. Lic. No. : 4079
Bus. : 04 Zone : 2
Complex Code : 4022

(1) Haz Class	(2a) (2b) Dw Haz Class	(2c) Haz Trade (Common) Name/ Chemical Name	(4) C. A. S.	(5) (6) Ph / St	(7) Quantity on hand Max	Avg	(8) Haz Cate Class	(9) Annual Thru put	(10) UOM	(11) Days on Site	(12) Storage Typ	Pre	Tmp	(13) SARA Class	(14) Site Map Loc
PG		ACETYLENE ACETYLENE	74-86-2	G V	200	150	200		CF	365 L	2	8	PRI		1
OXA		AMMONIUM NITRATE AMMONIUM NITRATE	6484-52-2	S V	500	300	50		LBS	365 J	1	4	F		1
OPG		OXYGEN OXYGEN	7782-44-7	G V	200	150	200		CF	365 L	1	4	PI		1
CL	223	WASTE OIL MOTOR OIL	64741-88-4	L W	10	10 (10)	30 (5)	10	GAL	365 K	1	4	F		1
CL		DIESEL FUEL DODECANE	112-40-3	L V	500	350	500		GAL	365 A	1	4	F		2
FL		GASOLINE GASOLINE	8006-61-9	L V	500	370	500		GAL	365 A	1	4	FID		3

Signature: Elli Bartkiewicz

Date: 7-22-02

Make changes/additions directly on here
Please sign, date and return to:
Hazardous Materials Division
Santa Clara Fire Department
1173 Alviso Street
Santa Clara CA 95050-4978

(408) 984-3084

RECEIVED
JUL 24 2002
S.C.F.D

RECEIVED
JUL 24 2002
S.C.F.D

IK 6/12/01

THE CITY OF SANTA CLARA
CALIFORNIA

FIRE DEPARTMENT
HAZARDOUS MATERIALS DIVISION
1675 LINCOLN STREET • SANTA CLARA, CA 95050
PHONE (408) 615-4960 • FAX (408) 241-3006

90 N. Winchester

2001

To: Facilities Using, Storing or Handling Hazardous Materials

The law requires that you annually send us an updated hazardous materials inventory and site map. Follow these four steps to complete this year's requirements:

1. Make needed additions and/or deletions on the attached inventory list and site map. *Note: We require an original* ***clean*** *and* ***legible*** *site map for our files.* (Directions are attached.)

2. Complete the attached "Business Activities" and "Business Owner/Operator Identification" forms. Instructions are on the reverse sides of the forms. *Be sure to sign and date the "Business Owner/Operator Identification" form.*

3. Keep **copies** of all documents for your records.

4. Return **signed and dated original** within 14 days of receipt to:

RECEIVED
MAY 29 2001
S.C.F.D.

SANTA CLARA FIRE DEPARTMENT
HAZARDOUS MATERIALS DIVISION
1675 LINCOLN STREET
SANTA CLARA, CA 95050

If you have any questions, please call the Hazardous Materials Division at **(408) 615-4960.**

Sincerely,

Phil Kleinheinz
Fire Chief

David R. Parker, Ph.D
Hazardous Materials Administrator

Attachments

I:\HAZMAT\HazMat Forms\Annual HazMat Inventory Cover Sheet.doc

UNIFIED PROGRAM CONSOLIDATED FORM

FACILITY INFORMATION

BUSINESS ACTIVITIES

I. FACILITY IDENTIFICATION

FACILITY ID # 4 3 0 1 0

EPA ID # (Hazardous Waste Only) CAD 981-975-329

BUSINESS NAME (Same as Facility Name or DBA-Doing Business As) University of California, Bay Area Research & Extension Center

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730).

Does your facility...	If Yes, please complete these pages of the UPCF...	
A. HAZARDOUS MATERIALS Have on site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B, or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☐ YES* ☒ NO 4 If "YES," see note under "E" below.	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)* OR NON-WASTE HAZARDOUS MATERIALS INVENTORY STATEMENT*
B. UNDERGROUND STORAGE TANKS (USTs) 1. Own or operate underground storage tanks?	☐ YES ☒ NO 5	UST FACILITY (Formerly SWRCB Form A) UST TANK (one page per tank) (Formerly Form B)
2. Intend to upgrade existing or install new USTs?	☐ YES ☒ NO 6	UST FACILITY UST TANK (one per tank) UST INSTALLATION – CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)
3. Need to report closing a UST?	☐ YES ☒ NO 7	UST TANK (closure portion – one page per tank)
C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs) Own or operate ASTs above these thresholds →any tank capacity is greater than 660 gallons, or →the total capacity for the facility is greater than 1,320 gallons?	☐ YES ☒ NO 8	NO FORM REQUIRED TO CUPAs
D. HAZARDOUS WASTE 1. Generate hazardous waste?	☒ YES ☐ NO 9	EPA ID NUMBER – provide at the top of this page, and HAZARDOUS WASTE INVENTORY STATEMENT if not listed on Chemical Description form under "A"
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	☐ YES ☒ NO 10	RECYCLABLE MATERIALS REPORT (one per recycler)
3. Treat hazardous waste on site?	☐ YES ☒ NO 11	ONSITE HAZARDOUS WASTE TREATMENT – FACILITY (Formerly DTSC Form 1772) ONSITE HAZARDOUS WASTE TREATMENT – UNIT (one page per unit) (Formerly DTSC Forms 1772 A,B,C,D and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES ☒ NO 12	CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1231)
5. Consolidate hazardous waste generated at a remote site?	☐ YES ☒ NO 13	REMOTE WASTE / CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)
6. Need to report the closure/removal of a tank that was classified as hazardous waste and closed onsite?	☐ YES ☒ NO 14	HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)

E. LOCAL REQUIREMENTS 15

(You may also be required to provide additional information by your CUPA or local agency.)

***If you are required to fill out a hazardous materials inventory statement (YES to A. HAZARDOUS MATERIALS), please follow the directions on the sheet entitled "HAZARDOUS MATERIALS BUSINESS PLAN INFORMATION SHEET," and fill out all the forms required by that document. You may either fill out the HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION sheet (one chemical per page), or the NON-WASTE HAZARDOUS MATERIALS INVENTORY STATEMENT and the HAZARDOUS WASTE INVENTORY STATEMENT forms (spreadsheet format).**

UNIFIED PROGRAM CONSOLIDATED FORM

FACILITY INFORMATION

BUSINESS OWNER/OPERATOR IDENTIFICATION

Page ___ of ___

I. IDENTIFICATION

FACILITY ID# 4 3 0 1 0	BEGINNING DATE 100: 5-23-01 / ENDING DATE 101: 5-22-02
BUSINESS NAME (Same as FACILITY NAME or DBA - Doing Business As): University of California, Bay Area Research & Extension Center	BUSINESS PHONE 102: 408-296-1672
BUSINESS SITE ADDRESS 103: 90 N. Winchester Blvd.	
CITY 104: Santa Clara	C A / ZIP CODE 105: 95050
DUN & BRADSTREET 106: 837741784	SIC CODE (4 digit #) 107:
COUNTY 108: Santa Clara	
BUSINESS OPERATOR NAME 109: M. Zak Mousli	BUSINESS OPERATOR PHONE 110: 408-296-1672

II. BUSINESS OWNER

OWNER NAME 111: University of California Research & Extension Centers - Administrative office	OWNER PHONE 112: 530-752-3930
OWNER MAILING ADDRESS 113: Agricultural Field Stations Building One Shields Ave.	
CITY 114: Davis	STATE 115: CA / ZIP CODE 116: 95616-8593

III. ENVIRONMENTAL CONTACT

CONTACT NAME 117: David Towle	CONTACT PHONE 118: 530-752-0128
CONTACT MAILING ADDRESS 119: University of California, Research & Extension Centers - Administrative Office One Shields Ave.	
CITY 120: Davis	STATE 121: CA / ZIP CODE 122: 95616-8593

IV. EMERGENCY CONTACTS

-PRIMARY-	-SECONDARY-
NAME 123: Zak Mousli	NAME 128: Leo Dumont
TITLE 124: Superintendent	TITLE 129: Ag. Tech.
BUSINESS PHONE 125: Cell: 408-507-2490 Phone: 408-296-1672	BUSINESS PHONE 130: 408-296-1672
24-HOUR PHONE 126: 408-779-8779	24-HOUR PHONE 131: 408-683-4441
PAGER # 127: 408-507-2490	PAGER # 132:

ADDITIONAL LOCALLY COLLECTED INFORMATION

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE: M. Zak Mousli	DATE 134: 5-24-01	NAME OF DOCUMENT PREPARER 135:
NAME OF SIGNER (print) 136: M. Zak Mousli	TITLE OF SIGNER 137: Superintendent	

Zack Mousl FAX 408-342-5734

INS4.1 City of Santa Clara 05-22-01Fire Inspection Sheet Page 1
LOCATION CODE: 5111 TIME IN _____
NUMBER OF BUSINESSES: NOF Complex Code: TIME OUT _____
UNIVERSITY OF CALIF 90 N WINCHESTER Phone 408 296-1672
BL# 8073 Inspect Date _____ Date Last Inspected 05/09/01

Last Inspection Address: 90 N WINCHESTER

Inspection Type REG
BUSINESS:
UNIVERSITY OF CALIF 408 296-1672 Is this phone # correct?

CONTACTS
Emergency
ZAK MOUSLI } Are these correct? 408 779-8779
ZAK MOUZLI 408 507-2490
LEO DUMONT 408 683-4441
Building Owner:
UNIVERSITY OF CALIFORNIA
Business

Business Description: PLANT LAB
Station 04 Zone: 3 Inspect Freq. A Occ Class: Bus: B2 Blg: B2

FIRE PROTECTION SYSTEMS: Complex Code:
Extent of Coverage Certification Monitoring
SYS. FULL FULL SPEC HAZ SPECIAL HAZARD CERT DATE MON MON BY
TYPE BLDG UNIT ONLY DESCRIPTION
FAA Y N N

HAZARDOUS MATERIALS:
Haz. Mat Business Plan Req. Y Underground Tanks
Emerg. Response Plan Revised 03/18/98 Number of Tanks Reported NW
Training Plan Revised 03/18/98 Actual Number On-Site 0
Monitoring Plan Revised 03/18/98 Monitoring System Operational N

Inspector m.carter Rig E4 Duration of Inspection 1:0
Complete Y BL Expiration Date A: B: X C:

VIOLATIONS:

Code	Description	Date	Cnt	Comp
			0	

FEE ASSESMENTS:

Code	Description	Fees
13	Flammable Liquids Outside (over 10 gal.)	80.00
92	Light/Ordinary Hazard	20.00
56	Unstable reactive mat. any amount	80.00
24	Oxidizing Materials (10 lbs. 200 cf, exempt reside	80.00

05/22/01
Zak,
Please check information above and attached chemical inventory. Make any changes and sign chemical inventory. Return to me with Site Map, Business Identification and Activity forms. Thanks
408-615-4965 Kurt Swart

INSTRUMENTS OF CALIF
50 N WINCHESTER
408 296 1474

Bus. Lic. No. : 8571
Sta. : 34 Zone : 1
Complex Code : 4522

(1) Class	(2a) Haz Mat Code	(2b) Haz Mat Code	(3) Common Name/ Chemical Name	(4) C. A. S.	(5) St	(6) V Pb / W	(7) Quantity on hand Max	Avg	(8) Max. Contr Size	(9) Annual Thru put	(10) DOM	(11) Days on Site	(12) Storage Typ	Fre	Tmp	(13) NARA Class	(14) Site Map Loc
PG			ACETYLENE ACETYLENE	74-86-2	G	V		150	200		CF	365	L	1	4	FPI	1
OXR			AMMONIUM NITRATE AMMONIUM NITRATE	6484-52-2	R	V	500	100	50		LBS	365	J	1	4	F	1
NPG			OXYGEN OXYGEN	7782-44-7	G	V	200	150	150		CF	365	L	2	4	PI	1
CO	221		WASTE OIL MOTOR OIL	64741-88-4	L	W	30	30	5		30 GAL	365	E	1	4	F	1
CO			DIESEL FUEL DODECANE	112-40-3	L	V	500	350	500		GAL	365	A	1	4	F	2
FO			GASOLINE GASOLINE	8006-61-9	L	V	500	370	500		GAL	365	A	1	4	FID	2

Signature _____

Date _____

Make changes/additions directly on here.
Please sign, date and return to:

Hazardous Materials Division
Santa Clara Fire Department
1177 Alviso Street
Santa Clara CA 95050-4978

(408) 984-3084

THE CITY OF SANTA CLARA

CALIFORNIA

FIRE DEPARTMENT
777 BENTON STREET
Santa Clara, CA 95050
(408) 984-3059
FAX (408) 241-3006

October 7, 1993

Mr. H. David Towle
Assistant Director of Environmental Issues/
Safety Officer
Office of the President
Division of Agriculture and Natural Resources
Office of Facilities Planning and Management
Agricultural Field Stations Building
University of California
Davis CA 95616-8593

Re: Underground Tank Removals
Bay Area Research and Ext. Center
Santa Clara, California

Dear Mr. Towle:

After reviewing the complete file on the removal of the two underground tanks at the above-noted site, we have concluded that there is sufficient data to close the file.

The file information including laboratory analysis does not indicate any sign of contamination. Therefore, no leak report will be filed and no further work will be required.

Sincerely,

Larry Monette
Hazardous Materials Specialist

LM:kr

PERMIT

SANTA CLARA FIRE DEPARTMENT

90 North Winchester Blvd.

Run Check # P93-216

UC DAVIS-Bay Area Research & Extension Center

Station # 4

4-5-93

Fee $ NA

Date of Expiry

Check # NA

Permission is hereby granted to install the following fire protection equipment or perform the following activity:

PERMIT VOID IF UNSIGNED

	FIRE PROTECTION EQUIPMENT / ACTIVITY		DATE	FINALED BY
( )	AUTOMATIC FIRE SPRINKLERS: UNDERGROUND	(To comply with NFPA #24)		
( )	AUTOMATIC FIRE SPRINKLERS: OVERHEAD	(To comply with NFPA #13)		
( )	BONFIRE:	(To comply with UFC)		
( )	FIRE ALARM:	(To comply with NFPA/Title 24, CAC)		
( )	FIREWORKS DISPLAY:	(To comply with UFC)		
( )	FUMIGATION:	(To comply with UFC)		
( )	HALON:	(To comply with NFPA #12A)		
( )	HOOD AND DUCT:	(To comply with NFPA #96)		
( )	MEDICAL GAS:	(To comply with NFPA #56F)		
( )	STANDPIPE:	(To comply with NFPA #14)		
(X)	TANK: X REMOVAL ( ) INSTALLATION (2) Remove one 1,000 gallon gasoline tank and one 4,000 gallon diesel tank	(To comply with UFC)	8/10/93	Mark [illegible]
( )	TENT:	(To comply with UFC)		
( )				

Applicant: UC DAVIS-Bay Area Research & Extension

Address: 90 North Winchester Blvd.

City: Santa Clara, CA 95050

Phone No.: 916 752-0128

Person Responsible: David Towle

WHITE Original CANARY Office Copy

PINK Building Inspection Copy GOLD Accounting Copy

FF-198

PENDING FILE FOLLOW UP

Check # P [illegible]
Unit Type: [illegible]
Contractor: [illegible]
Contractor's Phone: [illegible]

Facility Address: [illegible]
Facility Name: [illegible]
Responsible Party: [illegible]
Responsponsible Party's Phone: [illegible]

DATE / INITIALS

4/28/93 [illegible]

FP203

RECEIVED
APR - 5 1995
S. C. F. D.

CITY OF SANTA CLARA

CLOSURE PLAN FOR HAZARDOUS MATERIALS STORAGE TANKS

1. Facility Name: UC DANR-Bay Area Research & Extension Center
   Address/Zip: 90 North Winchester Blvd, Santa Clara, CA 95050
   Contact Person: David Towle
   Phone Number: (916) 752-0128

2. Tank Closure Contractor: Tanks removed by University staff. Copy of Procedures
   ~~Street~~ enclosed. Supervision of removal performed by University Senior
   ~~City/Zip:~~ Environmental Health & Safety Technician.
   ~~Contact Person~~
   ~~Phone Number~~

3. Name and phone number of firm who will take soil samples:
   University personnel will take samples.

4. Name and phone number of laboratory that will analyze samples (must be certified by State of California, Department of Health Services) except particle size analysis:
   Dames & Moore, Petaluma (707) 573-1227

5. Name of tank hauler: Currently out for bids. Tanks still on site.

   Destination of tanks:

   Intended reuse or method of disposal (if for reuse, give name and address of new owner and intended use):

6. Tanks to be removed:

	Size (gallons)	Tank Contents
Tank 1:	1,000	Gasoline
Tank 2:	1,000	Diesel
Tank 3:		
Tank 4:		
Tank 5:		

UNIVERSITY OF CALIFORNIA

RECEIVED
APR - 5 1993
S. C. F. D.

March 30, 1993

City of Santa Clara
Fire Department
777 Benton Street
Santa Clara, CA 95050

RE: Tank Removal

Enclosed are two completed CLOSURE PLAN FOR HAZARDOUS MATERIALS STORAGE TANKS forms for our Bay Area Research and Extension Center. The two tanks were removed by University personnel on October 20 and 21, 1992. We are waiting for bidding results to determine vendor for removal of tanks from site. The following information is enclosed for your information:

1. Letter dated October 23, 1992 from Ski Davidowski to me describing the removal process.
2. Photocopies of photographs taken at the time tanks were removed.
3. DANR-OFP&M UNDERGROUND FUEL TANK REMOVAL PROCEDURES.

It is understood that permit fees are waived.

April 21, 1993 is the date we propose to excavate the two tank sites. Prior to that date we would like to meet with a representative of the Fire Department to discuss our permit submittal and process.

Please contact me at (916) 752-0128 for questions and to establish a meeting date.

H. David Towle

H. David Towle
Assistant Director
Environmental Issues/Safety Officer

DT
Enclosures
c: Acting Superintendent, Robert Timm
Assistant Director for Facilities, Fred Perry

Larry Copy

THE CITY OF SANTA CLARA

CALIFORNIA

FIRE DEPT
777 BENTON STREET
SANTA CLARA, CA 95050
(408) 984-3259

ONE HUNDRED FORTY YEARS OF SERVICE
1852 • 1992

March 15, 1993

H. David Towle
Assistant Director of Environmental
Issues/Safety Officer
Office of the President
Division of Agriculture and Natural Resources
Office of Facilities Planning and Management
Agricultural Field Stations Building
University of California
Davis CA 95616-8593

Re: Underground Fuel Tanks
Bay Area Research and Ext. Center
Santa Clara, California

Dear Mr. Towle:

We have reviewed your situation concerning the requirements for a permit for removal of the two underground tanks located at the above noted site. We have concluded you are required to obtain a permit from the Fire Department for the removal of the tanks. California Health and Safety Code, Division 20, Chapter 6.7, Section 2599.2 permits a local agency to enforce requirements that are more stringent than those of the State. City of Santa Clara Ordinance No. 1637 is more stringent than the State requirement and does not allow for an exemption for farm tanks. All underground tank removals require a permit which includes a requirement for soil sampling under the tank to determine if the tank had leaked in the past.

You are requested to obtain a tank removal permit from this department and complete the required permit conditions prior to May 1, 1993. There will be no fees for the permit as we exempt other government agencies.

If you have any questions, contact me or Larry Monette at (408) 984-4109.

Sincerely,

SANTA CLARA FIRE DEPARTMENT
FIRE PREVENTION BUREAU

Bill Gianatasio

Bill Gianatasio
Fire Marshal

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO — SANTA BARBARA • SANTA CRUZ

JACK W. PELTASON
President

KENNETH R. FARRELL
Vice President, Agriculture
and Natural Resources

OFFICE OF THE PRESIDENT
Division of Agriculture and Natural Resources
Office of Facilities Planning and Management
Agricultural Field Station Building
University of California
Davis, California 95616-8561

RECEIVED
FEB 1 1993
S. C. F. D.

January 29, 1993

Mr. Steven Silva
Santa Clara Fire Department
777 Benton Street
Santa Clara, CA 95050

RE: Bay Area Research and Extension Center
Underground Tanks

Thank you for the copy of an August 14, 1990 memo to implementing agencies (LG-109) regarding determination of farm tank status. After reviewing the memo, Chapter 6.7 of the California Health and Safety Code (H&SC), Title 23, Chapter 16, Article 1, Sections 2611 and 2621, and their application to our operations at the referenced location, we have reached the following conclusion:

> As "farm tanks" our underground tanks were exempt from regulation during their use and are exempt from closure requirements. At no time during their duration of operation was the usage changed to a usage that required regulation.

Thank you for your assistance in this matter. If you have questions, please do not hesitate to contact me at (916) 752-0128.

H. David Towle

H. David Towle
Assistant Director
Environmental Issues/Safety Officer

DT
c:\wp51 data\tanks_1.ltr
January 28, 1993

OFFICE OF THE PRESIDENT
DIVISION OF AGRICULTURE AND NATURAL RESOURCES
FACILITIES PLANNING AND MANAGEMENT
DAVIS, CALIFORNIA 95616-8553

October 23, 1992

To: Dave Towle

From: John Davidowski

SUBJECT: UST REMOVAL - BAY AREA RESEARCH & EXTENSION CENTER

At your and Fred Perry's direction, on October 20th and 21st I overlooked the removal of two UST's at the above facility. The procedure conducted for the removal was based on criteria provided by Fred. Jim Lyons from Kearney operated the backhoe for excavation and removal. Ms. Joanne Watkins from Bay Area assisted.

The day prior to removal, dry ice was introduced into the tanks and the tanks capped to drop the oxygen concentration to below 10%. The vent pipes were left open in order for the oxygen to escape. Prior to excavation and removal, oxygen readings were taken by myself using a GasTech oxygen analyzer. The analyzer was borrowed from EH&S and was calibrated.

Removal of the 1000 gallon gasoline tank behind building #101 was performed on 10/20. Approximately 20-30 gallons of residual gasoline remained. The oxygen content was taken and recorded at 9.5%. The excavation was uneventful. The tank was in good condition without evidence of damage. Close observation of the sand in which the tank was cradled and associated soil failed to detect gasoline contamination. The tank and vent pipe were relocated for storage prior to disposal. The excavation was then filled and compacted.

Removal of the 1000 gallon diesel tank located at building #207 was performed on 10/21. Approximately 10-20 gallons of residual diesel remained. The oxygen content could not be lowered below 10% and additional dry ice was added and allowed to purge the tank for approximately 2 hours. The oxygen content after the purging was taken and recorded at 9.8%. The excavation was uneventful. The tank was in good condition without evidence of damage. Close observation of the soil within the excavation failed to detect diesel contamination (note - the tank was not cradled in sand). The tank and vent pipe were relocated for storage prior to disposal. The excavation was then filled and compacted.

At all times, the utmost safety of personnel and property were observed. Communications were established at each site and a 20 pound dry chemical fire extinguisher was available.

Photos of the operation are enclosed.

SKI

STATE OF CALIFORNIA

GEORGE DEUKMEJIAN, Governor

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF LOANS AND GRANTS
2014 T STREET
P.O. BOX 944212
SACRAMENTO, CA 94244-2120
(916) 739-4324
(916) 739-2300(Fax)

RECEIVED
AUG 16 1990
S. C. F. D.

AUG 14 1990

Local Implementing Agencies

LG-109: (REVISED) DETERMINATION OF FARM TANK STATUS

This letter clarifies the exemption status of farm tanks located on sites whose ownership and/or land use has changed. Depending on the circumstances, the farm tank exemption may or may not be allowed. Four cases of ownership or land use changes are discussed below:

1. Change in ownership but no change in usage (exempt):

   In this case, the ownership of the site changed but the tank remains a farm tank and the motor vehicle fuel stored in the tank continues to be used for agricultural purposes.

2. No change in ownership or land use but there are changes in tank usage (not exempt):

   In this case, the owner retains responsibility for the tank, but has changed or discontinued its usage. The motor vehicle fuel stored in the tank was used for agricultural purposes which allowed the tank to be exempt until the owner changed the usage. Now the tank is no longer being used for the purposes which allowed it to be exempt.

3. No change in ownership, but there are changes in land use and motor vehicle fuel usage (not exempt):

   In this case, the tank owner remains the same, but the property changes from agricultural to nonagricultural use and the motor vehicle fuel stored in the tank is no longer being used for agricultural purposes (example: a farmer subdivides his property to build houses).

1/7/93
2-tank removal without permits. Spoke to Dave Toole 916-752-0128, Fax permits forms, letter from state.

FAX TRANSMITTAL

Pages 16
To: Dave Toole
Co: State of Calif
Dept:
Fax #: 916-752-2190

From: Steve Silva
Santa Clara Fire Department
777 Benton St.
Santa Clara, CA 95050
Phone: (408) 984-5169
Fax #: (408) 241-3006

AUG 14 1990

4. Changes in ownership and land use (not exempt):

In this case, both the property ownership and land use of the former farm tank site changed. The land use has changed from agricultural to nonagricultural use and the motor vehicle fuel stored in the tank is no longer being used for agricultural purposes (example: a farmer sold his property to a developer for nonagricultural development).

All previously exempt farm tanks, if no longer being used for the purpose which allowed them the exemption, shall be permitted or closed in accordance with Chapter 6.7 of the Health and Safety Code. The owner of a farm tank which becomes nonexempt must either obtain a valid operating permit or close the tank in accordance with Chapter 6.7 of the Health and Safety Code and any applicable local agency requirements. If a permit is required, an application therefore should be submitted promptly and must be submitted within the time period established by the local agency or, if no such time period has been established, within a reasonable period of time. An application submitted within 30 days after loss of the exemption will be considered to be submitted within a reasonable period of time.

Local agencies may oversee UST leak cleanup pursuant to Chapter 6.7 of the Health and Safety Code if the tank is nonexempt, or may refer the cleanup to the Regional Water Quality Control Board regardless of the exemption status of the tank.

If you have any questions concerning this matter, please call David Holtry at (916) 739-4436 or call Patrick Lam at (916) 739-4324.

Sincerely,

Mike McDonald, Manager
Underground Storage Tank Program

cc: Standard Distribution

✓✓ RC 4/4/97

RECEIVED
APR 2 1997
S.C.F.D.

Santa Clara Fire Department/Hazardous Materials Division
1177 Alviso Street, Santa Clara CA 95050-4978
(408) 984-3084

I. Business Information

Business Name: UC Bay Area Research & Extension Center

Phone Number: (408) 296-1672 Fax Number: (408) 296-5729

Facility Street Address	Unit/Building #	City	State	Zip
90 N. Winchester Blvd.		Santa Clara, CA		95050

Mailing Address (If different from above)	City	State	Zip
SAME			

Business Type: Agriculture Business License #: 0073

SIC Code: 191 EPA ID#:

Dun & Bradstreet #:

Persons responsible for:	Name	Title	Phone Numbers Work	Home*
Business Plan	Craig M. Kolodge	Superintendent	299-2635	778-7962
Business (owner/opr)	Zak Mousli	Sr. Sup of Ag-Supv	299-4986	779-8779
Property (owner)				

*Please provide home phone number for those persons responsible for responding to emergencies after hours.

Additional persons responsible for responding to an emergency *after* normal hours:

Name	Title	Work Phone	Home Phone
Leo Dumont	Ag Tech	299-1672	683-4441
Sunday Raineri	Admin Assist	299-1672	978-9368

Trade secret information is attached on a separate inventory list: *No* xx *Yes* ___

xx I certify that the information contained in my facility's business plan is complete and correct.

or

___ I certify that my business is not required to develop a business plan and submit a chemical inventory statement since at any one time, for any given hazardous material, I use, handle, or store *less than* 55 gallons (liquid), 500 pounds (solid), or 200 cubic feet (gas).

I am authorized to make this certification on behalf of the above-named business.

Signature: Zak Mousli Title: Sr. Supt of Ag-Sup Date: 04/01/97

CC 4/4/97

UNIVERSITY OF CALIF
30 N WINCHESTER
408 295-1672

Bus. Lic. No. : 8079
Dis. : 04 Zone : 3
Counties Code : M002

(1) BOT Class	(2a) Ca Cat	(2b) Hwt Cat	(3) Trade (Common) Name/ Chemical Name	(4) C. A. S.	(5)	(6) V Ph / St	M	(7) Quantity on hand Max	Avg	(8) Max. Daily Site	(9) Annual Thru put	(10) UOM	(11) Days on Site	(12) Storage Typ	Haz	Tox	(13) SARA Class	(14) Site Map Loc
* FG		✓	ACETYLENE ACETYLENE	74-86-2		G	V	200	150	200		CF	365	L	2	6	CP1	~~✓ 201~~ 1
~~* OXR~~			~~AMMONIUM NITRATE~~ ~~AMMONIUM NITRATE~~	~~6484-52-2~~		~~S~~	~~V~~	~~200~~	~~200~~	~~50~~		~~LBS~~	~~365~~	~~2~~	~~1~~	~~4~~	~~F~~	~~✓ 209~~ 3
* OL		✓	DIESEL FUEL DODECANE	112-40-3		L	V	500	350	500		GAL	365	A	1	4	F	~~✓ D~~ 2
** PL		✓	GASOLINE GASOLINE	8006-61-9		L	V	500	370	500		GAL	365	A	1	4	F10	✓ 2
* OXY		✓	OXYGEN OXYGEN	7782-44-7		G	V	200	150	200		CF	365	L	2	4	P1	~~201~~ 1

Signature M Zekinosyl

Date 4-1-97

HMIS05F1w1

✓✓✓ TMP 10-15-96

RECEIVED

SEP 27 1996

S. C. F. D.

				500	370	500			365 A								D
				201	150				365								3
				200	150				365								3
				210	200				365 J								5
				520	550	500			365 A								5

Signature: Ali Zokirmanoglu

Date: 9-24-96

RECEIVED
SEP 14 1995
S.C.F.D.

4022-95 W

09-11-95
(INVENTORY.RPT)

Santa Clara Fire Dept. Hazmat System
Hazardous Materials Inventory Statement
Last Inventory Date 08-31-94

Page 3

UNIVERSITY OF CALIF
AT 4 WINCHESTER
NEW 296-7672

Bus. Lic. No. : 0072
Sta. : 14 Zone : 2
Complex Code : 4022

(1) DOT Class	(2a) Ca Code	(2b) (2) Hmt Trade (Common) Name/ Chemical Name	(4) C. A. S.	(5)(6) R	U M / Ft It	(7) Quantity on Hand Max	Avg	(8) Max. Inte Size	(9) Annual Thru put	(10) UOM	(11) Days on Site	Typ	(12) Storage Pre	Imp	(13) SDWR Class	(14) Site Map Loc
FL		GASOLINE GASOLINE	8006-61-9	L	V	370	200	370		GAL	300	B	2	4	F	2
FG		ACETYLENE ACETYLENE	74-86-2	N	V	981	500	200		CF	360	L	2	6	(F)	3
NFG		OXYGEN OXYGEN	7782-44-7	N	V	244	200	200		CF	360	L	2	4	F1	3
~~[illegible]~~		~~AMMONIUM SULFATE~~ ~~AMMONIUM SULFATE~~	~~7783-20-2~~	~~S~~	~~V~~	~~500~~	~~100~~			~~LBS~~	~~365~~	~~E~~	~~1~~	~~4~~		~~5~~
11		DIESEL FUEL DIESELFUEL	112-40-3	L	V	370	200	400		GAL	365	B	1	4	F	3
~~[illegible]~~		~~MULTI FERTILIZER~~ ~~FERTILIZER~~	~~741-58-2~~	~~S~~	~~V~~	~~570~~	~~300~~	~~100~~		~~LBS~~	~~365~~	~~J~~	~~1~~	~~4~~	~~F~~	~~5~~
ORM		AMMONIUM NITRATE NITROGEN	648-4500	S	V	570		50		LBS	5	1	4	F	5	

Please fill in any missing data.

Signature C. M. [illegible]

Date 9-11-95

Make changes/additions directly on here.
Please sign, date and return to:
Hazardous Materials Division
Santa Clara Fire Department
1127 Alviso Street
Santa Clara CA 95050-4970

(408) 984-3504

(F2DSTA)

4022

I. GENERAL INFORMATION

Business Name: VE RAY AREA RESEARCH & EXTENSION CENTER Phone: 296-1672 Fax No. 286-5229

Facility Street Address: 9004 WINCHESTER BLVD. Unit/Bldg. City: SANTA CLARA, CA Zip: 95050

Mailing Address: SAME City State/Zip

Business Type: FARMING/AGRICULTURE Bus. License #: 8073

SIC Code: 191 EPA ID#:

Dun & Bradstreet #:

Persons responsible for:	Name	Title	Phone
Business Plan	CRAIG KOLODGE	SUPERINTENDENT	299-2635
Business (owner/opr)	UNIVERSITY OF CALIFORNIA		
Property (owner)	UNIVERSITY OF CALIFORNIA		

Persons responsible for responding to an emergency after normal hours:

Name	Title	Home Phone	Work Phone
CRAIG KOLODGE	SUPERINTENDENT	726-3266	299-2635
JOANNE WATKINS	PRIN. AG. TECH.-SUPER.	292-1879	296-1672

Trade secret information is attached on separate inventory list: No xx Yes ___

xx I certify that the information contained in this business plan is complete and correct.

OR

___ I certify that at any one time I use, handle, or store less than 55 gallons of liquid, 500 pounds of solids, or 200 cubic feet of gaseous hazardous materials.

I am authorized to make this certification on behalf of the above-named business:

Signature: [signature] Title: PRIN. AG. TECH.-SUPER. SUPERINTENDENT Date: 10/4/94 11/23/94

Craig M. Kolodge

HAZARDOUS MATERIALS RELEASE RESPONSE PLANS AND INVENTORY

CALIFORNIA HEALTH AND SAFETY CODE 6.95 (AB-189)
(FARM SUBMISSION)

April 1994
(Effective Date)

A. BUSINESS NAME

BAY AREA RESEARCH & EXTENSION CENTER

B. BUSINESS PHONE

(408) 296-1672

C. OPERATOR OR OWNER

UNIVERSITY OF CALIFORNIA

D. SIC CODE

191

BL:8073

E. ADDRESS OF FACILITY

90 N. WINCHESTER BLVD.
SANTA CLARA, CA 95050

F. NATURE OF BUSINESS

FARMING/AGRICULTURE

G. EMERGENCY CONTACT PERSON

NAME AND TITLE	24 HOUR PHONE NUMBERS BUSINESS	NON-BUSINESS
PRIMARY: CRAIG KOLODGE, SUPERINTENDENT	(408) 299-2635	(408) 726-3266
ALTERNATE: JOANNE WATKINS, SR. AG. TECH., SUPERVISING	(408) 296-1672	(408) 292-1879

H. DOCUMENTATION PROVIDED: General Safety Plan, including Evacuation Plans, Emergency Response Procedures, Respiratory Protection Program, Training Program, Annotated Map of the Facility, Chemical Inventory.

SIGNATURE OF RESPONSIBLE PERSON: [signature]

TITLE: SUPERINTENDENT DATE: 4-1-94

pay (408) 246-7016

RECEIVED
JUL 28 1994
S.C.F.D.

Due Aug 5 ✓

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO — SANTA BARBARA • SANTA CRUZ

J.W. PETASON
President

KENNETH R. FARRELL
Vice President—Agriculture
and Natural Resources

OFFICE OF THE PRESIDENT
Division of Agriculture and Natural Resources
Bay Area Research & Extension Center
90 North Winchester Boulevard
Santa Clara, CA 95050

7/28 - Mailed last year's to C. Kolodge asking to sign & date. "Pls return by Aug 5."

RECEIVED
JUL 28 1994
S.C.F.D.

July 25, 1994

To: Santa Clara Fire Department
Santa Clara County

From: Craig Kolodge, Superintendent CK
Bay Area Research & Extension Center

Subject: HAZARDOUS MATERIALS RELEASE RESPONSE PLANS AND INVENTORY

Please find the enclosed updated cover sheet and current annotated map of our facility. Other related documents including safety plan, emergency evacuation plan and procedure sheets, respiratory protection and training programs remain unchanged as reflected in your files.

We request your cooperation in forwarding copies of the enclosed documents to the local (city) Hazardous Materials Response Agency within 30 days of your receiving this letter.

Thank you for your cooperation.

Enclosure

xc: David Towle, w/o enclosures

✓✓ 8/5/94

Page 3

Santa Clara Fire Dept. Hazmat Division
Hazardous Materials Inventory Statement
Last Inventory Date 12-31-93

7/5/94

Bus. Lic. No. : 8073
Sic. : 34 Zone : 2
Complete Code : 8022

JOHN WOLLIES

(1) DOT Class	(2a) Cu Sub Code	(2b) (3) Hzd Trade (Element Name) Chemical Name	(4) C. A. S.	(5)(6) H Ph / Ch Ch A	(7) Quantity on hand Max	Avg	(8) Max. Contr Size	(9) Annual Haz Tons est	(10) (11) Days on Site	(12) Storage Typ	Pre	Tag	(13) Shape Size	(14) Site Haz Loc
FL		GASOLINE GASOLINE	8006-61-9	L V	370	300	370		BBL	4	1	4	7	✓1
FG		ACETYLENE ACETYLENE	74-86-2	G V	901		200		CF	L	2	6	991	3
DOT		OXYGEN OXYGEN	7782-44-7	G V	244		200		CF	L			91	3
ORM		~~[illegible]~~ FERTILIZER ~~[illegible]~~ Ammonium nitrate	~~[illegible]~~ 6484522	S V	370		100		LBS	1	1	4	0	✓5
CL		DIESEL FUEL DODECANE	112-40-3	L V	370	300	400		BBL	4	1	4	7	✓1
~~[illegible]~~		~~[illegible]~~ ~~CALCIUM OXIDE~~	~~[illegible]~~	~~S V~~	~~370~~		~~100~~		~~LBS~~	~~3~~	~~1~~	~~4~~	~~7~~

✓

RECEIVED
AUG 10 1994
S.C.F.D.

Signature C. M. [illegible]

Date 8/8/94

Make changes/additions directly on form.
Please sign, date and return to:
Hazardous Materials Division
Santa Clara Fire Department
777 Benton Street
Santa Clara CA 95050-4979

(408) 984-3884

FP2091(a)

Daniel Bonfe
attached

Santa Clara Fire Dept. Hazmat System
Hazardous Materials Inventory Statement
For 12/01/93 to 12/31/93
Last Inventory Date 12-01-93

Page 1

RCL 4/21/94

OWNERSHIP OF SITE:
NO. & STREET: Craig Eldridge
AND STREET: (299-2655)
Phone 246-9006

Haz. Cls. No. 1 NCCS
Haz. 1 UN Haz. 1 N
Combine Haz. 1 NCCS

(1) Haz. Class Code	(2) Haz. Class Desc.	(3) Chemical Name	(4) U. N. N.	(5)(6) W & Q W	(7) Quantity as Rated Max	Avg	(8) Max. Pkg Size	(9) Annual Thru Put	(10) UOM	(11) Haz UN	(12) Haz Class	(13) Pkg Grp	(14) Haz Sec	(15) Haz Cat	(16) Site Haz. Acc.
GL	GASOLINE	GASOLINE	8006-61-9	L V	270	300	270		GAL	1203	3	I	Y	F	2
AC	ACETYLENE	ACETYLENE	74-86-2	G V	981	1000	200		CF	1001	2	1		PG1	3
OXY	OXYGEN	OXYGEN	7782-44-7	G V	234	240	200		CF	1072	2	2	Y	P1	3
ORM	AMCO FERTILIZER	DEGOLLITE	741-58-2	S V	570	600	100		LBS	9003	7	1	Y	S	5
IR	AMMONIUM SULFATE	AMMONIUM SULFATE	7783-20-2	S V	500	100			LBS	3082	9	1	Y		5
DL	DIESEL FUEL	TOLUENE	108-88-3	L V	270	300	400		GAL	1993	3	1	Y	F	5

✓

RECEIVED
AUG 03 1994
S. C. F. D.

Signature C. M. Eldridge

Date 8-1-94

Make changes/additions directly on form.
Please sign, date and return to:
Santa Clara Materials Division
Santa Clara Fire Department
777 Benton Street
Santa Clara CA 95050-5779

(408) 984-9184

UNIVERSITY OF CALIFORNIA

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90 N. Winchester

JIM PELTASON
President

KENNETH R. FARRILL
Vice President—Agriculture
and Natural Resources

OFFICE OF THE PRESIDENT
Division of Agriculture and Natural Resources
Bay Area Research & Extension Center
90 North Winchester Boulevard
Santa Clara, CA 95050

RECEIVED
JAN 06 1993
S.C.F.D.

December 29, 1992

TO: Agricultural Commissioner
Santa Clara County

FROM: Daniel Hazlitt, Suprintendent

SUBJECT: Hazardous Material Release Response Plans and Inventory

Please find the enclosed updated cover sheet, current chemical inventory and current annotated map of our facility. Other related documents including safety plan, emergency evacuation plan and procedures sheets, respiratory protection and training programs remain unchanged as reflected on your files.

We request your cooperation in forwarding copies of the enclosed documents to the local (city) Hazardous Materials Response Agency within 30 days of your receiving this letter.

Thank you for your cooperation.

ENCLOSURES

XC: David Towle w/o enclosures

HAZARDOUS MATERIALS RELEASE RESPONSE PLANS AND INVENTORY

CALIFORNIA HEALTH AND SAFETY CODE 6.95 (AB-189) (FARM SUBMISSION)

JANUARY 1, 1993
(EFFECTIVE DATE)

A. BUSINESS NAME
BAY AREA
RESEARCH and EXTENTION CTR

B. BUSINESS PHONE
(408) 296-1672

C. OPERATOR OR OWNER
UNIVERSITY OF CALIFORNIA

D. SIC CODE
191

E. ADDRESS OF FACILITY
90 NORTH WINCHESTER BLVD
SANTA CLARA, CALIFORNIA
95050

F. NATURE OF BUSINESS
FARMING/AGRICULTURE

G. EMERGENCY CONTACT PERSON

	NAME & TITLE	24-hr. PHONE NUMBERS BUSINESS	NON BUSINESS
PRIMARY:	DANIEL HAGILLIH (DIRECTOR)	(408) 296-1672	(408) 998-5319
ALTERNATE:	JOANNE WATKINS	(408) 296-1672	(408) 292-1879

H. DOCUMENTATION PROVIDED: General Safety Plan, including Evacuation Plans, Emergency Response Procedures, Respiratory Protection Program, Training Program, Annotated Map of the Facility, Chemical Inventory.

SIGNATURE OF RESPONSIBLE PERSON: Daniel Hagillh
TITLE: Superintendent DATE: 12/29/92

1022

Justin Watkins

~~135-1507~~

~~James Bohmert~~

					300	
		500			300	
NFS		300			300	2.4
OXY		300			300	
					300	
	~~Hardened Sugar Cantor~~				300	
ORM	Aluminum Sulfate				65, 300	1 4

Please make changes/additions directly on here.
Please sign, date and return to → SANTA CLARA FIRE DEPARTMENT
777 Benton Street
Santa Clara, CA 95050

Thank you.
Kathy - HazMat - 984 - 3081

RECEIVED
DEC 2 2 1993
S. C. F. D.

J Albert

12/20/93

LA 02-15-96

UNIVERSITY OF CALIFORNIA

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO — SANTA BARBARA • SANTA CRUZ

DAVID PIMENTEL GARDNER
President

KENNETH R. FARRELL
Vice President, Agriculture
and Natural Resources

OFFICE OF THE PRESIDENT
Division of Agriculture and Natural Resources
Dechanis Field Station
40 North Winchester Blvd.
Santa Clara, CA 95050

JAN 31 1992
S.C.F.D.

January 28, 1992

TO: Santa Clara County Agricultural Commissioner

FROM: Daniel Hagillih, Superintendent

SUBJECT: Hazardous Material Release Response Plans and Chemical Inventory

Please find the enclosed cover sheet, current emergency evacuation plan and procedure sheets as well as our updated chemical inventory. Other related documents inclusive of safety plan, respiratory protection and training programs and annotated map of our facility remain the same; they are already in your files.

We request your cooperation in forwarding copies of the enclosed documents to the local hazardous materials response agency (City of Santa Clara Fire Department) within 30 days.

Thank you for your usual cooperation.

cc: David Towle

enc.

RECEIVED
JAN 31 1992
S.C.F.D.

ARDOUS MATERIALS RELEASE RESPONSE PLANS AND INVENTORY

CALIFORNIA HEALTH AND SAFETY CODE 6.95 (AB-189) (FARM SUBMISSION)

JANUARY 1, 1992
(EFFECTIVE DATE)

A. BUSINESS NAME
DECIDUOUS FRUIT
RESEARCH and EXTENTION CTR.

B. BUSINESS PHONE
(408) 296-1672

C: OPERATOR OR OWNER
UNIVERSITY OF CALIFORNIA

D. SIC CODE
191

E. ADDRESS OF FACILITY
90 NORTH WINCHESTER BLVD.
SANTA CLARA, CALIFORNIA
95050

F. NATURE OF BUSINESS
FARMING/AGRICULTURE

RECEIVED
JAN 31 1992
S. C. F. D.

G. EMERGENCY CONTACT PERSON

	NAME & TITLE	24-hr. PHONE NUMBERS BUSINESS	NON BUSINESS
PRIMARY:	DANIEL HAGILLIH (DIRECTOR)	(408) 296-1672	(408) 998-5319
ALTERNATE:	JOANNE WATKINS	(408) 296-1672	(408) 292-1879

H. DOCUMENTATION PROVIDED: General Safety Plan, including Evacuation Plans, Emergency Response Procedures, Respiratory Protection Program, Training Program, Annotated Map of the Facility, Chemical Inventory.

SIGNATURE OF RESPONSIBLE PERSON: Daniel Hagillih

TITLE: Superintendent DATE: 1/28/92

Max Cont

91 Co

C 2 6 F/A

200

Max Cons.

Diesel Fuel

400

180

[illegible] FIELD STATION- CHEMICAL INVENTORY
DATE PREPARED: JANUARY [illegible], 19[illegible] [illegible]

Max Cont

TRADE/BRAND NAME	CHEMICAL NAME #1	CAS CHEM #1	CHEMICAL NAME #2	CAS CHEM #2	MFG NAME	EPA REG #	[illegible]	MAX QUANT	UNIT	ANNUAL USAGE	HOW STORED	[illegible]	[illegible]	MATERIAL USE
							Total:	[illegible]						
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]						[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]	[illegible]					[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]	[illegible]		[illegible]			[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]	[illegible]		[illegible]		[illegible]		[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	Fuel Gasoline	•			[illegible]		2 yd	[illegible]		[illegible]	8	1	4 F	370
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]		[illegible]
							Total:	[illegible]		[illegible]				
[illegible]					[illegible]		[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]						
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		[illegible]	[illegible]		[illegible]		[illegible]		[illegible]
							Total:	[illegible]		[illegible]				

... FIELD STATION- CHEMICAL INVENTORY

DATE PREPARED: JANUARY [illegible], 1997 [illegible]

TRADE/BRAND NAME	CHEMICAL NAME #1	CAS CHEM #1	CHEMICAL NAME #2	CAS CHEM #2	MFG NAME	EPA REG #	[illegible]	MAX QUANT	UNIT	ANNUAL USAGE	HOW STORED	[illegible]	MATERIAL USE
[illegible]	[illegible]	[illegible]	791-58-2			[illegible] 5		[illegible]		[illegible]	514	0	
[illegible]	[illegible]				[illegible]			[illegible]					[illegible]

Mar 2017, 100

Max Cons

55

[illegible] FRUIT FIELD STATION- CHEMICAL INVENTORY
DATE PREPARED: JANUARY 28, 1992 SIC CODE: [illegible]

TRADE/BRAND NAME	CHEMICAL NAME #1	CAS CHEM #1	CHEMICAL NAME #2	CAS CHEM #2	MFG NAME	EPA REG #	BLDG ROOM	MAX QUANT	UNIT ANNUAL USAGE	HOW STORED	HAZ CL	PHYS HAZ	MATERIAL USE
[illegible]					CHEVRON		207	[illegible] LBS		[illegible]			LUBRICANT
							Total:	[illegible]					
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]	[illegible] LBS	[illegible] BAG				[illegible]
[illegible]	[illegible]		[illegible]				207	[illegible] LBS	[illegible] BAG				[illegible]
							Total:	[illegible]	0.000				
[illegible]	PHOSPHORIC ACID	[illegible]			[illegible]		[illegible]	[illegible]		[illegible]			[illegible]
							Total:	[illegible]					
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		207	[illegible] LBS	[illegible] BAG				[illegible]
							Total:	50.000	0.000				
[illegible]	NONE LISTED		NONE LISTED		[illegible]		208	[illegible]	[illegible] CYL				[illegible]
							Total:	0.500	0.000				
[illegible]	[illegible]				[illegible]		207	[illegible]		[illegible]			[illegible]
							Total:	50.000					
[illegible]	NONE LISTED		NONE LISTED		[illegible]		208	[illegible]	[illegible] GLASS				[illegible]
							Total:	0.125	0.000				
[illegible]	[illegible]	[illegible]	INERT [illegible]		[illegible]	[illegible]	228	[illegible]	[illegible]				INSECTICIDE
							Total:	1.000	0.000				
[illegible]	INERT [illegible]		[illegible]	[illegible]	[illegible]	[illegible]	228	[illegible]	[illegible]				INSECTICIDE
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]	[illegible]	PHOSPHORIC ACID [illegible]	[illegible]	[illegible]		204	[illegible]	[illegible]				FERTILIZER
							Total:	[illegible]	0.000				
[illegible]	[illegible]	[illegible]	INERT [illegible]		[illegible]	[illegible]	228	[illegible]	[illegible]				[illegible]
							Total:	[illegible]	0.000				
[illegible]	[illegible]		PHOSPHORIC ACID [illegible]	[illegible]	[illegible]		[illegible]	[illegible] LBS	[illegible] BAG		[illegible]		SLOW RELEASE FERTILIZER
							Total:	[illegible]	0.000				
[illegible]	[illegible]				[illegible]		[illegible]	[illegible]		[illegible]			[illegible]

[illegible]

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
						[illegible]	[illegible]				
[illegible]	[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]			
						[illegible]	[illegible]				
[illegible]	[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				
[illegible]					[illegible]	[illegible]	[illegible]	[illegible]		[illegible]	
						[illegible]	[illegible]				

WILLIAMS FIRST FIELD STATION- CHEMICAL INVENTORY
DATE PREPARED: JANUARY 28, [illegible] SIC CODE:[illegible]

TRADE/BRAND NAME	CHEMICAL NAME #1	CAS ORDER #1	CHEMICAL NAME #2	CAS ORDER #2	MFG NAME	EPA REG #	BLDGS ROOMS	MAX QUANT	UNIT	ANNUAL USAGE	NON STORED	MAX CL	PHYS HAZ	MATERIAL USE
P-[illegible] [illegible] GLOSS CHAMS					[illegible]		201	0.000	GAL	0.000	GERMN	F		PAINT
							Total:	0.000		0.000				
P-[illegible] [illegible] PET					[illegible] SUPPLY HARDWARE		201	0.250	GAL	0.000	GERMN	F		PAINT
							Total:	0.250		0.000				
P-[illegible] [illegible] FRONT-GREEN	[illegible]		[illegible]		[illegible]		201	0.020	GAL	0.000	GERMN	F		PAINT
							Total:	0.020		0.000				
P-[illegible]-GLOSS BLACK	NITROCELLULOSE, TYPE I				[illegible]		100 LAB	0.000	GAL	0.000	CYL	F		PAINT
							Total:	0.000		0.000				
P-MARKING SPRAY-YELLOW	TOLUENE RESIN	00108-88-3	ACRYLIC AND STYRENATED ALKYD		HERCULES PRODUCTS		201	0.020 GAL		0.000	CYL	F,CO		PAINT
							Total:	0.020		0.000				
P-PLASTIC ENAMEL-YELLOW	[illegible] TYPE II [illegible]				SUPPLY HARDWARE		201	0.250 GAL		1.000	GERMN	F		PAINT
							Total:	0.250		0.000				
P-PORCH AND FLOOR ENAMEL-BROWN					SUPPLY HARDWARE		201	1.000 GAL		0.500	GERMN	F		PAINT
							Total:	1.000		0.500				
P-PORCH AND FLOOR EXTERIOR-BROWN					[illegible]		201	0.100 GAL		0.000	GERMN	F		PAINT
							Total:	0.100		0.000				
P-[illegible] [illegible] ENAMEL-RED					[illegible] ENAMELS		201	1.000 GAL			GERMN	F		PAINT
							Total:	1.000						
P-RED ENAMEL SPRAY FRONT-RED	[illegible]		[illegible]		[illegible] MAKE		100 LAB	0.100 GAL		0.000	CYL	F,CO		PAINT
							Total:	0.100		0.000				
P-PETROLEUM WAXES	[illegible]		PETROLEUM DISTILLATE [illegible]		PETROLEUM		201	0.000 GAL		0.000	GERMN	F		PAINT
							Total:	0.000		0.000				
P-SPRAY ENAMEL-WHITE	AROMATIC HYDROCARBON SOLVENTS				SUPPLY HARDWARE		201	0.000 GAL		0.000	CYL	F,OX		PAINT

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	[illegible]			
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]			
[illegible]	[illegible]		[illegible]	[illegible]		[illegible]	[illegible]	[illegible]			
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	[illegible]			
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]				[illegible]	[illegible]	[illegible]			
						Total:	[illegible]	[illegible]			
[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]			

[illegible]

[illegible]

DATE PREPARED: JANUARY 28, [illegible]

TRADE/TRADE NAME	CHEMICAL NAME #1	CAS CODE #1	CHEMICAL NAME #2	CAS CODE #2	MFG NAME	STOCK NO.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	MATERIAL USE
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]				[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
							Total:	[illegible]	[illegible]				
[illegible]					[illegible]		[illegible]	[illegible]	[illegible]				[illegible]
							Total:	[illegible]	[illegible]				
[illegible]					[illegible]		[illegible]	[illegible]	[illegible]				[illegible]
							Total:	[illegible]	[illegible]				
[illegible]					[illegible]		[illegible]	[illegible]	[illegible]				[illegible]
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]	[illegible]			[illegible]		[illegible]	[illegible]	[illegible]				[illegible]
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		[illegible]
							Total:	[illegible]	[illegible]				
[illegible]	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]				[illegible]

DECEMBER FREST FIELD STATION- CHEMICAL INVENTORY
DATE PREPARED: JANUARY 31, [illegible]

TRADE/BRAND NAME	CHEMICAL NAME #1	CAS CASN #1	CHEMICAL NAME #2	CAS CASN #2	MFG NAME	CAS MSDS #	BLDGS ROOMS	MAX QUANT.	UNIT	ANNUAL USAGE	NON STORED MAX	SC	PROTE MAT	MATERIAL USE
[illegible]	[illegible]						Total:	[illegible]		[illegible]				
[illegible]	[illegible]	[illegible]			[illegible]		[illegible]	[illegible]		[illegible]		[illegible]		[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]	[illegible]			[illegible]		[illegible]	[illegible]		[illegible]		[illegible]		[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]	[illegible]	[illegible]				[illegible]	[illegible]		[illegible]				
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
[illegible]	[illegible]	[illegible]	[illegible]		[illegible]		[illegible]	[illegible]		[illegible]				[illegible]
							Total:	[illegible]		[illegible]				
							Total:	[illegible]		[illegible]				

90 N. WINCHESTER BLVD.

Sent MAR 21 1990

DECIDUOUS FRUIT FIELD STATION
INVENTORY ANNUAL 12/31/90 SIC CODE:191

TRADE/PRODUCT NAME	CHEMICAL NAME #1	CAS CHEM #1	CHEMICAL NAME #2	CAS CHEM #2	REG NAME	EPA REG #	BLDG#	ROOM	MAX. QUANTITY	UNIT	ANNUAL USAGE	NON STORED	MAX CL	PHYS HAZ	MATERIAL DESC
DETHCOM, CONC.FREE, & ORNAMENTAL SPRAY	MISPHATE (TPS),	30560-19-1	INERT INGREDIENTS,(ITA)		CHEVRON		300		0.5	GAL	0.13	FLS			INSECTICIDE
								Total:	0.5		0.13				

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Dallas Clean Fire Dept. Annual Review
Hazardous Materials Inventory Statement
For M.I. to M.I.
Last Inventory Date 01-14-93

Page 1

EMERGENCY OF CALL
ON: MONDAY
AND 250-1172

Rev. Int. No. : 1 (1)
Fld. : 1 04 Zone : 1
Creation Code :

(1) Haz Class Cn	(2) Haz Trade (Common Name) Chemical Name	(4) C. A. S.	(5)(6) F Ph / # St.	(7) Quantity on hand Max	Avg	(8) Haz. Code Size	(9) Haz. Hazard Fire pot	(10)	(11) Haz UOM	Haz Site	(12) Haz Storage Ty	Tre	Tag	(13) SARA Cat	(14) Site Haz Cat
	Unleaded														
F1	REGULAR GASOLINE GASOLINE	8006-61-9	L Y	50	250				GAL	205	X	1	4	Y	X 6
F3	ACETYLENE ACETYLENE	74-86-2	G Y	300	300				CF	207	L	2	4	YES	3
OF2	OXYGEN OXYGEN	7782-44-7	G Y	244	244				CF	365	L	1	4	Y	3
	MAGNESIUM SULFATE MAGNESIUM SULFATE	7783-20-2	S Y	~~300~~ 500	250				LBS	267	2	1	4		5
F5	DIESEL #2 DIESEL	112-40-3	L N	500	200				GAL	203	X	1	4	Y	X 6

Signature Darrell Hegglund
Date 12/30/92

Santa Clara Fire Dept. Haz Mat System
Hazardous Materials Inventory Statement
For ALL to ALL
Last Inventory Date 01-14-91

UNIVERSITY OF CALIF
90 WINCHESTER
408 296-1672

Bus. Lic. No. : 8073
Sta. : 04 Zone : 3
Complex Code :

(1) DOT Class	(2a) (2b) Co Cod	(3) Wst Trade (Common) Name/ Chemical Names	(4) C. A. S. #	(5)(6) St	V Ph / W	(7) Quantity on hand Max	Avg	(8) Max. Contr Size	(9) Annual Thru put	(10) UOM	(11) Days on Site	(12) Storage Typ	Tmp	Tap	(13) SARA Class	(14) Site Map Loc
		Unleaded														
FL		REGULAR GASOLINE GASOLINE	8006-61-9	L	V	300	200			GAL	365	8	1	4	F	X 6
FG		ACETYLENE ACETYLENE	74-86-2	G	V	300	300			CF	365	L	2	4	FR2	3
NFG		DOYGEN DOYGEN	7782-44-7	G	V	244	244			CF	365	L	2	4	P	3
		AMMONIUM SULFATE AMMONIUM SULFATE	7783-20-2	S	V	~~200~~ 500	200			LBS	365	2	1	4		5
CL		DIESEL #2 DODECANE	112-40-3	L	V	300	200			GAL	365	8	1	4	F	X 6

Signature Denise Hagelk
Date 12/30/92

m3

I. GENERAL INFORMATION

Business Name University of California (Davis) Deciduous Fruit Field Station Phone (408) 296-1672

90 North Winchester Blvd. Santa Clara, CA 95050
Facility Street Address Unit/ Bldg. City Zip

Same
Mailing Address City State/ Zip

Business Type Agricultural Research Bus. License # 08073

SIC Code 191 EPA ID#

Dun & Bradstreet #

Persons responsible for:	Name	Title	Phone
Business Plan	James Bohnert	Acting Superintendent	296-1672
Business (~~owner~~/ opr)	Same		
Property (~~owner~~)	Same		

Persons responsible for responding to an emergency after normal hours:

Name	Title	Home Phone	Work Phone
James Bohnert	Acting Station Superintendent	(408)735-1507	(408)296-1672
Joanne Watkins	Principal Ag Technician		(408)296-1672

Trade secret information is attached on separate inventory list: No X Yes ___

X I certify that the information contained in this business plan is complete and correct, and that the plan therefore meets the requirements of Chapter 6.95 (Section 25500 et.seq.) of the Health and Safety Code.

OR

___ I certify that at any one time I use, handle, or store less than 55 gallons of liquid, 500 pounds of solids, or 200 cubic feet of gaseous hazardous materials.

I am authorized to make this certification on behalf of the above-named business:

Signature James Bohnert Title Acting Superintendent Date 4/20/90

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INSALT

City of Santa Clara
Hazardous Materials Inventory Statement
Date Last Inventory 11/11/89

12-06-89 Page 1

UNIVERSITY OF CALIF
SC WINDSURFER
408-554-1972

Class-Div Code	UN Id. No.	CAS#	Trade Name or Common Name /Chemical Name	Max. Qty. On Hand	U M Qty. Lbs. Gal.	Haz-Haz Inv-Haz Cat	Haz Sec
FL	1203	8004419	REGULAR GASOLINE /GASOLINE	500	GAL		1
NFG	1072	7782447	OXYGEN /OXYGEN	244	CF		2
FG	1001	74862	ACETYLENE /ACETYLENE	300	CF		2
CL	9189	67420	MOTOR OIL /OIL	50	GALON		2
FL	1993		DIESEL #2 /DIESEL	500	GAL		2
		7783-19 3704369	AMMONIUM SULFATE /NITROGEN SULFUR	2000	LBS		2

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S.C.F.D.

James Bohnert
12/11/89

aw 11/18

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NOV 16 1987
S.C.F.D.

I. GENERAL INFORMATION

Business Name University of Calif. (Davis) Deciduous Fruit Field Station Phone (408) 296 1672

90 N. Winchester Blvd. Santa Clara 95050
Facility Street Address Unit/Bldg. City Zip

Same
Mailing Address City State/Zip

Business type Agricultural Research Bus. License # ?

SIC Code EPA ID#

Persons responsible for:

	Name	Title	Phone
Business Plan	Thomas M. Kretchun	Station Supt.	(408) 296 1672
Business	"	"	"
Property	"	"	"

Persons responsible for responding to an emergency after normal hours:

Name	Title	Home Phone	Work Phone
Thomas M. Kretchun	Station Supt.	(408) 248 6878	(408) 296 1672
Glen D. Bettelyoun	Pr.Agr.Tech.	(408) 985 2547	(408) 296 1672
James D. Bohnert	Sr.Agr.Tech.	(408) 249 3554	(408) 296 1672

X I certify that the information contained in this business plan is complete, correct, and that the plan therefore meets the requirements of Chapter 6.95 (Section 25500 et. seq.) of the Health and Safety Code.

OR

___ I certify that at any one time I use, handle, or store less than fifty-five gallons of liquid, five hundred pounds of solids, or two hundred cubic feet of gaseous hazardous materials.

I am authorized to make this certification on behalf of the above-named business.

Signature Thomas M. Kretchun Title Station Supt. Date 11/11/87

IV-A HAZARDOUS CHEMICALS INVENTORY STATEMENT

Date 11/11/87 | Page 1 of 2

Business Name University of California ~~Deciduous Fruit Field Station~~ | Business Address 90 N. Winchester Blvd.

Submitted by Glen D. Bettelyoun | Business Phone (408) 296 1672

I/NA BER	D.O.T. CLASS	CHEMICAL ABSTRACT NUMBER	CHEMICAL NAME/ COMPONENTS & CONCENTRATIONS	COMMON OR TRADE NAME	S L G	MAX QUANT ON HAND	U M N E I A T S	MAP LOC
	POSI-B		Carbayl 10%,Sulfur 50%,Inert 40%	Sevin Sulfur dust No.10-50	S	15	lb	4
	POSI-B		Zinc expressed as metalic	Zinc Sulfate 36	S	25	lb	4
	POSI-B		Metalaxyl 25.1% Inert 74.9%	Subdue	L	1	qt	4
	POSI-B		Resmethrin 1.0%, Inert 99%	Resmethrin	L	1½	lb	4
	POSI-B		Acephate 75%, Inert 25%	Orthene 75%	S	½	lb	4
	POSI-B		Bis(Pentachloro2,4 cyclopenta-dien-1-YL) 50%, Inert 50%	Pentac WP	S	½	lb	4
	POSI-B		Benonyl50%,Inert 50%	Benlate	S	4	lb	4
	POSI-B		Captan 50%,Inert 50%	Orthocide	S	4	oz	4
	POSI-B		Calciumpolysulfide 26%, Inert 74%	Ortho Dormant Disease Control	L	1	pt	4
	POSI-B		Acephate 9.4%,Inert 90.6%	Orthene Systemic Insect Control	L	1	pt	4
	POSI-B		Malathion50%, xylene 45%, Inert 5%	Malathion	L	1	pt	4
	POSI-B		Chelated Iron 100%	Sequestrene 330	S	5	lb	4
	POSI-B		2,4-dichlorophenyl p-nitrophenyl ether 50%, Inert50%	Tok WP50	S	2	lb	4
	POSI-B		Zinc 100%	Zinc	S	5	lb	4
	POSI-B		Sulfur 95%,Inert5%	Flotex	S	25	lb	4
	POSI-B		Chloropropham 20% PPG124 2.5%Inert77.5%	Furloe	S	50	lb	4
	POSI-B	333-41-5	0,0 diethyl 0-phosphorothioate50%, Inert 50%	Diaznon	S	20	lb	4
	POSI-B		Carbayl 80%,Inert20%	Sevin	S	3	lb	4
	POSI-B	1912-24-9	Atrazine85.5% Related Compounds4.5%,Inert10%	Aatrex	S	6	lb	4
	POSI-B		Hexakisdistannorane 50% Inert 50%	Vendex	S	1	lb	4
	POSI-B		Metaldehyde 3.25%; Inert 96.75%	Bug-Geta	S	14	lb	4
	POSI-B		Bentionite-sulfur 30%, Inert 70%	Kolofog	S	12	lb	4
	POSI-B		zinc chelate 100%	Sequesterene	S	10	lb	4
	POSI-B		Oryzaline 75%Inert25%	Surflan	S	2	lb	4
	POSI-B		Dimethyl tetrachloro-terephalate75% Inert25%	Dacthal W-75	S	1	lb	4
	POSI-B		N,N-diethyl2-(1-naphthalenyloxy) propionamide 50%,Inert 50%	Devrinol WP50	S	11	lb	4

IV-B HAZARDOUS WASTE INVENTORY STATEMENT

Date 11/11/87 Page 1 of 1

Business Name University of California ~~Deciduous Fruit Field~~ Sta. Business Address 90 N. Winchester Blvd.

Submitted by Glen D. Bettelyoun Business Phone (408) 296 1672

UN/NA NUMBER	CA WST COD	CHEMICAL ABSTRACT NUMBER	CHEMICAL NAME/ COMPONENTS & CONCENTRATIONS	D.O.T. SHIPPING NAME	S L G	MAX QUANT ON HAND	ANNUAL THRU-PUT	U N I T	M E A S	MAP LOC
	FL		Motor Oil	Motor Oil	L	30	30	gal		2

IV-A HAZARDOUS CHEMICALS INVENTORY STATEMENT

Date 11/11/89 Page 2 of 7

Business Name University of California(Davis) ~~Deciduous Fruit Field Station~~ Business Address 90 N. Winchester Blvd.

Submitted by Glen D. Bettelyoun Business Phone (408)296 1672

/NA BER	D.O.T. CLASS	CHEMICAL ABSTRACT NUMBER	CHEMICAL NAME/ COMPONENTS & CONCENTRATIONS	COMMON OR TRADE NAME	S L G	MAX QUANT ON HAND	U M N E I A T S	MAP LOC
	POSI-B		Sodium N-methyl di-nitro-carbamate 33% Inert 67%	Soil-Prep	L	5	gal	4
	POSI-B		Oxadiazon 2% Inert98%	Ronstar G	S	32	lb	4
	POSI-B		Sulfur98% Inert 2%	Dusting Sulfur	S	25	lb	4
	POSI-B		Copper Sulphate 99% Inert 1%	Moyer Instant	S	20	lb	4
	POSI-B		Petrolium Oil 98% Inert 2%	Superior 796 Oil Spray	L	10	gal	4
	POSI-B		Disodium methanear-sonate anhydrous 18.9% Inert 81.1%	Methar 30	L	2	gal	4
	POSI-B		24D 30.56% 2(2-methyl-4-chlorophenoxy) pro-pionic acid 16.34% dicamba 2.77% Inert50.33%	Trimec	L	4	gal	4
	POSI-B		Octanoic acid ester of bromoxynile 33.4% Inert 66.6%	Buctril	L	2	gal	4
	POSI-B		Siduron 50% Inert50%	Tupersan	S	4	lb	4
	POSI-B	106-93-4	Diquat Dibromide 35.3%	Diquat	L	12	gal	4
	POSI-B		Alkylarylpolyoxyethylen glycols, free fatty acids,isopropanol 90% Inert 10%	Ortho X-77 spreader	L	8	gal	4
	POSI-B		Calcium polysulfide29% Sulfur 22% Inert49%	Ortho Subsul	L	5	gal	4
	POSI-B	38641-94-0	Glyphosate 41%Inert 59%	Round-Up	L	6	gal	4
	POSI-B		Paraquat dichloride 29.1% Inert 70.9%	Paraquat	L	2	gal	4
	POSI-B		Calcium cyanamide 65.7% Inert 34.3%	Cyanamid	S	50	lb	4
	POSI-B		Iron 100%	Iron	S	15	lb	4
	POSI-B		Mineral Oil 80% nicotine alkaloid 1.5%	Emo-nik	L	1	qt	4
	POSI-B		1-napthol aneacetic acid 5.68% Inert94.32	Liqu-atik	L	1	gal	4

IV-A HAZARDOUS CHEMICALS INVENTORY STATEMENT

Date 11/11/87 Page 1 of 1

Business Name University of Calif(Davis) Deciduous Fruit Fld.Station Business Address 90 N. Winchester Blvd.

Submitted by Glen D. Bettelyoun Business Phone (408) 296 1672

I/NA BER	D.O.T. CLASS	CHEMICAL ABSTRACT NUMBER	CHEMICAL NAME/ COMPONENTS & CONCENTRATIONS	COMMON OR TRADE NAME	S L G	MAX QUANT ON HAND	U M N E I A T S	MAP LOC
	OXY		Nitrogen(ammoniacal) 21%,Combined Sulfur 24%	Ammonium Sulfate	S	2,000	lb	~~8~~ 3
	OXY		Nitrogen 26%, Phosphoric acid 3%, Soluble Potash 3%	Scotts Turf-builder.	S	500	lb	5

IV-A HAZARDOUS CHEMICALS INVENTORY STATEMENT

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Business Name University of Calif(Davis) ~~Deciduous Fruit Field Station~~

Submitted by Glen D. Bettelyoun

Page 1 of 1

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	FG		Acetylene	Acetylene	G	~~68~~ 100	~~lb~~ cuft	2
	FG		Oxygen	Oxygen	G	244	cuft	2

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	FL		Diesel	Diesel #2	L	500	gal	~~5a~~ 3

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	FL		Gasolene	Regular Gasolene	L	500	gal	2a-1

SANTA CLARA FIRE DEPARTMENT / HAZARDOUS MATERIALS DIVISION
1777 ALVISO STREET • SANTA CLARA, CA 95050-4978
PHONE (408) 984-3064 • FAX (408) 241-3006

RECEIVED
MAR 26 1998
S. C. F. D.

I. Business Information Page

Business Name U.C. Bay Area Research & Extension Ctr.

Phone Number 408-296-1672 Fax Number 408-296-5729

90 N. Winchester Blvd. Santa Clara CA 95050
Facility Street Address Unit/Building # City State Zip

— same —
Mailing Address (If different from above) City State Zip

Business Type _____ Business License # 8073

SIC Code _____ EPA ID# _____

Dun & Bradstreet # _____

Persons responsible for:	*Name*	*Title*	*Phone Numbers* Work (408)	*Home**
Business Plan	M. Zak Mousli Ph.D.	Superintendent	296-4986	779-8779 *
Business (owner/opr)				
Property (owner)				

*Please provide home phone number for those persons responsible for responding to emergencies after hours.

Additional persons responsible for responding to an emergency *after* normal hours:

Name	*Title*	*Work Phone*	*Home Phone*
Leo Dumont	Ag. Technician	296-1672	(408) 683-4441

Trade secret information is attached on a separate inventory list: *No* ✓ *Yes* ___

X I certify that the information contained in my facility's business plan is complete and correct.

or

___ I certify that my business is ***not required*** to develop a business plan and submit a chemical inventory statement since at any one time, for any given hazardous material, I use, handle, or store ***less than*** 55 gallons (liquid), 500 pounds (solid), or 200 cubic feet (gas).

I am authorized to make this certification on behalf of the above-named business:

Signature Zakkimousli Title Superintendent Date 3/24/98

Santa Clara Fire Dept. Hazmat System
Hazardous Materials Inventory Statement
Last Inventory Date 04-02-97

Bus. Lic. No. : 8072
Sta. : 34 Room : 3
Complex Code : 4922

(1) Trade (Common) Name/ Chemical Name	(4) C. A. N. #	(5) Pc / DL	(6) V / W	(7) Quantity on hand Max	Avg	(8) Max. Cntr Size	(9) Annual Thru put	(10) UOM	(11) Days on Site	(12) Storage Typ	Fire	Temp	(13) GAPA Class	(14) Site Map Loc
ACETYLENE ACETYLENE	74-86-2	G	V		150	200		CF	365	L	2	4	FVI	2
OXYGEN OXYGEN	7782-44-7	G	V	200	150	200		CF	365	L	2	4	II	2
DIESEL FUEL DODECANE	112-40-3	L	V	500	350	500		GAL	365	A	1	4	F	2
GASOLINE GASOLINE	8006-61-9	L	V	500	370	500		GAL	365	A	1	4	FID	2
ORM Ammonium Nitrate	6484521-5		V	500	300	50		lbs	J	14	FD	(1)		
CL 221 Waste Oil Motor Oil	64741 88-4		LW	30	30	5	30	gal	E	14	FD	(1)		

Signature Leo Dumont

Date 3/24/98

Make changes/additions directly on here.
Please sign, date and return to:
Hazardous Materials Division
Santa Clara Fire Department
1177 Alviso Street
Santa Clara CA 95050-4978

(408) 984-1984

From: Carol McCarthy
To: Kevin Riley
Date: 06/27/2006 09:51:51
Subject: RE: Weed Abatement - BAREC

Kevin

When last we spoke about general DTSC issues, Kevin had entered into the appropriate property files in our system some notes on DTSC digging restrictions, so that anyone who wanted to pull a permit on these properties would be told of the digging restriction and referred to the DTSC for more information. (In the meantime, Dave was going to develop a policy for this, so that we would have a written one. I hope this is underway.)

My assumption would be that anyone who comes to the City to pull a permit for 90 N. Winchester would be told of the DTSC digging restriction, and referred to the DTSC. Is that occurring?

Carol
>>> Kevin Riley 06/27/06 9:46 AM >>>
I don't know that any City staff members have the expertise to say how this mowing should be handled. In the case of the Pedro's digging, the DTSC process was complete and the restrictions were identified. In this case, the RAW indicates that dust control is appropriate for excavation, but we can only presume that any activity that generates dust will need to be monitored and controlled. Because we are in the DTSC process, I'd defer to them to provide the appropriate measures to apply to the mowing activity, assuming it will generate dust, as Gloria indicates. Plastic suits would be their call...

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What I can do is check with DTSC about the method of weed abatement- we actually discussed this at the DTSC headquarters in Berkeley and protocol for weed removal- if we have all our ducks in a row, then we can address any concerns from the public- whether the notice goes out or not- same procedure we used for the last potholing test.

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Let me.....find out

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Are we talking Tyvex suited mowers/water truckers with breathing apparatus?

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yes, and a water truck will follow the mower- to avoid dust kicking up.

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They will mow and not plow I am assuming, so if they can keep the dust down they should be OK.

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I don't remember us ever notifying (or the State notifying) the neighborhood when the weeks were cut. Is this something that has occurred in prior years? If not, why the notification now?

>>> Martin Von Raesfeld 06/26/06 11:21 AM >>>
Paula,

Gloria Sciara will be the point of contact for the City regarding notifying the neighbors. If at all possible Planning would like to give the neighbors notice of a time frame when the weed abatement work will be conducted.

Thanks, Marty

>>> "Gutierres, Paula" <Paula.Gutierres@dgs.ca.gov> 06/21/06 10:45 PM >>>
Mr. Von Raesfeld,

Thank you for the reply back. Please let me know who at the City we should send the 48 hour notice to.
Thank you. Paula

-----Original Message-----
From: Martin Von Raesfeld [mailto:MVonRaesfeld@ci.santa-clara.ca.us]
Sent: Wednesday, June 21, 2006 5:21 PM
To: Gloria Sciara; Ron Garratt; Gutierres, Paula
Cc: RonS5596@aol.com; Kevin Riley; Sieppy, Bob; Holtom, Gregory; Crone, Jeff; Potash@DVPassociates.com
Subject: RE: Weed Abatement - BAREC

I am unaware of a requirement for notifying the neighbors, but if notification is going to be done than I feel 48 hours would be sufficient. Who will be conducting the notifications? yknocking down the weeks? Certainly, I
Marty

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Hi Gloria and Ron,

I am forwarding to you Ron the message Jeff Crone sent to Gloria last week asking how much notice time the City needs in advance of our contractor beginning the mowing of the weeds on the BAREC property. Please let us know ASAP so we can comply with City Fire Marshall's requirements. We look forward to hearing from you. Thank you for your attention to this matter. Paula
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Sent: Thursday, June 15, 2006 4:28 PM
To: Gloria Sciara (gsciara@ci.santa-clara.ca.us); Kevin Riley (kriley@ci.santa-clara.ca.us)
Cc: Gutierres, Paula; Small, Ron (RonS5596@aol.com); Potash@DVPassociates.com
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Hi Gloria: We are going to move forward on this work as scon as possible. If you still wish to notify the neighbors, how much time will you need to do that? We are trying to do this so that we will comply with the City Fire Marshall's Office in all respects. As you can see, we are trying to accomplish a job that must done and, hopefully please all parties concerned in the matter. We expect to have price proposals and a commencement date early next week. Please try to let me know what

your lead time for notification is by Monday or Tuesday. Thank You,
JEFF CRONE.

* To all potential weed abatement contractors:

We have been through a number of internal discussions with regard to the weed abatement issues on the BAREC property. At this point we have decided to go ahead and request the potential contractors
to give us two price proposals for the work on the site. Since we are getting well into the fire season and the weeds are drying out, we need
to have the work done as soon as possible

1. We ask that you give us a price proposal for mowing the weeds on a Thirty Foot wide strip around the entire perimeter of the property adjacent to the existing chain link fence. Note that the main
improvements are located in the Northeast corner of the site. (Aerial Photo BAREC). You will have to do the mowing in the vegetated area along the South side of where the buildings are located, then along the
East, South and West Sides of the buildings to the North property line (See Environ Map No. 2). With the exception of going around the building improved areas, the entire perimeter of the site is to be mowed. (However, the attached colored Environ Map No. 5 (Boring and CTP
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At this point in time, we definitely wish to proceed with proposal Number 1. Proposal Number 2 is still under consideration by this office, since we know that it will give us greater certainty of maximum fire protection. Therefore, be sure to include a second price proposal.

As an additional element it will be necessary to keep soil disturbance and airborne dust to an absolute minimum. To this end, we are asking that you provide Water Truck service for watering down the areas to be mowed prior to mowing. In addition, as part of the mowing process, we request that the Water Truck follow directly behind the mower to keep down the dust during the mowing process. There is no water available on the site. However, there is a city fire hydrant directly in front of the property. Arrangements will have to be madetent date early next week. Please try with the City of Santa Clara to obtain water from this source.

Jeff Crone, Senior Real Estate Officer

State of California, Department of General Services

Asset Planning and Enhancement Branch

707 Third Street, Suite 6-130

West Sacramento, California 95605

Telephone: (916) 376-1825, Fax: (916) 376-1833

Jeff.crone@dgs.ca.gov

From: Kevin Riley
To: Gloria Sciara; Martin Von Raesfeld; Ron Garratt
Date: 06/27/2006 10:28:29
Subject: RE: Weed Abatement - BAREC

I don't know if we have the confidence to trust they'll get it right, but do we have the confidence to determine on our own what are proper procedures for the activity? Not sure I want that liability. If Dave Parker were asked to provide input, we might be better off, but I don't think it would put us in the clear for any challenge, even if we thought we were overdoing the safety precautions. I'd rather take the chance in relying on the jurisdictional control of DTSC for appropriate procedures.
Kevin

>>> Ron Garratt 06/27/06 10:21 AM >>>
Do we have the collective confidence that DTSC is going to do the right thing where the City doesn't end up in the middle of the firestorm? Theoretically, Intel should have been in charge of the Pedro's plumbing job. Look how well that worked out for the City

>>> Martin Von Raesfeld 06/27/06 9:54 AM >>>
I spoke with Dave Parker regarding this matter. He stated that since the site is currently listed with the DTSC then they should set the parameters for conducting the weed abatement operations in a safe manner that does not pose a health hazard to the workers or neighboring properties.

Thanks, Marty

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707 Third Street, Suite 6-130

West Sacramento, California 95605

Telephone: (916) 376-1825, Fax: (916) 376-1833

Jeff.crone@dgs.ca.gov

NOTICE OF PUBLIC COMMENT PERIOD

Formerly Bay Area Research Extension Center
Santa Clara, CA
Draft Removal Action Workplan

PUBLIC COMMENT PERIOD: March 22, 2006 through April 21, 2006

WHAT'S BEING PROPOSED?

The Department of Toxic Substances Control (DTSC) invites you to review and comment on the Draft Removal Action Workplan (Draft RAW) for the Bay Area Research Extension Center (BAREC), a former agricultural research center. BAREC is located at 90 North Winchester Boulevard, Santa Clara, CA. The Draft RAW describes the excavation and off-site disposal of arsenic and dieldrin contaminated soil from past practices at BAREC.

The City of Santa Clara has prepared a Draft Environmental Impact Report (Draft EIR) for the proposed development project and site cleanup. DTSC plans to use this document to address the requirements of the California Environmental Quality Act (CEQA). The Draft EIR and the Draft RAW are available for your review at the information repositories listed below.

WHY THIS NOTICE?

The purpose of this notice is to provide you with the opportunity to learn more about the project and to provide comments concerning the proposed soil removal activities to DTSC by **Friday, April 21, 2006.**

HOW DO I PARTICIPATE?

Your participation is encouraged. Comments concerning the Draft RAW may be submitted in writing to:

Ms. Virginia Lasky, DTSC Project Manager
700 Heinz Avenue
Berkeley, CA 94710
or email: vlasky@dtsc.ca.gov

All mail must be postmarked by **5 p.m. on Friday, April 21, 2006**. Emailed comments must be received by DTSC no later than 5 p.m. on the same date.

A **public meeting** will also be held on April 13, 2006, from 7 p.m. to 9 p.m. at the facility listed below to discuss the Draft RAW and receive public comments.

Westwood Elementary School
435 Saratoga Avenue
Santa Clara, CA 95050
(408) 423-4300

WHERE DO I GET MORE INFORMATION?

A copy of the Draft RAW and Draft EIR are available for review in the information repositories located at the:

Central Park Library
2635 Homestead Road
Santa Clara, CA
(408) 615-2970

Santa Clara City Hall
1500 Warburton Avenue
Santa Clara, CA
(408) 615-2200

The full administrative record for the site is available at: Department of Toxic Substances Control, 700 Heinz Avenue, Berkeley, CA 94710. Please call for an appointment: (510) 540-3800.

CONTACT

If you have any questions or wish to discuss the project, please contact Ms. Virginia Lasky, DTSC Project Manager, at (510) 540-3829 or by e-mail to vlasky@dtsc.ca.gov. For public participation activities, please contact Ms. Kim Rhodes, DTSC Public Participation Specialist, at (916) 255-3651 or by e-mail to krhodes1@dtsc.ca.gov. Members of the media should contact Ms. Angela Blanchette, DTSC Public Information Officer, at (510) 540-3732 or by e-mail to ablanche@dtsc.ca.gov.

Department of Toxic Substances Control

EnviroStor Database - BACK TO ENVIROSTOR HOME

BAY AREA RESEARCH EXTENSION CENTER - (MAP) - (GOOGLE MAP)
90 NORTH WINCHESTER BLVD.
SANTA CLARA, CA 95050
SANTA CLARA COUNTY
SITE TYPE: VOLUNTARY CLEANUP
ACRES: 17 ACRES
APN: 303-17-048, 303-17-049
NATIONAL PRIORITIES LIST: NO
CLEANUP OVERSIGHT AGENCIES:
DTSC - SITE MITIGATION AND BROWNFIELD REUSE PROGRAM - LEAD

PROJECT MANAGER:	VIRGINIA LASKY
SUPERVISOR:	KAREN TOTH
DIVISION / BRANCH:	NORTH COAST
ENVIROSTOR ID:	43010031
SITE CODE:	201464
ASSEMBLY DISTRICT:	22
SENATE DISTRICT:	13
SPECIAL PROGRAM:	VOLUNTARY CLE
FUNDING:	SITE PROPONEN
PUBLIC PARTICIPATION SPECIALIST:	MICHELLE TROT
PRESS CONTACT:	ANGELA BLANCH

COMMUNITY I

STATUS

ACTIVE AS OF 5/14/2003

REGULATORY PROFILE

PAST USE(S) THAT CAUSED CONTAMINATION
RESEARCH - AGRICULTURAL

POTENTIAL CONTAMINANTS OF CONCERN
ARSENIC - CONFIRMED
DIELDRIN - CONFIRMED

POTENTIAL MEDIA AFFECTED
SOIL

SITE HISTORY

This site was the location of an agricultural research station since the 1920s. Activities use of small quantities of different pesticides from 1979 to July 2002. The site is locate neighborhood of residential and commercial.

FUTURE ACTIVITIES

NOTE: THE DUE DATES OF FUTURE ACTIVITIES ARE SUBJECT TO CHANGE BASED ON THE CURRENTLY SCHEDULED ACTIVITIES

DOCUMENT TYPE	DU
Removal Action Workplan	
CEQA - Responsible Agency Review	
Certification	
Removal Action Completion Report	

COMPLETED ACTIVITIES

DOCUMENT TYPE	DATE COMPLETED	COMMENTS
Fact Sheets	3/17/2006	Fact Sheet completed. Public Comment period for Draft March 22 through April 21, 2006.
Public Notice	3/14/2006	Public Notice completed. Comment period for Draft RAV 22 through April 21, 2006.

Remedial Investigation Report	11/10/2003	The Report indicates that the chemicals of concern in so arsenic.
Voluntary Clean-up Agreement	5/12/2003	A Voluntary Cleanup Agreement was signed with the Ca Department of General Services.

Department of Toxic Substances Control

Preventing environmental damage from hazardous waste, and restoring contaminated sites for all Californians.

State of California

California Environmental Protection Agency

Public Involvement

Fact Sheet, March 2006

Bay Area Research Extension Center

Draft Removal Action Workplan Available for Review

A 17-acre parcel of land, formerly known as the Bay Area Research Extension Center (BAREC), is proposed for pesticide and arsenic cleanup. The Department of Toxic Substances Control (DTSC) is overseeing the investigation and cleanup activities under a Voluntary Cleanup Agreement.

The cleanup of the property will allow for a planned 165-unit senior housing facility, a 110 single family homes and a community park to be built on the property. BAREC is located at 90 North Winchester Boulevard, Santa Clara, California.

The Bay Area Research Extension Center Draft Removal Action Workplan (Draft RAW) describes the investigation and recommendations to cleanup the soil contamination. We encourage you to review and comment on the Draft RAW. The Draft RAW is available for your review at the Information Repositories listed on page 3. If you have questions about this site, please contact Ms. Virginia Lasky, DTSC Project Manager, at (510) 540-3829 or by e-mail at vlasky@dtsc.ca.gov.

This fact sheet will provide you with a brief summary of the project, its history, what was found at the site and DTSC's proposed cleanup recommendation. This fact sheet also provides information on how you can participate in the decision-making process.

Public Comment Period and Public Meeting

We encourage you to review and comment on the Draft RAW. DTSC will hold a 30-day public comment period beginning March 22, 2006 and ending on April 21, 2006. All e-mailed comments must be sent to DTSC no later than 5 p.m. on April 21, 2006. Please send written comments to:

Ms. Virginia Lasky, DTSC Project Manager
700 Heinz Avenue, Berkeley, CA 94710
E-mail: **vlasky@dtsc.ca.gov**

A public meeting will also be held to discuss the Draft RAW and receive oral comments. The public meeting will be held at the following location:

April 13, 2006 • 7 p.m. to 9 p.m.
Westwood Elementary School
435 Saratoga Avenue, Santa Clara, CA 95050

For additional information concerning the comment period or public meeting, please contact Ms. Kim Rhodes, DTSC Public Participation Specialist at (916) 255-3651 or by e-mail at **krhodes1@dtsc.ca.gov**

History and Former Use

The 17 acre site was originally used as a Veteran's widow home. BAREC agricultural experimental field stations began operating on the site in 1928. The stations assisted farmers with research on fertilizers, irrigation, different crops and crop disease control. The property was deeded to the University of California, State of California. Operations at the site continued until the University of California closed the research center in early 2003.

What was found at the site?

Soil samples collected at the site found elevated levels of dieldrin and arsenic. DTSC evaluated the potential risks to human health and the environment associated with dieldrin and arsenic. This evaluation revealed that both dieldrin and arsenic are present at levels considered to be a potential health hazard if not properly contained or cleaned up. It was determined, therefore, that cleanup of the contaminated soil at this site was necessary. The Draft RAW describes more fully the site investigation and proposed cleanup.

The Draft RAW Process

The Draft RAW evaluates cleanup alternatives and identifies a preferred alternative which prevents or reduces potential risks to public health and the environment. A Draft RAW summarizes previous studies and identifies the possible removal alternatives. Removal alternatives are screened and evaluated on the basis of their effectiveness, ability to implement and cost. The Draft RAW then identifies the alternative DTSC recommends and believes is the most appropriate for the future use of the site.

Before DTSC makes a final decision to approve, modify or deny a Draft RAW, the Draft RAW is made available for public comment during a 30-day public comment period. All comments received from the public during the comment period are reviewed and considered before the Draft RAW is approved by DTSC.

Alternatives Considered

Three alternatives were evaluated for BAREC to prevent future exposure to dieldrin and arsenic.

Alternative 1 – No Action: Under this alternative no cleanup activities would be considered. Future use of the properly would be restricted.

Alternative 2 – Capping with Institutional Controls: Under this alternative, excavation of high levels of dieldrin and arsenic would occur. The excavated soils would be disposed of offsite at an approved facility. The remaining contaminated soil would be capped on the site. The cap would consist of clean compacted soil and a deed restriction would be imposed on the capped area.

Alternative 3 – Soil excavation with Offsite Disposal: All soil above residential cleanup goals would be excavated and disposed of at an offsite facility.

DTSC's Recommendation

The alternatives were evaluated based on effectiveness, ease of implementation and cost. DTSC believes that Alternative 3 is the most protective of public health and the environment. This alternative will allow for unrestricted use of the property and allow for the planned residential development.

This alternative will consist of excavating approximately 5,000 to 6,000 cubic yards (approximately 300 truckloads) of contaminated soil. Soil will be loaded onto trucks and disposed of offsite at an approved landfill.

What will I see during the Excavation?

If the Draft RAW is approved, you will see personnel on the site using standard construction machinery as well as safety gear. As the soil is dug up, it will be stockpiled on plastic and covered to prevent dust. Dust monitoring will be conducted during excavation and loading of contaminated soils. The soil will be loaded onto trucks and transported to either BFI Newby Island Landfill or Kirby Canyon Landfill. All trucks will enter and exit the site on North Winchester Boulevard. They will travel to Stevens Creek Boulevard and then on to Interstate 880 Freeway. Once on Interstate 880, they will travel either north to BFI Newby Island Landfill or south to Kirby Canyon Landfill. At no time, will the trucks travel through residential areas.

All work will be performed in accordance with a site-specific health and safety plan that complies with both State and Federal regulations designed to protect the health and safety of onsite workers and the public.

California Environmental Quality Act (CEQA)

The City of Santa Clara has prepared a Draft Environmental Impact Report (Draft EIR) for the proposed site cleanup and development project. DTSC plans to use this document to address the

requirements of CEQA. The Draft EIR and the Draft RAW are available for your review at the Information Repositories listed on page 3.

Next Steps

You have the opportunity to review and comment on the Draft RAW. A 30-day public comment period ends on April 21, 2006. During this time, you can review and send your comments to us about the proposed cleanup option. Your comments must be postmarked no later than April 21, 2006. All comments received during the comment period will be considered by DTSC before making a final decision on approving, amending or denying the Draft RAW. Once a decision has been made, a "Response to Comment" document will be sent to those individuals who submitted comments and placed in the information repositories.

For More Information

If you would like more information or have questions on the Draft Removal Action Workplan please contact one of the following DTSC individuals:

Ms. Virginia Lasky, DTSC Project Manager
700 Heinz Avenue
Berkeley, CA 94710
(510) 540-3829
E-mail: vlasky@dtsc.ca.gov

For questions about the public participation process please contact:

Ms. Kim Rhodes
DTSC Public Participation Specialist
8800 Cal Center Drive
Sacramento, CA 95826
(916) 255-3651
E-mail: krhodes1@dtsc.ca.gov

For media questions, please contact:

Ms. Angela Blanchette
DTSC Public Information Officer
700 Heinz Avenue
Berkeley, CA 94710
(510) 540-3732
E-mail: ablanche@dtsc.ca.gov

For additional information about DTSC and BAREC, please visit our Web site at www.dtsc.ca.gov

Information Repositories

The Draft RAW and related documents can be reviewed at the following locations:

Central Park Library
2635 Homestead Road
Santa Clara, CA
(408) 615-2970

Santa Clara City Hall
1500 Warburton Avenue
Santa Clara, CA
(408) 615-2200

The full administrative record is available at the following location:

Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710
(510) 540-3800
Hours: Monday – Friday, 8 a.m. to 5 p.m.
Please call for an appointment.

Notice to Hearing Impaired Individuals

TDD users can use the California Relay Service at 1-888-877-5378. Please ask to speak to Ms. Kim Rhodes, DTSC Public Participation Specialist at (916) 255-3651.

Anuncio

Si prefiere hablar con alguien en español acerca de esta información, favor de llamar a Jacinto Soto de el Departamento de Control de Substancias Toxicas. El número de teléfono es (510) 540-3842.

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of:	)	Docket No HSA-A 02/03-176
University of California Bay Area Research and Extension Center (BAREC) 90 North Winchester Blvd. Santa Clara, California	)	Voluntary Cleanup Agreement
Project Proponent:	)	Health and Safety Code
California Department Of General Services 707 Third Street, Suite 6-130 Sacramento, CA 95605	)	Section 25355 5(a)(1)(C)

I. INTRODUCTION

1.1 Parties The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) enters into this Voluntary Cleanup Agreement (Agreement) with the California Department of General Services (Proponent).

1.2 Site. The property that is the subject of this Agreement (Site) is located in Santa Clara, California. The Site property consists of approximately 17 acres and is identified by Santa Clara County Assessor's Parcel Numbers (APN) 303-17-048 and 303-17-049 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 Remedial Action under the oversight of DTSC. The goal of the Proponent is to investigate and clean up the Site so that it is suitable for unrestricted residential development.

II. BACKGROUND

2.1 Ownership. The Site is owned by the State of California.

2.2 Substances Found at the Site. Reports containing the results of environmental media sampling conducted at the Site indicate that various portions of the property are or may be contaminated with hazardous substances, including the following pesticides: arsenic, dieldrin, endrin, heptachlor epoxide, 4,4'- DDT and 4,4'-DDE.

2.3 Physical Description. The Site is agricultural land. The topography of the entire area is relatively flat. The site is surrounded on three sides by single-family residential housing and by North Winchester Boulevard on the east.

2.4 Site History. The site has been used for testing agricultural chemicals on fruit trees and other row crops since 1928.

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; and 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. Upon submission of satisfactory reports by Proponent, DTSC shall approve the risk assessment, community relations plan, and final Removal Action Workplan (RAW) for the Site and shall provide certification of closure upon completion of the project, or if implementation is phased, completion of each phase of the project. 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. Barbara J. Cook is designated by DTSC as its Manager for this Agreement. J. Frank Davidson of the Department of Genral Services, Real Estate Services Division 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:

Barbara Cook, Regional Branch Chief
Attn: Virginia Lasky
Department of Toxic Substances Control
Site Mitigation Program
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2737

3.4.2 To the Proponent:

J. Frank Davidson
State of California
Department of General Services
Real Estate Services Division
Asset Planning and Enhancement Branch
707 Third Street, Suite 6-130
West Sacramento, CA 95605

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 written comments to the Proponent with recommended changes; or (b) Provide written comments and conditionally approve the document as long as Proponent makes requested changes.

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 shall notify the Proponent in advance if its costs will exceed the estimate provided in Exhibit D and DTSC and the Proponent shall agree on a supplement to that estimate before further DTSC costs are incurred. 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 **$24,000** 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 check made payable to the "Department of Toxic Substances Control", and bearing on its face the project code for the Site (**Calstars #201464-11**) and the docket number of this Agreement. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
1001 I Street, 21st Floor
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 résumé 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 and 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, final 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 either comply 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 and DTSC shall be responsible for reimbursing any advance money paid by Proponent but not yet spent on oversight activities.

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. DTSC shall not be liable for any injuries or damages to persons or property caused during performance of investigative or remedial activities pursuant to this Agreement, either resulting from acts or omissions by the Proponent or by related parties in carrying out activities pursuant to this Agreement, nor shall the DTSC 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 and Proponent reserve their rights 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 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 to DTSC 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.

Barbara J Cook

Date: 5/12/2003

Barbara Cook
Northern California - Coastal Cleanup Operations Branch
Statewide Cleanup Operations Division
Site Mitigation Program
Department of Toxic Substances Control

Date: 5-8-03

J. Frank Davidson, Assistant Chief
Asset Planning and Enhancement Branch
Real Estate Services Division
State of California
Department of General Services

EXHIBITS

A - SITE DIAGRAM

B - SITE LOCATION MAP

C - SCOPE OF WORK

D - COST ESTIMATE

E - SCHEDULE

F - CLOSURE CERTIFICATION

EXHIBIT "A"

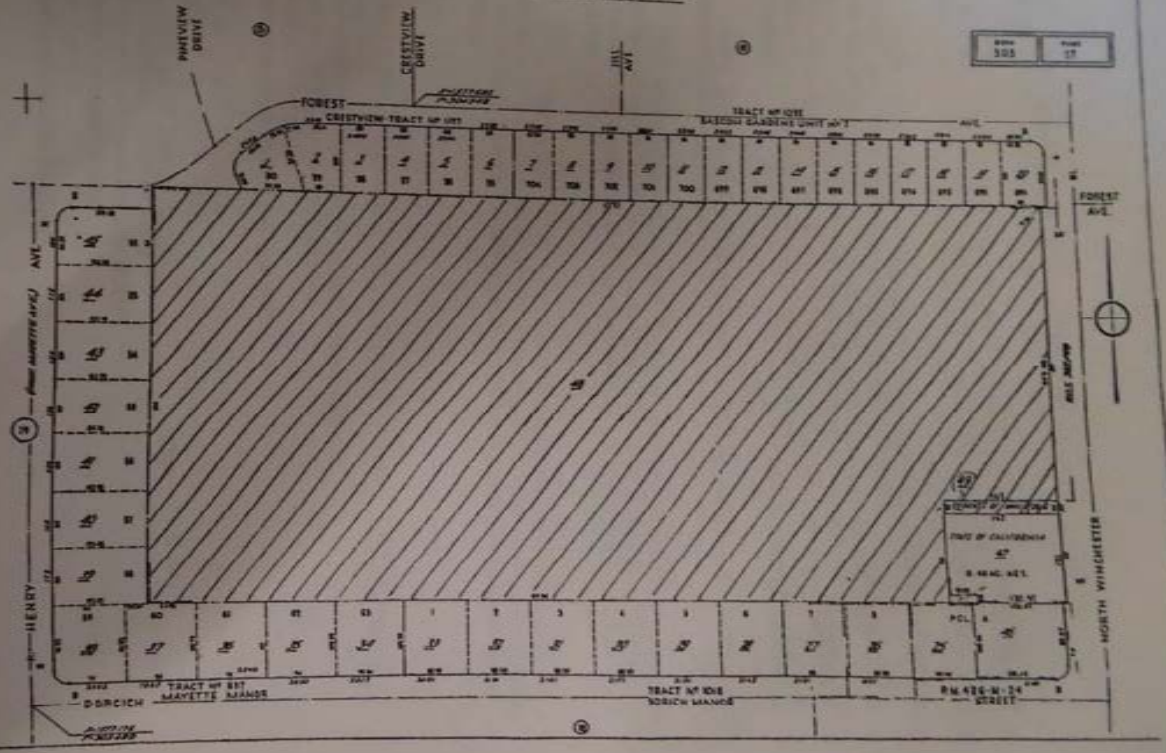
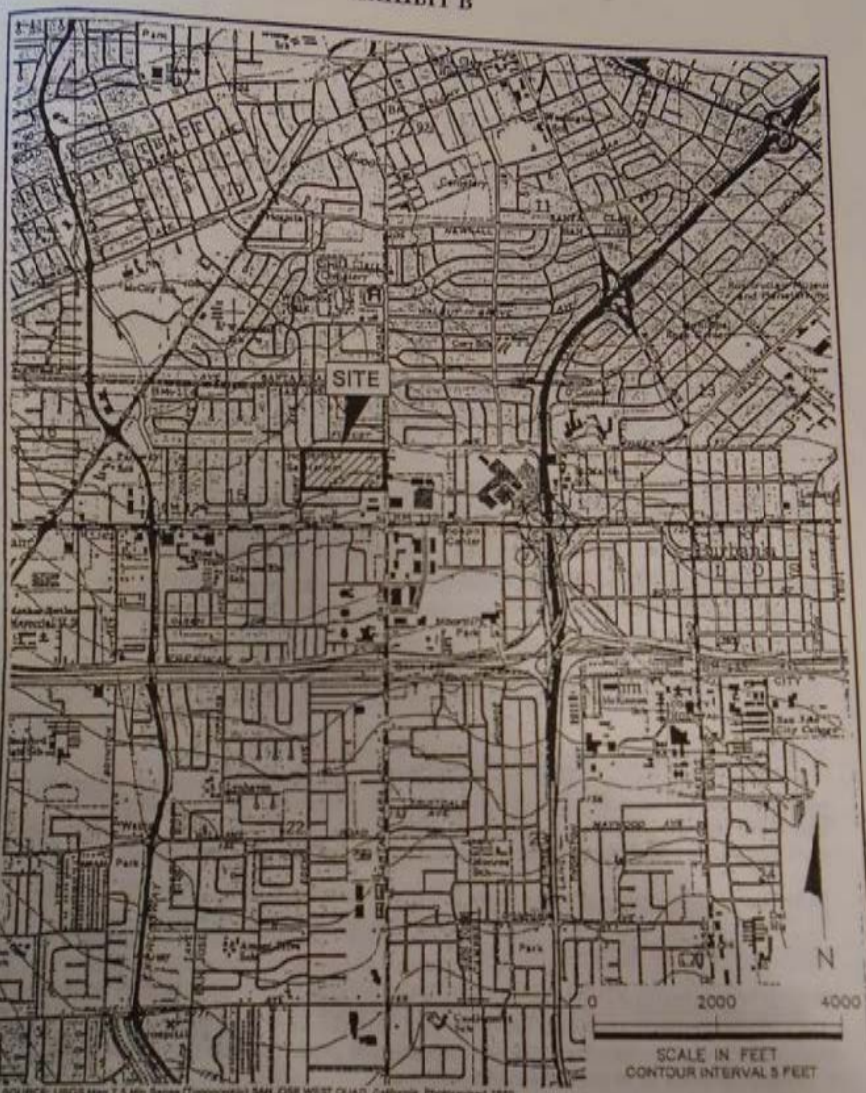

PINEVIEW DRIVE
CRESTVIEW DRIVE
FOREST
FOREST AVE.
HENRY
AVE.
NORTH WINCHESTER
DORICH
TRACT NO 1018
TRACT NO 1018
TRACT NO 1017
MAYETTE MANOR
DORICH MANOR
STREET

EXHIBIT B



SOURCE: USGS Map 7.5 Min Series (Topographic) SAN JOSE WEST QUAD, California, Photorevised 1980

ENVIRON

5001 Shellmound St., Suite 700, Emeryville, CA 94608

Site Location Map
BAREC
90 N. Winchester Blvd
Santa Clara, California

Drafter: RS | Date: 8/19/02 | Contract Number: 03-10609A | Approved: | Revised:

EXHIBIT C

SCOPE OF WORK

The following Tasks will be completed as part of this Agreement.

TASK 1 Submittal of Existing Data

The Proponent will submit to DTSC all background information, sample analysis results, environmental assessment reports, and any other information pertinent to the hazardous substance management and/or release, characterization and cleanup of the Site. DTSC will review the information, identify areas and media of concern, and determine the additional work, if any, required to complete the investigation/remediation of the Site.

TASK 2 Removal Action Workplan. If DTSC determines a removal action is appropriate, the Proponent will prepare a Removal Action Workplan (RAW) in accordance with Health and Safety Code sections 25323.1 and 25356.1. The Removal Action Workplan will include:

(a) a description of the onsite contamination
(b) the goals to be achieved by the removal action
(c) an analysis of the alternative options considered and rejected and the basis for that rejection. This should include a discussion for each alternative which covers its effectiveness, implementability and cost
(d) administrative record list

If the proposed removal action does not meet the requirements of Health and Safety Code section 25356.1(h), the Proponent will prepare a Remedial Action Plan (RAP) in accordance with Health and Safety Code section 25356.1(c) for DTSC review and approval.

TASK 3. California Environmental Quality Act (CEQA)

The City of Santa Clara is preparing a CEQA environmental review document in connection with Proponent's planned development of the Site. As a responsible agency, DTSC will prepare the necessary CEQA documents. If required, the Proponent shall submit the information necessary for DTSC to prepare these documents.

TASK 4 Implementation of Final RAW

Upon DTSC approval, Proponent shall implement the final RAW as approved in accordance with the approved schedule.

TASK 5 Changes During Implementation of the Final RAW

During implementation of the final RAW, DTSC may specify such additions, modifications and revisions as deemed necessary to protect human health and safety or the environment or to implement the RAW.

TASK 6 Public Participation

6.1 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 and 25356.1(e), the DTSC Public Participation Policy and Procedures Manual, and with DTSC's review and approval.

6.2 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.

6.3 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.

6.4 The Proponent shall publish, in a major local newspaper(s), a public notice announcing the availability of the RAW for public review and comment. The public comment period shall last a minimum of thirty (30) days.

6.5 DTSC may require that the Proponent hold at least one public meeting to inform the public of the proposed activities and to receive public comments on the RAW.

6.6 Within two (2) weeks of the close of the public comment period, the Proponent shall prepare and submit to DTSC a draft response to the public comments received.

6.7 If appropriate, the Proponent will revise the RAW on the basis of comments received from the public, and submit the revised RAW to DTSC for review and approval. The Proponent will also notify the public of any significant changes from the action proposed in the RAW.

TASK 7 Discontinuation of Remedial Technology

Any remedial technology employed in implementation of the final RAW shall be left in place and operated by the Proponent until and except to the extent that DTSC authorizes the Proponent in writing to discontinue, move or modify some or all of the remedial technology because the Proponent has met the criteria specified in the final RAW for its discontinuance, or because the modifications would better achieve the goals of the final RAW.

TASK 8 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 raporting 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 9 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.

Task 10 Completion/Implementation Report

Proponent shall submit a report describing the remedial actions taken at the Site and identifying how remedial action objectives have been achieved.

Task 11. Closure Certification

Based upon the approved Completion/Implementation Report, DTSC shall prepare documents to certify closure of the Site.

EXHIBIT D

VOLUNTARY CLEANUP Cost Estimates - Project Manager Worksheet

Title / Classification	Project Manager HSS/HSE	Legal Senior Staff Counsel	Toxicology Staff Toxicologist	HQ-CEQA EP	Industrial Hygiene AIH	Public Participation PPS	Tech. SR / Supervisor SHSE/SHSS
Task: Agreement Preparation/Negotiation	0	2					6
Review Existing Documments	24						6
Public Participation	16					40	4
CEQA	32			40			6
RAP/RAW	40	6	16		10	10	20
Response to Comments	20	6		5		10	6
Oversight	20						
Completion/ Implementation Report	16						4
Project Management	12						6
Certification	8						2
Total No. Hours/Class	188	14	16	40	10	60	62
Total No. Hours	390						
Hourly Rate/Class	120	150	154	128	129	101	132
Cost/Class	22560	2100	2464	5120	1290	6060	8184
Total Costs	47778						

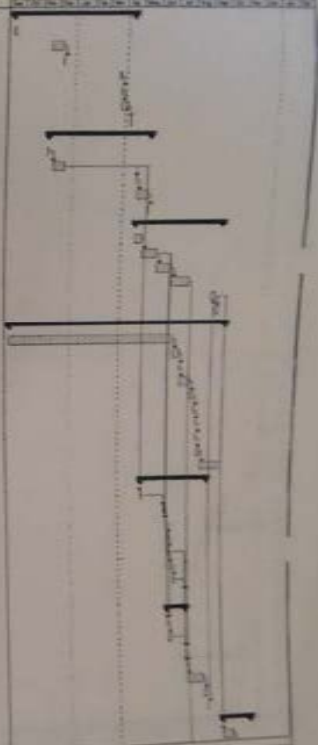
Hourly Rate include direct costs and indirect costs at a rate of 188.43%

EXHIBIT E

TENTATIVE PROJECT SCHEDULE

DGS - SAREC Project
Virginia Lasky
Karen Toth

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	Preliminary Cleanup Agreement(VCA)	164 days	Thu 10/1/02	Tue 5/4/03		
2	DTSC Drafts VCA	1 days	Thu 10/1/02	Tue 10/1/02		
3	DGS reviews VCA	10 days	Wed 11/20/02	Wed 12/11/02		
4	DTSC reviews VCA	2 days	Thu 12/12/02	Fri 12/13/02	3	
5	DGS comments on the VCA	3 days	Mon 12/23/02	Wed 12/25/02		
6	DTSC reviews VCA	1 day	Thu 1/02/03	Thu 1/02/03	5	
7	DGS Signs VCA	5 days	Fri 2/28/03	Tue 3/4/03	6	
8	DTSC signs VCA	2 days	Mon 3/31/03	Tue 4/1/03	7FS+20 days	
9	Scoping Data	154 days	Mon 11/18/02	Thu 6/12/03		
10	RP submits existing data	1 day	Mon 11/18/02	Mon 11/18/02		
11	DTSC reviews existing data	15 days	Thu 11/28/02	Wed 12/18/02	10	
12	RP submits revised Report	1 day	Wed 04/30/03	Wed 04/30/03	11	
13	DTSC reviews Report	15 days	Thu 05/01/03	Wed 05/21/03	12	
14	DTSC approves Report	1 day	Thu 05/22/03	Thu 05/22/03	13	
15	DRAFT REMEDIAL ACTION WORKPLAN (we please)	113 days	Mon 10/28/02	Mon 10/28/02		
16	RP Prepares draft RAWP	15 days	Thu 10/31/02	Wed 11/20/02		Responsible Party
17	DTSC reviews and comments on draft RAWP	25 days	Thu 12/19/02	Wed 01/22/03	16	Project Manager, Attorney, Supervisor, Geologist, Engineering Section
18	RP Revises draft RAWP	20 days	Thu 01/23/03	Wed 02/19/03	17	Responsible Party
19	DTSC reviews and approves final draft RAWP	24 days	Thu 02/20/03	Tue 03/25/03	18	Project Manager, Supervisor, Branch Chief
20	DTSC approves final RAWP	5 days	Tue 03/25/03	Tue 04/01/03	19	Responsible Party, Supervisor, Branch Chief, Project Manager
21	RP Distributes final RAWP	4 days	Wed 04/02/03	Mon 04/07/03	20	Responsible Party, Project Manager
22	CEQA	208 days	Thu 06/12/02	Tue 04/01/03		
23	RP prepares Draft EIR	220 days	Thu 06/12/02	Wed 07/17/02		Project Manager
24	DTSC Prepares responsible agency checklist	5 days	Thu 07/18/02	Tue 07/23/02	23	Project Manager
25	Transmit checklist to PEAS	1 day	Wed 07/24/02	Wed 07/24/02	24	Supervisor, Project Manager
26	PEAS reviews checklist	10 days	Thu 07/25/02	Wed 08/07/02	25	PEAS Reviewer
27	Incorporate comments from PEAS	5 days	Thu 08/08/02	Wed 08/14/02	26	Project Manager
28	Complete Notice of Determination (NOD) package	2 days	Thu 08/29/02	Fri 08/30/02	27	Project Manager, Supervisor, Branch Chief
29	Approve NOD package	1 day	Mon 09/09/02	Mon 09/09/02	28	Project Manager, Branch Chief, Supervisor
30	Transmit NOD package to PEAS	1 day	Tue 09/03/02	Tue 09/03/02	29	Project Manager, Supervisor
31	PEAS processes NOD package and files with Lyne	5 days	Wed 09/04/02	Tue 09/09/02	30	PEAS Reviewer
32	30-day NOD challenge period	30 days	Wed 09/10/02	Tue 10/21/02	31	
33	PUBLIC PARTICIPATION ACTIVITIES	81 days	Tue 06/25/02	Tue 09/17/02		
34	RP Outlines mailing list per Lyne/Lasky	5 days	Tue 06/25/02	Wed 06/31/02	11	Public Participation Specialist, Project Manager
35	RP Prepares draft Fact Sheet	2 days	Thu 07/18/02	Fri 07/19/02	34FS+20 days	Project Manager, Public Participation Specialist, Responsible Party
36	DTSC reviews draft Fact Sheet	2 days	Mon 07/07/02	Tue 07/09/02	17,35	Project Manager, Public Participation Specialist, Supervisor
37	RP Revises draft Fact Sheet	2 days	Wed 07/10/02	Thu 07/11/02	36	Responsible Party
38	DTSC approves Fact Sheet	1 day	Fri 07/12/02	Fri 07/12/02	37	Project Manager, Supervisor, Public Participation Specialist
39	RP Prints Fact Sheet	5 days	Mon 07/15/02	Fri 07/19/02	38	Responsible Party
40	RP mails Fact Sheet	2 days	Mon 07/22/02	Tue 07/23/02	39	
41	RP Mails Fact Sheet	5 days	Wed 08/13/02	Thu 08/14/02	14,40	Responsible Party, Project Manager, Public Participation Specialist
42	Public Notice	25 days	Wed 07/09/02	Wed 08/13/02		
43	RP Prepares draft Public Notice	1 day	Wed 07/10/02	Wed 07/10/02	17,36	Responsible Party
44	DTSC reviews draft Public Notice	5 days	Thu 07/11/02	Wed 07/17/02	43	Public Participation Specialist, Project Manager, Supervisor
45	RP Publishes Public Notice	1 day	Wed 08/13/02	Wed 08/13/02	44FS+2 days,14	Responsible Party
46	RP submits Information repositories	1 day	Thu 08/14/02	Thu 08/14/02	38,45	Responsible Party
47	Public Comment Period	23 days	Thu 08/14/02	Mon 09/16/02	45	
48	DTSC Prepares responsiveness Summary	1 wk	Tue 09/18/02	Mon 09/23/02	47	Project Manager, Supervisor
49	DTSC Transmits responsiveness Summary to commenters	1 day	Tue 09/24/02	Tue 09/24/02	48	Project Manager, Supervisor
50	Implementation	44 days	Wed 06/12/02	Mon 12/1/03		
51	RP Implements RAWP	15 days	Wed 06/12/02	Tue 11/11/02	22FS+15 days	Project Manager, Geologist



PHASE II - SITE CHARACTERIZATION REPORT

University of California
Former Bay Area Research and Extension Center (BAREC)
90 North Winchester Boulevard
Santa Clara, California

Prepared for:
DVP and Associates

Prepared By:
ENVIRON International Corporation
Emeryville, CA

October 2003

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LIST OF ACRONYMS

BAREC	Bay Area Research and Extension Center
bgs	below ground surface
Cal/EPA	California Environmental Protection Agency
CFR	Code of Federal Regulations
cm^2	Square centimeter
COPC	Chemical of Potential Concern
4,4'-DDD	4,4'-Dichorodiphenyldichloroethane
4,4'-DDE	4,4'-Dichorodiphenyldichloroethene
4,4'-DDT	4,4'-Dichorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
kg	Kilogram
LBNL	Lawrence Berkeley National Laboratory
m^3/day	cubic meters per day
mg/cm^2	milligrams per square centimeter
mg/day	milligrams per day
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
mm of Hg	millimeters of mercury
MRL	Method Reporting Limit
MSL	Mean Sea Level
NA	Not Applicable
NCP	National Contingency Plan
ND	Not Detected
NR	Not Reported
PEA	Preliminary Endangerment Assessment
PRG	Preliminary Remediation Goal
R&D	Research and Development
T&CVSC	Town and Country Village Shopping Center
UC	University of California
UCL	Upper Confidence Limit
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

An environmental investigation was conducted at the former University of California (UC) Bay Area Research and Extension Center (BAREC) in Santa Clara, California (the Site). The overall purpose of this investigation was to determine whether current or past chemical use at the Site has resulted in soil concentrations that might pose a threat to public health and the environment. The State of California has closed the BAREC and plans to sell the property for development of single-family homes, open space and senior housing.

The BAREC was used as an agricultural research station since the 1920s. The primary research efforts at the BAREC have focused on improving crop production methods, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Part of this research has involved demonstrating the efficacy of a variety of research and development (R&D) pesticides. Monthly records of pesticide use were available from 1979 until the July 2002. These records indicated that small quantities of 90 different chemicals had been tested on crops at the Site. Fourteen of these 90 chemicals were considered of potential concern because of their toxicity and persistence in the environment. The remaining chemicals were not of potential concern because of their lack of persistence and/or low toxicity.

As a result of the application of pesticides to soil and the handling of pesticides on-site, over 50 samples of surface soil were collected to determine if surface soil in field plots and the greenhouses contained pesticide residues. These samples were analyzed for chemicals/pesticides that may persist in soil for many years following application. The chemicals analyzed included the 14 chemicals of potential concern, known to have been used at the Site, and 60 pesticides that were commonly used prior to 1979. Subsurface soil samples were also collected and analyzed from a former sewer leach pit, the former evaporation pond and sediment trap to determine if deeper subsurface soil and potentially ground water beneath the Site contained pesticide residues.

Arsenic and dieldrin were the chemicals of potential concern that were found at concentrations above USEPA Preliminary Remediation Goals (PRGs) in surface soils. Elevated concentrations of dieldrin were isolated and of limited horizontal and vertical extent. However, the mean dieldrin concentration in Field 1 exceeded the PRG primarily because of an isolated detection of dieldrin at a concentration of 240 ug/kg in surface soil. As a result, it is recommended that this "hot spot" of dieldrin be addressed such that the mean concentration in Field 1 will be below the PRG of 30 ug/kg.

Arsenic, a naturally-occurring inorganic chemical found in soil as well as in certain pesticides, was detected at concentrations above natural, background levels for Santa Clara. An additional 79 soil samples were collected and analyzed to define the extent of arsenic in soil at the site. An area in the eastern portion of Field 4 had elevated concentrations of arsenic in surface soils relative to background levels and other areas at the site. These results suggest that the elevated concentrations of arsenic in Field 4 may be a result of prior use of arsenical pesticides. There were also two additional areas that had isolated, elevated concentrations of arsenic: 1) adjacent to the road in front of the former screen house, a less than five square foot area of distressed vegetation had an elevated concentration (37 mg/kg) of arsenic in surface soil; and 2) between Field 11 and 12, there is an elevated concentration (27 mg/kg) of arsenic in surface soil.

Based on these results, a removal action is recommended to address the elevated concentrations of arsenic in the eastern sector of Field 4 and the three "hot spots" in surface soil. Removal of soils in this area would reduce potential health risks for future receptors to levels similar to those in the remaining and surrounding areas of the site.

With respect to the former sanitary sewer leach pit, the former evaporation pond and sediment trap, there is no evidence that subsurface soil and/or ground water has been adversely impacted as a result of their operation. No further investigation of subsurface soil and/or ground water is warranted based on these sampling results.

1.0 INTRODUCTION

This report presents the results of an environmental investigation conducted at the former University of California (UC) Bay Area Research and Extension Center (BAREC) in Santa Clara, California (the Site). This work was performed by ENVIRON International Corporation ("ENVIRON") in accordance with their agreement dated July 16, 2002 with DVP Associates on behalf of the State of California Department of General Services ("DGS").

The overall purpose of this investigation was to investigate whether current or past chemical use at the Site has resulted in soil concentrations that might pose a threat to public health and the environment. DGS plans to sell the former BAREC property for development of single-family homes, open space and senior housing.

This report is organized as follows: Specific sampling objectives and the scope of the Site investigation are presented in Section 2; Section 3 presents the physical characteristics of the Site; and, Section 4 discusses the nature and extent of contamination at the Site. The remainder of Section 1 presents background information regarding the Site.

1.1 SITE BACKGROUND

The Site is located at 90 North Winchester Boulevard in the city of Santa Clara, California. The location of the Site is presented on Figure 1. The Site is an approximately 17-acre, roughly rectangular-shaped property. As shown in Figure 2a, 12 small buildings are located on the eastern portion of the Site. The remainder of the property consists of agricultural fields, unpaved roadways and a paved parking area. The fields are identified by a number from one through twelve and cover a total of approximately eleven acres. Field 9 is enclosed by screens, which form a covered building over the field. Unpaved roadways provide access to the fields. The only paved area at the Site is the northwest corner of the property, where buildings 100, 103, 104, 105, 201 and 204 are located. This paved area was used for parking.

1.1.1 Site History

According to UC personnel, the Site was originally occupied by a veterans' widows home. Agricultural experimental field station operations at the Site began in 1928. The home remained in operation until the 1960s, when it was demolished and replaced with more agricultural fields. According to historical topographical maps, the name of the facility used to be Holderman Sanitarium. Based on a review of historical titles and deeds, obtained from

the DGS, four lots owned by Margaret Osborne were deeded to the State of California in 1921 and 1924. The four lots were incorporated into three lots, two of which were deeded by the State of California to the UC in 1952 and 1963. The third lot, located directly southwest of the Site, remained property of the State of California, and is currently occupied by an office building.

The field station's initial purpose was to assist farmers in the surrounding area. Until 1990, deciduous fruit trees (such as apples, citrus, cherries, almonds and ornamental) were planted to conduct research on fertilizers, irrigation, variety characteristics of crops, and crop disease control. This research included testing of pesticides and insecticides. As the surrounding area changed and became urban, the trees were replaced with various crops, such as strawberries, corn, tomatoes, beans and flowers. Since about 1995, eighty percent of the research at BAREC focused on crop improvement, whereas only twenty percent has involved pesticide use (UC, 2002). In early 2003, UC closed the BAREC. As part of closure, UC personnel removed all hazardous materials (i.e. fertilizers, pesticides, fuels, oils, cleaning solutions), portable tanks and trailers from the Site. The buildings and related utilities remain in place at the Site.

1.1.2 Description of the Former BAREC Operations

As stated above, a variety of crops have been planted on-site. In 2002, these crops included corn, tomatoes, beans, flowers, grass sod turf, and deciduous trees (e.g., apples, cherries, ornamental trees). Typically, within each of the 12 fields, a specific crop such as deciduous fruit trees or turf grass was grown. For research involving crop disease, select pesticides were applied to determine the efficacy at ameliorating the pest or disease of concern by UC researchers. The crops were routinely changed and, therefore, the pesticides applied to each field also changed. Brief descriptions of activities within certain areas of the Site are presented below.

- **Main Administration Building, Building 100 and Administrative Trailer Building 404.** The building contains administrative offices, a large meeting room and a dry laboratory. According to UC personnel, no chemicals were used in the laboratory. Soils were dried and weighed in preparation for outside analysis of chemical and physical properties. Additional administrative activities were undertaken in a portable trailer, Building 404. The trailer contains a small office and a dry laboratory for specimen preparation. No chemicals were used or stored in this building.

- **Greenhouses, Buildings 103, 104, and 105, and Potting Shed, Building 204.** Buildings 103 through 105 are fiberglass structures without floors that have been

historically used as greenhouses. In 2002, Greenhouse Building 103 stored compost bins; Greenhouse Building 104 stored planter boxes, old furniture and equipment. Greenhouse Building 105 was used to grow vegetables. The vegetables were grown in pots located on top of tables. Water and fertilizer were sprayed directly onto the plants. Some herbicide was sprayed occasionally between the tables to control weeds.

The potting shed is located adjacent to the greenhouses and was used to pot small plants before they were placed in the greenhouse. At the time of the Site visit in 2002, one small sink was located in this room. According to UC personnel, the sink was no longer in service, and was previously used exclusively to wash pots. The sink used to drain through a pipe to a 6-feet wide, 6-feet long underground wooden tank, located in Field 6. The depth of the tank is unknown. UC personnel indicated that the tank was accidentally broken, and that the pipe was subsequently plugged. No chemicals were reportedly used in the potting shed.

- **Pesticide Storage Shed, Building 208.** This building is, according to UC personnel, the only storage area for pesticides. The building is divided into two rooms. In the first room, a variety of pesticides were stored on shelves. Small quantities of pesticides were also mixed in this room and poured into 60-gallon tanks and backpacks for application in the field. A fume hood is located in the building and was used for mixing the pesticides. There are no drains or sinks in this room. The second room contained personal protective gear, showers and lockers for the employees using pesticides. A floor drain is located in this portion of the building that is currently connected to the City sanitary sewer. Prior to connection to the sewer, this floor drain discharged to an evaporation bed, (which is discussed in more detail below). No information is available regarding whether this drain existed prior to 1973 when the evaporation bed was constructed, and if it existed prior to 1973, where it discharged.

- **Equipment Wash System near Building 208.** An equipment wash system was located next to the pesticide shed (Building 208). It was installed in the early 1990s, according to UC personnel in the area formerly occupied by the evaporation bed (discussed below). It consisted of three aboveground tanks and a series of filters, and was used to wash the exterior of the fertilizer tanks. The interior of the fertilizer tanks were rinsed thrice in the field and the contents applied to the same field. The equipment wash system was removed by UC when BAREC operations ceased in early 2003.

- **Shop and Machinery Storage, Building 201 and Portable Military Trailer.** BAREC owned nine vehicles consisting of three trucks, four tractors, one forklift and one car. These vehicles were serviced inside Building 201. According to UC personnel, the operations conducted inside this building consisted of oil changes and degreasing operations, in which a small amount of solvent was placed on rags and subsequently the rags were used to wipe the desired surface. The solvent was allowed to evaporate off the rags before they were discarded in the trash. Only small containers (less than one gallon) of a variety of solvents, lubricants, cleaning supplies and a small air compressor were stored in this building. According to UC records, the small quantities of solvents used were mineral-based and/or petroleum based (such as Stoddard). There is no record that Freon or other chlorinated solvents were used at the Site. In addition to the maintenance shop, the facility also stored used oil and used oil filters in a portable metal trailer located adjacent to Field 5. The portable metal trailer and its contents were removed from the Site by UC when operations ceased in early 2003.

  According to UC personnel, the maintenance shop never had any hydraulic lifts or maintenance pits. In addition to the shop, the building also houses a walk-in refrigerator that was formerly used to store vegetables.

  An equipment washer was located outside the building, although the current personnel have never used it. Historically, a steam cleaner was used just outside the shop, however it was stolen sometime before 1996, according to UC personnel. During ENVIRON's visit to the Site in July 2002, there were no visual signs of staining on the ground near Building 201 or inside the building.

- **Irrigation Pumphouse, Building 203.** An irrigation well is located inside this building. The current submersible pump is located at a depth of 200 feet below ground surface (bgs) and has a capacity of 500 gallons per minute (gpm). The well has not been used since UC closed the BAREC in early 2003. The well will be closed and abandoned prior to Site redevelopment.

- **Departmental Shed, Building 207.** This building is located in close proximity to the fields and is divided into several compartmentalized rooms with large barn doors for access. According to UC personnel, the building was used for storage of fertilizers, old equipment and furniture, and as parking for one of the tractors. Additionally, one room was used to grow mushrooms.

- **Aboveground Storage Tanks.** Two portable, double-walled 500-gallon aboveground storage tanks (ASTs) were located on-site in the vicinity of Field 5. Up until early 2003, the ASTs were on top of concrete pads. The date these tanks were installed is unknown but it was before 1996, according to UC personnel. It is likely they were installed after the USTs[1] were removed in 1993. The ASTs were removed from the Site by UC when BAREC operations ceased.

Additionally, there is a water tank next to the pump house that was used for water storage. Another water tank was installed next to the first one, but was never used.

1.1.3 Chemical Use

According to UC personnel, the following types of chemicals have been used on-site: pesticides and fertilizers for the crops; gasoline and diesel for the vehicles; paints and solvents for general maintenance. Most of these chemicals were stored in small quantities (i.e., less than five gallons) with the exception of diesel and gasoline, which was stored in double-walled 500-gallon ASTs, waste oil, (which was stored in drums in the portable metal trailer), and ammonium nitrate, (a fertilizer, stored in sacks in Building 207). There are no records of pesticide use prior to 1979[2]. ENVIRON obtained pesticide application records from July 1979 to July 2002, which are summarized in Appendix A. Generally, these records indicate that small quantities of a wide variety of pesticides were used on different crops likely in different fields at the Site. The monthly records indicate the brand name, quantity, crop applied to, and size of the area applied. Additional discussion of pesticide use at the Site is discussed below in Section 2.1.

1.1.4 Previous Site Investigations

In 1993 and 1987, there were two environmental investigations at the Site. These investigations were related to removal of two underground fuel storage tanks and closure of an evaporation bed. Details of these investigations are described below.

1.1.4.1 Underground Storage Tanks

Two 1,000-gallon fuel tanks were formerly located on-site. The date of installation of the tanks is unknown. A 1000-gallon gasoline UST was located next to Building 201, and a 1000-gallon diesel UST was located next to Building 207 (see Figure 2a).

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[1] USTs are discussed below in Section 1.1.4.1

[2] California regulations did not require records of pesticide use until 1980.

In 1993, UC personnel removed the USTs. The USTs were reportedly in good condition with no evidence of damage or leaks at the time of the removal. As part of removal activities, two samples were taken from approximately two feet below the bottom of the gasoline UST excavation, and one sample was taken from approximately two feet below the bottom of the diesel UST excavation. The soil samples were analyzed for gasoline, diesel, lead, benzene, toluene, ethylbenzene and xylenes. None of these constituents were detected. A letter dated October 7, 1993, from the City of Santa Clara Fire Department confirms that there was no sign of contamination, and that no further work was required.

1.1.4.2 Former Evaporation Bed

An evaporation bed was constructed in 1973 to dispose of diluted pesticide wastes. Rinsate from the washing of pesticide containers and application equipment was applied to the evaporation bed from 1973 to 1985. Use of the evaporation bed was discontinued in 1985 and inlets to the basin were sealed. In 1987, UC initiated an investigation to close the bed. Dames and Moore was retained to oversee closure activities and prepare the closure report.

According to the Dames and Moore closure report (Dames and Moore, 1988), the evaporation bed consisted of a lined soil evaporation bed, which was 20-feet long and 15-½-feet wide (Figure 2b). A translucent corrugated fiberglass roof shielded the bed from rainfall. A compacted earthen embankment covered by 2 inches of washed sand and a rubber liner formed the floor and walls of the bed. The fill in the evaporation bed consisted of 16 inches of sandy loam soil overlying a 6-inch layer of graded gravel and 2 inches of washed sand. Perforated bituminous fiber pipes in the gravel layer were connected to a distribution box within the bed. The distribution box was composed of pressure-treated wood. A 4-inch bituminous fiber pipe penetrated the liner on the east side of the bed and connected the distribution box to the sediment trap, located 5 feet east of the bed. The sediment trap consisted of a cylindrical concrete box, 3 feet in diameter and 6 feet deep, with a manhole cover. Because the elevation of the pipe carrying rinsate into the sediment trap was higher than that of the pipe carrying the rinsate out, heavier particles sank into the trap and were not carried to the evaporation bed. Two drains, one in the pesticide shed and one in the concrete wash slab, were connected to the sediment trap by a 4-inch plastic pipe and a 4-inch cast iron pipe, respectively.

The rinsing occurred in a concrete wash slab adjacent to the pesticide storage shed (Building 208). Rinsate drained first into the sediment trap from which sediment was

cleaned out periodically and distributed on the evaporation bed. From the sediment trap water flowed into the distribution box of the evaporation bed where perforated pipes connected to the distribution box dispersed the diluted pesticide solutions throughout the bed's gravel layer. Capillary forces in the loam soil drew the rinsate solution up through the overlying soil to evaporate at the surface. Hydrated lime (calcium hydroxide) was tilled into the soil bed to increase the soil pH, which reportedly accelerated the breakdown of organophosphate and carbamate pesticides.

The liner in the evaporation bed was composed of two sheets of 20-mil-thick nylon-reinforced butyl rubber liner, spliced together on-site. The liner was inspected carefully during bed removal activities and appeared to be in good condition. At the time the Dames & Moore report was written, there was no history of leaks or repairs to the liner at the Site.

Prior to its removal, the evaporation bed was sampled in July 1987 by UC staff. The bed was divided into 16 quadrants of approximately equivalent size; one sample from each quadrant was collected for depths of zero to 12 inches. A composite sample of all 16 samples was submitted for analysis. Sample results are summarized in Table 1.

The UC, with the assistance of Dames & Moore, removed the evaporation bed in October 1987. All materials were excavated from inside of the liner and the liner was checked for integrity. After the liner was removed, the underlying two inches of soil were excavated from the bed to minimize any possible residual contamination.

Four samples were collected from the bottom of the evaporation bed excavation after the liner was removed. The carbamate pesticide chloropropham was reported at a concentration of 2.8 mg/kg in one of the samples. No other pesticides or herbicides were detected in the four samples collected below the former evaporation bed. Sample results are summarized in Table 2. Dames & Moore concluded that there was no indication that the operation of the former evaporation bed had a significant impact on the environment.

1.2 POTENTIAL SOURCES OF CONTAMINATION

The results of the two previous environmental investigations show no evidence of environmental contamination as a result of prior operation of the USTs and evaporation bed at the Site. However, these prior investigations were limited to the USTs and evaporation bed and did not investigate other areas of the Site that may have been impacted by prior pesticide use. Based on the Site history, there appear to be additional sources of potential

environmental contamination that require further investigation. These potential sources are discussed below and include:

- **Current and Historical Pesticide Use on Crops**
  Since the 1920s, the Site has been used as an agricultural research station. As a result of the application of pesticides to soil and the handling of pesticides on-site, it is possible shallow surface soil in field plots and the greenhouses may contain pesticide residues. It is unlikely that deeper soils (i.e. greater than 3 feet) were impacted from prior pesticide/fertilizer use. Since crops were planted in small plots by individual researchers, crop tilling methods involved use of manual labor or small tractors, which typically mixed only the top 12 to 18 inches of soil.

- **Historical Wastewater Discharges**
  Sanitary wastewater generated from the main administrative building, Building 100, is currently discharged into the City of Santa Clara sewer system. According to UC documentation, the connection to the city system occurred in 1977. However, prior to 1977, wastewater from these buildings was discharged into a sewage leach pit (or "cesspool"). According to a drawing dated April 1, 1977, the leach pit/cesspool was approximately four feet wide, six feet long and four feet deep, and was located between buildings 201 and 100 as shown on Figure 2a. The former presence of this sewer leach pit raises the possibility that deeper subsurface soil and potentially ground water beneath the Site may contain pesticide residues from discharges to sanitary sewer system.

- **Former Evaporation Pond and Sediment Trap**
  The arsenic detection limits for samples analyzed in October 1987 following removal of the bed were above typical background arsenic concentrations. As a result, it is unknown whether concentrations of arsenic above typical background levels remain in soil beneath the former evaporation pond. Also, the sediment trap, which is adjacent to the pesticide shed and evaporation pond, was not sampled during pond closure activities and so it is unknown whether the sediment trap adversely affected subsurface soil

Further surface and subsurface environmental investigation are necessary to determine whether these potential sources of contamination have adversely impacted soil and/or ground water at the Site. This report presents the scope and results of an environmental investigation to determine the potential impact from these sources

2.0 SCOPE OF INVESTIGATION

To determine whether pesticide use at the Site had impacted surface and near surface soils at the Site, soil samples were collected during two phases of investigation at the Site. The sampling density was based on DTSC's: "Interim Guidance for Sampling Agricultural Soils for School Sites" dated August 26, 2002 ("DTSC Guidance"). Soil samples were collected from the Site initially on July 31 and August 1, 2002. Additional samples were collected in second and third phases of investigation on September 23, 2002 and April 1, 2003.

Soil samples were collected at each of the twelve field plots and from the greenhouse floor to depths of 3 feet bgs on July 30 and August 1, 2002 using a hand auger and an Arts-brand hand-sampling device. The samples were collected in 2-inch inner diameter by 6-inch-long stainless-steel sample tubes hammered directly into the ground using the Arts sampler after hand auguring to a specific depth. During the September 23, 2002 sampling event, a 1.75-inch diameter by 6-inch-long stainless-steel liner was placed inside a hollow stem hand auger upon reaching the desired sample depth. An additional soil sample was collected by this means on April 1, 2003 in a small area of distressed vegetation adjacent to the road in front of the former screen house. After sample tubes were extracted from the ground, the ends were covered with Teflon™ tape and sealed with plastic end caps and silicone tape. The samples were labeled indicating the project number, sample ID number, date and time of sample collection, and initials of the sampler. The label was placed directly onto the side of the stainless-steel sample sleeve. Each sample was then placed in a re-sealable Ziplock™ type plastic bag and sealed. Samples were packed in insulated coolers containing ice and picked up by the analytical laboratory the following morning after sample collection.

To investigate releases from the former sewer leach pit, former evaporation pond, sediment trap, and to collect soil samples from depths greater than 3 feet bgs in the field plots, direct-push soil borings were installed at specific locations using a Geoprobe™ direct-push sampling rig equipped with a hydraulic driving/hammering system. Direct-push sampling was performed on September 23, 2002 and April 1, 2003. The Geoprobe™ system uses 2-inch outer diameter (OD) stainless-steel probes to collect soil samples in 1.75-inch OD stainless steel sample sleeves. Probes were advanced and samples collected from specified intervals beginning at each sampling location. Direct-push soil samples were collected in 6-inch long by 1.75-inch OD stainless-steel sampling sleeve for transport to the analytical laboratory. Immediately after a sample was collected, the ends of the stainless-steel sleeves were covered with Teflon tape and sealed with plastic end caps and silicone tape. The

samples were labeled and packaged in the same manner as the hand auger samples, as described above.

At the end of each sampling day sample information was written on chain-of-custody (COC) forms. Information entered onto the form included the sample ID number, sample matrix, date of sample collection, location and depth of sample, and requested analyses. Each COC form consisted of three carbon copy sheets, two of which were placed in the appropriate sample shipping cooler for laboratory use, with the third sheet being retained by the Field Manager. COC forms were placed in adhesive plastic windows and affixed to the inside of the shipping cooler lid. Coolers were then closed, sealed with duct tape, and custody seals affixed to each cooler to enable detection of tampering.

2.1 Chemicals of Potential Concern

Samples from field plots were analyzed for a variety of pesticides and metals. To determine chemicals of potential concern (COPCs) and the specific constituents for which the samples should be analyzed, a review of pesticide use records from 1979 to 2002 was conducted. According to these records, the BAREC tested small quantities of 90 different chemicals at the Site since 1979. Given that the Site has likely conducted agricultural testing of chemicals since the 1930's, it is likely there are other chemicals that were used prior to 1979, although no written records are available to document their use. The chemicals of greatest potential concern at the Site are those that persist in the environment. DTSC Guidance states that for the majority of newer pesticides persistence or "half-life" is limited to a few days (DTSC, 2002). The DTSC Guidance recommends testing for organochlorine pesticides since these compounds can persist in soil at levels of health concern for many years following application. The DTSC Guidance also recommends testing for anaerobically stable pesticides such as ametryn. Ametryn is a triazine herbicide. Based on DTSC Guidance, organochlorine (OC) pesticides and triazine herbicides (including ametryn) were analyzed in soil at the Site. The specific OC pesticides and triazine herbicides tested are listed in Table 3.

Of the 90 chemicals known to have been used at the Site since 1979, soil samples were analyzed for 14 of these chemicals and are listed as COPCs in the Table 3. These chemicals fall into general categories of chemicals: organophosphorous pesticides, carbamate and urea pesticides, chlorinated herbicides and inorganics/heavy metals. Other chemicals typical of these chemical categories may also have been used at the Site, but there are no written records of pesticide use prior to 1979. Soil samples were analyzed for inorganic chemicals because heavy metals may have been applied to the fields as pesticides and fertilizers. Soil

samples were analyzed for the specific organophosphorous pesticides, carbamate and urea pesticides, chlorinated herbicides, and inorganic chemicals listed in Table 3. Soil samples were also tested for diquat and paraquat because there are written records of their use at the Site. Soil pH was also tested since some of the chemicals used at the Site were acids or bases. An elevated or low pH in soil could indicate a release of these chemicals.

There are 76 chemicals that were listed in pesticide use records but were not identified as COPCs and not analyzed for at the Site. These 76 chemicals were not included for several reasons. First, a chemical's lack of persistence in the environment or short half-life justified exclusion as a COPC for the Site. DTSC Guidance states that it is not necessary to analyze for chemicals with short persistence in the environment. Twenty-eight of these 76 chemicals have half-lives indicating that at least 99.99% of the mass would be removed by August 2002 given the last year of its usage. The mass removed is estimated from the half-life using the following formula:

$$M = 1 - e^{\frac{\ln 0.5}{t_{0.5}} t}$$

- where M is fraction mass removed;
- t is time elapsed where current time is October 2002 and time of last application is assumed to be at the end of the year of last use or July 2002 for chemicals used in 2002; and
- $t_{0.5}$ is half-life as provided by EXTOXNET (Extension Toxicology Network Pesticide Information Profiles, ARS (USDA Agricultural Research Service Pesticide Properties Database), or Agency for Toxic Substances & Disease Registry (ATSDR 1991).

Table 3a shows the 28 chemicals, their half-lives, the last dates of usage and the estimated mass removed.

Eleven of the remaining 48 chemicals were not included as COPCs because the quantities used would result in very low concentrations in soil. To estimate the concentrations of these 11 chemicals, the mass of the chemical used each month and the area applied was obtained from monthly pesticide records. Using this mass and area information and making the conservative assumption that the chemical was not diluted with inert ingredients, the chemical's concentration in soil was estimated. This estimate assumed a soil mixing depth of 6 inches and a soil bulk density of 1600 kg/m^3. Even without taking into accounts the effects

of degradation based on half-life or chemical volatilization information, the concentrations of these 11 chemicals were well below the USEPA Region IX Preliminary Remediation Goals (PRGs)[3] for residential land use. Table 3b presents the estimates of soil concentration for these 11 chemicals.

Thirty-seven chemicals remain of the 76 compounds that were listed in pesticide use records but were not identified as COPCs and not analyzed for at the Site. These 37 chemicals are listed in Table 3c and the rationale for not analyzing these chemicals is also summarized in the Table 3c. Concentrations were estimated for most of these chemicals using the same assumptions as for the chemicals in Table 3b. Contrary to the chemicals listed in Table 3b, however, these 37 chemicals do not have PRGs and many do not have half-life information. Where half-life information was available, estimated concentrations were adjusted as noted in the table. In addition, in some cases, concentrations were also adjusted to take into account dilution by other inert ingredients in the pesticide mixture. The resulting estimated concentrations for the chemicals listed in Table 3c are very low and as such, these chemicals were not analyzed for at the Site.

Several of the substances listed in Table 3c are also noted as having low toxicity. This designation is assigned to the substances, which are essentially inert ingredients such as kaolin clay, lignosulfate salts, fatty acid salts, maize gluten meal (cornmeal), sulphur and the various oil sprays that are commonly sprayed on plants. The bacteria GHA is also noted as having low toxicity, based on a determination made by the USEPA. USEPA stated that the bacteria should be exempt from the requirement of setting a tolerance because testing had shown that the organism did not exhibit toxic or infective properties (Federal Register 95-7452, March 22, 1995).

2.2 Number and Location of Samples

DTSC Guidance states that when differing agricultural crops are produced on different areas of a site, each area should be addressed separately and the sampling rate should be sufficient to characterize each area. Since each field plot at the Site contains or may have contained different crops at different times, the number of samples per field was based on the size of each field plot and the recommended number of sampling locations listed in Table 1 of the DTSC Guidance. For example, based on Table 1 in the DTSC Guidance, if the field plot was between one and two acres, a minimum of four discrete samples should be collected or approximately one sample every ¼-acre. Where possible and based on the DTSC Guidance,

[3] USEPA Region IX PRGs were used for screening purposes only. The PRGs used for comparison are for residential soil from: November 1, 2000, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

a minimum of one sample was collected for every ¼-acre in each field plot. Sampling locations are shown on Figure 3, and Table 4 lists the analyses performed for each sample collected. The scope of the field investigation is discussed below.

2.2.1 Field 1

Field 1 is slightly less than one acre. During the first phase of investigation, soil samples were collected at four locations in Field 1 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic, and one sample from 3 feet bgs from location F1-C was analyzed for organochlorine pesticides. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 1 and analyzed for paraquat and diquat.

2.2.2 Field 2

Field 2 is just over one acre in size. During the first phase of investigation, soil samples were collected at four locations in Field 2 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 2 and analyzed for paraquat and diquat.

2.2.2.1 Grassy Area Next to the Former Screen House

During a third phase of investigation in April 2003, a distressed area of grass was identified next to the access road that runs along the eastern edge of Field 2. With the exception of this small patch of brown grass, the surrounding area and vegetation was very green and heavily vegetated as a result of the heavy rainfall that occurred in Spring 2003. One shallow sample was collected from soil in the brown grassy area and analyzed for organochlorine pesticides by EPA Method 8081 and metals/inorganics by EPA Method 6010.

2.2.3 Field 3

Field 3 is just over 1.5 acres in size. During the first phase of investigation, soil samples were collected at six locations in Field 3 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3.

Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all six samples from 3 feet bgs were analyzed for arsenic, and five samples from 3 feet bgs from locations F3-A, F3-B, F3-D, F3-E and F3-F were analyzed for organochlorine pesticides. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 3 and analyzed for paraquat and diquat.

2.2.4 Field 4

Field 4 is just over two acres in size. During the first phase of investigation, soil samples were collected initially at eight locations in Field 4 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all eight samples from 3 feet bgs were analyzed for arsenic.

During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 4 and analyzed for paraquat and diquat. Samples were also collected from an additional 4 locations at a depth of 0.5 feet bgs from the western portion of Field 4 for analysis of arsenic and organochlorine pesticides. These samples were collected because this portion of Field 4 was inaccessible during the first phase of sampling. These samples were analyzed only for organochlorine pesticides and arsenic because these were the only constituents detected at concentrations above PRGs during the first phase of investigation[4]. Samples were also collected from an additional 11 locations at depths of 0.5, 2 and 3 feet bgs to define the extent of elevated concentrations of arsenic identified in the eastern portion of Field 4 during the first phase of investigation. Direct-push borings were also installed at locations F4-C, F4-E and F4-F in the eastern portion of Field 4. Samples were collected from these borings and analyzed for arsenic to define the vertical extent of arsenic below 3 feet bgs in this area of Field 4.

2.2.5 Field 5

Field 5 is just over one acre in size. During the first phase of investigation, soil samples were collected at four locations in Field 5 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic. During the

[4] As stated above, USEPA Region IX PRGs were used for screening purposes only. The PRGs used for comparison are for residential soil from: November 1, 2000, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 5 and analyzed for paraquat and diquat.

2.2.6 Field 6

Field 6 is just over ½-acre in size. During the first phase of investigation, soil samples were collected at three locations in Field 6 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all three samples from 3 feet bgs were analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 6 and analyzed for paraquat and diquat.

2.2.7 Field 7

Field 7 is less than two acres in size. During the first phase of investigation, soil samples were collected at eight locations in Field 7 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all eight samples from 3 feet bgs were analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 7 and analyzed for paraquat and diquat.

2.2.8 Field 8

Field 8 is just over one acre in size. During the first phase of investigation, soil samples were collected at four locations in Field 8 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 8 and analyzed for paraquat and diquat.

2.2.9 Field 9

Field 9 is less than ¼-acre in size. As mentioned above, Field 9 is completely enclosed by screens. During the first phase of investigation, soil samples were collected at one location in Field 9 at depths of 0.5 and 3 feet bgs (Figure 3). Initially, only the soil sample from a depth of 0.5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Upon receipt of laboratory analytical results, the sample from 3 feet bgs was analyzed for

arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from Field 9 and analyzed for paraquat and diquat.

2.2.10 Field 10

Field 10 is just over ½-acre in size. During the first phase of investigation, soil samples were collected at two locations in Field 10 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all two samples from 3 feet bgs were analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from Field 10 and analyzed for paraquat and diquat.

2.2.11 Field 11

Field 11 is less than ½-acre in size. During the first phase of investigation, soil samples were collected at two locations in Field 11 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all two samples from 3 feet bgs were analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from Field 11 and analyzed for paraquat and diquat.

2.2.12 Field 12

Field 12 is less than ½-acre in size. During the first phase of investigation, soil samples were collected at one location at the edge of Field 12 at depths of 0.5 and 3 feet bgs (Figure 3). Initially, only the soil sample from a depth of 0.5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Upon receipt of laboratory analytical results, the sample from 3 feet bgs was analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from Field 12 and analyzed for arsenic, paraquat and diquat.

2.2.13 Greenhouse Building 103

Soil samples were collected from one location of the floor in Greenhouse Building 103 at depths of 0.5 and 3 feet bgs (Figure 3). The other two greenhouses were not sampled because the floor was inaccessible due to ongoing activities in each of the buildings. Initially, only the soil sample from a depth of 0.5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Upon receipt of laboratory analytical results, the

sample from 3 feet bgs was analyzed for arsenic

2.2.14 Former Sewer Leach Pit

A direct-push soil boring was installed at two adjacent locations at the former sewer leach pit between Buildings 100 and 201. Initially, one boring was installed to approximately 7 feet bgs directly in the bottom of the leach pit. A sample was collected for analysis at approximately 7 feet bgs. However, the boring could not extend deeper because wood and concrete was encountered in the borehole. A second boring was installed approximately 3 feet away and a sample was obtained for analysis from this borehole at 10 feet bgs. Samples from the former leach pit were analyzed for volatile organic compounds (VOCs) by EPA Method 8260B, semi-volatile organic compounds (SVOCs) by EPA Method 8270C, organochlorine pesticides by EPA Method 8081, total petroleum hydrocarbons (TPH) as gas, diesel and motor oil fractions, and metals/inorganics by EPA Method 6010.

2.2.15 Former Evaporation Pond and Sediment Trap

In the center of the former evaporation pond, soil samples were collected from depths of 2, 3.5, 6.5 and 7.8 feet bgs and analyzed for arsenic. A sample was collected from the liquid inside the sediment trap and analyzed for organochlorine pesticides by EPA Method 8081 and metals/inorganics by EPA Method 6010. Soil samples were also collected at depths of 3.5 and 8.5 feet bgs from a soil boring adjacent to the sediment trap, but below the bottom of the sediment trap. Since organochlorine pesticides were not detected in the water sample from the sediment trap and metals concentrations were low, the soil samples were only analyzed for arsenic.

2.2.16 Background Location

Soil samples were collected from one location at the north end of the parking lot near Building 100. The purpose of this sample was to determine ambient levels of pesticides or metals in areas, which are not known to have been impacted by former BAREC agricultural operations. DTSC Guidance suggests that four samples should be collected to determine background concentrations; however, only one small area of the Site, which was outside of buildings, was identified where there was no known pesticide/chemical use. Since the area surrounding the Site is highly urbanized, there were also no offsite areas where representative background samples could be collected. Initially, only the soil sample from a depth of 0.5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Upon receipt of laboratory analytical results, the sample from 3 feet bgs was analyzed for arsenic.

3.0 PHYSICAL CHARACTERISTICS OF THE SITE

This section describes the general physical characteristics of the Site. Information on the general physical characteristics of the Site was obtained during visits to the Site, interviews with individuals knowledgeable about the Site, a review of regulatory agency files regarding the Site and an adjacent property, and a review of documents provided by the UC.

3.1 SURROUNDING AREA LAND USE

The 17-acre Site is located approximately three and one half miles south of downtown Santa Clara, California (Figure 1). The area surrounding the Site consists primarily of residential and commercial land. Immediately surrounding the Site to the north, west and south are residential homes. To the south of the Site along Winchester Boulevard, there is a commercial building, a veterinary clinic and parking lot. To the east and southeast beyond Winchester Boulevard, are a large shopping mall (Valleyfair West Mall), a bank, and several restaurants. To the northeast of the Site are more restaurants and Dunn-Edwards Paints, a paint supply company.

3.2 SITE TOPOGRAPHY

The Site is flat at a topographic elevation of approximately 125 feet above mean sea level (MSL). Based on a review of the USGS San Jose West Topographic Map, the nearest surface water bodies appear to be an intermittent stream, Saratoga Creek, situated one and one-half mile northwest of the Site and an intermittent river, Los Gatos Creek, situated two and one-half miles to the southeast. Additionally, a review of the historical topographical maps showed another intermittent stream, San Tomas Aquinas Creek, situated three-quarters of a mile west of the property. San Tomas Expressway currently appears to overlie this creek.

In general, the topography of the area slopes in a northeasterly direction. Site personnel were not aware of any flooding at the Site. Flood information from the Federal Emergency Management Agency (FEMA) Santa Clara County map indicates the Site is located within a 500-year flood zone. Based on wetlands information compiled by the U.S. Fish and Wildlife Service, the Site does not appear to contain any wetlands. ENVIRON did not observe any vegetation indicative of wetlands at the time of the Site visit.

3.3 CLIMATE

Mean annual rainfall in the general vicinity of the Site is approximately 16 inches (41 cm) with mean monthly rainfall of 1 75 inches (4.4 cm) (US Department of Commerce, 1983)

Median annual Class A pan evaporation rate is 55 inches which indicate that evaporation rates tend to exceed rainfall rates (US Department of Commerce, 1983)

Monthly mean temperatures average approximately 55 degrees Fahrenheit (°F), with temperature extremes that range from 35°F to 90°F. The mean daily temperature during the winter months (January and February) is 40°F, and in the hottest summer month (August), 70°F (US Department of Commerce, 1983).

3.4 GEOLOGY

Geologic information was based on information in the Dames and Moore report regarding the closure of the former evaporation bed. The Site is located near the center of the South Bay hydrologic sub-basin of the San Francisco Bay hydrologic basin, which is located in the Coast Ranges geomorphic province. The Coast Ranges geomorphic unit is characterized by predominantly northwest trending mountains, valleys and faults. The South Bay unit is a broad alluvial valley sloping north toward San Francisco Bay. The Site is underlain by Quaternary alluvium deposited by streams that merge near the center of the San Jose Alluvial Plain and flow north toward San Francisco Bay. The alluvium is composed of unconsolidated interbedded gravel, sand silt and clay. The alluvium becomes progressively finer-grained northward toward the Bay and contains a series of laterally extensive marine clay layers

Dames and Moore interprets the Site to be within or on the margin of the area underlain by extensive clay layers. According to documentation provided by the UC for the irrigation well at the Site, interbedded gravel, sand, and clay was observed at the Site to a depth of 39 feet. The gravel was underlain by layers of clay, sandy clay, gravelly clay and gravel to a depth of 360 feet. Blue clay was reported at depths of 70 to 75 feet, 105 to 119 feet, 239 to 244 feet, and 261 to 272 feet, which is consistent with Dames and Moore's interpretation that the Site is on the margin of the area underlain by extensive clay layers.

3.5 GROUND WATER

According to the Dames and Moore report, most water wells in the San Jose Alluvial Plain withdraw ground water from the Quaternary alluvium. Four correlatable regional aquifers

have been identified in the alluvial plain; the 60-foot, 250-foot, 350-foot, and 450-foot aquifers. Most major producing wells in the Santa Clara area withdraw water from a zone 150 to 250 feet below ground surface under confined or semi-confined conditions. BAREC personnel indicate that one groundwater well is located on-site. It is located inside the pump house and is used for irrigation of the fields. The well at the Site is screened from a depth of 200 to 250 feet below ground surface (bgs); the depth to groundwater in this well is 140 feet and approximately 3.7-million gallons are pumped annually. A report by Environmental Data Resources, Inc. (EDR) identified nine additional active wells within a one-mile radius of the Site. The wells are operated by O'Connor Hospital, the San Jose Water Company, the City of San Jose, and the City of Santa Clara. No additional information about these wells was found.

There is no Site-specific information on shallow ground water at the Site. ENVIRON reviewed a Soil and Ground Water Report prepared by McCulley, Frick & Gilman, Inc. for the Dunn-Edwards Corporation Facility located at 690 Winchester Boulevard, approximately 1/8 mile north of the Site. The report indicated that shallow ground water was encountered between 20 and 30 feet bgs and that shallow ground water flowed towards the Bay to the east.

4.0 NATURE AND EXTENT OF CONTAMINATION

This section presents the results of laboratory analyses of soil samples collected from the Site, and in the context of these results, the nature and extent of chemicals in soil at the Site. The term "nature" refers to the type and concentration of chemicals released, while the term "extent" refers to the spatial distribution of the chemicals in environmental media (i.e., soil).

4.1 Field Plot/Greenhouse Sampling Results

The results of analyses of soil samples from the Site indicate that only seven organochlorine pesticides, diquat and thirteen inorganic compounds were detected. Triazine pesticides, organophosphorous pesticides, chlorinated herbicides, paraquat, carbamate pesticides and urea pesticides were not detected in any of the samples analyzed. Laboratory results are provided in Appendix B. A statistical summary of the compounds detected and comparison to USEPA Region IX PRGs[5] is provided in Table 5.

Of the pesticides, 4,4'-DDT, 4-4'DDE and diquat were detected the most frequently at a rate of about 66 percent in the samples analyzed. Dieldrin was detected the next most frequently at a rate of about 25 percent while chlordane and endrin were detected at a frequency of less than 10 percent. Only one detection of heptachlor epoxide was reported in the 59 samples analyzed.

A comparison of the pesticide results with USEPA Region IX PRGs showed that only dieldrin exceeded the PRG for samples collected at 0.5 feet bgs. Exceedences of the PRGs occurred in one sample from Field 1 and two samples from Field 3. As a result, samples collected at 3 feet bgs from these locations (in addition to 3 more locations in Field 3 and one location in Field 7[6]) were analyzed for organochlorine pesticides. For samples from 3 feet bgs, dieldrin was detected in two of the samples from Field 3 at concentrations below the PRG. Dieldrin was not detected at 3 feet bgs in the other locations analyzed in Field 3 or, in Field 1 and Field 7. 4,4'-DDT and 4-4'-DDE were also detected in samples from Fields 3 and 7 at 3 feet bgs, but at concentrations well below the PRG. Diquat was detected in 8 of the 12 fields. A summary of the results is presented in Table 6 and shown on Figure 4.

Although dieldrin exceeded the PRG in three localized areas in shallow soil, the 95% upper confidence level (UCL) of the mean dieldrin concentration in shallow soil for the site was below the PRG of 30 ug/kg (Table 5). With the exception of Field 1, the mean concentration

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[5] USEPA Region IX PRGs were used for screening purposes only. The PRGs used for comparison are for residential soil from: October 1, 2002, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

[6] These samples were analyzed because preliminary laboratory showed detection limits above the PRGs

of dieldrin in shallow soil in each individual field is also below the PRG. However, the mean concentration of dieldrin in Field 1, which is where the maximum dieldrin concentration (240 ug/kg) is located, exceeds the PRG. There were three other samples collected from shallow soil in Field 1 and analyzed for dieldrin. Dieldrin was not detected in two of these samples and was detected at 11 ug/kg in the third sample. However, because the dieldrin concentration in the sample collected at F1-C is well above the PRG, the mean dieldrin concentration in Field 1 exceeds the PRG.

For the inorganic compounds, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, cyanide, lead, mercury, nickel, vanadium, and zinc were detected in samples from 0.5 feet bgs. Except for beryllium, cyanide and mercury, these inorganics were detected in all samples. This is expected since these compounds are naturally-occurring constituents of soil. Soil pH was also within the normal range for soil, i.e. between 6 and 8. Table 7 presents a comparison of the inorganic results from surface soil at the Site to typical background ranges in soil in California and the western US. This comparison shows that the concentrations of inorganics detected at the Site are within the typical background range for California/Western US.

Table 7 also presents background ranges for metals in soil in northern Santa Clara County and in the Bay Area. These background ranges were compiled in a report by Christina Scott from various environmental investigations done within a 2-mile radius in northern Santa Clara County (Scott, 1991) and in a report by Lawrence Berkeley National Laboratory (LBNL) in the San Francisco Bay Area (LBNL, 2002). The BAREC Site is located in southern Santa Clara County between 5 and 10 miles south of where samples for northern Santa Clara County were collected in the Scott study. As discussed in Section 3.3, the Site is underlain by Quaternary alluvium deposited by streams that merge near the center of the San Jose Alluvial Plain and flow north toward San Francisco Bay. The alluvium is composed of unconsolidated interbedded gravel, sand silt and clay and becomes progressively finer-grained northward toward the Bay. Based on this information, the alluvium in northern Santa Clara County may be finer-grained than in southern Santa Clara County suggesting that there may be some natural variations in the inorganic composition of soils between southern and northern Santa Clara County. A qualitative comparison between Site data and the northern Santa Clara County data indicates that arsenic concentrations at the Site are just outside the range of the northern Santa Clara County background values and the avearge arsenic concentration at the Site is higher (11 mg/kg) than the northern Santa Clara County value (2.9 mg/kg). In addition, the average lead concentration at the Site (23 mg/kg) is slightly above the northern Santa Clara County value (11.4 mg/kg). Copper and zinc average concentrations at the Site are about the same as the northern Santa Clara County value while

the average concentrations of beryllium, chromium, nickel and vanadium at the Site are below the northern Santa Clara County study values.

With respect to the LBNL study, a qualitative comparison between site data and the roughly 1400 samples analyzed in LBNL study indicates that arsenic concentrations range from 1.8 to 37 mg/kg at the site and up to 42 mg/kg in the LBNL study. The average arsenic concentration at the site is higher (11 mg/kg) than the LBNL average (5.5 mg/kg). With respect to other metals, the average lead concentration at the site (23 mg/kg) is above the LBNL value (7.0 mg/kg). Barium and zinc average concentrations at the site are about the same as the LBNL average values while the average concentrations of beryllium, chromium, copper, nickel, and vanadium at the site are below the LBNL average values.

Table 7 also presents the results of the one background sample, BG-A, collected below pavement at 0.75 bgs. As discussed in Section 2, this sample was taken outside of areas at the Site known to have pesticide use. DTSC Guidance suggests that 4 samples should be collected, if possible, to determine background concentrations; however, only one small area of the Site, which was outside of buildings, was identified where there was no known pesticide/chemical use. Since the area surrounding the Site is highly urbanized and previously used as agricultural land, there were also no offsite areas where representative background samples could be collected. As a result, comparison of the results to only one background sample is of limited statistical value. However, a qualitative comparison indicates that arsenic and lead were detected in many samples at concentrations above the concentrations detected at BG-A. Barium, however, was detected at concentrations below the concentration in BG-A. Except for arsenic, barium and lead, the other metals were detected at similar concentrations as BG-A.

Tables 8 and 9 present the sample results for the inorganics and arsenic, respectively. A comparison of the inorganic results with USEPA Region IX PRGs[8] showed that arsenic exceeded the PRG for all samples including BG-A. No other inorganic compound exceeded the PRGs. As noted in the preamble to the PRG table, the PRG for arsenic in residential soils is 0.39 mg/kg. This value is typically below background concentrations in a local area (especially in California), and as such, USEPA Region IX has at times used the non-cancer PRG for arsenic of 22 mg/kg (USEPA, 2002). Additional discussion of the arsenic results is presented below.

[8] USEPA Region IX PRGs were used for screening purposes only. The PRGs used for comparison are for residential soil from: October 1, 2002, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

4.1.1 Arsenic Background

Figures 5 and 6 show the concentrations of arsenic in soil at 0.5 feet and 3 feet bgs, respectively. Since arsenic is naturally-occurring in soil, an arsenic background concentration needs to be defined to determine areas at the Site, which may have been impacted by arsenical pesticides. As discussed above, in the Scott study, the maximum arsenic concentration in background soil was 20 mg/kg; in the LBNL study, the proposed upper estimate of the background arsenic concentration was 42 mg/kg, and; USEPA Region IX has at times used the non-cancer PRG for arsenic of 22 mg/kg as a background value. In addition, a plot of the cumulative frequency of the shallow arsenic soil concentrations at the Site presented in Figure 7 shows an inflection point at 20 mg/kg for the Site. Based on these data, concentrations of arsenic above 20 mg/kg are considered to exceed background levels.

In addition, the arsenic background concentration and removal action objectives that were approved by DTSC for the residential[9] portion of the Town and Country Village Shopping Center (T&CVSC) development at 360 Winchester Boulevard in San Jose, (which is in close proximity to the BAREC Site), were also considered in development of an arsenic background concentration for the BAREC Site. The mean background concentration for arsenic at the T&CVSC was assumed to be 12 mg/kg. As a result, the residential removal action objectives for arsenic at the T&CVSC used a site-wide average concentration of 12 mg/kg and a maximum arsenic concentration of 20 mg/kg.

Table 10 presents summary statistics for arsenic in shallow and deeper soil at the Site. Assuming the arsenic concentrations that are above 20 mg/kg are replaced with a concentration of 7 mg/kg, which is the average concentration in deep soils, the average, standard deviation and 95% UCL of the mean arsenic concentration in shallow soil becomes of similar magnitude to deeper soil. Furthermore, if the arsenic concentrations at/above 20 mg/kg are removed, then the average arsenic concentration at the BAREC Site is less than 12 mg/kg, which is the mean background concentration for arsenic that was used at the nearby T&CVSC site.

4.1.2 Nature and Extent of Arsenic in Soil Above Background Levels

Elevated concentrations of arsenic above 20 mg/kg are located primarily in the eastern portion of Field 4, primarily at 0.5 feet bgs, in sample 1-GB collected from distressed vegetation next to the old screen house, and in sample F12-A in the dirt road between Fields 11 and 12 at 0.5 feet bgs. Sample F12-A, which has an arsenic concentration above 20

[9] Unrestricted residential land use

mg/kg, between Fields 11 and 12, however, appears to be of limited horizontal and vertical extent. Adjacent samples in Field 11 and 12 have arsenic concentrations of 10 and 5.3 mg/kg, respectively, and the sample at 3 feet bgs at F12-A has an arsenic concentration of 7.7 mg/kg. Sample 1-GB was collected from an obviously brown patch of grass in April 2003. The brown patch of grass was less than 2 feet in diameter surrounded by dark green grass.

With respect to the elevated concentrations of arsenic in Field 4, there are several samples in the southern half of Field 4 with arsenic above 20 mg/kg. At 0.5 feet depth, 6 samples exceeded 20 mg/kg at the following locations: F4-6, F4-A, F4-B, F4-C, F4-D, and F4-F; at 2 feet bgs, one sample exceeded 20 mg/kg at F4-7; and, at 3 feet bgs, two samples exceeded 20 mg/kg at the following locations: F4-7 and F4-C. Arsenic concentrations above 20 mg/kg are of limited vertical extent. All samples at 4 feet bgs collected from direct-push borings at F4-E/SB-1, F4-C/SB-2, and F4-F/SB-3 (near F4-7) had arsenic concentrations of 1.8, 7.7, and 2.6 mg/kg.

Table 10 provides a statistical summary of the arsenic results, and Figures 7 and 8 present histograms of arsenic concentrations in shallow (0.5 feet bgs) and deep soil (between 2 and 4 feet bgs). The table shows that the average and 95% UCL of the mean arsenic concentration is higher in shallow soil than in deeper soil. The histograms in Figures 7 and 8 also show a different distribution of arsenic concentrations between shallow and deep soil. Possible explanations for the different distribution are as follows:

- *Shallow soil may have been impacted by use of arsenical pesticides.* Pesticide use summary reports indicate that arsenical pesticides were used in 1979 through 1981 and 1983 through 1985; thus, it is possible that shallow soils in a portion of the Site, primarily the eastern half of Field 4, have been impacted by former use of arsenical pesticides at the BAREC;

- *Soil type/lithology likely changes with increasing depth at the Site and the concentrations of naturally-occurring constituents also change with depth.* As the soil type/lithology changes so does the concentrations of naturally-occurring constituents such as arsenic. For example, the sample, which was analyzed from 10 feet bgs[9] near the former sewer leach pit, had an arsenic concentration of 1.2 mg/kg, which is below the minimum value detected in shallow soil. Other metals also had different concentrations in this leach pit sample in comparison to those detected in shallow soils. (Leach pit sampling results are discussed in more detail below in

[9] The sample at 7 feet bgs was not considered because it was likely non-native material that was used to fill the leach pit when it was abandoned.

Section 4.2). Zinc, for example, had a higher concentration (120 mg/kg) in the leach pit sample than in shallow soil (between 44 and 99 mg/kg) while barium, cadmium, lead and nickel had concentrations that were higher in shallow soil compared to the leach pit sample concentration. In addition, a histogram of arsenic concentrations in deeper soil presented in Figure 8 shows a different distribution of arsenic in deeper soil. This different distribution suggests that deeper soils have a different composition of inorganics than shallow soils even accounting for the fact that some shallow soils have been impacted by arsenic.

4.2 Leach Pit Results

VOCs, SVOCs, organochlorine pesticides and TPH were not detected in soil samples collected from the bottom and 3 feet below the former sewer leach pit. Metals were detected at low concentrations in both samples. In the sample collected from the bottom of the former leach pit (at 7 feet bgs), only barium, chromium, copper, nickel, vanadium and zinc were detected and their detected concentrations were below the PRGs. This sample, however, was likely from non-native material (i.e. sand) that was used to fill the leach pit when it was abandoned. The same metals were also detected in the sample from 3 feet below the bottom of the former leach pit (or 10 feet bgs) along with arsenic, cadmium, cobalt, lead and mercury. Except for arsenic, the detected concentrations of these metals were below the PRGs. Arsenic was below the non-cancer PRG of 22 mg/kg but above the cancer PRG of 0.39 mg/kg for residential soils.

The concentrations of metals detected from the leach pit samples were well within background ranges for California/Western U.S. soils. Arsenic was the only metal detected above PRGs at a concentration of 1.2 mg/kg. As discussed, the metals results for the leach pit samples are different than the concentrations in samples from the fields likely because a different soil horizon was sampled. Table 11 summarizes the sample results. Based on the sampling results, there is no evidence that the former sewer leach pit impacted subsurface soil and/or ground water at the Site.

4.3 Sediment Trap and Evaporation Pond Results

In the center of the former evaporation pond, the soil samples, which were collected from depths of 2, 3.5, 6.5 and 7.8 feet bgs had arsenic concentrations of 20, 9.7, 2.8, and 2.9 mg/kg respectively. Soil samples collected at depths of 3.5 and 8.5 feet bgs from a soil boring adjacent to the sediment trap had arsenic concentrations of 3.5 and 3.2. Arsenic in these samples was below the non-cancer PRG of 22 mg/kg but above the cancer PRG of 0.39 mg/kg for residential soils. Sample results are presented in Table 9.

Organochlorine pesticides were not detected in a sample of the liquid inside the sediment trap (Table 6). Metals were detected at low concentrations in a sample of the sediment trap liquid (Table 8).

Based on the sampling results and consistent with Dames and Moore's conclusion regarding closure of the evaporation pond, there is no evidence that the former evaporation pond and adjacent sediment trap impacted subsurface soil and/or ground water at the Site.

5.0 RECOMMENDATIONS

There is evidence that shallow soils have been impacted by prior pesticide use Dieldrin exceeded PRGs in shallow soil in isolated locations of the Site Specifically, the mean dieldrin concentration in Field 1 exceeded the PRG primarily because of an isolated detection of dieldrin at a concentration of 240 ug/kg in surface soil As a result, it is recommended that this "hot spot" of dieldrin be addressed such that the mean concentration in Field 1 will be below the PRG of 30 ug/kg

Arsenic also exceeded background concentrations in portions of the Site Surface soils in the eastern portion of Field 4 and at two isolated locations have arsenic concentrations above background It is recommended that a removal action workplan (RAW) be prepared to address the elevated arsenic and dieldrin concentrations in shallow soils at these locations

6.0 REFERENCES

Agency for Toxic Substances and Disease Registry (ATSDR) Toxicological profile for 1,3-Dichloropropene U.S Department of Health and Human Services February 1991

Dames & Moore, Report of Closure: Former Evaporation Bed Deciduous Fruit Field Station, Santa Clara California, Job No 234-193-43, April 8, 1988

California Environmental Protection Agency – Department of Toxics Substances Control (DTSC), Interim Guidance for Sampling Agricultural Soils for School Sites (Second Revision), August 26, 2002

EXTOXNET (Extension Toxicology Network Pesticide information Profiles (http://ace.orst/edu/info/extoxnet/pips/ghindex.html

Lawrence Berkeley National Laboratory 2002 *Analysis of Background Distributions of Metals in Soil at Lawrence Berkeley National Laboratory*. June.

Scott, Christina 1991 *Background Metal Concentrations in Soils in Northern Santa Clara County California*. University of San Francisco, Masters Thesis

University of California (UC), Letter from David Towle, September 30, 2002

UC, Interviews with Dr Zak Mousli, Superintendent for the Bay Area Research and Extension Center by ENVIRON, July/August 2002

USDA Agricultural Research Service Pesticide Properties Database: ARS (http://www.arsusda.gov/rsml/ppdb1.html)

U.S. Department of Commerce, *National Climatic Atlas of the United States*, 1983

U.S. Environmental Protection Agency (USEPA), *USEPA Region 9 Preliminary Remediation Goals (PRGs)* November 1, 2000

Other sources of information used in this report are:

- Documents and reports provided to ENVIRON by Dr Mousli and David Towle of the Administrative Office for the Research & Extension Centers of the University of

California (UC) including: underground tank removal documents, an asbestos survey report, irrigation well documents, business plan documents, a chemical inventory, a pesticide list and restricted materials permit, septic system documents, a pesticide use summary monthly report from 1979 to 2002, and a business plan and chemical inventory.

- A review of historical aerial photographs for the Site and surrounding area dated 1937, 1954, 1958, 1960, 1963, 1966, 1968, 1971, 1974, 1976, 1978, 1980, 1982, 1984, 1988, 1989, 1990, 1992, 1994, 1996, 1997 and 1999 conducted at Pacific Aerial Surveys, Oakland, California on July 26, 2002.

- A review of regulatory agency databases for the Site and vicinity conducted by Environmental Data Resources, Inc. (EDR) and reported to ENVIRON on July 18, 2002. EDR conducted searches of federal databases including United States Environmental Protection Agency (EPA) National Priorities List; EPA Comprehensive Environmental Response, Compensation, and Liability Information System; EPA Emergency Response Notification System; Corrective Action Report; and Resource Conservation and Recovery Information System; Flood Zone Data from the Federal Emergency Management Agency (FEMA). State databases included: Notify 65, which lists Proposition 65 records; California Environmental Protection Agency's Annual Workplan, which identifies known hazardous substance sites targeted for cleanup; Leaking Underground Storage Tank Information System; Underground Storage Tank Database; and Former Manufactured Gas (Coal Gas) Sites. In reviewing the environmental databases, it should be noted that such databases are not instantaneously updated by the specific regulatory agencies. Depending on the database and the agency, update frequency may be as infrequent as annually.

- A review of historic City Directory information for the Site and neighboring properties obtained from EDR.

- A review of a 1966 historic Sanborn Fire Insurance Map for the Site and neighboring properties obtained from EDR. Since the map showed only a small portion of the Site, ENVIRON requested but has not yet received a more complete map.

- A review of the United States Geological Survey (USGS) San Jose West, California 7.5-minute series topographical map, dated 1961, photorevised 1980.

- A review of historical United States Geological Survey (USGS) topographical maps, dating 1895, 1899, 1939, 1953, and 1961, with photo revisions from 1968 and 1978.

- A review of available Site files at the City of Santa Clara Fire Department on August 9, 2002.

- A review of available files for two properties in the vicinity of the Site (690 and 780 North Winchester Boulevard) at the City of San Jose Fire Department on August 9, 2002

- A review of available files for the Site and property located at 690 North Winchester Boulevard at the San Francisco Bay Area Regional Water Quality Control Board on September 3, 2002

TABLES

Table 1

Summary of Soil Chemical Test Results -- July 1987 Soil Samples

	Detection Limit (mg/kg)	Bed Soil (0-1 ft) (mg/kg)
Toxaphene	1.6	*
Guthion	10	16
Baygon	0.01	0.028
Chloropropham	0.005	0.04
Fluometuron	0.001	1.6
2,4-D	0.025	1.2
Afugan	(1)	0.089
2-(Phenylazo)-Benzoic Acid	(1)	2.5
Zytron	(1)	0.17
Arsenic	40	78
Copper	3	27
Calcium	10	28,800

* Not detected

(1) Detection Limit not available - constituent concentration estimated from library search

Source: Dames & Moore Report (1988), Table D-4

Table 2

Summary of Soil Chemical Test Results – October 1987 Soil Samples

	Detection Limit (mg/kg)	Background		Beneath the Evaporation Bed			
		DFFS-1A (mg/kg)	DFFS-2A (mg/kg)	DFFS-3A (mg/kg)	DFFS-4A (mg/kg)	DFFS-5A (mg/kg)	DFFS-6A (mg/kg)
DDE	0.016	0.023	0.17	*	*	*	*
DDT	0.016	0.016	0.17	*	*	*	*
Organophosphate Pesticides	0.1-2.0	*	*	*	*	*	*
Chloropropham	0.5	*	*	2.8	*	*	*
Triazine Herbicides	0.1	*	*	*	*	*	*
Chlorinated Herbicides	0.025-0.13	*	*	*	*	*	*
Other Organic Compounds	-	*	*	*	*	*	*
Arsenic	40	*	*	*	*	*	*
Copper	3	24	29	22	22	18	20
Barium	10	120	120	110	120	110	110
Cadmium	0.5	0.66	0.59	0.52	0.54	*	0.63
Chromium	1	42	34	34	37	35	47
Cobalt	3	9.4	8.4	8	9.1	8.2	10
Lead	5	*	27	*	*	*	*
Nickel	5	52	49	48	51	43	49
Vanadium	5	31	28	27	29	29	31
Zinc	2	51	56	44	48	41	45

- Not available

* Not detected

Source: Dames & Moore Report (1988), Table D-6

Table 3
Chemicals of Potential Concern (COPCs) in Soil

Chemical Name	Years of Use at Site
Organochlorine Pesticides - EPA Method 8081	
Aldrin	No Record of Use
Dieldrin	No Record of Use
Endrin aldehyde	No Record of Use
Endrin	No Record of Use
Endrin ketone	No Record of Use
Heptachlor	No Record of Use
Heptachlor epoxide	No Record of Use
4,4'-DDD	No Record of Use
4,4'-DDE	No Record of Use
4,4'-DDT	No Record of Use
Endosulfan I	No Record of Use
Endosulfan II	No Record of Use
HCH (alpha) or alpha-BHC	No Record of Use
HCH (beta) or beta-BHC	No Record of Use
delta-BHC	No Record of Use
HCH (gamma), Lindane, or gamma-BHC	No Record of Use
Endosulfan sulfate	No Record of Use
4,4'-Methoxychlor	No Record of Use
Toxaphene	No Record of Use
Chlordane (Technical)	No Record of Use
alpha-Chlordane	No Record of Use
gamma-Chlordane	No Record of Use
Organophosphorus Pesticides - EPA Method 8140	
Acephate (Orthene) (By EPA 1657)	1980, 1984, 1989-1991, 1994
Atrazine	1986, 1988, 1990-2002
Azinphos methyl	No Record of Use
Carbophenothion	No Record of Use
Chlorpyrifos	1998
Diazinon	1984, 1985, 1987, 1990-1993, 1995
Dimethoate	No Record of Use
Disulfoton (Disyston)	No Record of Use
Ethion	No Record of Use
Fenthion	No Record of Use
Malathion	1988, 1990, 1991, 1993-1995
Mevinphos	No Record of Use
Ethyl parathion	No Record of Use
Methyl parathion	No Record of Use
Phorate	No Record of Use
Prometon	No Record of Use
Prometryn	No Record of Use
Propazine	No Record of Use
Simazine	No Record of Use

Table 3
Chemicals of Potential Concern (COPCs) in Soil

Chemical Name	Years of Use at Site
Carbamate and Urea Pesticides - EPA Method 632	
Bromacil	No Record of Use
Carbofuran (Furadan)	No Record of Use
Carbaryl (Sevin)	2002
Chlorpropham	No Record of Use
Diuron	No Record of Use
Fluometuron	No Record of Use
Linuron	1998
Methiocarb	No Record of Use
Methomyl	No Record of Use
Monuron	No Record of Use
Neburon	No Record of Use
Oxamyl	No Record of Use
Propham	No Record of Use
Propoxur	No Record of Use
Triazine Herbicides - EPA Method 8141	
Atraton	No Record of Use
Simazine	No Record of Use
Prometon	No Record of Use
Atrazine	No Record of Use
Propazine	No Record of Use
Simetryn	No Record of Use
Ametryn	No Record of Use
Prometryn	No Record of Use
Terbutryn	No Record of Use
Chlorinated Herbicides - EPA Method 8151	
2,4-Dichlorophenoxyacetic Acid (2,4-D)	1990, 1991, 1993-1999
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T)	No Record of Use
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	No Record of Use
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	No Record of Use
2-(2-Methyl-4-chlorophenoxy) propionic acid (MCPP)	1990, 1991, 1993-2000, 2002
Paraquat	1979-1981, 1999, 2000
Diquat	1984-1997

Table 3
Chemicals of Potential Concern (COPCs) in Soil

Chemical Name	Years of Use at Site
Inorganics/Metals – Various EPA Methods	
Arsenic	1979-1981, 1983-1985
Antimony	No Record of Use
Barium	No Record of Use
Beryllium	No Record of Use
Cadmium	No Record of Use
Total Chromium	No Record of Use
Cobalt	No Record of Use
Copper	1980, 1984-1987, 1998
Cyanide	No Record of Use
Lead	No Record of Use
Mercury	No Record of Use
Molybdenum	No Record of Use
Nickel	No Record of Use
Selenium	No Record of Use
Silver	No Record of Use
Thallium	No Record of Use
Vanadium	No Record of Use
Zinc	No Record of Use

Table 3a

Half-Lives and Mass Removed of Chemicals Used at the BAREC

CAS Number	Chemical Name	Brand Name	Half-Life (days)	Last year used	Mass Removed
2227170	Perchloro-1,1'-bicyclopenta-2,4-dienyl	Pentho-WP	84	1989	100.00%
13121705	Cyhexatin	Plictran	50	1984	100.00%
19044883	Oryzalin	Surflan	128	1997	100.00%
15299997	Napropamide	Devrinol	84	1999	100.00%
39300453	Dinitro (1-methyl heptyl)**phenyl crotomate	Doo Spray	6	1987	100.00%
1861321	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)	Dacthal W-75	100	1997	100.00%
23950585	Promanide	Kerb 50WP	60	1988	100.00%
102851069	Tau-Fluvalinate	Mavrik	8	1990	100.00%
2312358	Propargite	Omite 30W	64	1996	100.00%
35367385	Difluron	Dimilin 25W	4	1990	100.00%
86500	O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methylphosphorodithioate	Guthion	355	1990	99.99%
36734197	Iprodione	26019 Fungicide	60	1992	100.00%
1897456	Chloroathalonil	Daconil 2787 75WP	90	1992	100.00%
40487421	Pendimethalin	Pre M 60 WDG	40	2001	100.00%
1861401	Benefin	Team 2g	51	1993	100.00%
533744	Dazomet	Basamid	7	1993	100.00%
Not found	Sodium methyldithiocarbamate (anhydrous)	Vapam	7	1999	100.00%
71751412	Abamectin	Avid	1	2000	100.00%
88671890	Myclobutanil	Eagle	71	1996	100.00%
1702176	Clopylarid	Stinger	26	1999	100.00%
25057890	Sodium Bentazon	Basagran T/O	98	1997	100.00%
1689845	Bromoxynil	Buctril	14	2001	100.00%
77182822	Glufosinate - Ammonium	Liberty	10	1998	100.00%
52315078	Cypermethrin	Barricade	56	1998	100.00%
79241466	Fluazifop - P – Butyl	Fusilade II	7	2002	100.00%
74839	Methyl Bromide	Methyl Bromide	60	1999	100.00%
542756	1,3 - Dichloropropene	Telone C35 EC	69	1999	100.00%
76062	Chloropicrin	Telone C35 EC	1	1999	100.00%

Table 3b

Estimated Concentration of Chemicals Used at the BAREC

CAS Number	Chemical Name	Brand Name	Chemical Mass (kg)	Area (feet^2)	Soil Mass (kg)	Concentration (mg/kg)	PRG (mg/kg)	Half Life (days)
1071836	Glyphosate	Round Up	50,523	6,612,408	5.E+09	9.54	6.1E+03	47
19666309	Oxadiazon	Ronstar 50WP	233	255,843	2.E+08	1.14	3.1E+02	180
17804352	Benomyl	Benlate	0.07	4,320	3.E+06	0.02	3.1E+03	365
1582098	Trifluralin	Team 2g	0.2	600	5.E+05	0.41	6.3E+01	240
82558507	Isoxaben	Snapshot 2.5g	0.2	5,696	5.E+06	0.04	3.1E+03	180
51218452	Metolachlor	Pennant (L)	11.4	302,574	2.E+08	0.05	9.2E+03	70
42874033	Oxyfluorfen	Rout	10.05	454,905	4.E+08	0.03	1.8E+02	40
95636	1,2,4 - Trimethylbenzene	Buctril	1.6	71,653	6.E+07	0.03	5.2E+01	NA
1330207	Xylene	Buctril	1.6	71,453	6.E+07	0.03	2.1E+02	NA
100414	Ethylbenzene	Buctril	1.6	71,453	6.E+07	0.03	2.3E+02	NA
78587050	Hexythiazox	Hexythiazox	0.0003	218	2.E+05	0.002	1.5E+03	NA

PRGs – USEPA Region IX Preliminary Remediation Goals for residential soil. November 2000.

NA – Half Life Not available

Table 3c
Estimated Concentrations and Rationale for Not Analyzing Certain Chemicals

CAS Number	Chemical Name	Brand Name	Last Year of Use	Chemical Mass (kg)	Area (feet^2)	Estimated Concentration (mg/kg)	Rationale for Not Analyzing
13356086	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]	Vendex 50WP	1990	0.542	6,795	9.97E-02	Demminmus concentration
3478942	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate	Pipron	1980	2.410	500 plants	NA	Chemical applied directly to plant. Chemical is unlikely to be present at significant concentrations in soil.
7704349	Sulphur	Flowable Sulphur	1999	15.672	174,240	1.12E-01	Sulphur is present in the ambient environment and is of low toxicity
26644462	Triforine	Triforine	1994	0.415	500 plants	NA	Chemical applied directly to plant. Chemical is unlikely to be present at significant concentrations in soil.
Not found	Petroleum Oil	Heavy Dormant Oil	1986	4.883	103,455	5.89E-02	Low toxicity and demminmus concentration.
8061527	Calcium Lignosulfonate	Kerb 50WP	1988	0.118	653,400	2.26E-04	Low toxicity and demminmus concentration.
55335063	Triclopyr	Turflon Ester	1999	0.937	33,980	1.15E-03[a]	Low toxicity and demminmus concentration
8008206	Kerosene	Turflon Ester	1999	0.920	33,180	3.46E-02	Low toxicity and demminmus concentration
Not found	Alkylarylpolyoxyethylene ether	Spreader X77	1999	26.355	504,860	6.52E-02	Low toxicity/surfactant aids spraying

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Table 3c
Estimated Concentrations and Rationale for Not Analyzing Certain Chemicals

CAS Number	Chemical Name	Brand Name	Last Year of Use	Chemical Mass (kg)	Area (feet^2)	Estimated Concentration (mg/kg)	Rationale for Not Analyzing
Not found	Sethoxydim: 2-[1-(ethoxymino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one*	Poast	1991	0.551	43,560	1.58E-02	Deminimus concentration
Not found	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)	Herbimax	1994	0.880	43,960	2.50E-02	Low toxicity and deminimus concentration
Not found	cimectacarb 4-(cyclopropyl-alpha-hydroxy-methylene)-3,5-dioxo-cyclohexanecarboxylic acid ethyl ester	Primo/Experimental	1992	0.113	10,019	1.41E-02	Deminimus concentration
1332587	Kaolin	Daconil 2787 75WP	1997	0.062	2700	2.85E-02	Low toxicity and deminimus concentration
97886458	Dithiopyr	Dimension 1E	1999	0.239	3610	8.26E-02	Deminimus concentration
29091212	Prodiamine	Prodiamine 65 WDG	2000	0.007	150	5.76E-02	Deminimus concentration
741582	Bensulide	Betasan 4E	1999	0.162	1350	7.72E-04[a]	Deminimus concentration

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Table 3c
Estimated Concentrations and Rationale for Not Analyzing Certain Chemicals

CAS Number	Chemical Name	Brand Name	Last Year of Use	Chemical Mass (kg)	Area (feet^2)	Estimated Concentration (mg/kg)	Rationale for Not Analyzing
71283802	Fenoxaprop-p-ethyl	Acclaim 1E	1993	0.008	200	4.99E-02	Deminimus concentration
2163806	Monosodium acid methanearsonate	Bueno 6	1997	0.155	1300	8.09E-02[c]	Deminimus concentration
872504	N-methylpirrolidone	Avid	2002	7.519	275,144	3.41E-02	Deminimus concentration
Not found	Potassium salts of fatty acids	Safer Soap	2000	0.990	4002	3.09E-01	Low toxicity
52508357	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)	Atrimmec PGR	1999	8.862	32,400	6.32E-02[d]	Deminimus concentration
57213691	Triclopyr as triethylamine salt	Confront	1999	0.048	1100	1.81E-03[a]	Deminimus concentration
1000784201	Halosulfuron-methyl	Manage	1997	0.001	500	2.50E-03	Deminimus concentration
112926008	Sillica, amorphous precipitated	Manage	1999	0.004	2150	2.27E-03	Low toxicity and deminimus concentration
117708602	Thiazopyr	Thiazopyr	1999	0.037	764	6.05E-02	Deminimus concentration
Not found	Maize Gluten Meal	A-Maizing Lawn	1998	5.443	400	1.70E+01	Low toxicity and deminimus concentration
64742945	Solvent Naphta, petroleum, heavy aromatic	Visor 2E	1998	0.016	264	7.55E-02	Low toxicity and deminimus concentration
87674688	Dimethanamid	Frontier 6	1999	0.045	1196	4.66E-02	Deminimus concentration

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Table 4

Samples and Analytes Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analyte Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 2	020923-F2-GB-0.5	0.5	Soil	09/23/2002							X		
Field 3	020731-F3-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-A-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-B-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-C-3.0	3.0	Soil	07/31/2002	X								
Field 3	020731-F3-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-D-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-E-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-E-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-F-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-F-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020923-F3-GB-0.5	0.5	Soil	09/23/2002							X		
Field 4	020731-F4-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 4	020731-F4-A-3.0	3.0	Soil	08/01/2002	X								
Field 4	020731-F4-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 4	020731-F4-B-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 4	020731-F4-C-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X

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Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 4	020731-F4-D-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-E-0.5	0.5	Soil	08/01/2002		X	X	X	X	X			
Field 4	020731-F4-E-3.0	3.0	Soil	08/01/2002	X							X	X
Field 4	020731-F4-F-0.5	0.5	Soil	07/31/2002		X	X	X	X	X			
Field 4	020731-F4-F-3.0	3.0	Soil	07/31/2002	X							X	X
Field 4	020731-F4-G-0.5	0.5	Soil	07/31/2002		X	X	X	X	X			
Field 4	020731-F4-G-3.0	3.0	Soil	07/31/2002	X							X	X
Field 4	020731-F4-H-0.5	0.5	Soil	07/31/2002		X	X	X	X	X			
Field 4	020731-F4-H-3.0	3.0	Soil	07/31/2002	X							X	X
Field 4	020923-F4-HA-1-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-2-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-2-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-2-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-3-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-4-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-4-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-4-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-5-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-5-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-5-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-6-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-6-2.0	2.0	Soil	09/23/2002	X								

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Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 4	020923-F4-HA-6-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-7-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-7-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-7-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-8-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-8-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-8-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-9-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-10-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-12-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-13-0.5	0.5	Soil	09/23/2002	X	X							
Field 4	020923-F4-HA-15-0.5	0.5	Soil	09/23/2002	X	X							
Field 4	020923-F4-HA-17-0.5	0.5	Soil	09/23/2002	X	X							
Field 4	020923-F4-HA-19-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-SB-1-4.0	4.0	Soil	09/23/2002	X								
Field 4	020923-F4-SB-2-4.0	4.0	Soil	09/23/2002	X								
Field 4	020923-F4-SB-3-4.0	4.0	Soil	09/23/2002	X								
Field 5	020731-F5-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 5	020731-F5-A-3.0	3.0	Soil	08/01/2002	X								
Field 5	020731-F5-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 5	020731-F5-B-3.0	3.0	Soil	08/01/2002	X								
Field 5	020731-F5-C-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X

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Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organochlorine Pesticides - EPA Method 8081	Organophosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8198 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 1	020731-F5-C-3.0	3.0	Soil	08/01/2002	X								
Field 5	020731-F5-D-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 5	020731-F5-D-3.0	3.0	Soil	08/01/2002	X								
Field 5	020923-F5-GM-0.5	0.5	Soil	09/23/2002							X		
Field 6	020731-F6-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 6	020731-F6-A-3.0	3.0	Soil	08/01/2002	X								
Field 6	020731-F6-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 6	020731-F6-B-3.0	3.0	Soil	08/01/2002	X								
Field 6	020731-F6-C-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 6	020731-F6-C-3.0	3.0	Soil	08/01/2002	X								
Field 6	020923-F6-GB-0.5	0.5	Soil	09/23/2002							X		
Field 7	020731-F7-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-A-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-B-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-C-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-D-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-E-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-E-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-F-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 7	020731-F7-F-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-G-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-G-3.0	3.0	Soil	07/31/2002	X	X							
Field 7	020731-F7-H-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-H-3.0	3.0	Soil	07/31/2002	X								
Field 7	020923-F7-GB-0.5	0.5	Soil	09/23/2002							X		
Field 8	020731-F8-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-A-3.0	3.0	Soil	07/31/2002	X								
Field 8	020731-F8-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-B-3.0	3.0	Soil	07/31/2002	X								
Field 8	020731-F8-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-C-3.0	3.0	Soil	07/31/2002	X								
Field 8	020731-F8-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-D-3.0	3.0	Soil	07/31/2002	X								
Field 8	020923-F8-GB-0.5	0.5	Soil	09/23/2002							X		
Field 9	020731-F9-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 9	020731-F9-A-3.0	3.0	Soil	08/01/2002	X								
Field 9	020923-F9-GB-0.5	0.5	Soil	09/23/2002							X		

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Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 10	020731-F10-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 10	020731-F10-A-3.0	3.0	Soil	08/01/2002	X								
Field 10	020731-F10-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 10	020731-F10-B-3.0	3.0	Soil	08/01/2002	X								
Field 10	020923-F10-GB-0.5	0.5	Soil	09/23/2002									
Field 11	020731-F11-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X	X	X	X
Field 11	020731-F11-A-3.0	3.0	Soil	08/01/2002	X								
Field 11	020731-F11-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 11	020731-F11-B-3.0	3.0	Soil	08/01/2002	X								
Field 11	020923-F11-GB-0.5	0.5	Soil	09/23/2002									
Field 12	020731-F12-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X	X	X	X
Field 12	020731-F12-A-3.0	3.0	Soil	08/01/2002	X								
Field 12	020923-F12-HA-B-0.5	0.5	Soil	09/23/2002	X								
Greenhouse	020731-GH-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Greenhouse	020731-GH-A-3.0	3.0	Soil	08/01/2002	X								
Background	020731-BG-A-0.75	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Background	020731-BG-A-3.0	3.0	Soil	08/01/2002	X								
Sewer LeachPit	020923-ENV-1-7.0	5.5	Soil	09/23/2002		X						X	
Sewer LeachPit	020923-ENV-1-10.0	10.5	Soil	09/23/2002		X						X	
Decon Water	020801-DW-A	NA	Water	08/01/2002		X	X	X	X	X		X	X
Sediment Pit	030401-SEDPIT-1-W	NA	Water	04/01/2003		X						X	

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Sediment Pit	030401-ENV-2-3.5	3.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-2-8.5	8.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-2.0	2	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-3.5	3.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-6.5	6.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-7.8	3.5	Soil	04/01/2003	X								
Grass	030401-GRASS-1-GB	3.5	Soil	04/01/2003		X						X	X (pH only)

ENVIRON

Table 5
Statistical Summary of Detected Compounds in Soil Samples[1]

Analyte	Number of Detections	Number of Samples	Minimum	Maximum[2]	Average	Standard Deviation	95% Upper Confidence Level (UCL) of the Mean	Frequency of Detection	USEPA Region IX PRGs[3]
Pesticides			Concentration (ug/kg)						Concentration (ug/kg)
Dieldrin	15	60	ND	240	12	31	19	25%	30
Dequat	8	12	ND	7,500	3317	2,271	4,494	67%	130,000
Endrin	6	60	ND	50	8.9	11	11	10%	18,000
4,4'-DDT	40	60	ND	380	39	64	53	67%	1,700
4,4'-DDE	40	60	ND	1,500	110	269	168	67%	1,700
alpha-Chlordane	4	60	ND	50	8.3	10	11	7%	1,600
gamma-Chlordane	4	60	ND	50	8.3	10	10	7%	1,600
Heptachlor epoxide	1	60	ND	50	8	10	10	2%	53
gamma-BHC (Lindane)	1	60	ND	94	9.1	15	12	2%	440
Metals			Concentration (mg/kg)						Concentration (mg/kg)
Arsenic	136	136	ND	37	11.2	8.1	12	100%	0.39
Barium	50	50	95	440	123	47	134	100%	5,400
Beryllium	3	50	ND	0.52	0.27	0.062	0.28	6%	150
Cadmium	50	50	1.7	3.6	2.8	0.33	2.9	100%	37
Chromium	50	50	27	55	38	4.4	39	100%	210
Cobalt	50	50	7.2	12	9.0	1.1	9.2	100%	900
Copper	50	50	21	39	29	5.2	30	100%	3,100
Cyanide	2	50	ND	0.32	0.18	0.047	0.19	4%	11
Lead	50	50	1.2	63	22	12	26	100%	400
Mercury	38	50	ND	0.28	0.074	0.054	0.087	76%	23
Nickel	50	50	39	60	48	4.5	49	100%	150
Vanadium	50	50	24	44	31	3.9	32	100%	550
Zinc	50	50	44	99	63	12	66	100%	23,000

Notes:

[1] Includes all data except: 020923-ENV-1-7.0, 020923-ENV-1-10.0, Rinsate (020801-DW-A) and Sediment trap liquid (030401-SEDPIT-1-W)

[2] Maximum detected concentration.

[3] October 1, 2002, *USEPA Region IX Preliminary Remediation Goals (PRGs)* for residential soil

ND = not detected

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [3]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
1	020731-F1-A-0.5	0.5	Soil	7/31/2002	<10	12	46	120	<10	<10	NA
1	020731-F1-B-0.5	0.5	Soil	7/31/2002	<10	<10	27	50	<10	<10	NA
1	020731-F1-C-0.5	0.5	Soil	7/31/2002	[illegible]	11	54	34	<10	<10	NA
1	020731-F1-C-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
1	020731-F1-D-0.5	0.5	Soil	7/31/2002	11	12	62	190	<10	<10	NA
1	020923-F1-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,100
2	020731-F2-A-0.5	0.5	Soil	7/31/2002	<10	12	46	94	<10	<10	NA
2	020731-F2-B-0.5	0.5	Soil	7/31/2002	<10	<10	13	13	<10	<10	NA
2	020731-F2-C-0.5	0.5	Soil	7/31/2002	<10	<10	17	16	<10	<10	NA
2	020731-F2-D-0.5	0.5	Soil	7/31/2002	<10	<10	20	19	<10	<10	NA
2	020923-F2-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	7,500
3	020731-F3-A-0.5	0.5	Soil	7/31/2002	[illegible]	<10	24	21	<10	<10	NA
3	020731-F3-A-3.0	3.0	Soil	7/31/2002	12	<10	<10	<10	<10	<10	NA
3	020731-F3-B-0.5	0.5	Soil	7/31/2002	[illegible]	<10	17	15	<10	<10	NA
3	020731-F3-B-3.0	3.0	Soil	7/31/2002	25	<10	<10	<10	<10	<10	NA
3	020731-F3-C-0.5	0.5	Soil	7/31/2002	17	<10	24	29	<10	<10	NA
3	020731-F3-D-0.5	0.5	Soil	7/31/2002	14	<100	200	1,100	<100	<100	NA
3	020731-F3-D-3.0	3.0	Soil	7/31/2002	<10	<10	<10	15	<10	<10	NA
3	020731-F3-E-0.5	0.5	Soil	7/31/2002	22	<100	380	1,500	<100	<100	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [3]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
3	020731-F3-E-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
3	020731-F3-F-0.5	0.5	Soil	7/31/2002	12	<100	130	730	<100	<100	NA
3	020731-F3-F-3.0	3.0	Soil	7/31/2002	<10	<10	20	85	<10	<10	NA
3	020923-F3-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	2,300
4	020801-F4-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-B-0.5	0.5	Soil	7/31/2002	13	<10	17	13	<10	<10	NA
4	020731-F4-C-0.5	0.5	Soil	7/31/2002	13	<10	15	12	15	13	NA
4	020731-F4-D-0.5	0.5	Soil	7/31/2002	<10	<10	14	12	14	12	NA
4	020801-F4-E-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-F-0.5	0.5	Soil	7/31/2002	<10	<10	16	17	15	13	NA
4	020731-F4-G-0.5	0.5	Soil	7/31/2002	<10	<10	16	19	<10	<10	NA
4	020731-F4-H-0.5	0.5	Soil	7/31/2002	<10	<10	18	23	<10	<10	NA
4	020923-F4-HA-13-0.5	0.5	Soil	9/23/2002	<10	<10	<10	14	<10	<10	NA
4	020923-F4-HA-15-0.5	0.5	Soil	9/23/2002	<10	<10	11	<10	<10	<10	NA
4	020923-F4-HA-17-0.5	0.5	Soil	9/23/2002	<10	<10	13	35	<10	<10	NA
4	020923-F4-HA-9-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,800
5	020801-F5-A-0.5	0.5	Soil	8/1/2002	<10	<10	65	120	<10	<10	NA
5	020801-F5-B-0.5	0.5	Soil	8/1/2002	<10	<10	42	76	<10	<10	NA
5	020801-F5-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	16	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
5	020801-F5-D-0.5	0.5	Soil	8/1/2002	<10	<10	18	51	<10	<10	NA
5	020923-F5-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	4,200
6	020801-F6-A-0.5	0.5	Soil	8/1/2002	<10	<10	19	49	<10	<10	NA
6	020801-F6-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020801-F6-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020923-F6-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,700
7	020731-F7-A-0.5	0.5	Soil	7/31/2002	<10	<10	13	<10	13	<10	NA
7[3]	020731-F7-B-0.5	0.5	Soil	7/31/2002	<10	<10	11	<10	<10	17	NA
7	020731-F7-C-0.5	0.5	Soil	7/31/2002	<10	<10	24	13	<10	<10	NA
7	020731-F7-D-0.5	0.5	Soil	7/31/2002	<10	<10	46	20	<10	<10	NA
7	020731-F7-E-0.5	0.5	Soil	7/31/2002	<10	30	150	280	<10	<10	NA
7	020731-F7-F-0.5	0.5	Soil	7/31/2002	<10	<10	110	100	<10	<10	NA
7	020731-F7-G-0.5	0.5	Soil	7/31/2002	<10	<50	130	650	<50	<50	NA
7	020731-F7-G-3.0	3.0	Soil	7/31/2002	<10	<10	13	73	<10	<10	NA
7[3]	020731-F7-H-0.5	0.5	Soil	7/31/2002	<20	<20	110	350	<20	<20	NA
7	020923-F7-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
8	020731-F8-A-0.5	0.5	Soil	7/31/2002	<10	<10	16	13	<10	<10	NA
8	020731-F8-B-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020731-F8-C-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2] Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Dicofol
	USEPA Region IX PRGs [3]				*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
8	020731-F8-D-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020923-F8-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**4,000**
9	020801-F9-A-0.5	0.5	Soil	8/1/2002	**12**	<10	**69**	**38**	<10	<10	NA
9	020923-F9-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
10	020801-F10-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020801-F10-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020923-F10-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**7,200**
11	020801-F11-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020801-F11-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020923-F11-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
12	020801-F12-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
12	020923-F12-HA-B-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2000
Greenhouse	020801-GH-A-0.5	0.5	Soil	8/1/2002	**17**	<10	**48**	**190**	<10	<10	NA
Background	020801-BG-A-0.75	0.75	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
Decon Water	020801-DW-A	NA	Water	8/1/2002	<0.16 [4]	<0.16 [4]	<0.16 [4]	<0.16 [4]	<0.16 [4]	<0.16 [4]	NA
Leach pit	020923-ENV-1-7.0	7.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Leach pit	020923-ENV-1-10.0	10.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Grass	030401-GRASS-1-GB	0.5	Soil	4/1/2003	**12**	**27**	**150**	**270**	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs)[1]	Sample Type	Sample Date	Soil Concentration (µg/kg)[2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs.[6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*150,000*
Sediment Trap	030401-SEDPIT-1-W	NA	Water	4/1/2003	<0.06	<0.06	<0.60	<0.60	<0.60	<0.60	NA

Notes:

[1] ft bgs = feet below ground surface

[2] Organochlorine Pesticide compounds were analyzed by EPA Method 8081. Only detected compounds are summarized in the table.
Shading denotes exceedence of USEPA Region 9 PRGs. Detections are shown in **BOLD**.

[3] Heptachlor epoxide was detected at 14 µg/kg.

[4] Result is reported in µg/L.

[5] Gamma-BHC (Lindane) was detected at 94 µg/kg.

[6] USEPA Region 9 PRGs for residential soil. October 2002.

NA - Not Analyzed

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
	USEPA Region 9 PRGs [4]				*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
1	020731-F1-A-0.5	0.5	Soil	7/31/2002	<10	12	46	120	<10	<10	NA
1	020731-F1-B-0.5	0.5	Soil	7/31/2002	<10	<10	27	50	<10	<10	NA
1	020731-F1-C-0.5	0.5	Soil	7/31/2002	140	11	54	34	<10	<10	NA
1	020731-F1-C-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
1	020731-F1-D-0.5	0.5	Soil	7/31/2002	11	12	62	190	<10	<10	NA
1	020923-F1-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,100
2	020731-F2-A-0.5	0.5	Soil	7/31/2002	<10	12	46	94	<10	<10	NA
2	020731-F2-B-0.5	0.5	Soil	7/31/2002	<10	<10	13	13	<10	<10	NA
2	020731-F2-C-0.5	0.5	Soil	7/31/2002	<10	<10	17	16	<10	<10	NA
2	020731-F2-D-0.5	0.5	Soil	7/31/2002	<10	<10	20	19	<10	<10	NA
2	020923-F2-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	7,500
3	020731-F3-A-0.5	0.5	Soil	7/31/2002	32	<10	24	21	<10	<10	NA
3	020731-F3-A-3.0	3.0	Soil	7/31/2002	12	<10	<10	<10	<10	<10	NA
3	020731-F3-B-0.5	0.5	Soil	7/31/2002	37	<10	17	15	<10	<10	NA
3	020731-F3-B-3.0	3.0	Soil	7/31/2002	25	<10	<10	<10	<10	<10	NA
3	020731-F3-C-0.5	0.5	Soil	7/31/2002	17	<10	24	29	<10	<10	NA
3	020731-F3-D-0.5	0.5	Soil	7/31/2002	14	<100	200	1,100	<100	<100	NA
3	020731-F3-D-3.0	3.0	Soil	7/31/2002	<10	<10	<10	15	<10	<10	NA
3	020731-F3-E-0.5	0.5	Soil	7/31/2002	22	<100	380	1,500	<100	<100	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region 9 PRGs [3]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
3	020731-F3-E-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
3	020731-F3-F-0.5	0.5	Soil	7/31/2002	12	<100	130	730	<100	<100	NA
3	020731-F3-F-3.0	3.0	Soil	7/31/2002	<10	<10	20	85	<10	<10	NA
3	020923-F3-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	2,300
4	020801-F4-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-B-0.5	0.5	Soil	7/31/2002	13	<10	17	13	<10	<10	NA
4	020731-F4-C-0.5	0.5	Soil	7/31/2002	13	<10	15	12	15	13	NA
4	020731-F4-D-0.5	0.5	Soil	7/31/2002	<10	<10	14	12	14	12	NA
4	020801-F4-E-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-F-0.5	0.5	Soil	7/31/2002	<10	<10	16	17	15	13	NA
4	020731-F4-G-0.5	0.5	Soil	7/31/2002	<10	<10	16	19	<10	<10	NA
4	020731-F4-H-0.5	0.5	Soil	7/31/2002	<10	<10	18	23	<10	<10	NA
4	020923-F4-HA-13-0.5	0.5	Soil	9/23/2002	<10	<10	<10	14	<10	<10	NA
4	020923-F4-HA-15-0.5	0.5	Soil	9/23/2002	<10	<10	11	<10	<10	<10	NA
4	020923-F4-HA-17-0.5	0.5	Soil	9/23/2002	<10	<10	13	35	<10	<10	NA
4	020923-F4-HA-9-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,800
5	020801-F5-A-0.5	0.5	Soil	8/1/2002	<10	<10	65	120	<10	<10	NA
5	020801-F5-B-0.5	0.5	Soil	8/1/2002	<10	<10	42	76	<10	<10	NA
5	020801-F5-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	16	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs)[1]	Sample Type	Sample Date	Soil Concentration (µg/kg)[2] Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Dicofol
USEPA Region 9 PRGs[4]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
5	020801-F5-D-0.5	0.5	Soil	8/1/2002	<10	<10	18	51	<10	<10	NA
5	020923-F5-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	4,200
6	020801-F6-A-0.5	0.5	Soil	8/1/2002	<10	<10	19	49	<10	<10	NA
6	020801-F6-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020801-F6-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020923-F6-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,700
7	020731-F7-A-0.5	0.5	Soil	7/31/2002	<10	<10	13	<10	13	<10	NA
7[3]	020731-F7-B-0.5	0.5	Soil	7/31/2002	<10	<10	11	<10	<10	17	NA
7	020731-F7-C-0.5	0.5	Soil	7/31/2002	<10	<10	24	13	<10	<10	NA
7	020731-F7-D-0.5	0.5	Soil	7/31/2002	<10	<10	46	20	<10	<10	NA
7	020731-F7-E-0.5	0.5	Soil	7/31/2002	<10	30	150	280	<10	<10	NA
7	020731-F7-F-0.5	0.5	Soil	7/31/2002	<10	<10	110	100	<10	<10	NA
7	020731-F7-G-0.5	0.5	Soil	7/31/2002	<10	<50	130	650	<50	<50	NA
7	020731-F7-G-3.0	3.0	Soil	7/31/2002	<10	<10	13	73	<10	<10	NA
7[3]	020731-F7-H-0.5	0.5	Soil	7/31/2002	<20	<20	110	350	<20	<20	NA
7	020923-F7-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
8	020731-F8-A-0.5	0.5	Soil	7/31/2002	<10	<10	16	13	<10	<10	NA
8	020731-F8-B-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020731-F8-C-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs)[1]	Sample Type	Sample Date	Soil Concentration (µg/kg)[2] Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
	USEPA Region 9 PRGs[3]				*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
8	020731-F8-D-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020923-F8-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	4,000
9	020801-F9-A-0.5	0.5	Soil	8/1/2002	12	<10	69	38	<10	<10	NA
9	020923-F9-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
10	020801-F10-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020801-F10-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020923-F10-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	7,200
11	020801-F11-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020801-F11-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020923-F11-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
12	020801-F12-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
12	020923-F12-HA-B-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2000
Greenhouse	020801-GH-A-0.5	0.5	Soil	8/1/2002	17	<10	48	190	<10	<10	NA
Background	020801-DC-A-0.75	0.75	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
Decon Water	020801-DW-A	NA	Water	8/1/2002	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	NA
Leach pit	020923-ENV-1-7.0	7.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Leach pit	020923-ENV-1-10.0	10.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Grass	030401-GRASS-1-GB	0.5	Soil	4/1/2003	12	27	150	270	<10	<10	NA

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Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2] Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region 9 PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,900*
Sediment Trap	030401-SEDPIT-1-W	NA	Water	4/1/2003	<0.06	<0.06	<0.60	<0.60	<0.60	<0.60	NA

Notes:

[1] ft bgs = feet below ground surface

[2] Organochlorine Pesticide compounds were analyzed by EPA Method 8081. Only detected compounds are summarized in the table.
Shading denotes exceedence of USEPA Region 9 PRGs. Detections are shown in **BOLD**.

[3] Heptachlor epoxide was detected at 14 µg/kg.

[4] Result is reported in µg/L.

[5] Gamma-BHC (Lindane) was detected at 94 µg/kg.

[6] USEPA Region 9 PRGs for residential soil. October 2002.

NA - Not Analyzed

Table 7
Comparison of Background Concentrations of Inorganics in Soil

Inorganic Chemical	BAREC Concentration at 0.5 feet bgs: Number of Samples	Minimum (mg/kg)	Maximum (mg/kg)	Average (mg/kg)	BAREC Background Sample BG-A' (mg/kg)	Background Concentration: Number of Samples	Range (mg/kg)	Average (mg/kg)	Location/ Source
Arsenic	66	2.6	37	18	5.4	72	0.3 - 69	6.6	Western US/Dragoun/Chamen (98)
						50	0.6 - 11.0	3.5	California/Bradford et al. 1996
						108	ND - 20	2.9	Northern Santa Clara/Scott 1991
						1397	ND-42	5.5	Lawrence Berkeley National Laboratory/2002
Barium	50	95	440	123	440	75	150 - 3,300	887	Western US/Dragoun/Chamen (98)
						50	133 - 1,400	509	California/Bradford et al. 1996
						1397	ND-490	130	Lawrence Berkeley National Laboratory/2002
Beryllium	50	ND	0.52	0.27	ND	75	ND - 3.0	0.5	Western US/Dragoun/Chamen (98)
						50	0.25 - 2.70	1.2	California/Bradford et al. 1996
						158	ND - 3.2	0.9	Northern Santa Clara/Scott 1991
						1397	ND-1.2	0.42	Lawrence Berkeley National Laboratory/2002
Cadmium	50	1.7	3.6	2.8	2.4	24	0.01 - 22	3.5	Western US/Dragoun/Chamen (98)
						50	0.05 - 1.7	0.4	California/Bradford et al. 1996
						158	ND - 14	NC	Northern Santa Clara/Scott 1991
						1395	ND-7.5	NC	Lawrence Berkeley National Laboratory/2002
Chromium, total	50	27	55	38	55	75	10 - 1,500	118	Western US/Dragoun/Chamen (98)
						50	23 - 1,579	122	California/Bradford et al. 1996
						158	ND - 170	51	Northern Santa Clara/Scott 1991
						1403	ND-144	38	Lawrence Berkeley National Laboratory/2002
Cobalt	50	7.2	12	9	9.2	75	ND - 50	13	Western US/Dragoun/Chamen (98)
						50	2.7 - 44.9	15	California/Bradford et al. 1996
						1397	ND-29	14	Lawrence Berkeley National Laboratory/2002
Copper	50	21	39	29	31	75	5.0 - 300	49	Western US/Dragoun/Chamen (98)
						50	9.1 - 96.6	29	California/Bradford et al. 1996
						136	4.6 -67	30	Northern Santa Clara/Scott 1991
						1400	ND-69	32	Lawrence Berkeley National Laboratory/2002
Lead	50	1.2	63	23	1.2	75	ND - 300	29	Western US/Dragoun/Chamen (98)
						50	12.4 - 97.1	24	California/Bradford et al. 1996
						158	ND -54	11	Northern Santa Clara/Scott 1991
						1398	ND-84	7	Lawrence Berkeley National Laboratory/2002
Mercury	50	ND	0.28	0.07	0.15	75	0.01 - 1.5	0.15	Western US/Dragoun/Chamen (98)
						50	0.05 - 0.8	0.26	California/Bradford et al. 1996
						127	ND -1.3	NC	Northern Santa Clara/Scott 1991
						1406	ND-2.2	NC	Lawrence Berkeley National Laboratory/2002
Nickel	50	39	60	48	44	75	<5.0 - 200	38	Western US/Dragoun/Chamen (98)
						50	9 - 509	57	California/Bradford et al. 1996
						136	6 -145	34	Northern Santa Clara/Scott 1991
						1399	6 - 380	68	Lawrence Berkeley National Laboratory/2002
Vanadium	50	24	44	31	43	75	30 - 500	125	Western US/Dragoun/Chamen (98)
						50	39 - 288	112	California/Bradford et al. 1996
						1397	ND-120	46	Lawrence Berkeley National Laboratory/2002
Zinc	50	44	99	63	44	75	25 - 212	78	Western US/Dragoun/Chamen (98)
						50	88 - 236	149	California/Bradford et al. 1996
						136	7.8 -120	65	Northern Santa Clara/Scott 1991
						1396	3.8 - 190	64	Lawrence Berkeley National Laboratory/2002

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Table 7
Comparison of Background Concentrations of Inorganics in Soil

Inorganic Chemical	BAREC Concentration at 0.5 feet bgs				BAREC Background Sample	Background Concentration			
	Number of Samples	Minimum (mg/kg)	Maximum (mg/kg)	Average (mg/kg)	BG-A[1] (mg/kg)	Number of Samples	Range (mg/kg)	Average (mg/kg)	Location/ Source

Notes:

NC = Not Calculated; ND = Not Detected

1 Collected at 0.75 feet below ground surface (bgs).

Sources:

Bradford, G.R., A.C. Chang, A.L. Page, D. Bakhtar, J.A. Frampton, and H. Wright. 1996. *Background Concentrations of Trace and Major Elements in California*. Riverside: Kearney Foundation Special Report. University of California, Division of Agriculture and Natural Resources, Kearney Foundation of Soil Science. March.

Dragun, J., and A. Chiasson. 1991. *Elements in North American Soils*. Greenbelt, MD: Hazmaster Materials Control Resources Institute.

Dyer, Christina. 1991. *Background Metal Concentrations in Soils in Northern Santa Clara County California*. University of San Francisco, Masters Thesis.

Lillie, 2001. *Average of Background Distributions of Metals in Soil at the Lawrence Berkeley National Laboratory (LBNL)*. University of California, Environmental Restoration Program. June.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F1-A	F1-B	F1-C	F1-D	F2-A	F2-B	F2-C
Sample Name	020731-F1-A-0.5	020731-F1-B-0.5	020731-F1-C-0.5	020731-F1-D-0.5	020731-F2-A-0.5	020731-F2-B-0.5	020731-F2-C-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	6.6	6.6	7.0	7.0	7.1	7.3	7.2
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	120	120	120	120	140	140
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Cadmium	3.0	2.8	2.8	2.5	2.9	3.2	3.6
Chromium	41	38	40	34	36	41	48
Cobalt	9.4	8.8	8.5	7.8	8.9	10	11
Copper	38	31	23	24	27	30	39
Cyanide	<0.35	<0.40	<0.34	<0.35	<0.47	<0.42	<0.36
Lead	22	17	17	19	17	24	26
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	51	48	47	43	49	52	58
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	34	31	30	28	30	36	44
Zinc	57	51	53	54	64	67	72
Mercury	0.061	<0.050	<0.050	0.064	0.065	0.070	0.057

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F2-D	F3-A	F3-B	F3-C	F3-D	F3-E	F3-F
Sample Name	020731-F2-D-0.5	020731-F3-A-0.5	020731-F3-B-0.5	020731-F3-C-0.5	020731-F3-D-0.5	020731-F3-E-0.5	020731-F3-F-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	7.1	7.0	7.1	7.4	7.5	7.5	7.6
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	110	110	110	110	110	110
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	3.2	2.8	2.9	2.8	2.7	2.6	2.6
Chromium	42	37	37	36	38	34	35
Cobalt	9.7	8.8	9.0	8.6	8.7	8.7	8.4
Copper	27	31	27	24	26	26	23
Cyanide	<0.34	<0.35	<0.40	<0.31	<0.27	<0.45	<0.18
Lead	18	18	13	12	26	28	20
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	53	48	50	48	47	46	46
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	35	30	30	28	29	28	27
Zinc	66	56	55	53	51	52	49
Mercury	<0.050	0.052	0.056	0.055	0.061	0.063	0.088

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F4-A	F4-A	F4-B	F4-B	F4-C	F4-C	F4-D
Sample Name	020801-F4-A-0.5	020801-F4-A-3.0	020731-F4-B-0.5	020731-F4-B-3.0	020731-F4-C-0.5	020731-F4-C-3.0	020731-F4-D-0.5
Soil Sample Depth (ft bgs) [1]	0.5	3.0	0.5	3.0	0.5	3.0	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	8/1/2002	8/1/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	6.2	NA	6.7	NA	7.0	NA	6.8
	Concentration (mg/kg) [2]						
Antimony	<2.0	NA	<2.0	NA	<2.0	NA	<2.0
Barium	110	NA	120	NA	130	NA	120
Beryllium	<0.50	NA	<0.50	NA	<0.50	NA	<0.50
Cadmium	2.6	NA	3.1	NA	3.2	NA	2.8
Chromium	35	NA	38	NA	40	NA	36
Cobalt	8.2	NA	9.6	NA	10	NA	8.4
Copper	33	NA	34	NA	36	NA	33
Cyanide	<0.32	NA	<0.33	NA	<0.36	NA	<0.27
Lead	48	NA	40	NA	34	NA	63
Molybdenum	<1.0	NA	<1.0	NA	<1.0	NA	<1.0
Nickel	44	NA	49	NA	52	NA	45
Selenium	<2.0	NA	<2.0	NA	<2.0	NA	<2.0
Silver	<1.0	NA	<1.0	NA	<1.0	NA	<1.0
Thallium	<1.0	NA	<1.0	NA	<1.0	NA	<1.0
Vanadium	29	NA	33	NA	34	NA	29
Zinc	90	NA	90	NA	81	NA	73
Mercury	0.052	NA	0.084	NA	0.056	NA	<0.050

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

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Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F4-D	F4-E	F4-F	F4-F	F4-G	F4-H	F5-A
Sample Name	020731-F4-D-3.0	020801-F4-E-0.5	020731-F4-F-0.5	020731-F4-F-3.0	020731-F4-G-0.5	020731-F4-H-0.5	020801-F5-A-0.5
Soil Sample Depth (ft bgs) [1]	3.0	0.5	0.5	3.0	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	8/1/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	8/1/2002
pH	NA	6.9	7.2	NA	6.4	7.1	7.7
	Concentration (mg/kg) [2]						
Antimony	NA	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Barium	NA	120	110	NA	110	98	120
Beryllium	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50
Cadmium	NA	2.7	2.9	NA	2.7	2.7	2.6
Chromium	NA	36	36	NA	32	35	37
Cobalt	NA	8.3	9.1	NA	8.2	8.3	8.7
Copper	NA	36	37	NA	34	35	28
Cyanide	NA	<0.43	<0.34	NA	<0.077	<0.30	<0.41
Lead	NA	43	43	NA	30	25	27
Molybdenum	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Nickel	NA	46	46	NA	41	43	47
Selenium	NA	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Silver	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Thallium	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Vanadium	NA	30	31	NA	28	29	29
Zinc	NA	99	85	NA	70	68	63
Mercury	NA	0.059	0.064	NA	0.050	0.25	0.097

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F5-B	F5-C	F5-D	F6-A	F6-B	F6-C	F7-A
Sample Name	020801-F5-B-0.5	020801-F5-C-0.5	020801-F5-D-0.5	020801-F6-A-0.5	020801-F6-B-0.5	020801-F6-C-0.5	020731-F7-A-0.5
Soil Sample Depth (ft bgs)[1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	7/31/2002
pH	7.0	7.2	5.9	6.8	7.0	7.0	7.0
	Concentration (mg/kg)[2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	110	110	120	130	110	110
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	2.7	2.7	2.7	2.6	2.8	2.4	2.7
Chromium	36	38	38	34	38	33	39
Cobalt	8.7	9.0	9.1	8.6	9.6	7.9	8.7
Copper	27	24	26	30	27	22	23
Cyanide	<0.31	<0.24	<0.43	<0.41	<0.26	<0.43	0.30
Lead	24	18	21	32	19	17	15
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	48	52	52	45	49	43	48
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	29	31	30	28	31	26	29
Zinc	65	54	54	62	64	57	54
Mercury	0.079	<0.050	<0.050	0.28	0.15	0.071	<0.050

Notes:
[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F7-B	F7-C	F7-D	F7-E	F7-F	F7-G	F7-H
Sample Name	020731-F7-B-0.5	020731-F7-C-0.5	020731-F7-D-0.5	020731-F7-E-0.5	020731-F7-F-0.5	020731-F7-G-0.5	020731-F7-H-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	6.9	7.0	7.0	7.1	6.9	7.0	7.0
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	100	110	110	130	120	140	140
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	0.52
Cadmium	2.7	2.7	2.7	3.3	3.0	3.5	3.5
Chromium	36	36	37	43	38	45	45
Cobalt	8.1	8.8	9.2	11	10	12	12
Copper	22	24	31	37	35	34	33
Cyanide	<0.26	<0.28	<0.29	<0.37	<0.26	0.32	<0.42
Lead	20	14	16	18	19	23	22
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	46	45	48	57	52	59	68
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	30	28	29	35	31	36	36
Zinc	53	56	68	67	79	69	72
Mercury	<0.050	0.070	0.087	0.072	0.11	0.089	0.099

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

ENVIRON

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F8-A	F8-B	F8-C	F8-D	F9-A	F10-A	F10-B
Sample Name	020731-F8-A-0.5	020731-F8-B-0.5	020731-F8-C-0.5	020731-F8-D-0.5	020801-F9-A-0.5	020801-F10-A-0.5	020801-F10-B-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	8/1/2002	8/1/2002	8/1/2002
pH	6.8	7.0	7.3	7.1	7.1	6.9	7.2
	Concentration (mg/kg) [3]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	120	100	110	130	99	95
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	2.8	3.0	2.8	2.7	3.1	2.5	2.3
Chromium	39	42	35	38	43	35	36
Cobalt	9.5	9.8	7.9	9.0	11	7.6	7.3
Copper	28	25	21	21	28	24	21
Cyanide	<0.26	<0.27	<0.34	<0.36	<0.44	<0.35	<0.44
Lead	22	15	15	11	22	17	15
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	47	51	43	47	51	47	43
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	32	35	32	31	36	29	26
Zinc	56	54	56	50	60	64	57
Mercury	0.10	0.063	0.065	<0.050	<0.050	<0.050	<0.050

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

ENVIRON

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F11-A	F11-B	F12-A	F12-A	GH-A	BG-A	1-GB
Sample Name	020801-F11-A-0.5	020801-F11-B-0.5	020801-F12-A-0.5	020801-F12-A-3.0	020801-GH-A-0.5	020801-BG-A-0.75	030401-GRASS-1-GB
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	3.0	0.5	0.75	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	4/1/2003
pH	7.2	7.0	7.2	NA	6.8	7.9	7.5
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Barium	110	110	110	NA	120	440	110
Beryllium	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50
Cadmium	2.5	2.7	2.4	NA	2.6	2.4	1.7
Chromium	34	36	32	NA	36	55	27
Cobalt	8.2	8.4	7.9	NA	8.7	9.2	7.2
Copper	31	21	21	NA	30	31	29
Cyanide	<0.33	<0.31	<0.25	NA	<0.38	<0.42	NA
Lead	27	20	23	NA	17	1.2	59
Molybdenum	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Nickel	44	49	43	NA	42	44	39
Selenium	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Vanadium	27	28	26	NA	28	43	24
Zinc	73	65	68	NA	59	44	63
Mercury	0.061	0.057	0.068	NA	0.13	0.15	0.21

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	NA	NA
Sample Name	020801-DW-A	030401-SEDPIT-1-W
Soil Sample Depth (ft bgs) [1]	NA	NA
Sample Type	Decon Water	Water
Sample Date	8/1/2002	4/1/2003
pH	8.9 [4]	NA
	Concentration (mg/kg) [2]	
Antimony	<0.0050	<0.0050
Barium	1.4	0.015
Beryllium	<0.0050	0.17
Cadmium	0.020	<0.0050
Chromium	0.28	0.0036
Cobalt	4.7	0.016
Copper	0.38	<0.0050
Cyanide	0.012	NA
Lead	0.074	0.020
Molybdenum	0.013	<0.0050
Nickel	0.38	0.020
Selenium	<0.0050	<0.0050
Silver	<0.0050	<0.0050
Thallium	<0.0050	<0.0050
Vanadium	0.24	0.012
Zinc	0.47	0.31
Mercury	0.00044	<0.0002

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

[4] pH in decontamination water is elevated due to addition of liquinox

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs) [1]	Arsenic Concentration (mg/kg)
Field 1			
F1-A	020731-F1-A-0.5	0.5	13
F1-A	020731-F1-A-3.0	3.0	3.5
F1-B	020731-F1-B-0.5	0.5	11
F1-B	020731-F1-B-3.0	3.0	2.8
F1-C	020731-F1-C-0.5	0.5	12
F1-C	020731-F1-C-3.0	3.0	2.7
F1-D	020731-F1-D-0.5	0.5	16
F1-D	020731-F1-D-3.0	3.0	3.6
Field 2			
F2-A	020731-F2-A-0.5	0.5	11
F2-A	020731-F2-A-3.0	3.0	4.7
F2-B	020731-F2-B-0.5	0.5	14
F2-B	020731-F2-B-3.0	3.0	5.7
F2-C	020731-F2-C-0.5	0.5	16
F2-C	020731-F2-C-3.0	3.0	2.3
F2-D	020731-F2-D-0.5	0.5	15
F2-D	020731-F2-D-3.0	3.0	5.1
Field 3			
F3-A	020731-F3-A-0.5	0.5	16
F3-A	020731-F3-A-3.0	3.0	6.6
F3-B	020731-F3-B-0.5	0.5	11
F3-B	020731-F3-B-3.0	3.0	3.8
F3-C	020731-F3-C-0.5	0.5	9.2
F3-C	020731-F3-C-3.0	3.0	2.4
F3-D	020731-F3-D-0.5	0.5	14
F3-D	020731-F3-D-3.0	3.0	3.0
F3-E	020731-F3-E-0.5	0.5	14
F3-E	020731-F3-E-3.0	3.0	2.8
F3-F	020731-F3-F-0.5	0.5	11
F3-F	020731-F3-F-3.0	3.0	4.8
Field 4			
F4-A	020801-F4-A-0.5	0.5	24
F4-A	020801-F4-A-3.0	3.0	8.6
F4-B	020731-F4-B-0.5	0.5	28
F4-B	020731-F4-B-3.0	3.0	6.2
F4-C	020731-F4-C-0.5	0.5	33
F4-C	020731-F4-C-3.0	3.0	29
F4-D	020731-F4-D-0.5	0.5	35
F4-D	020731-F4-D-3.0	3.0	5.3
F4-E	020801-F4-E-0.5	0.5	21
F4-E	020801-F4-E-3.0	3.0	19
F4-F	020731-F4-F-0.5	0.5	36
F4-F	020731-F4-F-3.0	3.0	18

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs)[1]	Arsenic Concentration (mg/kg)
Field 4 continued			
F4-G	020731-F4-G-0.5	0.5	14
F4-G	020731-F4-G-3.0	3.0	14
F4-H	020731-F4-H-0.5	0.5	17
F4-H	020731-F4-H-3.0	3.0	8.2
F4-1	020923-F4-HA-1-0.5	0.5	19
F4-2	020923-F4-HA-2-0.5	0.5	20
F4-2	020923-F4-HA-2-2.0	2.0	5.1
F4-2	020923-F4-HA-2-3.0	3.0	8.9
F4-3	020923-F4-HA-3-0.5	0.5	17
F4-4	020923-F4-HA-4-0.5	0.5	19
F4-4	020923-F4-HA-4-2.0	2.0	3.1
F4-4	020923-F4-HA-4-3.0	3.0	2.9
F4-5	020923-F4-HA-5-0.5	0.5	20
F4-5	020923-F4-HA-5-2.0	2.0	9.0
F4-5	020923-F4-HA-5-3.0	3.0	3.5
F4-6	020923-F4-HA-6-0.5	0.5	26
F4-6	020923-F4-HA-6-2.0	2.0	10
F4-6	020923-F4-HA-6-3.0	3.0	6.8
F4-7	020923-F4-HA-7-0.5	0.5	21
F4-7	020923-F4-HA-7-2.0	2.0	26
F4-7	020923-F4-HA-7-3.0	3.0	24
F4-8	020923-F4-HA-8-0.5	0.5	20
F4-8	020923-F4-HA-8-2.0	2.0	9.4
F4-8	020923-F4-HA-8-3.0	3.0	2.7
F4-9	020923-F4-HA-9-0.5	0.5	16
F4-10	020923-F4-HA-10-0.5	0.5	15
F4-12	020923-F4-HA-12-0.5	0.5	15
F4-13	020923-F4-HA-13-0.5	0.5	19
F4-15	020923-F4-HA-15-0.5	0.5	16
F4-17	020923-F4-HA-17-0.5	0.5	17
F4-19	020923-F4-HA-19-0.5	0.5	2.6
SB-1	020923-F4-SB-1-4.0	4.0	1.8
SB-2	020923-F4-SB-2-4.0	4.0	7.7
SB-3	020923-F4-SB-3-4.0	4.0	2.6
Field 5			
F5-A	020801-F5-A-0.5	0.5	18
F5-A	020801-F5-A-3.0	3.0	5.1
F5-B	020801-F5-B-0.5	0.5	18
F5-B	020801-F5-B-3.0	3.0	3
F5-C	020801-F5-C-0.5	0.5	17
F5-C	020801-F5-C-3.0	3.0	16
F5-D	020801-F5-D-0.5	0.5	18
F5-D	020801-F5-D-3.0	3.0	13

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs) [1]	Arsenic Concentration (mg/kg)
Field 6			
F6-A	020801-F6-A-0.5	0.5	19
F6-A	020801-F6-A-3.0	3.0	2.5
F6-B	020801-F6-B-0.5	0.5	15
F6-B	020801-F6-B-3.0	3.0	2.4
F6-C	020801-F6-C-0.5	0.5	19
F6-C	020801-F6-C-3.0	3.0	19
Field 7			
F7-A	020731-F7-A-0.5	0.5	10
F7-A	020731-F7-A-3.0	3.0	3.2
F7-B	020731-F7-B-0.5	0.5	7.8
F7-B	020731-F7-B-3.0	3.0	2.9
F7-C	020731-F7-C-0.5	0.5	12
F7-C	020731-F7-C-3.0	3.0	3.6
F7-D	020731-F7-D-0.5	0.5	18
F7-D	020731-F7-D-3.0	3.0	5.7
F7-E	020731-F7-E-0.5	0.5	15
F7-E	020731-F7-E-3.0	3.0	4.4
F7-F	020731-F7-F-0.5	0.5	20
F7-F	020731-F7-F-3.0	3.0	4.8
F7-G	020731-F7-G-0.5	0.5	17
F7-G	020731-F7-G-3.0	3.0	4.7
F7-H	020731-F7-H-0.5	0.5	17
F7-H	020731-F7-H-3.0	3.0	5.4
Field 8			
F8-A	020731-F8-A-0.5	0.5	12
F8-A	020731-F8-A-3.0	3.0	5.1
F8-B	020731-F8-B-0.5	0.5	12
F8-B	020731-F8-B-3.0	3.0	6.2
F8-C	020731-F8-C-0.5	0.5	7.4
F8-C	020731-F8-C-3.0	3.0	3.5
F8-D	020731-F8-D-0.5	0.5	6.5
F8-D	020731-F8-D-3.0	3.0	3.1
Field 9			
F9-A	020801-F9-A-0.5	0.5	15
F9-C	020801-F9-C-3.0	3.0	3.2
Field 10			
F10-A	020801-F10-A-0.5	0.5	9.2
F10-A	020801-F10-A-3.0	3.0	2.4
F10-B	020801-F10-B-0.5	0.5	7.6
F10-B	020801-F10-B-3.0	3.0	3.7
Field 11			
F11-A	020801-F11-A-0.5	0.5	10
F11-A	020801-F11-A-3.0	3.0	2.2

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs)[1]	Arsenic Concentration (mg/kg)
Field 11 continued			
F11-B	020801-F11-B-0.5	0.5	8.2
F11-B	020801-F11-B-3.0	3.0	2.5
Field 12			
F12-A	020801-F12-A-0.5	0.5	27
F12-A	020801-F12-A-3.0	3.0	7.7
F12-HA-B	020923-F12-HA-B-0.5	0.5	5.3
Greenhouse			
GH-A	020801-GH-A-0.5	0.5	13
GH-A	020801-GH-A-3.0	3.0	2.8
Background			
BG-A	020801-BG-A-0.75	0.75	5.4
BG-A	020801-BG-A-3.0	3.0	5.5
Leach pit			
ENV-1	020923-ENV-1-7.0	7.0	ND
ENV-1	020923-ENV-1-10.0	10.0	1.2
Grass Area			
1-GB	030401-GRASS-1-GB	0.5	37
Former Evaporation Pond			
ENV-3	030401-ENV-3-2.0	2.0	20
ENV-3	030401-ENV-3-3.5	3.5	9.7
ENV-3	030401-ENV-3-6.5	6.5	2.8
ENV-3	030401-ENV-3-7.8	7.8	2.9
Sediment Trap			
ENV-2	030401-ENV-2-3.5	3.5	3.5
ENV-2	030401-ENV-2-8.5	8.5	3.2

Notes:
[1] ft bgs = feet below ground surface
[2] Samples were analyzed for arsenic by EPA Method 6010B.

Table 10
Statistical Summary of Arsenic Results

	BAREC Arsenic Concentration (mg/kg)			
	All Data	Shallow[1]	Deep[2]	Arsenic less than 20 mg/kg in Field 4[3]
No. of Samples	*138*	*66*	*72*	*138*
Minimum Concentration	*0.5*	*2.6*	*0.5*	*0.5*
Maximum Concentration	*37.0*	*37*	*29*	*19*
Average Concentration	*11*	*16*	*7*	*9*
Standard Deviation	*8.1*	*7.1*	*6.0*	*5.4*
t-value	*1.7*	*1.7*	*1.7*	*1.7*
95% UCL of the Mean	*12*	*18*	*8*	*9*

Notes:
Calculations exclude decon water sample (020801-DW-A), and Sediment trap liquid sample (030401-SEDPIT-1-W).

[1] Shallow - samples at 0.5 feet below ground surface.

[2] Deep - samples from greater than 2 feet below ground surface.

[3] These statistics are for shallow and deep soil, and it is assumed that arsenic concentrations greater than 20 mg/kg are replaced with arsenic concentrations of 7 mg/kg.

Table 11

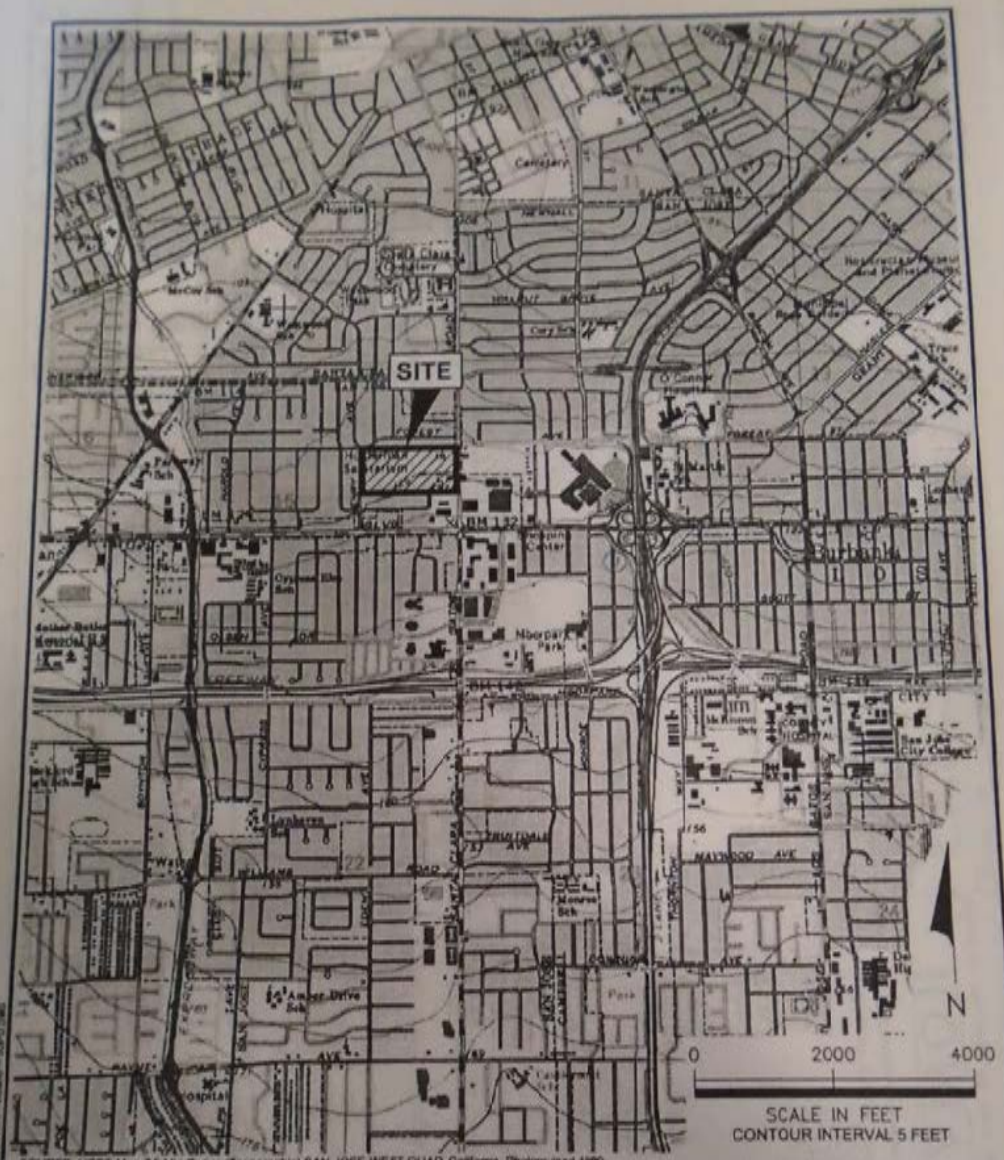
Summary of Investigation Results for the Former Leach Pit

Boring	ENV-1	ENV-1
Sample Name	020923-ENV-1-7.0	020923-ENV-1-10.0
Soil Sample Depth (ft bgs) [1]	7.0	10.0
Sample Type	Soil	Soil
Sample Date	09/23/2002	09/23/2002
pH	NA	NA
VOCs by EPA Method 8260B	ND	ND
SVOCs by EPA Method 8270C	ND	ND
Organochlorine Pesticides by EPA Method 8081	ND	ND
Inorganic/Metals [2]		
Antimony	<2.0	<2.0
Arsenic	<1.0	1.2
Barium	12	83
Beryllium	<0.5	<0.5
Cadmium	<0.5	2
Chromium	1.5	32
Cobalt	<1.0	6.6
Copper	2.2	20
Cyanide	NA	NA
Lead	<1.0	4.4
Molybdenum	<1.0	<1.0
Nickel	1.6	38
Selenium	<2.0	<2.0
Silver	<1.0	<1.0
Thallium	<1.0	<1.0
Vanadium	1.9	25
Zinc	5.3	120
Mercury	<0.05	0.11

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.



SOURCE: USGS Map 7.5 Min Series (Topographic) SAN JOSE WEST QUAD, California, Photorevised 1980.

ENVIRON

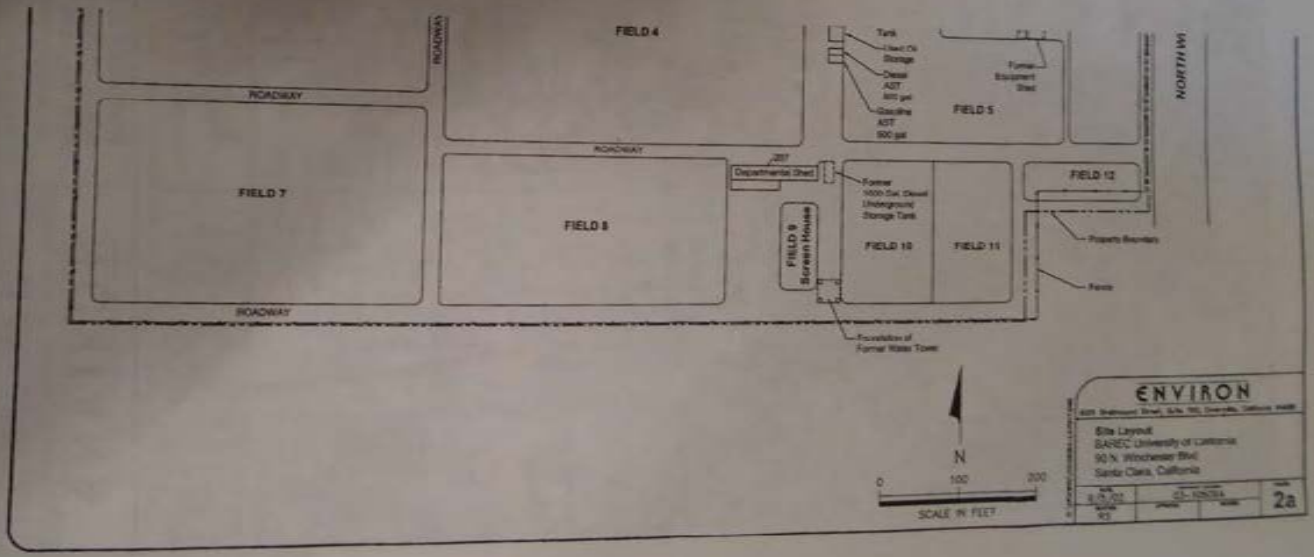
6001 Shellmound St., Suite 700, Emeryville, CA 94608

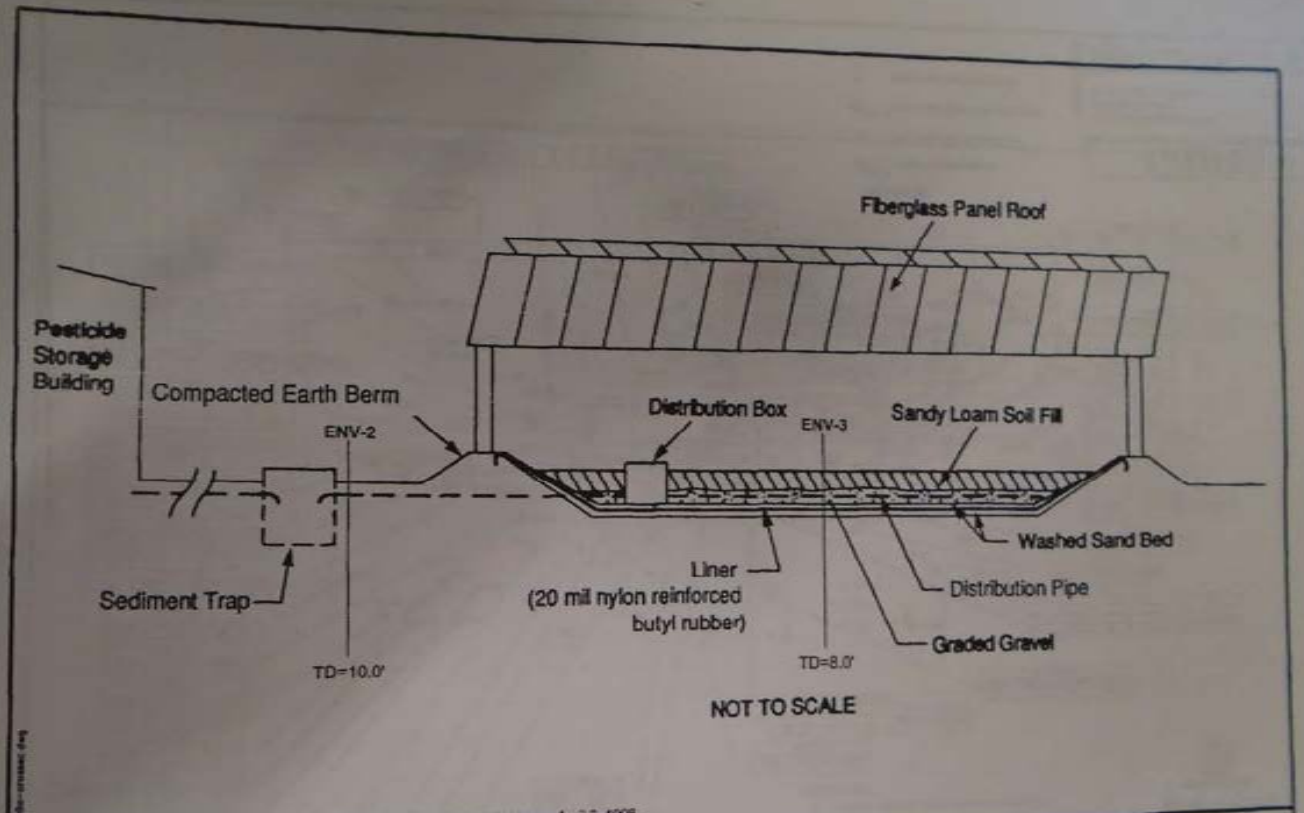
Site Location Map

BAREC University of California
90 N. Winchester Blvd.
Santa Clara, California

Figure 1

Drafter: RS | Date: 9/5/02 | Contract Number: 03-10609A | Approved: | Revised:


FIELD 4
ROADWAY
ROADWAY
ROADWAY
ROADWAY
FIELD 7
FIELD 8
FIELD 9
Screen House
Department Shed
Tank
Former Equipment Shed
FIELD 5
NORTH WI
FIELD 10
FIELD 11
FIELD 12
Property Boundary
Fence
Foundation of Former Water Tower
N
0
100
200
SCALE IN FEET
ENVIRON
Site Layout
BAREC University of California
90 N. Winchester Blvd.
Santa Clara, California
2a



SOURCE: Report of Closure. Former Evaporation Bed. Dames & Moore, April 8, 1998.

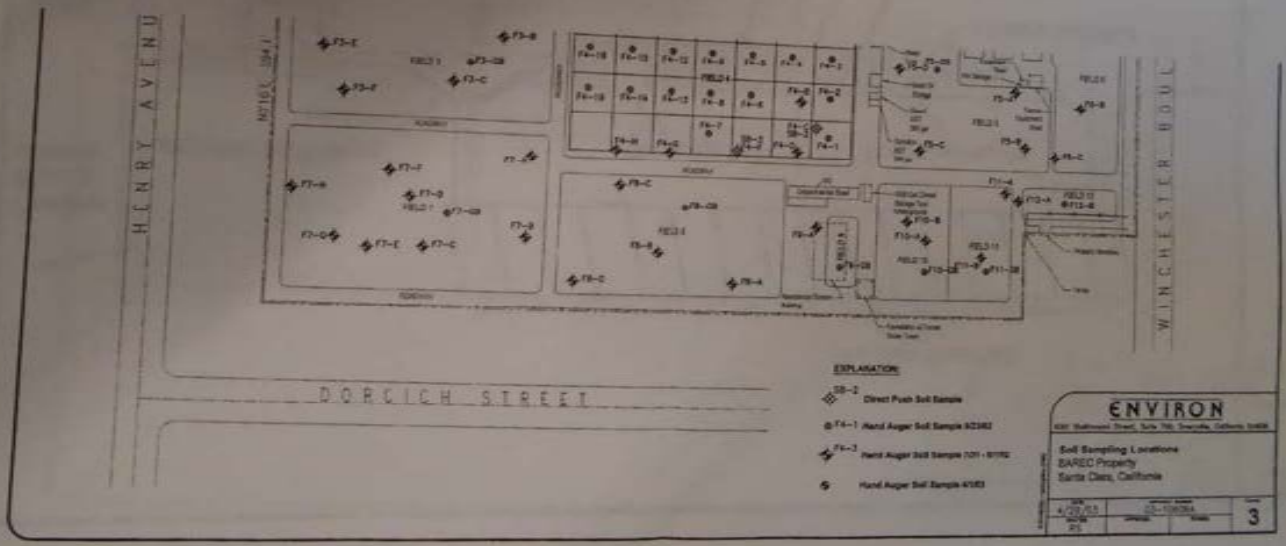
ENVIRON

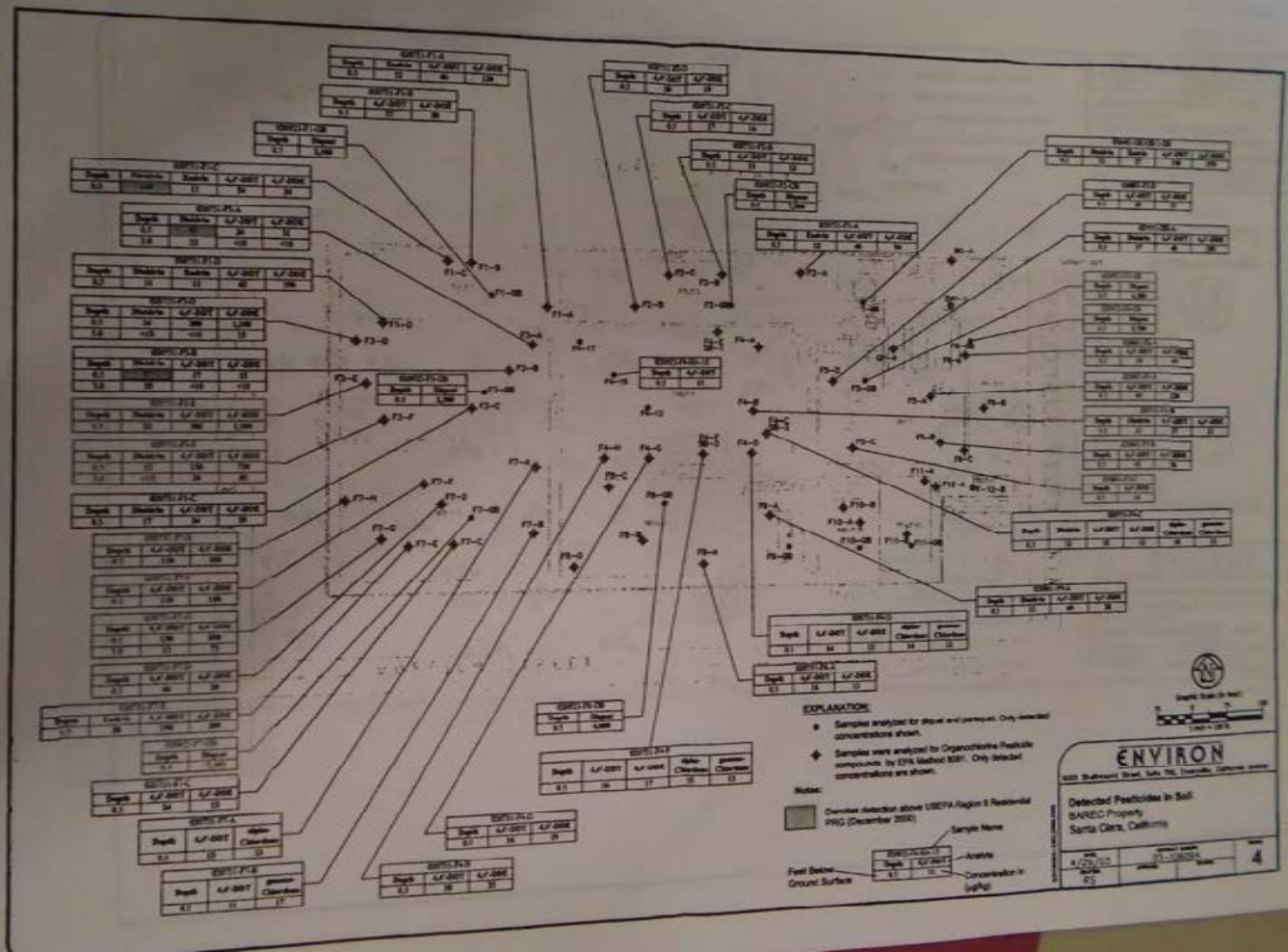
6001 Shellmound St., Suite 700, Emeryville, CA 94608

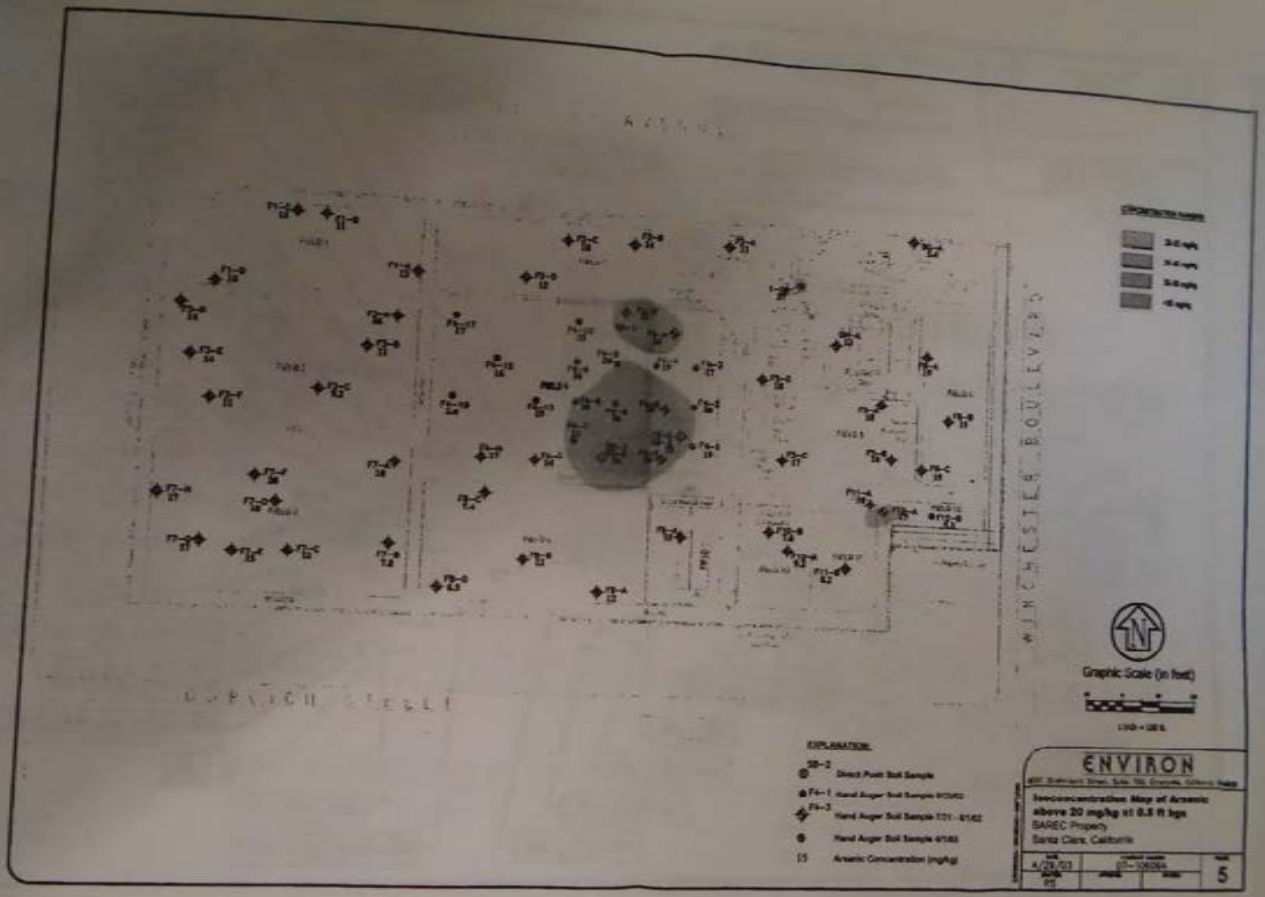
Evaporation Bed Schematic Cross Section
BAREC
90 N. Winchester Blvd.
Santa Clara, California

Drafter: RS | Date: 5/1/03 | Contract Number: 03-10609A | Approved: | Revised:

Figure 2b


HENRY AVENU
DORCICH STREET
WINCHESTER BOUL
EXPLANATION:
Direct Push Soil Sample
Hand Auger Soil Sample
Hand Auger Soil Sample
Hand Auger Soil Sample
ENVIRON
Soil Sampling Locations
BAREC Property
Santa Clara, California
3


EXPLANATION:
Samples analyzed for diquat and paraquat. Only detected concentrations shown.
Samples were analyzed for Organochlorine Pesticide compounds by EPA Method 8081. Only detected concentrations are shown.
Notes:
Overview detection above USEPA Region II Residential PRG (December 2000)
Sample Name
Analyte
Concentration in (ug/kg)
Feet Below Ground Surface
ENVIRON
Detected Pesticides in Soil
BAREC Property
Santa Clara, California
4/20/05
RS
4


WINCHESTER BOULEVARD
Graphic Scale (in feet)
EXPLANATION:
Direct Push Soil Sample
Hand Auger Soil Sample
Arsenic Concentration (mg/kg)
ENVIRON
Isoconcentration Map of Arsenic above 20 mg/kg at 0.5 ft bgs
BASEC Property
Santa Clara, California
4/29/03
5

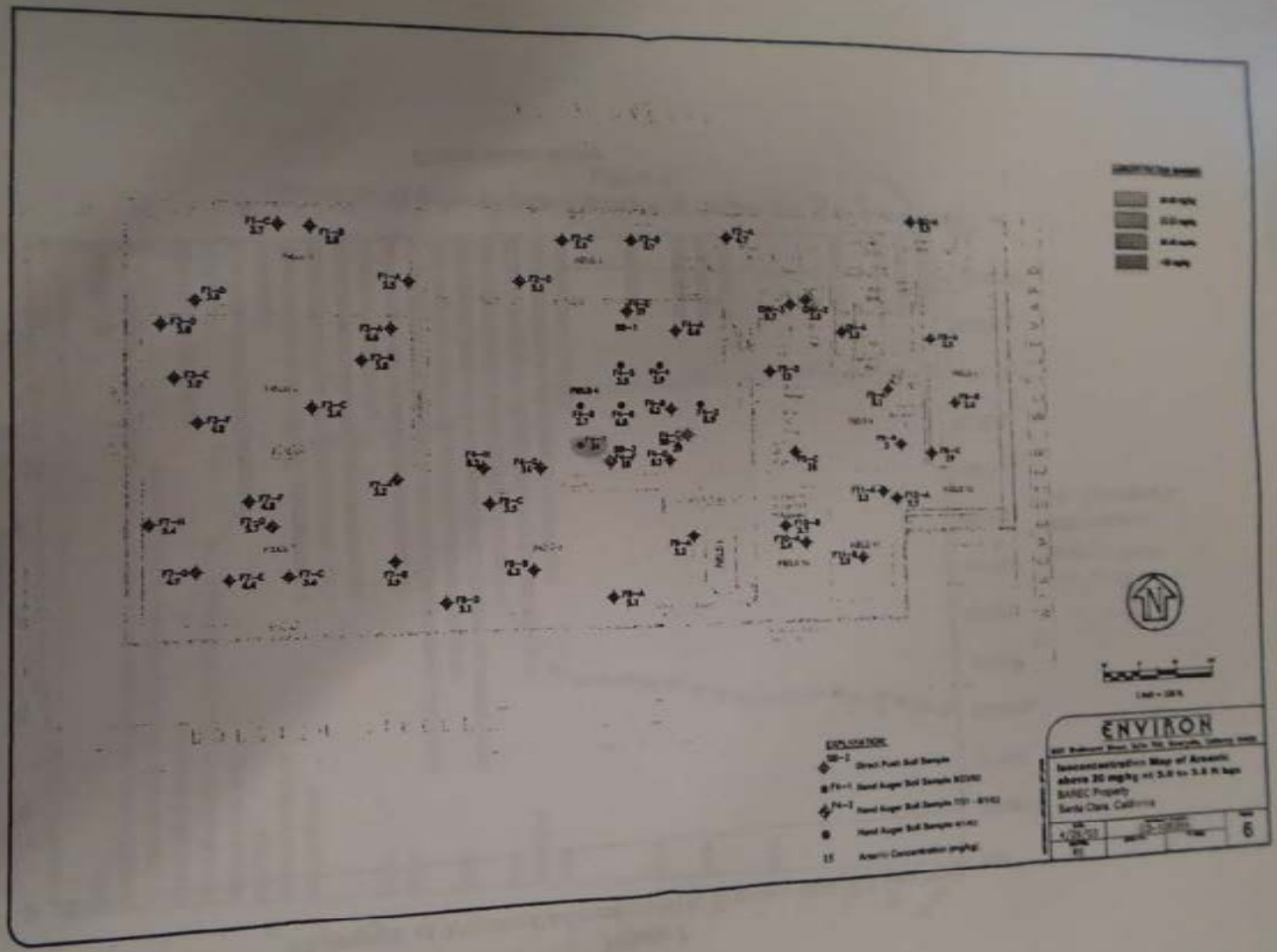

EXPLORATION
ENVIRON
BANEC Property
Santa Clara, California
6

Figure 7

Histogram of Arsenic Concentration in Shallow Soil (0.5 feet bgs)

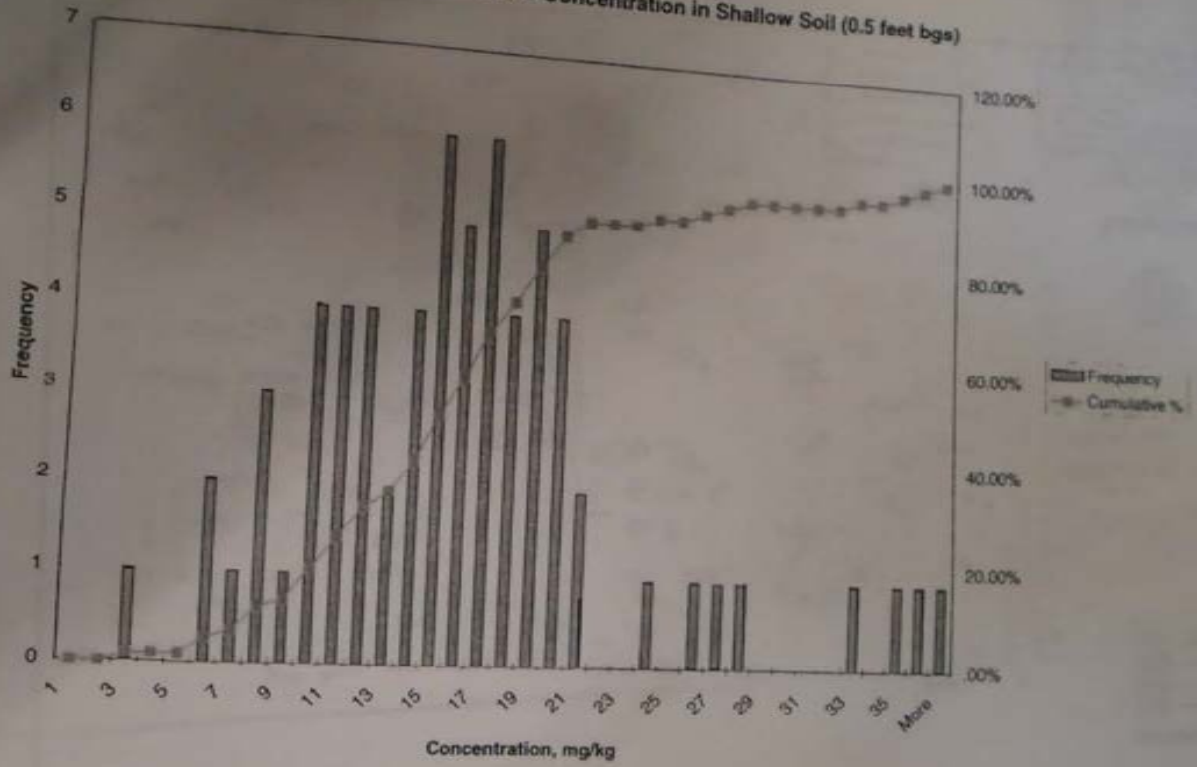
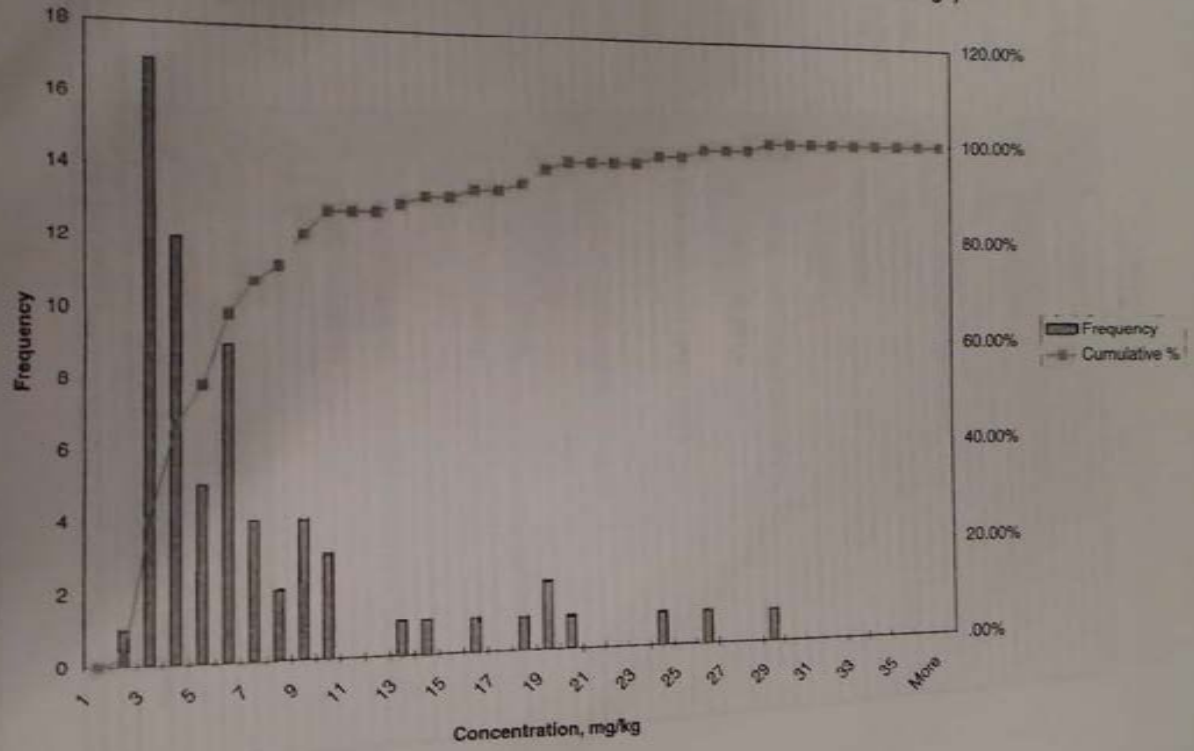


Figure 8
Histogram of Arsenic Concentrations in Deeper Soil (2 to 4 feet bgs)



APPENDIX A

PESTICIDE USE SUMMARY

Appendix A
Pesticide Use Summary

Year	Pesticide Name	Chemical Name
1979	Round Up	Isopropylamine Salt of glyphosate
	Chevron Ortho Paraquat	Paraquat Dichloride
	Phytar 560	Sodium Cacodylate
	Vendex 50WP	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]
	Piprex	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate
	Pentbo-WP	bis (Pentachloro = 2,4 – cyclopentadien,1,yl)
1980	Chevron Ortho Paraquat	Paraquat Dichloride
	Phytar 560	Sodium Cacodylate
	Orthene 75S	Acephate
	Round up	Isopropylamine Salt of glyphosate
	Piprex	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate
	Kocide 101	Copper Hydroxide
	Flowable Sulphur	Sulphur
1981	Phytar 560	Sodium Cacodylate
	Chevron Ortho Paraquat	Paraquat Dichloride
	Flowable Sulphur	Sulphur
	Round Up	Isopropylamine Salt of glyphosate
1983	Triforine	Triforine
	Round Up	Isopropylamine Salt of glyphosate
	Monter	Sodium Cacodylate/Cacodylic Acid
1984	Diquat	diquat dibromide
	Plictran	Cyhexatin
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Kocide 101 copper	Copper Hydroxide
	Monter	Sodium Cacodylate/Cacodylic Acid
	Pentac	Bis (Pentachloro = 2,4 – cyclopentadien,1,yl)
	Round Up	Isopropylamine Salt of glyphosate
	Orthene 75S	Acephate
	Diquat	diquat dibromide
	Triforine	Triforine
	Heavy Dormant Oil	Petroleum Oil
1985	Surflan	Oryzalin
	Triforine	Triforine
	Heavy Dormant Oil	Petroleum Oil
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Kocide 101 Copper	Copper Hydroxide
	Devrinol	Napropamide
	Monter	Sodium Cacodylate/Cacodylic Acid
	Round Up	Isopropylamine Salt of glyphosate
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotemate
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthelate)
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotemate
	Diquat	diquat dibromide
	Round Up	Isopropylamine Salt of glyphosate
	Kocide 101	Copper Hydroxide
1986	Astrex Nine-O	Atrazine
	Devrinol 50WP	Napropamide
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl
	Triforine	Triforine
	Surflan AS	Oryzalin
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotemate
	Diquat	diquat dibromide
	Round Up	Isopropylamine Salt of glyphosate
	Kocide 101	Copper Hydroxide
1987	Funginex	Triforine
	Surflan AS	Oryzalin
	Diazinon 50W	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Diquat	diquat dibromide
	Kocide 101	Copper Hydroxide
	Round Up	Isopropylamine Salt of glyphosate
	Triforine	Triforine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
1988	Devrinol 50WP	Napropamide
	Round Up	Isopropylamine Salt of glyphosate
	Malathion 50	Malathion

Year	Pesticide Name	Chemical Name
	Kocide 50WP	Promanate
		Calcium Lignosulfonate
	Pastel WP	Bis (Pentachloro – 2,4 – cyclopentadien-1,yl)
	Diquat	diquat dibromide
	Aatrex Nine-O	Atrazine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Mavrik	Tau-Fluvalinate
1989	Mavrik	Tau-Fluvalinate
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Diquat	diquat dibromide
	Vendex	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]
	Round Up	Isopropylamine Salt of glyphosate
	Orthene	Acephate
	Fungicex	Triforine
1990	Orthene	Acephate
	Mavrik Aquaflow	Tau-Fluvalinate
	Omite 30W	Propargite
	Fungicex	Triforine
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Dimilin 25W	Diflubenzuron
	Roneter 50WP	Oxadiazon
	Roneter G	Oxadiazon
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propanoic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Malathion	Malathion
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Spreader X77	Alkylarylpolyoxyethylene ether
	Diquat	diquat dibromide
	Guthion	O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-ri)methylphosphorodithioate
1991	Round Up	Isopropylamine Salt of glyphosate
	Orthene	Acephate
	Fungicex	Triforine
	Aatrex Nine-O	Atrazine
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Roneter-G	Oxadiazon
	Poast	Sethoxydim; 2-[1-(ethoxymino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one*
	Herbimax	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Malathion	Malathion
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
1992	Roneter-G	Oxadiazon
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl
	Roneter 50 WP	Oxadiazon
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	26019 Fungicide	Iprodione
	Primo/Experimental	cimectacarb 4-(cyclopropyl-alpha-hydroxy-methylene)-3,5-dioxo-cyclohexanecarboxylic acid ethyl ester
	Cimidal	Not found
	Daconil 2787 75WP	Chlorothalonil
		Kaolin
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
	Surflan	Oryzalin
	Pre M 60 WDG	Pendimethalin
	Dimension 1E	Dithiopyr
	Pyrmidine 65 WDG	Experimental (Not found)
	Team 2g	Benefin
		Trifluralin
	Snapshot 2.5g	Trifluralin
		Isoxaben

Year	Pesticide Name	Chemical Name
	Balan 60 WDG	Benefin
	Treflan	Trifluralin
	Gallery 75DF	Isoxaben
	Betasan 4E	Benefin
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
1993	Roundup	Isopropylamine Salt of glyphosate
	Omite 30W	Propargite
	XL 340	Benefin
		Oryzalin
	Tranex	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Kimatal 50WP	Oxadiazon
	Pennant (L)	Metolachlor
	Surflan AS	Oryzalin
	Gallery 75F	Isoxaben
	Pendulum WDG	Pendimethalin
	Malathion	Malathion
	Treflan EC	Trifluralin
	Aatrex Nine-O	Atrazine
	Spreader X77	Alkylarylpolyoxyethylene ether
	Diquat	diquat dibromide
	Surflan	Oryzalin
	Rooster G	Oxadiazon
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Basamid	Dazomet
	Vapam	Sodium methyldithiocarbamate (anhydrous)
	Weeder 64	2,4-d DMA Salt
	Acclaim 1E	Fenoxaprop-p-ethyl
	Surflan 4E	Triclopyr, butoxyethyl ester
	Butmi 6	Monosodium acid methanearsonate
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
	Surflan Ester	Triclopyr, butoxyethyl ester
		Kerosene
1994	Round Up	Isopropylamine salt of glyphosate
	Malathion	Malethion
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpoyoxyethylene ether
	Avid	Abamectin
		N-methylpirrolidone
	Orthene	Acephate
	Surflan Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Herbimax	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)
	Surflan	Oryzalin
	Aatrex Nine-O	Atrazine
	Eagle	Myclobutanil
	Tranex	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Safer Soap	Potassium salts of fatty acids
	Fungitex	Triforine
	Rooster G	Oxadiazon
1995	Round Up	Isopropylamine Salt of glyphosate
	Malathion	Malethion
	Surflan Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Reward	diquat dibromide
	Aatrex Nine-O	Atrazine
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Diquat	diquat dibromide
	Tranex	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Atrimmec PGR	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Spreader X77	Alkylarylpolyoxyethylene ether
1996	Omite 30W	Propargite
	Reward	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Atrimmec PGR	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)

Year	Pesticide Name	Chemical Name
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Rally 40W	Myclobutanil
		Kaolin
	Stinger	Clopyralid, monoethanolamine salt
	Weedar 64	2,4-d DMA Salt
	Confront	Triclopyr as triethylamine salt
		Clopyralid, monoethanolamine salt
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Round Up Pro	Isopropylamine Salt of glyphosate
	Ace Lawn & Weedkiller	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Bueno-6	Monosodium acid methanearsonate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Kanstar G	Oxadiazon
1997	Round Up Pro	Isopropylamine Salt of glyphosate
	Asulamex	
		Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexuloFuranosonic acid)
	Reward	diquat dibromide
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Transee	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Gallery	Isoxaben
	Dimension	Dithiopyr
	Pre M	Pendimethalin
	Dacthal	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Manage	Halosulfuron-methyl
		Stone, amorphous precipitate/
		Kaolin
	Thiametoxy	Thiamethoxyl
	Dimension 1EC	Dithiopyr
	Rout	Glyfosinate
		Oryzalin
	Aatrex Nine-O	Atrazine
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Dasagran 75G	Sodium Benzazon
	Hurricl	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Liberty	DiAmmonium - Ammonium
	Weedar 64	2,4-d DMA Salt
	Confront	Clopyralid, monoethanolamine salt
		Triclopyr as triethylamine salt
	Drexonate 6	Monosodium acid methanearsonate
	Trimflow	Clopyralid, monoethanolamine salt
	Barricade	Prodiamine
	Surfactin X77	Alkylarylpolyoxyethylene ether
1998	Hurricl	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Round up Ultra	Isopropylamine Salt of glyphosate
	Kanstar G	Oxadiazon
	Lorox 50WP	Linuron
	Prowl 3.3 EC	Pendimethalin
	A-Maize Lawn	Maize Gluten Meal
	Factor 65 WDG	Prodiamine
	Dimension EC	Dithiopyr
	Finale	Glufosinate - Ammonium
	Snapshot 2.5G	Trifluralin
		Isoxaben
	Visor 2E	Thiazopyr

Year	Pesticide Name	Chemical Name
		Solvent Naphta, petroleum, heavy aromatic
	Frontier 6	Dimethenamid
	Quinclorac	Quinclorac
	Gallery 75DF	Isoxaben
	Regalstar	Oxadiazon
		Prodiamine
	Rega Kade	Prodiamine
	Thiolex	Sulphur
	Kocide DF	Copper Hydroxide
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic) acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Arrumec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Devrinol 50 DF	Napropamide
	Quadris	Azoxystrobin Technical
	Aatrex Nine-O	Atrazine
	Dual II	Metolachlor
	Prefar 4E	Bensulide
	Home Defense #2	Chlorpyrifos
	Round up Pro	Isopropylamine Salt of glyphosate
1999	Round Up Pro	Isopropylamine Salt of glyphosate
	Round Up	Isopropylamine Salt of glyphosate
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Rosetta O	Oxadiazon
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic) acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Aatrex Nine-O	Atrazine
	Dual II	Metolachlor
	Arrumec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Dual 7.6 E	Oxyfluorfen
	Devrinol 50DF	Napropamide
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Subdue Max	Metalaxyl
	Methyl Bromide	Methyl Bromide
	Telone C35 EC	1,3 - Dichloropropene
		Chloropicrin
	Chloropicrin	Chloropicrin
	Vapam HL	Sodium methyldithiocarbamate (anhydrous)
	Caussinasine	Carfentrazone-ethyl
		Silica, amorphous precipitated
		Lignosulfonic acid, sodium salt
	Sulfentrazone	Sulfentrazone
	Isoxaben	Isoxaben
	Confront	Clopyralid, monoethanolamine salt
		Triclopyr as triethylamine salt
	Turflon	Triclopyr, butoxyethyl ester
	Stinger	Clopyralid, monoethanolamine salt
	Fusilade II	Fluazifop - P - Butyl Technical
		Naphtalene
		1,2,4 - Trimethylbenzene
	Acetroclin	Experimental (Not found)
	Plumiscaain	Experimental (Not found)
	Pendimethalin	Pendimethalin
	Isoxaben	Isoxaben
	Dithiopyr	Dithiopyr
	Dimethenamid	Dimethenamid
	Oxadiazon	Oxadiazon
	Trifluralin	Trifluralin
	Pendulum 2G	Pendimethalin
	Prowl	Pendimethalin
	Gramoxone	Paraquat Dichloride
	Spreader X77	Alkylarylpolyoxyethylene ether
2000	Round Up Ultra	Isopropylamine Salt of glyphosate
	Zeneca Paraquat	Paraquat Dichloride
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene

Year	Pesticide Name	Chemical Name
		Xylene
		Ethylbenzene
	Abamectin	Abamectin
	Terpinyl cinpol's (kalotrone)	Experimental (Not found)
	Cinnamaldehyde	Beauveria Bassiana Strain GHA
	Hydrazine carboxylic acid	Experimental (Not found)
	Fenpropathrin	Fenpropathrin
		Naphtalene
	Oxazole	Experimental (Not found)
	Experimental	Experimental (Not found)
	Milbemectin	Experimental (Not found)
	Chloropyridazin	Pyridaben
	Hexythiazox	Hexythiazox
	Potassium Salts of fatty Acids	Potassium salts of fatty acids
	Round Up Pro	Isopropylamine Salt of glyphosate
	Round Up	Isopropylamine Salt of glyphosate
	Naphtalenehone	Experimental (Not found)
	Agrimek	Abamectin
		N-methylpirrolidone
	Aatrex 90	Atrazine
	Dual 8E	Metolachlor
	Dual Magnum	S-Metolachlor
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Konstar G	Oxadiazon
	Pendulum 2G	Pendimethalin
	Prowl	Pendimethalin
2001	Round Up Pro	Isopropylamine Salt of glyphosate
	Goal	Oxyfluorfen
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Aatrex Nine-O	Atrazine
	Prowl 3.3 EC	Pendimethalin
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Up John Enide 50W	Not found
	Konstar G	Oxadiazon
2002	Round Up Pro	Isopropylamine Salt of glyphosate
	Goal 2XL	Oxyfluorfen
		N-methylpirrolidone
		Naphtalene
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Aatrex 4L	Atrazine
	Dual Magnum	S-Metolachlor
	Sevin 5 Bait	Carbaryl

October 23, 1992

To: Dave Towle

From: John Davidowski

SUBJECT: UST REMOVAL - BAY AREA RESEARCH & EXTENSION CENTER

At your and Fred Perry's direction, on October 20th and 21st I overlooked the removal of two UST's at the above facility. The procedure conducted for the removal was based on criteria provided by Fred. Jim Lyons from Kearney operated the backhoe for excavation and removal. Ms. Joanne Watkins from Bay Area assisted.

The day prior to removal, dry ice was introduced into the tanks and the tanks capped to drop the oxygen concentration to below 10%. The vent pipes were left open in order for the oxygen to escape. Prior to excavation and removal, oxygen readings were taken by myself using a GasTech oxygen analyzer. The analyzer was borrowed from EH&S and was calibrated.

Removal of the 1000 gallon gasoline tank behind building #101 was performed on 10/20. Approximately 20-30 gallons of residual gasoline remained. The oxygen content was taken and recorded at 9.5%. The excavation was uneventful. The tank was in good condition without evidence of damage. Close observation of the sand in which the tank was cradled and associated soil failed to detect gasoline contamination. The tank and vent pipe were relocated for storage prior to disposal. The excavation was then filled and compacted.

Removal of the 1000 gallon diesel tank located at building #207 was performed on 10/21. Approximately 10-20 gallons of residual diesel remained. The oxygen content could not be lowered below 10% and additional dry ice was added and allowed to purge the tank for approximately 2 hours. The oxygen content after the purging was taken and recorded at 9.8%. The excavation was uneventful. The tank was in good condition without evidence of damage. Close observation of the soil within the excavation failed to detect diesel contamination (note - the tank was not cradled in sand). The tank and vent pipe were relocated for storage prior to disposal. The excavation was then filled and compacted.

At all times, the utmost safety of personnel and property were observed. Communications were established at each site and a 20 pound dry chemical fire extinguisher was available.

Photos of the operation are enclosed.

SKI

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JACK W. PEltASON
President

KENNETH R. FARRELL
Vice President-Agriculture
and Natural Resources

OFFICE OF THE PRESIDENT
Division of Agriculture and Natural Resources
Office of Facilities Planning and Management
Agricultural Field Stations Building
University of California
Davis, California 95616-8593

RECEIVED
APR - 5 1993
S. C. F. D.

March 30, 1993

City of Santa Clara
Fire Department
777 Benton Street
Santa Clara, CA 95050

RE: Tank Removal

Enclosed are two completed CLOSURE PLAN FOR HAZARDOUS MATERIALS STORAGE TANKS forms for our Bay Area Research and Extension Center. The two tanks were removed by University personnel on October 20 and 21, 1992. We are waiting for bidding results to determine vendor for removal of tanks from site. The following information is enclosed for your information:

1. Letter dated October 23, 1992 from Ski Davidowski to me describing the removal process.
2. Photocopies of photographs taken at the time tanks were removed.
3. DANR-OFP&M UNDERGROUND FUEL TANK REMOVAL PROCEDURES.

It is understood that permit fees are waived.

April 21, 1993 is the date we propose to excavate the two tank sites. Prior to that date we would like to meet with a representative of the Fire Department to discuss our permit submittal and process.

Please contact me at (916) 752-0128 for questions and to establish a meeting date.

H. David Towle

H. David Towle
Assistant Director
Environmental Issues/Safety Officer

DT
Enclosures
c: Acting Superintendent, Robert Timm
Assistant Director for Facilities, Fred Perry

v:\wp51_dat\uc\tanks_2.dfs
March 30, 1993

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JACK W. PELTASON
President

KENNETH E. FARRELL
Vice President Agriculture
and Natural Resources

OFFICE OF THE PRESIDENT
Division of Agriculture and Natural Resources
Office of Facilities Planning and Management
Agricultural Field Stations Building
University of California
Davis, California 95616-8593

June 7, 1993

Mr. Martin Von Raesfeld
Santa Clara Fire Department
777 Benton Street
Santa Clara, CA 95050

RECEIVED
JUN 11 1993
S. C. F. D.

RE: Bay Area Research and Extension Center
Underground Tanks
Permit 93-216

Per City of Santa Clara UNDERGROUND STORAGE TANK REMOVAL POLICY, the following information is submitted for review and approval:

Item A	Documentation of proper disposal of tanks including hazardous waste manifests.
Item B	Laboratory test results including level of detection. No detection found.
Item C	Sample locations and depths noted on copies of original site plans submitted at time of permit request.
Item D	Sample collection and handling procedure.
Item E	See Item B for laboratory test procedures used.
Item F	Not applicable since laboratory results indicate non detection.
Item G	See Items B and H for completed chain of custody forms.
Item H	Backfill material particle size analysis. See BACKFILL below for backfill and compaction information.
Item I	See Item A.

BACKFILL

Per telephone conversation this date between myself and Ken Yee, Santa Clara Valley Water District, the native soil can be used for backfill since no contamination was detected. EXCAVATION BACKFILLING WELL STANDARD IMPLEMENTATION DRAFT GUIDANCE document dated February 27, 1991 does not apply to our situation.

We will backfill using excavated material and native soil from surrounding area and compact utilizing appropriate methods.

No further action will be taken until I receive a response to your review of material submitted.

Thank you for your assistance in this matter. If you have questions, please do not hesitate to contact me at (916) 752-0128.

H. David Towle

H. David Towle
Assistant Director
Environmental Issues/Safety Officer

DT
Enclosures

cc: Bob Time, Acting Superintendent BAREC

c:\wp51_dat\anf\tanks_3.dfs
June 7, 1993

For Office Use Only

ITEM A

ENVIRONMENTAL SERVICES
(DIVISION OF H&H SHIP SERVICE CO., INC.)

Compliance: (415)543-9835
Facsimile: (415)~~543-0116~~ 543-8265

220 CHINA BASIN, SAN FRANCISCO, CA 94107 • DAY AND NIGHT: (415) 543-9835 FAX (415) 543-8265

WASTE CHARACTERIZATION PROFILE

I. GENERAL INFORMATION

Generator Name: University of Calif - Davis BRSC OFPM : BRSC Generator US EPA ID:

Facility Address: 90 N Winchester Blvd Generating County: Santa Clara

Santa Clara, Calif

GENERATOR'S Billing Name & Address: Same

Zip: 95050

Contact Person: Jeanne Watkins Zip:

Phone: (408) 296-1672 Phone:

II. WASTE INFORMATION (complete for all waste types)

1. Process Generating Waste: Tank Removal
2. General Description: Residual Gasoline or Diesel
3. Hazard Class: ☒ Toxic ☐ Corrosive ☐ Radioactive ☐ Reactive ☐ Ignitable ☐ Etiological
4. Is this waste listed under F, K, P, or U? ☐ Yes ☒ No

Section A (complete for empty drums, storage tanks, dispensers and/or associated piping)

5. Quantity	Size	Waste Type (i.e., drum, tank, etc.)	Last Contained/Used for Dispensing
1	1000	Tank	Diesel
1	1000	Tank	Gasoline

Section B (complete for all other waste types)

6. Physical State @ 70° F: ☐ Liquid ☐ Solid ☐ Semi-solid ☐ Powder
7. Viscosity similar to: ☐ Water ☐ Motor Oil ☐ Honey
8. Stratification: ☐ Single Phased ☐ Bi-layered ☐ Multi-layered
9. Odor: ☐ None ☐ Mild ☐ Strong describe:
10. pH: ☐ ≤2.0 ☐ 2.1 - 6.0 ☐ 6.1 - 9.4 ☐ 9.5 - 12.4 ☐ ≥ 12.5
11. Flashpoint: ☐ <70°F ☐ 71°F - 100°F ☐ 101°F - 140°F ☐ 141°F - 200°F ☐ >200°F ☐ Actual
    Determination: ☐ Closed Cup ☐ Open Cup

RECEIVED
JUN 11 1993
S.C.F.D.

II. Section B (continued)

12. Chemical Composition:

	Range Minimum - Maximum
Empty	.100 %
Empty	.100 %
	. %
	. %
	. %
	. %
	. %
	. %
	. %
	. %

Must be greater than or equal to 100% - Total 100 %

13. Indicate if this waste contains any of the following:

Cyanides	☑ no	☐ yes	____ ppm	PCBs	☑ no	☐ yes	____ ppm
Phenolics	☑ no	☐ yes	____ ppm	Sulfides	☑ no	☐ yes	____ ppm

14. Indicate if this waste contains any of the following (total concentration of each metal must be given:

Arsenic	☑ no	☐ yes	____ ppm	Mercury	☑ no	☐ yes	____ ppm
Barium	☑ no	☐ yes	____ ppm	Molybdenum	☑ no	☐ yes	____ ppm
Beryllium	☑ no	☐ yes	____ ppm	Nickel	☑ no	☐ yes	____ ppm
Cadmium	☑ no	☐ yes	____ ppm	Selenium	☑ no	☐ yes	____ ppm
Chromium	☑ no	☐ yes	____ ppm	Silver	☑ no	☐ yes	____ ppm
Chromium-Hex	☑ no	☐ yes	____ ppm	Thallium	☑ no	☐ yes	____ ppm
Cobalt	☑ no	☐ yes	____ ppm	Vanadium	☑ no	☐ yes	____ ppm
Copper	☑ no	☐ yes	____ ppm	Zinc	☑ no	☐ yes	____ ppm
Lead	☑ no	☐ yes	____ ppm	Other: ____			____ ppm

III. SHIPPING INFORMATION

15. Proper DOT Shipping Name: NON RCRA Hazardous Waste Solid

16. California Waste Category Number(s): 512

17. US EPA Waste Code Number(s): N/A

18. Anticipated Volume/Quantity: 2-1000 ☐ Tons ☐ Yards ☑ Gallons ☐ Drums - Size/Type: 1

19. Shipping Frequency: ☐ weekly ☐ monthly ☐ annually ☑ once ☐ other: ____

IV. ADDITIONAL INFORMATION

Provide additional comments or wastestream information necessary for proper, safe handling of this waste. Attach additional analyses if necessary.

V. CERTIFICATION

I hereby certify that all information submitted in this and all attached documents contains true and accurate descriptions of this waste material and all relevant information regarding known or suspected hazards in the possession of the generator have been disclosed.

H. David Tank — Signature

ASSISTANT DIR. — Title

5/17/93 — Date

State of California - Environmental Protection Agency
Form Approved OMB No. 2050-0039 (Expires 9-30-94)
Please print or type. Form designed for use on elite (12-pitch) typewriter.

See Instructions on back of page 6.

Department of Toxic Substances Control
Sacramento, California

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: C A D 9 8 1 9 7 5 3 2 9
Manifest Document No.: 0 0 0 0 1
2. Page 1 of 1
Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
UNIVERSITY OF CA. DAVIS / BAY AREA RESEARCH CENTER
90 North Winchester Blvd., Santa Clara, CA. 95050

4. Generator's Phone (408) 296-1672

A. State Manifest Document Number: 92217397
B. State Generator's ID:

5. Transporter 1 Company Name: H & H Ship Service Company
6. US EPA ID Number: C A D 0 0 4 7 7 1 1 6 8
C. State Transporter's ID: 401998
D. Transporter's Phone: (415) 543-4835

7. Transporter 2 Company Name
8. US EPA ID Number
E. State Transporter's ID:
F. Transporter's Phone:

9. Designated Facility Name and Site Address
H & H Ship Service Company
220 China Basin Street
San Francisco, CA. 94107
10. US EPA ID Number: C A D 0 0 4 7 7 1 1 6 8
G. State Facility's ID: 2 1 0 0 1 7 1 1 6
H. Facility's Phone: (415) 543-4835

11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)	12. Containers No.	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RESIDUE GASOLINE TANK NON-RCRA HAZARDOUS WASTE SOLID	0 0 1	T P	0 1 0 0 0	P	State 512 / EPA/Other
b. RESIDUE DIESEL TANK NON-RCRA HAZARDOUS WASTE SOLID	0 0 1	T P	0 1 0 0 0	P	State 512 / EPA/Other
c.					State / EPA/Other
d.					State / EPA/Other

J. Additional Descriptions for Materials Listed Above
EMPTY 1,000 gallon [illegible]
[illegible]
transport [illegible]
PROFILE [illegible]

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
JOB #12664
24 Hr. Emergency Contact: H & H #(415) 543-4835
APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name: Behalf of Jeanne A. Watkins
Signature: [signature]
Month 0 5 Day 1 8 Year 9 3

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: ROBERT PETRUCCI
Signature: [signature]
Month 0 5 Day 1 8 Year 9 3

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name:
Signature:
Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name: Roshan Shadley
Signature: [signature]
Month 05 Day 18 Year 93

DO NOT WRITE BELOW THIS LINE.

IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802; WITHIN CALIFORNIA, CALL 1-800-852-7550

GENERATOR

DTSC 8022A (12/91)
EPA 8700-22

RECEIVED 6/1/93 SJ

White: TSDF SENDS THIS COPY TO DTSC WITHIN 30 DAYS.
Tan: P.O. Box 3000, Sacramento, CA 95812

ITEM B

ENVIRONMENTAL AND
INDUSTRIAL HYGIENE SERVICES

3700 Lakeville Highway, Petaluma, CA 94954
P.O. Box 808024, Petaluma, CA 94975-8024
Telephone: (707) 763-8245
FAX (707) 763-4065

John Davidowski
University of California, Davis
DANR: Facilities Plan & Mgmt.
Davis, CA 95616

May 7, 1993

Customer Project: 22-APR-93/JD
Laboratory Job: L9304203

On April 22, 1993 we received 3 sample(s) for analysis. Samples were analyzed by the following method(s):

Diesel (8015 Modified)

BTEX (EPA 8020)

Gasoline & BTEX (EPA 8015M/8020M)

Lead (EPA 6010)

Stella Hans
Project Manager

CAHorn
Laboratory Director
Christine Horn

D&M Laboratories

ANALYTICAL DATA REPORT

pared for: University of California, Davis
Project Id: 22-APR-93/JD
Sample Id: 1
Lab Id: L9304203-1

Collected: 21-APR-93
Received: 22-APR-93
Reported: 07-MAY-93

Parameter	Value	Limit	Units	Dilution	Extracted	Analyzed
17TTLC-ICPS						
Lead-6010	ND <	7.5	mg/Kg	1	29-APR-93	29-APR-93
GAS/BTEX-S						
Benzene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Ethyl Benzene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Toluene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Xylene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Gasoline	ND <	0.20	mg/Kg	1	05-MAY-93	05-MAY-93

Comments:

D&M Laboratories

ANALYTICAL DATA REPORT

pared for: University of California, Davis
roject Id: 22-APR-93/JD
Sample Id: 2
Lab Id: L9304203-2

Collected: 21-APR-93
Received: 22-APR-93
Reported: 07-MAY-93

Parameter	Value	Limit	Units	Dilution	Extracted	Analyzed
8015DS						
Diesel	ND <	5.0	mg/Kg	1	26-APR-93	27-APR-93
Comments:						
GAS/BTEX-S						
Benzene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Ethyl Benzene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Toluene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Xylene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Gasoline	ND <	0.20	mg/Kg	1	05-MAY-93	05-MAY-93
Comments:						

D&M Laboratories

ANALYTICAL DATA REPORT

Prepared for: University of California, Davis
Project Id: 22-APR-93/JD
Sample Id: 3
Lab Id: L9304203-3

Collected: 21-APR-93
Received: 22-APR-93
Reported: 07-MAY-93

Parameter	Value	Limit	Units	Dilution	Extracted	Analyzed
8015DS						
Diesel	ND <	5.0	mg/Kg	1	26-APR-93	27-APR-93
Comments:						
GAS/BTEX-S						
Benzene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Ethyl Benzene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Toluene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Xylene	ND <	5.0	ug/Kg	1	05-MAY-93	05-MAY-93
Gasoline	ND <	0.20	mg/Kg	1	05-MAY-93	05-MAY-93
Comments:						

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: Method Blank
Lab Id: WG1261-4

Reported: 03-MAY-93

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
17TILC-ICPS							
Antimony-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Barium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Beryllium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Cadmium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Chromium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Cobalt-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Copper-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Lead-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Nickel-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Molybdenum-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Silver-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Thallium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Vanadium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Zinc-6010	ND <	mg/Kg				29-APR-93	29-APR-93

D&M Laboratories

QUALITY CONTROL REPORT

Prepared for:
Project Id:
Sample Id: Matrix Spike
Lab Id: WG1261-2

Reported: 03-MAY-93

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
17TTLC-ICPS							
Antimony-6010	58.0	mg/Kg	100	mg/Kg	58	29-APR-93	29-APR-93
Barium-6010	203.	mg/Kg	100	mg/Kg	96	29-APR-93	29-APR-93
Beryllium-6010	49.5	mg/Kg	50	mg/Kg	98	29-APR-93	29-APR-93
Cadmium-6010	98.7	mg/Kg	100	mg/Kg	99	29-APR-93	29-APR-93
Chromium-6010	138.	mg/Kg	100	mg/Kg	102	29-APR-93	29-APR-93
Cobalt-6010	108.	mg/Kg	100	mg/Kg	108	29-APR-93	29-APR-93
Copper-6010	116.	mg/Kg	100	mg/Kg	99	29-APR-93	29-APR-93
Lead-6010	105.	mg/Kg	100	mg/Kg	105	29-APR-93	29-APR-93
Nickel-6010	124.	mg/Kg	100	mg/Kg	97	29-APR-93	29-APR-93
Molybdenum-6010	99.0	mg/Kg	100	mg/Kg	99	29-APR-93	29-APR-93
Silver-6010	96.5	mg/Kg	100	mg/Kg	96	29-APR-93	29-APR-93
Thallium-6010	432.	mg/Kg	500	mg/Kg	86	29-APR-93	29-APR-93
Vanadium-6010	150.	mg/Kg	100	mg/Kg	103	29-APR-93	29-APR-93
Zinc-6010	146.	mg/Kg	100	mg/Kg	97	29-APR-93	29-APR-93

Comments: Antimony: Note #8 and #10

D&M Laboratories

QUALITY CONTROL REPORT

for:
t Id:
e Id: Method Blank Spike
o Id: WG1261-5

Reported: 03-MAY-93

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
17TTLC-ICPS							
Antimony-6010	99.0	mg/Kg	100	mg/Kg	99	29-APR-93	29-APR-93
Barium-6010	106.	mg/Kg	100	mg/Kg	106	29-APR-93	29-APR-93
Beryllium-6010	51.5	mg/Kg	50	mg/Kg	103	29-APR-93	29-APR-93
Cadmium-6010	104.	mg/Kg	100	mg/Kg	104	29-APR-93	29-APR-93
Chromium-6010	104.	mg/Kg	100	mg/Kg	104	29-APR-93	29-APR-93
Cobalt-6010	102.	mg/Kg	100	mg/Kg	102	29-APR-93	29-APR-93
Copper-6010	105.	mg/Kg	100	mg/Kg	105	29-APR-93	29-APR-93
Lead-6010	100.	mg/Kg	100	mg/Kg	100	29-APR-93	29-APR-93
Nickel-6010	103.	mg/Kg	100	mg/Kg	103	29-APR-93	29-APR-93
Molybdenum-6010	106.	mg/Kg	100	mg/Kg	106	29-APR-93	29-APR-93
Silver-6010	105.	mg/Kg	100	mg/Kg	105	29-APR-93	29-APR-93
Thallium-6010	482.	mg/Kg	500	mg/Kg	96	29-APR-93	29-APR-93
Vanadium-6010	105.	mg/Kg	100	mg/Kg	105	29-APR-93	29-APR-93
Zinc-6010	103.	mg/Kg	100	mg/Kg	103	29-APR-93	29-APR-93

D&M Laboratories

QUALITY CONTROL REPORT

red for:
ject Id:
mple Id: Matrix Spike Dup
Lab Id: WG1261-3

Reported: 03-MAY-93

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
17TTLC-ICPS							
Antimony-6010	63.0	mg/Kg	100	mg/Kg	63	29-APR-93	29-APR-93
Barium-6010	208.	mg/Kg	100	mg/Kg	101	29-APR-93	29-APR-93
Beryllium-6010	49.8	mg/Kg	50	mg/Kg	99	29-APR-93	29-APR-93
Cadmium-6010	96.1	mg/Kg	100	mg/Kg	96	29-APR-93	29-APR-93
Chromium-6010	137.	mg/Kg	100	mg/Kg	101	29-APR-93	29-APR-93
Cobalt-6010	107.	mg/Kg	100	mg/Kg	107	29-APR-93	29-APR-93
Copper-6010	117.	mg/Kg	100	mg/Kg	100	29-APR-93	29-APR-93
Lead-6010	98.9	mg/Kg	100	mg/Kg	99	29-APR-93	29-APR-93
Nickel-6010	126.	mg/Kg	100	mg/Kg	99	29-APR-93	29-APR-93
Molybdenum-6010	90.0	mg/Kg	100	mg/Kg	90	29-APR-93	29-APR-93
Silver-6010	92.9	mg/Kg	100	mg/Kg	93	29-APR-93	29-APR-93
Thallium-6010	433.	mg/Kg	500	mg/Kg	87	29-APR-93	29-APR-93
Vanadium-6010	155.	mg/Kg	100	mg/Kg	108	29-APR-93	29-APR-93
Zinc-6010	148.	mg/Kg	100	mg/Kg	99	29-APR-93	29-APR-93

Comments: Anitmony: Note #8 and #11.

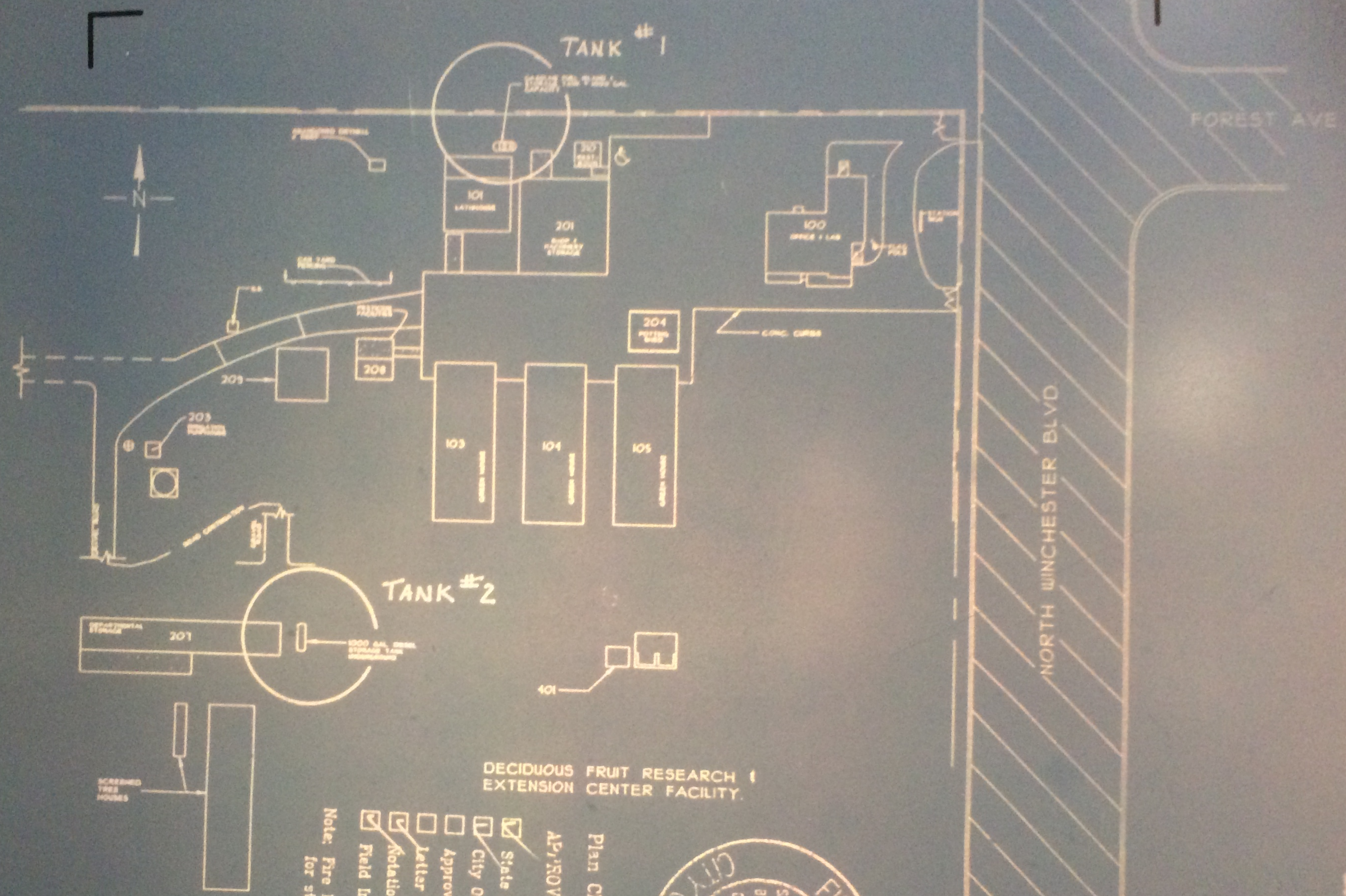
D&M Laboratories

QUALITY CONTROL REPORT

epared for:
Project Id:
Sample Id: MX
Lab Id: WG1261-1

Reported: 04-MAY-93

Parameter	Value	Units	Spike	Units	% Rec	Extracted	Analyzed
17TTLC-ICPS							
Antimony-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Barium-6010	107.	mg/Kg				29-APR-93	29-APR-93
Beryllium-6010	0.46	mg/Kg				29-APR-93	29-APR-93
Cadmium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Chromium-6010	35.8	mg/Kg				29-APR-93	29-APR-93
Cobalt-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Copper-6010	17.	mg/Kg				29-APR-93	29-APR-93
Lead-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Nickel-6010	27.	mg/Kg				29-APR-93	29-APR-93
Molybdenum-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Silver-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Thallium-6010	ND <	mg/Kg				29-APR-93	29-APR-93
Vanadium-6010	46.6	mg/Kg				29-APR-93	29-APR-93
Zinc-6010	49.4	mg/Kg				29-APR-93	29-APR-93



DECIDUOUS FRUIT RESEARCH & EXTENSION CENTER FACILITY.

FIRE MARSHAL
777 BENTON ST.
SANTA CLARA, CA 95050
BY
CAPT.
984-3260
CITY OF SANTA CLARA

Plan Check No. 93-216

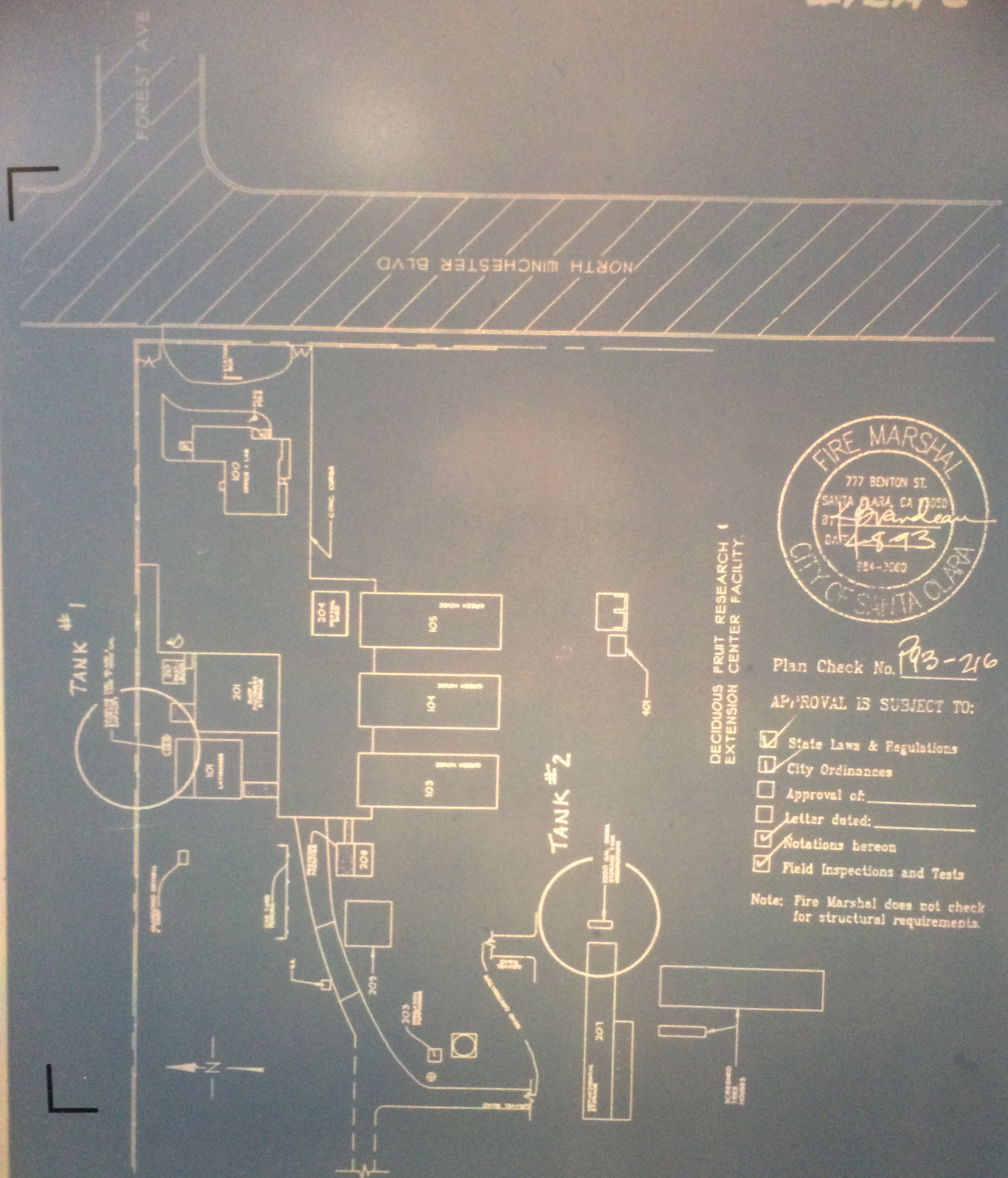
APPROVAL IS SUBJECT TO:

- [x] State Laws & Regulations
- [x] City Ordinances
- [ ] Approval of: _____
- [ ] Letter dated: _____
- [x] Notations hereon
- [x] Field Inspections and Tests

Note: Fire Marshal does not check for structural requirements.

ITEM C

ITEM C



DECIDUOUS FRUIT RESEARCH & EXTENSION CENTER FACILITY.

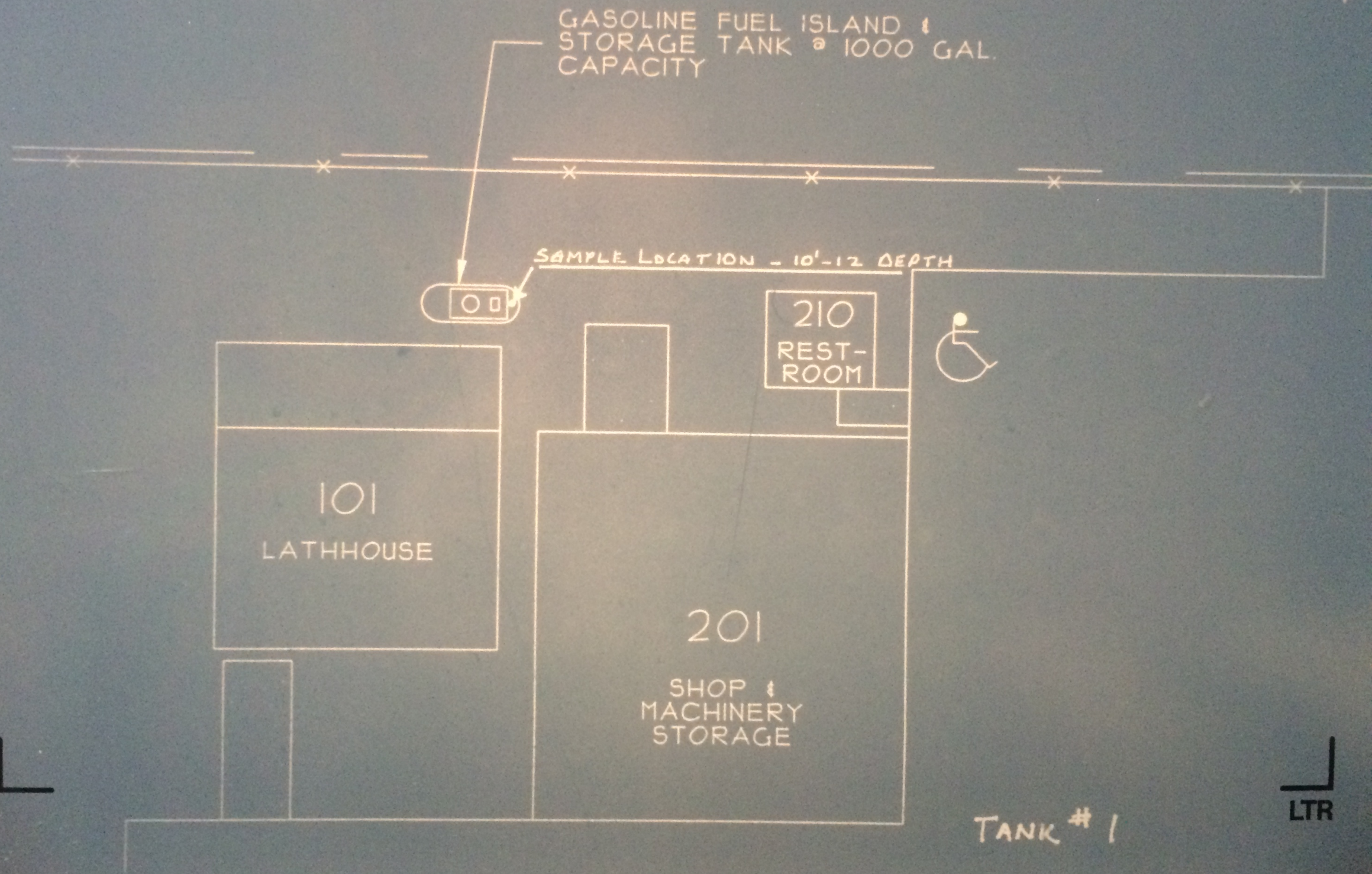
FIRE MARSHAL
777 BENTON ST.
SANTA CLARA, CA 95050
BY Brandeau
DATE 4-8-93
984-3000
CITY OF SANTA CLARA

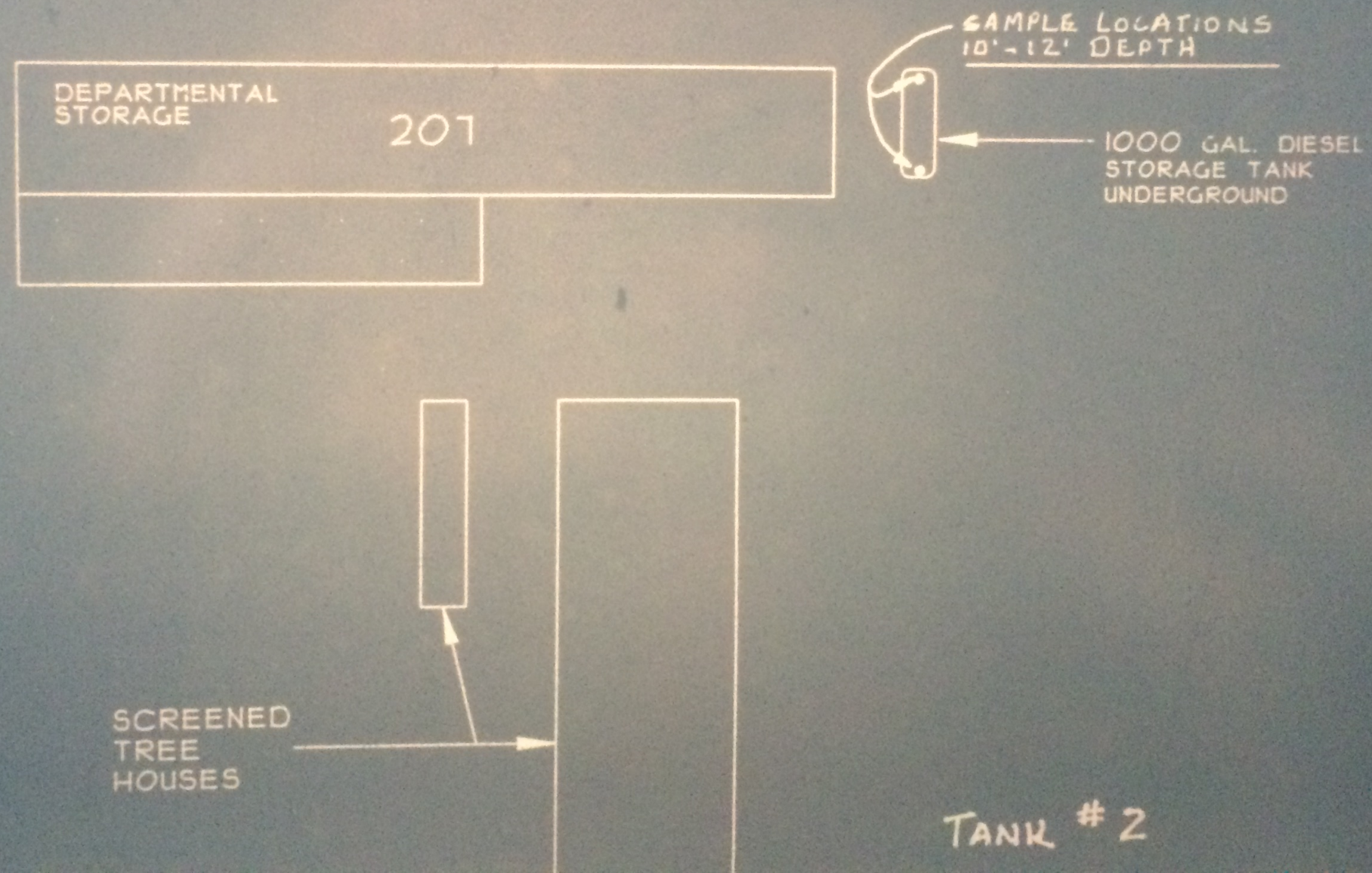
Plan Check No. P93-216

APPROVAL IS SUBJECT TO:

- [x] State Laws & Regulations
- [x] City Ordinances
- [ ] Approval of: _____
- [ ] Letter dated: _____
- [x] Notations hereon
- [x] Field Inspections and Tests

Note: Fire Marshal does not check for structural requirements.


GASOLINE FUEL ISLAND &
STORAGE TANK @ 1000 GAL.
CAPACITY
SAMPLE LOCATION - 10'-12 DEPTH
210
REST-
ROOM
101
LATHHOUSE
201
SHOP &
MACHINERY
STORAGE
TANK # 1
N


N
SAMPLE LOCATIONS
10'-12' DEPTH
DEPARTMENTAL
STORAGE
201
1000 GAL. DIESEL
STORAGE TANK
UNDERGROUND
SCREENED
TREE
HOUSES
TANK #2

RECEIVED
APR - 5 1995
S. C. F. D.

CITY OF SANTA CLARA

CLOSURE PLAN FOR HAZARDOUS MATERIALS STORAGE TANKS

1. Facility Name: UC CANR-Bay Area Research & Extension Center

   Address/Zip: 90 North Winchester Blvd, Santa Clara, CA 95050

   Contact Person: David Towle

   Phone Number: (916) 752-0128

2. Tank Closure Contractor: Tanks removed by University staff. Copy of Procedures

   Street: enclosed. Supervision of removal performed by University Senior

   City/Zip: Environmental Health & Safety Technician.

   Contact Person:

   Phone Number:

3. Name and phone number of firm who will take soil samples:

   University personnel will take samples.

4. Name and phone number of laboratory that will analyze samples (must be certified by State of California, Department of Health Services) except particle size analysis:

   Dames & Moore, Petaluma (707) 573-1227

5. Name of tank hauler: Currently out for bids. Tanks still on site.

   Destination of tanks:

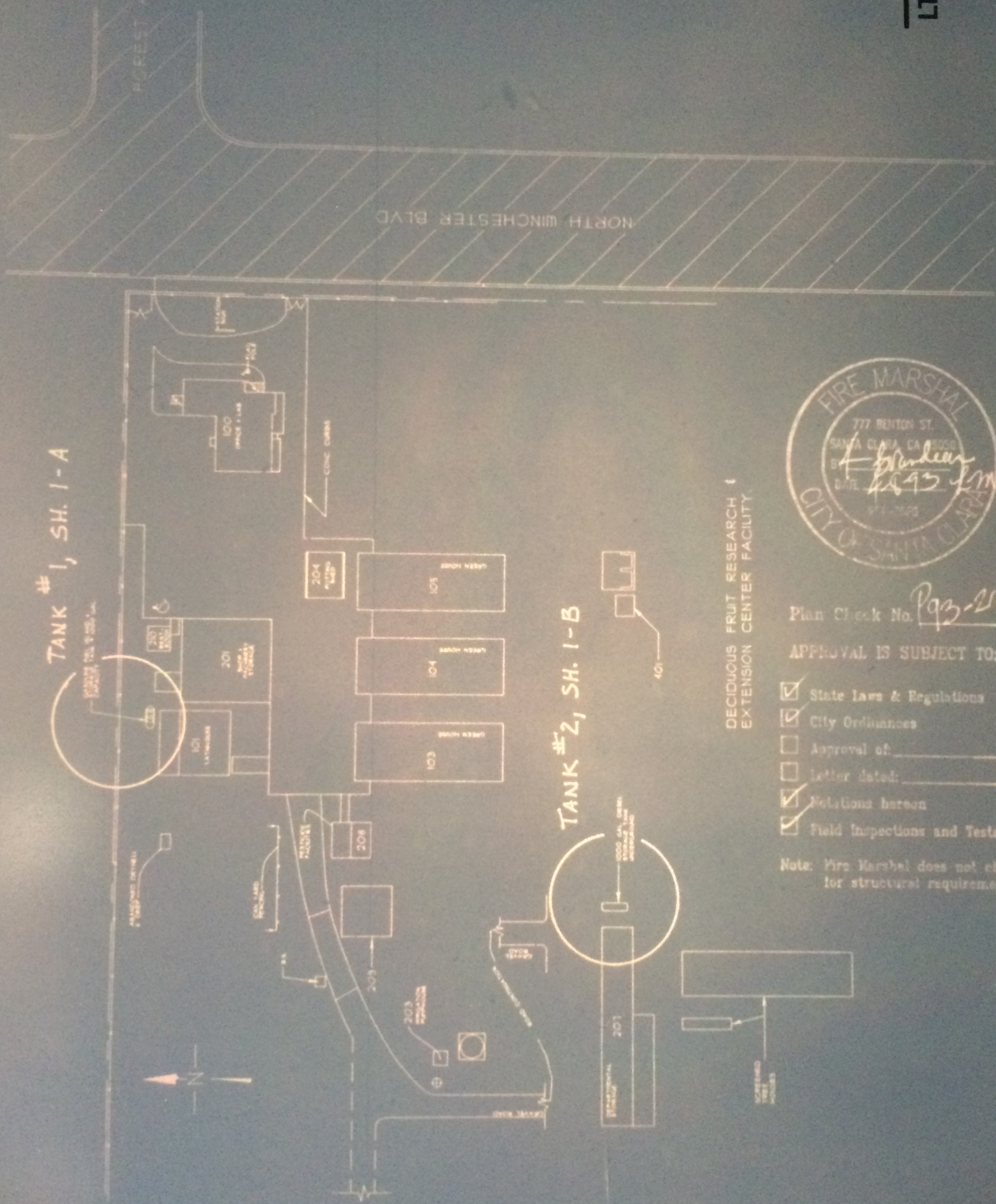
   Intended reuse or method of disposal (if for reuse, give name and address of new owner and intended use):

6. Tanks to be removed:

	Size (gallons)	Tank Contents
Tank 1:	1,000	Gasoline
Tank 2:	1,000	Diesel
Tank 3:		
Tank 4:		
Tank 5:		

SHEET 1

LTR



DECIDUOUS FRUIT RESEARCH & EXTENSION CENTER FACILITY.

FIRE MARSHAL
777 BENTON ST.
SANTA CLARA, CA 95050
BY
DATE 12-93
CITY OF SANTA CLARA

Plan Check No. P93-216

APPROVAL IS SUBJECT TO:

- [x] State Laws & Regulations
- [x] City Ordinances
- [ ] Approval of: _____
- [ ] Letter dated: _____
- [x] Notations hereon
- [x] Field Inspections and Tests

Note: Fire Marshal does not check for structural requirements.

ENVIRON

June 22, 2010

Mr. Doug Hansen
Fire Inspector
City of Santa Clara Fire Department
1675 Lincoln Street
Santa Clara, California, 95050

Re: **Underground Storage Tank Closure Report**
Bay Area Research Extension Center (BAREC)
90 North Winchester Boulevard, Santa Clara, California

Dear Mr. Hansen:

On behalf of the State of California Department of General Services (DGS), and in accordance with the Santa Clara Fire Department (SCFD) Permit Plan Check Requirements and underground storage tank (UST) removal permit number FIR 10-303, ENVIRON International Corporation is pleased to present this UST Closure Report.

On May 26, 2010, during remedial soil removal activities at the BAREC site, an approximately 2,000-gallon UST was uncovered near the eastern edge of Field 4 (Figure 1). On May 27, 2010 an application to remove the UST was filed with SCFD, and the site-specific Health and Safety Plan (HASP) was updated in preparation for tank removal activities. Permit no. FIR 10-303 was approved by SCFD on June 1, 2010 (Attachment A), and tank removal and inspection was scheduled for June 2, 2010.

On June 2, 2010, approximately 2,000 gallons of oily liquid found within the tank were evacuated using a tank truck provided by Environmental Recovery Services, Inc. The interior of the UST was then steam-cleaned using a high-pressure spray of potable water mixed with detergent. Wash liquid was also evacuated into the tank truck. Tank liquids and wash liquid were removed from the site and disposed at Evergreen Oil, Inc. as Non-RCRA hazardous waste under manifest tracking number 007464632 JJK (Attachment B-1).

Following tank cleaning, approximately 20 pounds of dry ice were added to the tank in order to render the UST atmosphere inert prior to removal. Under the oversight of SCFD Fire Inspector Doug Hansen, the tank atmosphere was analyzed using a calibrated GasTech Innova-ST 4-gas meter. Readings of flammable vapor concentration and oxygen concentration were consistent at the top, center, and bottom of the tank, indicating a flammable vapor concentration of 4% of the Lower Explosive Limit (LEL) and an oxygen concentration of 1.9%. Based on these readings, Mr. Hansen approved the removal of the UST.

The UST was removed from the tank pit using an excavator and was then inspected for evidence of leaks. Minor staining typical of small overfill spills was observed near the top of the UST, but otherwise the tank appeared to be in good condition and no holes or leaks were observed. The UST was loaded onto a flatbed truck operated by Ecology Control Industries, Inc. and was secured and transported as Non-RCRA hazardous waste under manifest tracking

number 002135689 JJK (Attachment B-2) and Transportation Service Order 431764 (Attachment B-3) to Ecology Control Industries' Richmond facility, where it was dismantled and processed for recycling, as certified by Certified Services Company (Attachment B-4). The Hazardous Waste Tank Closure Certification (Attachment C) was certified by the prime contractor, Mr. Ronald Rinehart of Environmental Business Solutions, Inc. (EBS), a Contractor's State License Board-licensed contractor (California License No. 812834A-HAZ).

Following removal of the UST, the tank pit was overexcavated to approximately 3.5 feet below the bottom of the former UST, to a total depth of approximately 9 feet below ground surface (bgs). In accordance with permit requirements, two soil samples were collected from the tank pit after overexcavation, under the oversight of the SCFD Fire Inspector. UST-N-060210 and UST-S-060210 were collected from beneath the northern and southern ends of the former UST, respectively (Figure 2), into stainless steel soil liners capped with Teflon and plastic end caps. The soil samples were labeled, sealed in doubled zip-closure bags, and placed on ice in an insulated cooler for transport under chain-of-custody documentation to Test America Laboratories in Pleasanton, California. The soil samples were analyzed for total petroleum hydrocarbons (TPH) as diesel; total arsenic; total lead; benzene, toluene, ethylbenzene, and xylenes (BTEX); 1,2-dibromoethane (EDB); 1,2-dichloroethane (EDC); and the fuel oxygenates methyl tert-butyl ether (MTBE), diisopropyl ether (DIPE), tertiary amyl methyl ether (TAME), ethyl tert-butyl ether (ETBE), and tert-butyl alcohol (TBA).

Tank pit confirmation samples indicated low concentrations of TPH as diesel, arsenic, and lead (Table 1). EDB, EDC, and fuel oxygenates were not detected at or above laboratory reporting limits. The laboratory analytical report is provided as Attachment D.

Following receipt of the confirmation soil sample analytical results, the UST pit was backfilled with clean import soil and compacted to a relative density of 90% by EBS (Attachment E).

ENVIRON hereby certifies that all closure activities were performed in accordance with the Closure Plan and all subsequent correspondences, inspection meetings, and plan check comments.

If you have any questions or need further information, please contact Dan Clark at 510.420.2563.

Very truly yours,

Daniel C. Clark

Dan Clark
Senior Associate/Site Health and Safety Supervisor

Anne W Gates

Anne Gates, P.E.
Project Manager

Attachments

TABLE 1: UST Confirmation Soil Sample Analytical Results
BAREC Site
90 North Winchester Boulevard
Santa Clara, California

	Sample ID	UST-N-060810	UST-S-060810	
	Date	06/08/2010	06/08/2010	
	Depth (feet bgs)	9	9	
	Position Relative to UST (see Figure 2)	3.5 feet below northern end	3.5 feet below southern end	
Analyte		**Result**		**Units**
VOCs and Fuel Oxygenates	MTBE	ND < 4.9	ND < 4.9	ug/kg
	Benzene	ND < 4.9	ND < 4.9	ug/kg
	Toluene	ND < 4.9	ND < 4.9	ug/kg
	Ethylbenzene	ND < 4.9	ND < 4.9	ug/kg
	Xylenes	ND < 9.7	ND < 9.7	ug/kg
	EDB	ND < 4.9	ND < 4.9	ug/kg
	1,2-DCA	ND < 4.9	ND < 4.9	ug/kg
	DIPE	ND < 4.9	ND < 4.9	ug/kg
	TAME	ND < 4.9	ND < 4.9	ug/kg
	ETBE	ND < 4.9	ND < 4.9	ug/kg
	TBA	ND < 9.7	ND < 9.7	ug/kg
Petroleum Hydrocarbons	TPH-D	1.5	ND < 0.99	mg/kg
Organochlorine Pesticides	Aldrin	ND < 2.0	ND < 2.0	ug/kg
	Dieldrin	ND < 2.0	ND < 2.0	ug/kg
	Endrin Aldehyde	ND < 2.0	ND < 2.0	ug/kg
	Endrin	ND < 2.0	ND < 2.0	ug/kg
	Endrin Ketone	ND < 2.0	ND < 2.0	ug/kg
	Heptachlor	ND < 2.0	ND < 2.0	ug/kg
	Heptachlor Epoxide	ND < 2.0	ND < 2.0	ug/kg
	4,4'-DDT	ND < 2.0	ND < 2.0	ug/kg
	4,4'-DDE	ND < 2.0	ND < 2.0	ug/kg
	4,4'-DDD	ND < 2.0	ND < 2.0	ug/kg
	Endosulfan I	ND < 2.0	ND < 2.0	ug/kg
	Endosulfan II	ND < 2.0	ND < 2.0	ug/kg
	alpha-BHC	ND < 2.0	ND < 2.0	ug/kg
	beta-BHC	ND < 2.0	ND < 2.0	ug/kg
	gamma-BHC (Lindane)	ND < 2.0	ND < 2.0	ug/kg
	delta-BHC	ND < 2.0	ND < 2.0	ug/kg
	Endosulfan Sulfate	ND < 2.0	ND < 2.0	ug/kg
	Methoxychlor	ND < 2.0	ND < 2.0	ug/kg
	Toxaphene	ND < 40	ND < 40	ug/kg
	Chlordane (technical)	ND < 40	ND < 40	ug/kg
	alpha-chlordane	ND < 2.0	ND < 2.0	ug/kg
	gamma-chlordane	ND < 2.0	ND < 2.0	ug/kg
Metals	Arsenic	4.2	4.9	mg/kg
	Lead	5.5	5.7	mg/kg

Notes:
1,2-DCA: 1,2-dichloroethane
4,4'-DDD: 4,4'-dichlorodiphenyldichloroethane
4,4'-DDE: 4,4'-dichlorodiphenyldichloroethylene
4,4'-DDT: 4,4'-dichlorodiphenyltrichloroethane
bgs: below ground surface
BHC: Benzene Hexachloride
DIPE: Diisopropyl Ether
EDB: 1,2-dibromoethane
ETBE: Ethyl Tert-Butyl Ether
ID: Identification
mg/kg: milligrams per kilogram
MTBE: Methyl Tert-Butyl Ether
TAME: Tertiary Amyl Methyl Ether
TBA: Tert-Butyl Alcohol
TPH-D: Total Petroleum Hydrocarbons as Diesel
ug/kg: micrograms per kilogram
UST: Underground Storage Tank
VOCs: Volatile Organic Compounds

Form Approved. OMB No. 2050-0039

California Hazardous Waste Manifest	1. Generator ID Number CAC002652233	2. Page 1 of 1	3. Emergency Response Phone (800) 368-4778	4. Manifest Tracking Number 007464632 JJK

5. Generator's Name and Mailing Address
STATE OF CALIFORNIA GENERAL SERVICES
707 3RD ST 4TH FLOOR ST4-430
WEST SACRAMENTO CA 95605
Generator's Phone: 916 375-4907

Generator's Site Address (if different than mailing address)
20 N. WINCHESTER BLVD
SANTA CLARA CA 95050

6. Transporter 1 Company Name
ENVIRONMENTAL RECOVERY SERVICES, INC.
U.S. EPA ID Number: CAR000188201

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
EVERGREEN OIL, INC.
6903 SMITH AVE
NEWARK CA 94560-4224
Facility's Phone: (510)795-4400
U.S. EPA ID Number: CAD980887416

No.	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
	1. NON RCRA HAZARDOUS WASTE, LIQUID (WATER, OIL)	001	TT	250	G	225		
	2.							
	3.							
	4.							

GENERATOR

14. Special Handling Instructions and Additional Information
981) 70N - OILY WATER 1X TT

ERS#: 981. 171 ** ERS W.O.# 54728 - ECS * CONTRACTOR ES SOLUTIONS **
BILL TO ENVIROSERV ** WEAR PROPER PPE

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

16. International Shipments: ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

INT'L

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name	Signature	Month	Day	Year
Kenneth Rodgers		06	02	10
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

TRANSPORTER

18. Discrepancy
18a. Discrepancy Indication Space: ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

18b. Alternate Facility (or Generator) U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator) Month Day Year

DESIGNATED FACILITY

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)
1. H-135 2. 3. 4.

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: William J. Sinsell Signature: Month 06 Day 12 Year 10

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

TRANSPORTER'S COPY

720-28602

124957

Sharma, Dimple

From: Dan Clark [dclark@Environcorp.com]
Sent: Tuesday, June 08, 2010 4:19 PM
To: Sharma, Dimple
Cc: Anne Gates
Subject: Add ons for today's sample delivery

Dimple, please add Total Arsenic, Total Lead, and Organochlorine Pesticides to the following two samples, which are being delivered today:

UST-N-060810
UST-S-060810

Analyze on 24-hr TAT.

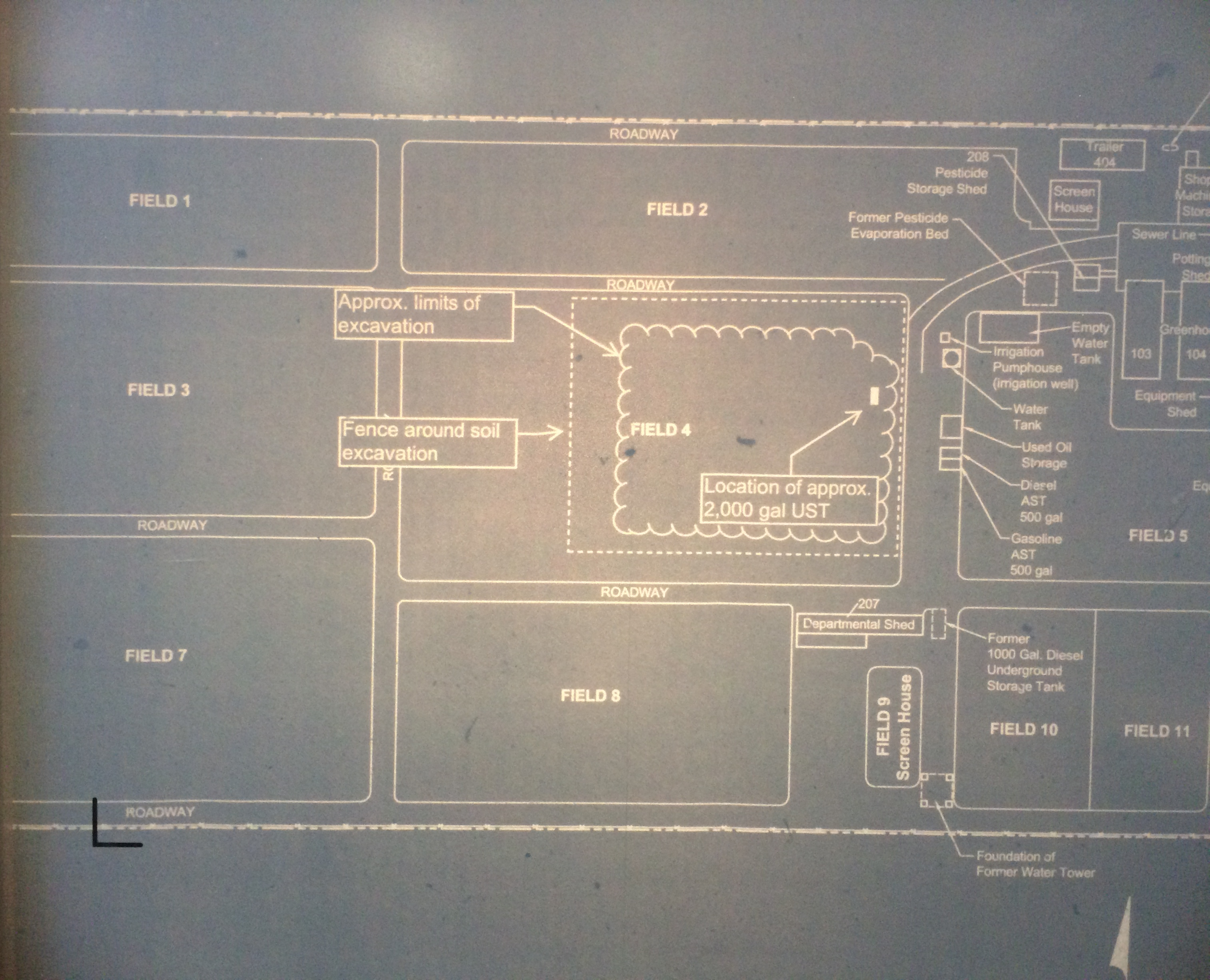
Thank you,

Dan

Dan Clark | Senior Associate
ENVIRON | www.environcorp.com
6001 Shellmound Street, Suite 700 | Emeryville, California 94608
V: 510.420.2563 | F: 510.655.9517 | M: 510.299.7036 |
dclark@environcorp.com

This message contains information that may be confidential, privileged or otherwise protected by law from disclosure. It is intended for the exclusive use of the Addressee(s). Unless you are the addressee or authorized agent of the addressee, you may not review, copy, distribute or disclose to anyone the message or any information contained within. If you have received this message in error, please contact the sender by electronic reply to email@environcorp.com and immediately delete all copies of the message.

RUSH


ROADWAY
FIELD 1
FIELD 2
208
Pesticide
Storage Shed
Trailer
404
Screen
House
Former Pesticide
Evaporation Bed
Sewer Line
ROADWAY
Approx. limits of
excavation
Empty
Water
Tank
Irrigation
Pumphouse
(irrigation well)
103
104
FIELD 3
Fence around soil
excavation
FIELD 4
Water
Tank
Equipment
Shed
Used Oil
Storage
Location of approx.
2,000 gal UST
Diesel
AST
500 gal
Gasoline
AST
500 gal
FIELD 5
ROADWAY
ROADWAY
207
Departmental Shed
FIELD 7
FIELD 8
Former
1000 Gal. Diesel
Underground
Storage Tank
FIELD 9
Screen House
FIELD 10
FIELD 11
ROADWAY
Foundation of
Former Water Tower

Fire Permit #:
FIR2010-00303

SANTA CLARA FIRE DEPARTMENT
FIRE PREVENTION DIVISION
1675 Lincoln Street, Santa Clara, CA 95050

Bldg. Permit #:

Issued by: Deborah Patton (DPA)

FIRE PERMIT / INSPECTION CARD
MAINTAIN AT JOB SITE

(408) 615-4970
(Schedule Inspections)

(408) 615-4987
(Code Requirement)

ADDRESS: 90 N WINCHESTER BLVD		DATE ISSUED: 6/1/2010
BLDG/UNIT/SUITE #:	OCCUPANCY: None assigned.	Area of Work: BAREC PROPERTY
FACILITY: STATE OF CALIFORNIA DGS		
INSTALLER: EBS INC		
SCOPE OF WORK: Removal of approx 2,000 gal UST		Permit expires if work is not started within 180 days of permit issuance, or 180 days from last inspection.

INSPECTION TYPE	X	PERMIT	DATE	INSPECTOR	NOTES
FIRE PROTECTION SYSTEMS					
01. Underground Final					
Underground Flush					
Underground Hydro					
02. Overhead Sprinkler Final					
Overhead Hydro					
03. Wet / Dry Chemical Final					
04. Clean Agent Final					
05. CO2 Final					
06.					
ALARM SYSTEMS					
07. Fire Alarm Final					
08. Emergency Alarm Final					
09. Toxic Gas Alarm Final					
10.					
HAZ MAT SYSTEMS					
11. Miscellaneous Final					
12. Closure Final					
13. Tank Final	X	10-303			
14.					
OTHER PERMITS					
15. Spray Booth Final					
Fire Protection Systems					
16. Fire Dept. Building Final					
Pre-Construction Final					
17.					

CITY OF SANTA CLARA
OFFICE OF THE FIRE MARSHAL

1675 Lincoln Street, Santa Clara, CA 95050
FAX 408-241-3006

408-615-4987
Code Requirement Information

408-615-4970
Schedule Inspection Appointments

Permit #:	FIR 2010-303	FIRE PERMIT STATUS:	Fire Permit Issued
Address:	90 N. Winchester Boulevard		
Facility:	BAREC Property	Occupancy:	
Scope of Work:	Remove One Approximately 2,000 Gallon Underground Storage Tank – Former Use and Contents Not Known – From East Side of Field 4		
Permit Type:	TANK/REM/UG	Station Area:	4
Date Reviewed:	6/1/10	Reviewed by:	D. Patton (DH)

Fire Department Permit Plan Check Requirements

Final approval shall be based on compliance with these comments and field inspections. For appointments call (408) 615-4970 when all permits generated under this permit have been finaled. NOTE: Only the permit applicant can call to schedule an inspection.

Installation shall comply with all applicable codes but not limited to the following: 2007 California Fire Code (CFC), 2007 California Building Code (CBC), 2007 California Mechanical Code (CMC), 2007 California Electric Code (CEC), and 2007 City of Santa Clara Municipal Fire and Environmental Code (SCMFEC).

Inspector Note	#	CONDITIONS / COMMENTS / CORRECTIVE ACTION NECESSARY
	1.	**NOTE: An approved / stamped set of plans, FD conditions / comments, and permit card SHALL BE ON-SITE at all times. Inspections will NOT be performed without them on-site.**
	2.	Fire Department Inspections - Fire Prevention Officer shall inspect the UST System (tank, piping, sumps, dispensers, etc.) during any excavation, removal, or sampling activities. **Fire Prevention Officers must be scheduled in advance (408-615-4970). However, if an inspection is necessary and a desired appointment is not available, submit a letter requesting at least 3 hours of overtime for a Fire Prevention Officer.**
	3.	Bay Area Air Quality Management District (BAAQMD 415-771-6000) - Requires written notification in accordance with Regulation 8, Rule 40, to be postmarked at least 5 days prior to excavation of any UST System containing volatile organic material or any soil excavation containing volatile organic material or any aeration of soil containing volatile organic material. Complete and submit the attached BAAQMD notification Form #R8R40FM or refer to http://www.baaqmd.gov/index.asp?Top=Y Provide copy of the notification to the Fire Department.
	4.	**Hazardous Materials Removal Certificate** - Submit verification that the removal contractor has a hazardous materials removal certificate in accordance with the Business and Professions Code, Section 7058.7 (attached) Contractors shall submit or have on file with the local agency information verifying that they possess a current State Contractor's License (A, B, C-36, C-61/D-40), State Hazardous Substance Removal Certificate, Workmen's Compensation Insurance, and Business License. Contractor information may be obtained by calling the Contractors State License Board at (800)

		321-2752
	5.	**UST Forms** – Complete and submit attached Unified Program Consolidated Forms for each UST to be removed or refer to http://www.unidocs.org/ust.html
	6.	**Training** - All closure personnel handling hazardous materials or hazardous waste and working at construction activity sites must be properly trained which may include excavation, shoring, confined space entry, hot work, hazardous waste management, hazardous communication, injury illness prevention, etc.
	7.	**Site Safety Plan** - Must be available on-site prior to the start of any work and cover all aspects of the activities under this permit.
	8.	**Fire Extinguisher during Construction** - Provide at least one 40BC-rated portable fire extinguisher onsite and readily accessible within 50 feet of work area for UST Systems. Hot work or spark-producing operations shall not be conducted if UST System previously contained flammable/combustible liquids unless UST System is decontaminated and free of hazardous vapors.
	9.	**LEL/Oxygen/Toxic Gas Meter** - Provide at least one portable calibrated meter capable of measuring Lower Explosive Limit (LEL), oxygen concentration, and toxic gas concentrations inside confined space work areas.
	10.	**Remove All Hazardous Materials** - From tanks, vessels, process equipment, piping, sumps, etc. prior to starting closure work. Properly classify, store, reuse, recycle, or dispose (likely as hazardous waste) any hazardous materials removed.
	11.	**Excavation, Shoring and Sloping** – Shall be conducted in accordance with the Site Safety Plan. Excavation deeper than 5 feet must have mean of egress (ladder) every 25 feet of travel distance.
	12.	**Excavation** - During excavation all exposed contaminated soil surfaces shall be kept visibly moist by water spray. If the soil is contaminated with volatile organic compounds exceeding 50 ppmw that does not have a Bay Area Air Quality Management District (BAAQMD) Permit for Aeration, the soil shall be covered to minimize emission to the atmosphere if stored greater than 1 hour. If the soil is not contaminated with volatile organic compounds, during periods of inactive excavation greater than 12 hours, the excavation shall be covered All coverings shall be with continuous heavy duty plastic sheeting or other covering to minimize emissions of organic compounds to the atmosphere. The covering shall be in good condition, joined at the seams, and securely anchored to minimize headspace where vapors may accumulate. All stockpiled contaminated soil to be disposed off-site must be removed within 45 days after excavation. The excavation shall be in accordance with BAAQMD Regulation 8, Rule 40. Contact BAAQMD at 415-771-6000 or refer to http://www.baaqmd.gov/index.asp?Top=Y
	13.	**UST Removal** - UST removal or relocation may commence only after the Fire Prevention Officer has given approval. UST previously containing flammable/combustible materials shall be made safe for removal from the excavation by filling it with water to displace any hazardous materials, adding dry ice (carbon dioxide) (typically, 1.5 pounds dry ice/100 gallons of tank capacity), ventilating, or other methods approved by the Fire Department sufficient to achieve an atmosphere of either less than 10% oxygen or less than 20% Lower Explosive Limit (LEL). These methods may also be required for safe transportation. ok All openings other than pressure relief devices or holes at the top of each tank shall be capped or plugged. UST shall be removed from the excavation within 24 hours of removal of soil around the UST. Contractor shall provide the correct tank removal/lifting equipment for safely removal of UST.
	14.	**Load and Secure UST** - On the highway carrier, the tank will be positioned with pressure relief

device or hole at the top. Unless dismantled onsite, UST shall be transported from the site on the same calendar day as it is removed from the excavation hole.

15. **Minimize Contamination Spreading** - Ensure during closure activities that hazardous materials and wastes are not spread throughout the facility by walking or moving equipment and materials.

16. **Decontamination or Removal Plan** – All sampling and field-testing must be witnessed by a Fire Prevention Officer.

Submit decontamination or removal procedures. Decontamination procedures may include steam cleaning, rinsing, scrapping, sand blasting, dismantling and removal of contaminated structural and non-structural portions.

17. **Aeration of Contaminated Soil Stockpiles** – With volatile organic compounds exceeding 50 ppmw shall be in accordance with BAAQMD Regulation 8, Rule 40. Contact BAAQMD at 415-771-6000 or refer http://www.baaqmd.gov/index.asp?Top=Y

N/A

18. **Backfill** - Shall be the same composition as the surrounding native soil to prevent any vertical hydraulic conduit for storm water to wash any residual contamination in the surrounding soil downward. Pea gravel, gravel, sand, etc. shall not be used for backfill material.

19. **Sampling Plan** – All sampling and field-testing must be witnessed by a Fire Prevention Officer.

Submit sampling procedures including sample locations, constituents to be analyzed, and test methods. Samples must be documented on a sample chain of custody form and analyzed by a laboratory certified by State of California to perform the applicable test methods. Samples may not be composited by the laboratory and analyzed together.

Under UST Sampling

Water in Excavation?	*Tank Size*	*Minimum # of Soil Samples*	*Location of Soil Samples*	*Minimum # of Water Samples*
No	≤10,000 gallons	2 per tank	One at each end of tank	None
No	>10,000 gallons	3 per tank	Ends and middle or spaced along tank length	None
Yes	≤10,000 gallons	2 per tank	From wall next to tank ends at soil/groundwater interface	One
Yes	>10,000 gallons	4 per tank	From all 4 walls next to tank at soil/groundwater interface	One

Soil and water samples shall be analyzed for MTBE in addition to those listed in the attached "**RECOMMENDED MINIMUM VERIFICATION ANALYSIS FOR UNDERGROUND TANK LEAKS TABLE #2**" or refer to http://www.unidocs.org/hazmat/ust/closure/index.html.

20. **Subsurface Contamination** - If contamination of any detectable concentration is found, further soil and groundwater investigation may be required.

The Fire Department will complete an **"UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK)/CONTAMINATION SITE REPORT"** and submit it to the Regional Water Quality Control Board (RWQCB 510-622-2300 x2361) and Santa Clara Valley Water District (SCVWD 408-265-2600 x2607 or 2768) and County Board of Supervisors and Public Health Officer.

UST contaminated sites may be eligible to receive funding from the California UST Cleanup Fund by calling 800-813-FUND (3863) or refer to http://www.swrcb.ca.gov/cwphome/ustcf/index.html

N/A

21. **Electronic Submittals** - CA Certified Laboratory must electronically submit UST laboratory analyses in the "Electronic Deliverable Format" to California State Water Resources Control Board (SWRCB).

Installed groundwater monitoring well locations must also be submitted electronically on

REMINDER: DO NOT MAKE

		digitized site maps by surveying the: ❑ Latitude and longitude within 1 meter; and ❑ Elevation relative to mean sea level; and ❑ Elevation of groundwater to mean sea level. For more information contact Michael W. Gjerde at 916-341-5682 or Hamid Foolad at 916-341-5791 or refer to http://www.swrcb.ca.gov/cwphome/ust/docs/ab2886/list.html
	22.	Closure Report - must be submitted after all closure activities are complete. The Closure Report must include at a minimum: ❑ The original Site map with locations of closure activities and sample locations and depths; and ❑ CA Certified Laboratory analytical reports, analytical methods, equipment detection limits, method detection limits, quality assurance/quality control reports, chains of custody, and regulatory limits for classification as hazardous waste; and ❑ List of hazardous materials equipment removed and decontaminated with manufacturer name, model number, serial number, former location on-site, and future location; and ❑ List of hazardous wastes and associated off-site shipping documents and waste profiles signed by the receiving facilities; and ❑ Legible copies of former hazardous materials equipment bills of sale or shipping documents signed by the receiving facilities; and ❑ Backfill report on soil compaction; and ❑ A certification that all closure activities were performed in accordance with the Closure Plan and all subsequent correspondences, inspection meetings, and plan check comments; and ❑ Completed attached "HAZARDOUS WASTE TANK CLOSURE CERTIFICATION" or refer to http://www.unidocs.org/hazmat/ust/closure/index.html.
	23.	End...

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BAREC

Santa Clara Fire Department
Office of the Fire Marshall
1675 Lincoln Street
Santa Clara, CA 95050

FIRE MARSHAL
CITY OF SANTA CLARA
1675 LINCOLN ST., SANTA CLARA, CA 95050
(408) 615-4967
APPROVED BY
DATE
PLAN CHECK
APPROVAL IS SUBJECT TO:
STATE LAWS AND REGULATIONS
CITY ORDINANCES
NOTATIONS
FIELD INSPECTIONS AND TEST
CALL (408) 615-4970 TO SCHEDULE INSPECTION
SEE ATTACHED LIST
NOTE: FIRE MARSHAL DOES NOT CHECK FOR STRUCTURAL

Dan Clark
Consultant
ENVIRON International Corporation
6001 Shellmound Street, 7th Floor
Emeryville, CA 94608

Submitted on behalf of Site Owner:
Mr. David Perry
State of CA Department of General Services
707 3rd Street, 4th floor, Suite 4-430
West Sacramento, CA 95605

May 27, 2010

Re: Cover Letter for UST Removal Permit Application

To Whom It May Concern:

This cover letter provides the required information for the expedited plan check/review of our permit application to remove an approximately 2,000-gallon underground storage tank (UST) from State of CA property located at 90 North Winchester Boulevard, Santa Clara, CA (legal address). The UST was uncovered during a soil remediation project overseen by DTSC. The UST is thought to have been abandoned several decades ago, and it does not appear to have any associated piping or other equipment. In order to proceed with the remediation project, we request an expedited turnaround of our permit application.

Scope of Work:

1. Collect samples of liquid in tank for waste profiling/disposal purposes, submit to laboratory on a 24-hr turnaround time.
2. Remove liquid from tank, dispose at approved disposal facility, to be determined based on analytical results.
3. Triple rinse and evacuate tank, dispose of rinse water with liquid from tank.
4. Render tank atmosphere inert with dry ice.
5. Test tank atmosphere with Lower Explosive Limit gas detector.
6. Excavate and remove tank from pit, transport and dispose tank under hazardous waste manifest.
7. Inspect tank integrity for holes/damage.
8. Overexcavate tank pit, depending on visual observations.
9. Collect confirmation soil samples (2) at bottom of pit, for laboratory analytical testing (Total petroleum hydrocarbons as diesel; benzene, toluene, ethylbenzene,

and xylenes [BTEX]; fuel oxygenates, EDB, EDC, metals (Cd, Cr, Pb, Ni, Zn); and any other required analyses per City Fire Marshall representative.

10. Pending the results of confirmation soil samples, backfill tank pit with clean import fill or clean on-site borrow fill.

The prime contractor at the site is Mr. Ron Rinehart of Environmental Business Solutions, Inc. (EBS). EBS' contact and license information is as follows:

EBS Inc.
175 Silberhorn Drive
Folsom, CA 95630
916-990-4601
California Contractor's License No.: 812834A-HAZ
City of Santa Clara Business License No.: 115820 (expires 4/20/2011)

The temporary USEPA ID number of the site is CAC 002652233.

We hope to complete the tank removal on Wednesday, June 2, 2010 or soon thereafter.

Please contact me at 510-299-7036 (cell) if you have any questions or concerns.

Sincerely,

D. Clark

Dan Clark
ENVIRON International Corporation

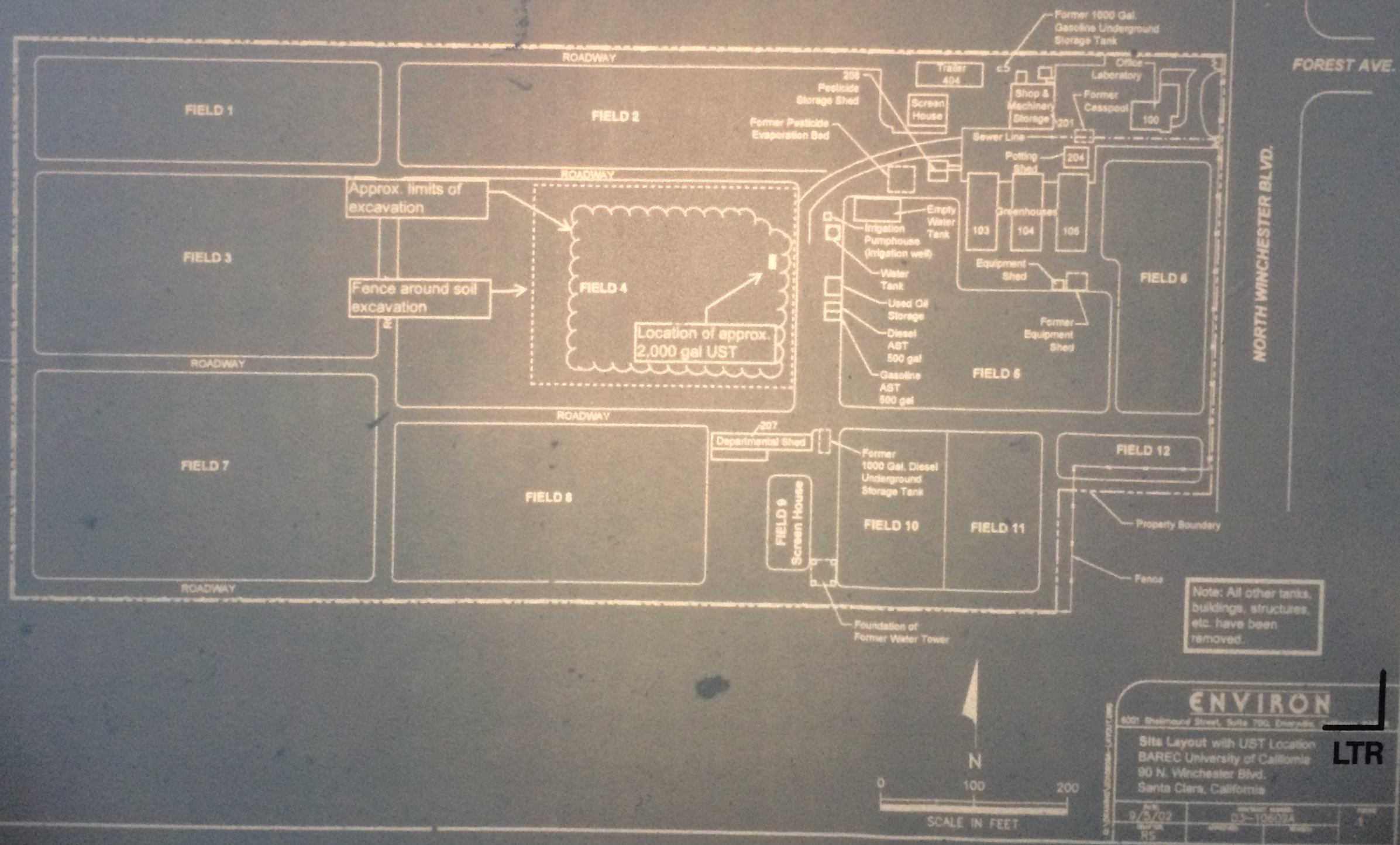
Attachments

Pending File Follow Up

Job Address:	90 N WINCHESTER BLVD, BAREC PROPERTY	**Permit #:**	FIR2010-00303
Facility Name:	STATE OF CALIFORNIA DGS		
Applicant:	EBS INC.	**Phone #:**	916-990-4601
Installer:	EBS INC	**Phone #:**	916-990-4601

Date Inspected Initials	Date Completed Initials	Comments
6/8/10		Witnessed removal of one underground tank
		Tank was of rivetted construction. Tank had
		apparently held heating oil. Dark heavy oil
		contamination near top of tank suggested
		historic overfills. No obvious holes or breaches in
		tanks. Excavated soil that appeared
		contaminated. Witnessed two soil samples; one
		below north end of tank and one below south
		end.
6/23/10	6/29/10	Received closure report. Need TSDF-
		signed copies of the waste manifests.

Tidemark 336Forms\Fire\Pending File Follow Up.rpt


Former 1000 Gal. Gasoline Underground Storage Tank
ROADWAY
FIELD 1
FIELD 2
FIELD 3
FIELD 4
FIELD 5
FIELD 6
FIELD 7
FIELD 8
FIELD 9
Screen House
FIELD 10
FIELD 11
FIELD 12
Trailer 404
Office Laboratory
Shop & Machinery Storage
Former Cesspool
100
201
Sewer Line
Potting Shed
204
Greenhouses
103
104
105
Equipment Shed
Former Equipment Shed
Empty Water Tank
Irrigation Pumphouse (irrigation well)
Water Tank
Used Oil Storage
Diesel AST 500 gal
Gasoline AST 500 gal
206
Pesticide Storage Shed
Former Pesticide Evaporation Bed
207
Departmental Shed
Former 1000 Gal. Diesel Underground Storage Tank
Approx. limits of excavation
Fence around soil excavation
Location of approx. 2,000 gal UST
Foundation of Former Water Tower
Property Boundary
Fence
Note: All other tanks, buildings, structures, etc. have been removed.
FOREST AVE.
NORTH WINCHESTER BLVD.
N
0
100
200
SCALE IN FEET
ENVIRON
Site Layout with UST Location
BAREC University of California
90 N. Winchester Blvd.
Santa Clara, California
9/3/02
RS
LTR

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Arnold Schwarzenegger
Governor

MEMORANDUM

TO: Virginia Lasky
Site Mitigation and Brownfields Reuse Program
700 Heinz Avenue, Suite 200
Berkeley, CA 90630

FROM: Kimiko Klein, Ph.D. Kimiko Klein
Staff Toxicologist
Human and Ecological Risk Division (HERD)

DATE: October 4, 2006

SUBJECT: Screening-level Risk Assessment
FORMER UNIVERSITY OF CALIFORNIA BAY AREA RESEARCH AND EXTENSION CENTER (BAREC)
PCA CODE: 12170 SITE CODE: 201464-11

Background

This site was a former agricultural research station that operated from the 1920s to 2003. Since the results of soil investigation showed that arsenic and dieldrin are present in surface soil, contaminated soils will be removed and disposed of off-site. A screening-level human health risk assessment has been performed to evaluate the potential health risks to residents living adjacent to the site associated with the proposed remedial action activities. The Human and Ecological Risk Division (HERD) has been requested to provide technical support.

Documents Reviewed

The HERD reviewed a memorandum, dated September 6, 2006, from ENVIRON, with the subject: "Screening-Level Risk Assessment for the former University of California Bay Area Research and Extension Center (BAREC)". The HERD received this memorandum via electronic mail on September 8, 2006.

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General Comments

This assessment is clearly written and concise and concludes that the potential risks and hazards from inhaling contaminated dust that may be generated by the remedial activities are insignificant. The HERD agrees with this assessment. The HERD also agrees with the establishment of an arsenic cleanup goal of 20 mg/kg, based on regional background, which will result in an average concentration of arsenic of approximately 12 mg/kg, if used as a ceiling value, and a dieldrin cleanup goal of 0.03 mg/kg, which is equivalent to the US Environmental Protection Agency (US EPA) residential preliminary remedial goal (PRG). The HERD has the following specific comments.

Specific Comments

1. The estimate of the time it will take to complete remedial activities is six weeks. The equations characterizing the cancer risks are based upon studies and assumptions that chronic exposure will take place over a period of years. Since this exposure duration is so short and measured in weeks, the use of these equations to estimate cancer risk may not be appropriate (see references below). The more relevant measure of potential harm to off-site residents is the hazard index (HI). However, the HIs calculated in this assessment used chronic toxicity criteria to evaluate short term exposure. The report should at least be revised to include in the discussion section the validity of using chronic toxicity criteria to evaluate short term exposure.

2. The calculation of the concentration of chemical in dusts is dependent upon the estimate of respirable dust in the air at the perimeter of the site. The respirable dust estimate used in the risk assessment is taken from the draft removal action workplan (RAW). In addition, the respirable dust estimate is dependent upon implementation of dust control measures at the site. The HERD has not reviewed this RAW and assumes that other DTSC staff have reviewed and approved of the workplan. In particular, the HERD assumes that real-time daily dust monitoring will take place at the site perimeter during remedial activities as part of the dust control program.

3. Table 2 Calculation of Exposure Point Concentration in Air. Include a footnote that explains whether the soil concentrations used for the calculation of exposure point concentrations are the maximum concentrations detected, the 95% upper confidence limits (UCL) on the mean concentrations, or some other statistically-derived values.

Conclusions

The specific comments should be addressed before the HERD accepts this report.

If you have any questions, please contact me at (916) 255-6643, (510) 540-3762, or via electronic mail at: kklein@dtsc.ca.gov.

References

Goddard, M.J., Murdoch, D.J. and Krewski, D. 1995. Temporal aspects of risk characterization. *Inhal. Toxicol.* 7:1005-1018.

Murdoch, D.J. and Krewski, D. 1988. Carcinogenic risk assessment with time-dependent exposure patterns. *Risk Anal.* 8:521-530.

Reviewed by: David L. Berry, Ph.D.
Senior Toxicologist
Human and Ecological Risk Division

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

November 7, 2003

FILE COPY

Mr. Ron Small
Department of General Services
Real Estate Service Division,
Asset Planning and Enhancement Div.
707 3rd Street, Suite 6-130
West Sacramento, CA 95605

Dear Mr. Small:

The Department of Toxic Substances Control (DTSC) has completed its review of the Draft Removal Action Workplan dated October 2003. DTSC's specific comments are outlined below. Please include any relevant changes made to the Site Characterization Report based on DTSC's October 6, 2003 comments.

Specific Comments:

1. Executive Summary

   a) Please include an introductory paragraph describing the purpose of the Draft RAW.

   b) Page 1, 4th paragraph - When referencing the Preliminary Remedial, please include "Region 9". Since the whole idea of mean concentrations is not really discussed, please just state that dieldrin was found above screening levels. The rest of the discussion is part of the remedy discussion, not the investigation results.

   c) Page 2, 1st and 2nd paragraphs are too complicated for the exec. sum. please simplify to state that arsenic was determined to be above background.

   d) Page 2, 4th paragraph should be identify remedial goals, then discuss the alternatives evaluated, then identify the preferred alternative in a separate paragraph. Include how long the removal action should take to implement.

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

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2. Introduction - Shouldn't this refer to DTSC and its process?

3. Section 2.2 - Please revise according to DTSC's previous comments on the Characterization Report dated October 6, 2003.

4. Sections 2.2.3.1 and 2.2.3.2. Please indicate whether the sample results are considered hazardous or not and provide rationale and supporting information. Page 10, 1st paragraph, 9th line – average is misspelled

5. Section 2.2.3.1, page 9, par. 4 and page 10. Please update background study for arsenic using the most recent report from LBNL. Is all this discussion of background the same as what was in the characterization report? Remove the reference to "DTSC Guidance". What was the "background" sample result?

6. Section 3.0, 1st paragraph should include discussion on dieldrin, not just arsenic. Please remove general reference to surface vs subsurface soil, therefore, delete sentences 2 and 3.

7. Section 3.1.1, 1st paragraph. The discussion of the "inflection point" come in out of the blue. Shouldn't this be discussed in more detail in the earlier section?

8. Section 3.2. Please delete this section and instead incorporate pertinent details in section 3.2 to sections 2.2.3.1 and 2.2.3.2.

9. Section 3.5, page 17. Please delete all the PRG disclaimer language. DTSC also does not rely on what USEPA has done at their sites. What is a "threshold cleanup level"? Also, please put in one paragraph or in bullets together the cleanup levels for both the arsenic and the dieldrin.

10. Section 3.5, page 17, bullet 2. Please delete the word "shallow". Also make sure that this refers to these levels as background.

11. Section 4.1 – Delete this section and revise the rest of the document to remove all references to preliminary/initial screening.

12. Section 4.2 – Delete the words "Removal Action (RA)" from the text and the RA acronym from the text of this section. The title of the section can remain. Delete the words "Implementation of" from the title of Alternative 2.

13. Section 4.2.1 – Include that land use restrictions and maintenance of a fence around the property would be required if no cleanup action is taken.

14. Section 4.2.2, par. 1. Please revise reference to figure 5 to figure 6. Delete the reference to the Caltrans project. A Land Use covenant (deed restriction) would be required.

15. Section 4.2.2, page 22, last par. USEPA is not involved with this project, DTSC is.

16. Section 4.2.3. Par. 1, sentence 4. Please revise reference to figure 6 to figure 7. What Caltrans project is being considered?

17. Section 4.3 – These are not "screening criteria." Please just state "In this section, the alternatives are evaluated in terms of effectiveness, implementability, and cost."

18. Section 4.3.3 – There should be O&M costs associated with Alternative 2. Please revise this discussion.

19. Section 4.4.1 Implementability – This is not an acceptable level of evaluation. The criteria includes regulatory acceptance.

20. Section 4.4.2. Implementability, par. 2 As discussed previously, this alternative requires a deed restriction preventing residential use including schools, day cares, etc. on the capped portion of the site. There will be no residential allowed over the capped area.

21. Section 4.4.2, Cost. The cost of the O&M for the cap must be included.

22. Section 4.4.3, Implementability – Please delete the sentence which says "Additionally , there are no known controversies...."

23. Section 4.5 (4.5.1, 4.5.2 and 4.5.3)– The three criteria are usually equally rated. This section has too much emphasis on the specific numbers given and is too hard to follow. Please revise to just discuss the comparison of the alternatives and reference the summary table as a numerical summary of how they relate to each other.

24. Section 4.5.4 – Delete last sentence. Add 1-2 brief sentences summarizing why this is the preferred alternative, For example: "Alternative 3 is most protective since it removes all contamination above the cleanup goals, is relatively easy to implement and is reasonable in cost."

25. Section 5.0. Please delete "Upon approval of this plan by DTSC" from the second sentence.

26. Section 5.1.4. Please include discussion of other hot spots.

27. Section 5.1.7 – If this soil is to be used in a roadway project, you need to discuss the mechanism on how that works and what the criteria for reuse are.

28. Section 5.1.9 – Delete the word "sample".

29. Section 5.3.1.

a) This section is very confusing. You need to excavate to the depth identified in this RAW and shown on Figure 7. Minimum excavation depth is 3 feet. There is no utility in taking samples every foot, since you are required to excavate to the depth of the previous samples. Please provide a figure which identifies where the confirmation samples will be collected,

b) Please indicate the approximate volume of soil to be excavated and the number of truck loads.

30. Section 5.3.2 Please indicate the maximum dimensions (height and width/diameter) of the soil stockpile. Please ensure that the stockpiles are not too high so it can be properly handled and managed. Please indicate the longest time soil stockpile will remain onsite? Also identify the locations of where contaminated material will be stockpiled and where clean fill will be stored when brought to the site.

31. Section 5.4 – This needs to discuss the regulatory standards and should include a limit on total dust at each excavation are to not exceed a 50 micrograms per cubic meter difference between upwind and downwind. This data should be collected hourly during excavation activities. If the limit is exceeded then additional dust control measures will be used.

32. Section 5.8 – This does not provide adequate information on the schedule. How long will the excavation work take?

33. Transportation Plan, Appendix A,.

a) Section 5.0. Please indicate whether a flag person will be used to control traffic.

b) Section 9.0.

i) Par. 3, sentence 2. Please also reference Figure 2.

ii) Par. 3, sentence 3. Please verify this statement.

c) Please simplify this Transportation Plan. Why is each section on a separate page, it just wastes paper and makes it hard to follow. Delete sections 2.0, 3.0. Section 8.0 does not discuss the Caltrans project. Also please delete last two sentences. Please just notify DTSC via e-mail or telephone which landfill will be used. The figures are satisfactory for the overall truck route, but more detail about how trucks will leave the property and get to the freeway system is necessary.

34. Appendix B, Sample Health and Safety Plan. Please remove the word "sample," and instead provide an introduction to the plan describing how it will be used by contractor and subcontractor. DTSC will forward its comments on the Health and Safety Plan next week.

35. Appendix C., Page C-4. Please include decontamination procedures for sampling equipment. Please also see previous comments on the proposed sampling. Can you please make this just the QAPP so that you do not repeat all the sampling information which is discussed earlier in the document.

36. Administrative Record. Except for the applicable laws, regulations and guidance, please remove reports or documents identified in the Administrative Record that the Department has not reviewed. The Administrative Record is for the information DTSC relied on for making the decision, not what Environ used to prepare the report. Other than the basic laws, regulations and guidance there are only 4-5 documents or letter which should be included, but you may make a separate list of references for these other documents. Please refer to the marked-up pages of the administrative record and revise accordingly.

If you have any questions, please contact Virginia Lasky of my staff at (510) 540-3829.

Sincerely,

Virginia L. Lasky

Virginia L. Lasky, Project Manager
Northern California
Coastal Cleanup Operations Branch

Enclosure

cc: Mr. Jeffrey Crone
Department of General Services
Real Estate Service Division,
Asset Planning and Enhancement Div.
707 3rd Street, Suite 6-130
West Sacramento, CA 95605

Ms. Anne Wooster Gates, P.E.
ENVIRON
5820 Shellmound Street, Suite 700
Emeryville, California 94608

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

FILE COPY

September 30, 2003

Mr. Gary M. Baum
Assistant City Attorney
City of Santa Clara
1500 Warburton Avenue
Santa Clara, California 95050

Dear Mr. Baum:

Thank you for your letter dated August 25, 2003 regarding the former Bay Area Research and Extension Center (BAREC) Property located at 90 North Winchester Boulevard in Santa Clara, Santa Clara County, California. The Department of Toxic Substances Control (DTSC) appreciates the opportunity to provide further clarification regarding the characterization and proposed remediation for the BAREC Property. Your letter expressed four main areas of concern: (1) DTSC's use of U.S. Environmental Protection Agency (EPA) Region IX Preliminary Remedial Goals (PRGs) as screening goals as opposed to the San Francisco Bay Region, Regional Water Quality Control Board's (RWQCB) Risk Based Screening Levels (RBSLs) for dieldrin, endrin and cadmium; (2) the selection of background levels for arsenic; (3) the consistency of the cleanup goals with the Rivermark development on the former Agnews State Hospital property in Santa Clara; (4) the characterization methodology for pesticides/herbicides. Your letter further requested that DTSC consider removal of the top three feet of soil at the Site and backfilling with clean soil and that the City be copied on all written correspondence between the parties involved in the cleanup of the Site.

Screening Levels

Before addressing your specific concern regarding the use of RBSLs, I would first like to provide some background on screening levels. As required by statute, DTSC's characterization and cleanup process generally follows the process outlined in the National Contingency Plan. Therefore, DTSC follows U.S. EPA guidance to calculate potential risk and hazard associated with a Site and to determine appropriate cleanup goals. The U.S. EPA Region IX Preliminary Remediation Goals (PRGs) were calculated following the procedures outlined in U.S. EPA's Risk Assessment Guidance for Superfund, Volume 1, Part B, Development of Risk-based Preliminary Remediation Goals, using standard exposure parameters. DTSC, on a case by case basis, has used

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PRGs as a screening tool. These levels are generally conservative and are based on a one-in-a million risk for cancer and a hazard index of 1.

The RWQCB's RBSLs are currently undergoing regulatory review pursuant to Senate Bill 32. As part of this process, Senate Bill 32 also provides for a pilot study in Southern California where sites may use the RBSLs. DTSC has not used RBSLs except as part of this pilot study.

Your comment points out one problem of the main problems with screening levels. Once numbers are published, it is easy to assume that these numbers are appropriate for cleanup levels for all sites and that the lowest one is the "best". However, as noted in the most recent draft of the RBSL (now called ESLs) guidance:

> "these values are NOT regulatory "cleanup standards". Use of the ESLs and this document in general is intended to be entirely optional on the part of the regulated facility and subject to the approval of the case manager in the overseeing regulatory agency. The presence of a chemical at concentrations in excess of an ESL does not necessarily indicate that adverse impacts to human health or the environment are occurring; this simply indicates that a potential for adverse risk may exist and that additional evaluation is warranted. ESLs presented for chemicals that are known to be highly biodegradable in the environment may in particular be overly conservative for use as final cleanup levels (e.g., many petroleum-related compounds). Use of the ESLs as cleanup levels should be evaluated in view of the overall site investigation results and the cost/benefit of performing a more site-specific risk assessment."

For example, let us look at dieldrin and endrin, two pesticides of concern to the City of Santa Clara at this Site. The RBSLs for both of these chemicals are based upon potential leaching to groundwater. The RBSLs associated with public health are similar to the PRGs. The RBSL for cadmium (1.7 ppm) is lower than the PRG (3.7 ppm) due to the differences in hazard index these numbers are based upon. The PRG is based upon a hazard index of 1 and the RBSL is based upon a hazard index of 0.2. As DTSC follows the National Contingency Plan process, we can only require cleanup to a hazard index of 1. Indeed, the decision making process for site remediation balances the health/environmental protectiveness with the implementability and the cost.

Arsenic

For arsenic, the cleanup level will be based upon background concentrations in accordance with U.S. EPA and DTSC guidance. Background concentrations are determined by either (1) collection of samples at or near the site from soil types similar to those encountered at the site in areas not likely to be influenced by contamination and/or facility operations (past or present); or (2) regional background data. Due to historic use of land near the BAREC property, unimpacted areas are difficult to locate. While DTSC has used analytical results from deeper soil samples to establish

background levels at sites, this method is only applicable when the lithology of the site is heterogeneous. Therefore, the Project consultant has proposed using an estimate of regional background. This is similar to what was done at the Town and Country Village Shopping Center Project, which is located a couple blocks away. Three studies of metal concentrations in background soil in the Bay Area were used to determine a maximum concentration of 20 mg/kg arsenic as being consistent with background. These included studies by Scott; Jenkins, Sanders and Associates; and Lawrence Berkeley National Lab (LBNL). A recent study conducted by LBNL based on 1,400 samples found the background arsenic concentration at 95th percentile to be at 17 mg/kg.

Comparison of Cleanup Goals

As a clarification, the cleanup levels developed for the Town and County Village Shopping Center Project (Santana Row) included both commercial and residential land uses. The residential cleanup levels were based on unrestricted (single-family) residential use.

The cleanup goals for the Rivermark Development are as follows: arsenic (a site specific background study was conducted which determined that background concentrations of arsenic were levels at or below 9.1 mg/kg; Total DDT (1.0 mg/kg); and chlordane (0.5 mg/kg). These levels were applied as maximum concentrations for ease of implementation. Clean-up standards were not established for cadmium as its concentration was below the screening level (PRG).

Characterization of past agricultural property use

Your letter expressed concern regarding the approximately 37 pesticides/herbicides that were used at the Site, yet not included in the analytical suite. The pesticides/herbicides that were analyzed are chemicals that are mostly persistent and highly toxic. As discussed in the Site Characterization Report in Table 3c, the rest of the chemicals were found to have low toxicity, low concentrations or no toxicological data. None of these chemicals have been identified as cancer causing substances.

The chemicals of greatest concern are those that persist in the environment. For the majority of the newer pesticides persistence is limited to a few days. However, organochlorine pesticides can persist in soil at levels of health concern for many years following application. Therefore, DTSC requires the use of EPA Method 8081A which analyzes for a wide range of organochlorine pesticides which were used in the past. This way, we can detect toxic persistent organochlorine pesticides which may have been used in the past where records cannot be located.

DTSC generally recommends sampling surface soil to determine the chemical levels which people would most come into contact. Plowing and disking likely occurred at this Site. However, because this leads to incomplete mixing over time, the highest levels of

chemicals are generally still found at the surface due to the surficial application of pesticides. Deeper samples were collected at 3' when pesticides/herbicides were detected in the surface sample. If a contaminant was not detected at the surface, it is not likely that a deeper sample would contain the contaminant. Pesticides/herbicides, like metals, do not migrate easily because they adhere more to the soil particles.

Remedy Selection

As part of DTSC's cleanup process, a document is prepared which evaluates cleanup alternatives for a Site. At this Site, we anticipate preparation of a Removal Action Workplan (RAW). This document will identify Remedial Goals, Cleanup Alternatives and a Preferred Cleanup Alternative. Once DTSC has reviewed this document it will be released in draft for public comment. Based on the comments received on that document, DTSC will modify the document, if necessary, in response to the comments received and approve the Final RAW which identifies DTSC's approved cleanup. DTSC generally requires that only clean and tested soil be used as backfill for areas proposed for residential development.

All written correspondence regarding the Site, including your letter and this response, will be kept in the DTSC Site file available for public review. It is our hope that the information in this letter addresses your concerns. However, as noted above, the City may submit comments on the Removal Action Workplan once it has been released for public comment.

If you have any further questions, please contact Virginia Lasky at (510) 540-3829.

Sincerely,

Barbara J. Cook

Barbara J. Cook, P.E., Chief
Northern California
Coastal Cleanup Operations Branch

cc: See next page

SANTA CLARA

Santa Clara

City Attorney's Office

August 25, 2003

Karen Toth
California Department of Toxic Substances Control
Berkeley Regional Office
700 Heinz Ave, Suite 200
Berkeley, CA 94710-2721

Re: BAREC Property, 90 North Winchester Boulevard, Santa Clara, CA

Dear Ms. Toth:

The purpose of this letter is to update you on the concerns that the City of Santa Clara has with the current proposed clean-up plan for the former Bay Area Research and Extension Center (BAREC) located at 90 North Winchester Boulevard, Santa Clara, CA. This is also a follow-up to our teleconference held July 29, 2003. The City's comments are in response to (1) Environ International Corporation's Phase II Site Characterization Report, dated May 2003, prepared on behalf of DTSC and BAREC, and, (2) Environ International Corporation's Letter to DVP Associates, dated May 28, 2003, prepared on behalf of DTSC and BAREC.

Kurt Swart, Hazardous Materials Specialist for the City of Santa Clara, has raised several issues and concerns about the site. Mr. Swart is particularly concerned about the screening levels and remediation goals chosen by DTSC in relation to the risks and the proposed uses of the site.

The City of Santa Clara has the following questions and concerns:

1. Please explain why DTSC and BAREC used the U.S. Environmental Protection Agency, Region 9, Preliminary Remediation Goals (PRGs) as a guidance tool in determining whether further subsurface investigation and remediation is necessary at the site, rather than using the California Regional Water Quality Control Board's Risk Based Screening Levels (RBSLs). Most RBSLs recommend safer chemical clean up concentrations than PRGs.

   For example, some of the very toxic hazardous constituents found in soil include pesticide/herbicides Dieldrin, Endrin, Cadmium and Arsenic. The PRG for Dieldrin is 0.03 mg/kg while the RBSL for Dieldrin is at a safer concentration of 0.002 mg/kg.

   The PRG for Endrin is 18 mg/kg while the RBSL for Endrin is at a safer concentration of 0.0006 mg/kg. The PRG for Cadmium is 37 mg/kg while the RBSL for Cadmium is at a safer concentration of 1.7 mg/kg. The site exceeds the RBSL for Dieldrin, Endrin, Cadmium and Arsenic, in almost every sample location and depth.

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The PRG "**NON-CANCER** Endpoint" for Arsenic is 22 mg/kg and the PRG "**CANCER** Endpoint" for Arsenic is 0.39 mg/kg. The PRG and the RBSL *cancer endpoints* for Arsenic are identical, at 0.39 mg/kg. Instead, DTSC and BAREC are proposing Arsenic clean up concentration of 20 mg/kg (see page 5 of 9 of Environ's letter dated May 28, 2003). This is nearly the same as the PRG "**NON-CANCER** Endpoint" for Arsenic of 22 mg/kg.

The proposed background concentrations at the BAREC property located at 90 Winchester *cannot* possibly be as high as 20 mg/kg. Table 9 of the Phase II Site Characterization Report shows Arsenic concentrations at 4 feet to range from 1.8 – 7.7 mg/kg. Thus, background concentration should be considerably less than 8 mg/kg.

According to Environ's letter dated May 28, 2003, the choice to use a 20mg/kg background concentration is based on the Arsenic background concentration of 12 mg/kg used at the Santana Row Town and County Village Shopping Center development located at 360 Winchester Boulevard in San Jose, CA.

Not only does 20 mg/kg *not* equal 12 mg/kg, but it must be noted that the entire area of both Santana Row and the BAREC properties has historically been used for agricultural purposes. Arsenic was commonly used as a pesticide/herbicide and was also used to cause fruit trees to drop their fruit in due season for harvesting.

If DTSC and BAREC are using PRGs for all other chemical clean up standards at the BAREC property, why are DTSC and BAREC now using a flawed background concentration as a clean up standard for Arsenic?

Moreover, the end use of both properties is different at 360 Winchester and 90 Winchester. The Santana Row development at 360 Winchester is primarily commercial development, and essentially all open ground is paved. On the other hand, the BAREC property at 90 Winchester will be developed with homes, playgrounds and a senior center with space for gardening. Thus, there is a significant potential for exposure to Arsenic, Cadmium, pesticides and herbicides in the soil. Children, adults and senior citizens risk exposure from playing, digging and gardening; and, workers risk exposure during the development and construction process.

2. Please provide comparisons of what DTSC used as clean up standards for Arsenic, Cadmium, pesticides and herbicides at the former Agnew State Hospital property for the recent Rivermark development in Santa Clara, CA.

3. According to Page 12 of the Phase II Site Characterization Report, 37 documented pesticides/herbicides have been used at the BAREC property since 1979. However, these pesticides/herbicides do not have half-life data or PRG clean up standards, so DTSC and BAREC did not require them to be analyzed and did not, in fact, analyze them. Do any of these 37 pesticides/herbicides have toxicology data associated with them, in particular, are they known or suspected to be carcinogens, mutagens or teratogens?

4. Pesticides and herbicides were first used on the site as early as 1920, and the City would like to know how DTSC and BAREC screened for pre-1979 *non-documented* pesticides/herbicides.

5. Pesticide/herbicide samples were only taken in the top 0.5 feet of soil. It is assumed that plowing and disking took place on the property at some time since the site was operated in the 1920s. Explain why deeper samples were not taken of pesticides/herbicides.

Based on the concerns outlined, the City requests that DTSC and BAREC scrape at least the top three feet of soil, remove that soil from the site, and haul in "clean" and "tested" soil as backfill. Further, the City asks that all written correspondence between the parties involved in the clean up of this site, including this letter, be included in the public comment document package.

I appreciate your consideration of these issues and look forward to working with you to resolve them in a manner that will protect the health and safety of the community and future residents. Please call me at (408) 615-2233, if you have any comments or questions.

Very truly yours,

GARY M. BAUM
Assistant City Attorney

cc: Michael R. Downey, City Attorney
Jennifer Sparacino, City Manager
Ron Garratt, Assistant City Manager
Dave Parker, Hazardous Materials Administrator
Kurt Swart, Hazardous Materials Specialist
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April 25, 2003

Dan V. Potash, Esq.
DVP Associates
441 Merritt Avenue, Suite 104
Oakland, CA 94610

Re: BAREC, 90 North Winchester, Santa Clara: Phase II Report - Issues

Dear Dan:

Kurt Swart, Hazardous Materials Specialist for the City of Santa Clara has reviewed the following documents concerning the University of California Bay Area Research and Extension Center ("BAREC"), located at 90 North Winchester Boulevard, Santa Clara:

1. Hazardous Materials Assessment prepared by Environ ("Phase I");
2. Phase II – Site Characterization Report Draft, October 2002;
3. Tables prepared by Environ; and,
4. Figures prepared by Environ.

He has raised a variety of issues and recommendations concerning the site. I also have a few concerns. It should first be noted that this was for many, many years an Agricultural Pesticide Research Station. Countless pesticides were tested on the various plants and trees on the site. Reasonable records as to the pesticides used only exist from the late 70's onward. Many of the pesticides used have since been banned or found to be carcinogenic or toxic to humans.

The issues concerning the Phase I are as follows:

1. Page 2: Identify, remove and properly dispose of all asbestos on-site;
2. Page 2: Identify, remove and properly dispose of all PCB light ballasts on-site;
3. Page 4: Were the Santa Clara Valley Water District ("SCVWD") and Regional Water Quality Control Board ("RWQCB") files researched? If not, why not?;
4. Page 13: Remove wooden Underground Storage Tank ("UST"); and,
5. Page 16: Identify, remove and properly dispose of all lead paint on-site.

The issues concerning the draft Phase II are as follows:

1. Very few soil samples were obtained and tested for pesticides and toxic metals at depths greater than 0.5 feet below the ground surface (bgs);
2. Fields 2, 4, 5, 6, 8, 9, 10, 11 and 12 were not sampled for pesticides at depths greater than 0.5 bgs. Only fields 1, 3 and 7 were sampled for pesticides at the depth of 3 feet bgs. Of the very few samples taken in Fields 1, 3 and 7, all samples showed pesticide contamination greater than background concentration except Field 1;
3. None of Fields 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 were sampled for metals except arsenic at depths greater than 0.5 feet bgs. The arsenic soil samples that were taken at 3 feet bgs showed arsenic contamination at concentrations greater than background concentrations of 5.5 mg/kg (ppm) (as documented in Table 9) in Fields 4 and 5;
4. Mr. Swart recommends scraping the top 3 feet of soil off the entire site and properly disposing of the soil. Fields 4 and 5 should be scraped to 4 feet BGS. After scraping, some confirmation samples will still be required. This takes into consideration the desire to use the site for unrestricted residential use;
5. Has the soil contamination been reported to the SCVWD? Are they involved in the clean-up decision?;
6. Has the soil contamination been reported to the RWQCB? Are they involved in the clean-up decision?;
7. Pages 2 - 3 and 6: There is a need to sample subsurface for pesticides at 3.0 feet below ground surface at the Pesticide Storage Shed, Building 208, and, at the equipment wash system next to the Shed (not labeled on Figures);
8. Page 3: There is a need to sample subsurface for used oil at portable metal trailer;
9. Page 4 (and Page 17 of Phase I): There is no description of what is stored in the two 500 gallon aboveground storage tanks ("AST's"). On figure 3, there is a need to sample subsurfaces for gasoline, diesel, BTEX and MtBE around the AST's;
10. Page 5 (and Page 2 of Phase I): The subsurface under the former gasoline USTs next to Building 201 that was removed was not sampled for MtBE. The subsurface under the former USTs should be sampled at a depth consistent with the former depth of the USTs for MtBE; and,
11. Page 20: It is probable that groundwater is probably not contaminated as it is located at 60 feet below the ground surface. However, samples should be taken for pesticides and toxic metals from the on-site groundwater well that is screened at approximately 140 or 200 feet bgs (this is inconsistently documented on Page 11 of Phase I and Page 3 of Phase II).

We have numerous additional concerns and issues that will be remedied by the scraping to 3 feet bgs. In the event that the scraping to that depth will not be completed, the City would have quite a few other requirements. The issues that remain after scraping the soil are:

1. What happened to the ASTs?;
2. The well needs to undergo a proper closure;
3. Testing inside of the floor and immediately adjacent to the Vehicle Maintenance Shop #201 should be done;

4. Testing inside of the floor and immediately adjacent to the Pesticide shed #208 should be done;
5. The large refrigerators need to be properly disposed of. This would include proper disposal of the freon or other coolant; and,
6. Testing should be done next to the used oil filter drum.

I appreciate you and your consultant's consideration of these issues. We look forward to having these issues resolved in light of the need to protect future residents of the property as well as the surrounding community. Please call me at (408) 615-2233, if you have any comments or questions.

Very truly yours,

GARY M. BAUM
Assistant City Attorney

GMB:cee
cc:
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DEPARTMENT OF TOXIC SUBSTANCES CONTROL

APPROVED FOR PUBLIC REVIEW

Approved for Public Review

Review conducted by: Karen Toth

Date Review: 4/21/2016

Note: The documents following or under this release Form were reviewed for confidential material, and are approved for release to the public. This File has not been reviewed by the Office of Legal Counsel or the Attorney General's Office Unless this sheet has been signed by a reviewing attorney.

Facility Name BAREC

90 North Winchester Blvd

Santa Clara, CA

Recirculated Draft Environmental Impact Report

Santa Clara Gardens Development Project

Lead Agency

City of Santa Clara
SCH #2003072093

July 21, 2006

EDAW

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ACRONYMS AND ABBREVIATIONS

µg/kg	micrograms per kilogram
bgs	below ground surface
BMP	Best Management Practices
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CFCP	California Farmland Conservancy Program
CHHSL	California Human Health Screening Level
CHP	California Highway Patrol
City	City of Santa Clara
CNDDB	California Natural Diversity Data Base
CO	Carbon monoxide
CRHR	California Register of Historic Resources
CSC	City of Santa Clara Water and Sewer Utility
CUHSD	Campbell Union High School District
CUSD	Campbell Union School District
cy	cubic yards
dB	decibel
dBA	average decibel levels
DEIR	Santa Clara Gardens Development Project Draft Environmental Impact Report
DGS	State of California, Department of General Services
DLRP	Division of Land Resource Protection
DNL	day/night average sound level
DTSC	Department of Toxic Substances Control
EAH	Ecumenical Association for Housing
EIR	Environmental Impact Report
ENVIRON	Environ Corporation
EPA	U.S. Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
Fed-OSHA	Federal Occupational Safety and Health Administration
HVAC	heating and air conditioning
ITE	Institute of Transportation Engineers
L_{dn}	day/night average sound level
LOS	level of service
LRT	light rail transit service

ACRONYMS AND ABBREVIATIONS (CONTINUED)

mg/kg	milligrams per kilogram
mgd	million gallons per day
MMRP	Mitigation Monitoring and Reporting Program
MSDS	Material Safety Data Sheets
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
OES	State Office of Emergency Services
PCB	polychlorinated biphenyls
pCi/L	picocuries per liter
PG&E	Pacific Gas and Electric
Phase I	Phase I Environmental Assessment Report
Phase II	Phase II Site Characterization Report
PRG	Preliminary Remediation Goal
RAW	Removal Action Workplan
RCRA	Resource Conservation and Recovery Act
RDEIR	Recirculated Draft Environmental Impact Report
RWQCB	Regional Water Quality Control Board
SCFD	City of Santa Clara Fire Department
SCVWD	Santa Clara Valley Water District
SVOC	semi-volatile organic compounds
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TPH	total petroleum hydrocarbons
U.S.	United States
UC	University of California
UST	underground storage tank
VCA	Voluntary Cleanup Agreement
VCP	Voluntary Cleanup Program
VOC	volatile organic compounds
WPCP	Water Pollution Control Plant

1 INTRODUCTION

1.1 BACKGROUND AND PURPOSE OF THE RECIRCULATED DEIR

In March 2006, the City of Santa Clara (City) published the Santa Clara Gardens Development Project Draft Environmental Impact Report (DEIR), which assessed the potential environmental impacts of implementing the proposed Santa Clara Gardens development project. The proposed project would develop market-rate and affordable housing on a 17-acre site with 110 single-family swelling units, 165 senior housing units, and 1 acre of park land.

The DEIR was circulated for public review and comment for a period of 45 days ending on April 24, 2006. At the end of the review period, comments were received on the Environmental Impact Report (EIR). The City reviewed those comments to identify specific environmental concerns and determine whether any additional environmental analysis would be required to respond to issues raised in the comments. Some comments were received that addressed the methodology used in assessing the project's cumulative transportation impacts. Specifically, commenters requested that the cumulative transportation analysis consider the cumulative impacts of the project in combination with cumulative development associated with the proposed expansion of Westfield's Valley Fair Mall (adjacent to the project site).

At the time the traffic analysis was prepared for the DEIR (i.e., October 2005), the City of San Jose had not received any applications for the proposed expansion of Valley Fair Mall and based on conversations with City staff in developing the cumulative traffic scenario, there was no knowledge of the proposed expansion. As a result, the cumulative transportation analysis prepared for the DEIR considered all past, present, and reasonably foreseeable future projects as of September 2005 and consistent with the requirements of Section 15130(b)(1)(A) of the State California Environmental Quality Act (CEQA) Guidelines. The project applicants for the proposed Valley Fair Mall expansion project submitted their application to the City of San Jose in March 2006.

While the City believes the DEIR complied with CEQA and the State CEQA Guidelines regarding analysis of cumulative impacts, it nonetheless decided to re-evaluate the cumulative traffic scenario to include the proposed Valley Fair Mall expansion because of this project's close proximity to the Santa Clara Gardens site. The revised traffic analysis was prepared in July 2006. The results of the analysis revealed that the project in combination with other cumulative development would cause one new roadway intersection (i.e., Stevens Creek Boulevard and Winchester Boulevard) to exceed identified significance thresholds. Further, mitigation is not available or feasible to reduce this impact to a less-than-significant level. As a result, the project would contribute to a new significant and unavoidable cumulative impact. Please see Section 4.10, "Transportation and Circulation," of this Recirculated DEIR (RDEIR) for additional details.

Public comments were also submitted expressing concern about the potential for hazardous materials effects from prior research on the site where pesticides were used. Recognizing the independent need to recirculate the DEIR for the revised traffic analysis, the City has also

decided to clarify the approach and methodology used to assess the potential for hazardous materials risk, even though the DEIR's impact conclusion (i.e., less than significant effect) does not change and no additional, substantive information about site conditions needs to be added to the EIR. All information clarified in this RDEIR was presented in the appendices of the DEIR (Appendix D and E) and the removal action workplan circulated by the Department of Toxic Substances Control (DTSC) during the public review period of the DEIR. Please see Section 4.6, "Hazardous and Hazardous Materials" for the clarifying explanation about methods used to assess the potential for hazardous materials on the project.

Section 15088.5 of the State CEQA Guidelines requires lead agencies to recirculated and EIR when significant new information is added to the EIR after public notice is given of the availability of the DEIR for review. Significant new information requiring recirculation includes "a new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented." As described above, the project would result in a new significant and unavoidable cumulative transportation impact that was not previously described in the DEIR circulated to the public in March 2006. Therefore, the City has decided to prepare this RDEIR for public review.

As required by State CEQA Guideline Section 15088, the City will evaluate comments received on the RDEIR. The comments and responses will be included in the Final EIR as a separate chapter, along with revised EIR text necessitated by the response to comments.

1.2 Background and Content in the Recirculated DEIR

Consistent with the requirements of Section 15088.5(c) of the State CEQA Guidelines, this RDEIR only contains those sections of the DEIR where significant new information is provided (e.g., Transportation and Circulation). For the Hazardous and Hazardous Materials Chapter, the City has clarified or amplified the existing methodology used in preparation of the EIR. While this information would not be considered significant new information based on Section 15088.5[b)] of the State CEQA Guidelines, the City is providing this information to the public for their review as part of this RDEIR.

The RDEIR consists of the following chapters and sections. Where substantive changes to the text have occurred, these paragraphs have been highlighted throughout the RDEIR. All chapter and section numbering is consistent with the chapter and section numbering outline released in the DEIR (March 2006).

Chapter 1, Introduction: Chapter 1 describes the purpose and organization of the RDEIR. The introduction chapter contains new content form that presented in the DEIR.

Chapter 3, Project Description: Chapter 3 describes the project location, background, proposed actions by the applicants, lead agency, trustee and responsible agency actions, project characteristics, and project objectives. This chapter also describes project construction and regulatory requirements. No changes to the project description have occurred since publication of the DEIR (March 2006).

Section 4.6, Hazards and Hazardous Materials: This section describes the past operations that have occurred at the project site in relation to hazards and hazardous materials, studies that have been conducted to characterize conditions on the project site, and the project's impacts as a result of hazards and hazardous materials at the project site. Mitigation is recommended for significant impacts where necessary and feasible.

Section 4.10, Transportation and Circulation: This section describes the project's transportation and circulation impacts associated with implementation of the project. Mitigation is recommended for significant impacts where necessary and feasible.

Chapter 5, Cumulative Impacts: This chapter contains a discussion of cumulative transportation and circulation impacts that would result from the proposed project in combination with reasonably foreseeable projects in the project area.

Chapter 6, Other CEQA-Mandated Sections: Project and cumulative impacts related to transportation and circulation that cannot be mitigated to a less-than-significant level are documented in this chapter.

Chapter 7, Alternatives to the Proposed Project: This chapter describes alternatives to the project, at a level consistent with CEQA requirements; State CEQA Guidelines Section 15126.6(d). This chapter presents a brief description of alternatives that could mitigate the project's significant environmental impacts while meeting most project objectives. This chapter also describes the alternatives previously considered and rejected. The discussion of alternatives is the same as that circulated in the DEIR except for the discussion of transportation and circulation impacts.

Chapter 8, References: This chapter sets forth a comprehensive listing of all sources of information used in the preparation of the RDEIR.

Chapter 9, Report Preparation: This chapter identifies the RDEIR authors and consultants who provided analysis in support of the RDEIR's conclusions.

Appendices: Appendices contain various technical reports and publications summarized or otherwise used in preparation of the RDEIR.

1.3 RELATION TO DEIR

Consistent with the requirements of CEQA Guidelines Section 15087, this RDEIR is being made available on July 21, 2006, for public review for a period of 45 days. The public review period ends on September 4, 2006. During this period, the general public, agencies, and organizations may submit written comments on the RDEIR to the lead agency. Pursuant to procedures set forth in CEQA Guidelines Section 15088.5(f)(2), reviewers are requested to limit their comments to the materials contained in this RDEIR.

As required under CEQA Guidelines Sections 15087 and 15088.5(d), the City has sent a Notice of Availability, to all organizations and members of the public who were on the City's

distribution list for the DEIR, and to any additional persons or organizations that have requested copies of the DEIR.

Copies of this RDEIR are available for review at:

City of Santa Clara Planning Department
1500 Warburton Avenue
Santa Clara, CA 95050

Santa Clara Central Park Library
2635 Homestead Road
Santa Clara, CA 95051

All written comments on this RDEIR should be addressed to:

City of Santa Clara Planning Division
1500 Warburton Avenue
Santa Clara, CA 95050

After close of the comment period, the City will consider all comments received on this RDEIR, prepare responses as required, and prepare the Final EIR. The Final EIR, which will consist of the DEIR, RDEIR, comments on the DEIR, comments on the RDEIR, responses to comments, and any text changes, will be considered by the City Council for certification if it is determined that the Final EIR has been completed in compliance with CEQA. Following certification of the EIR, the City Council will consider the proposed project for approval.

3 PROJECT DESCRIPTION

3.1 BACKGROUND

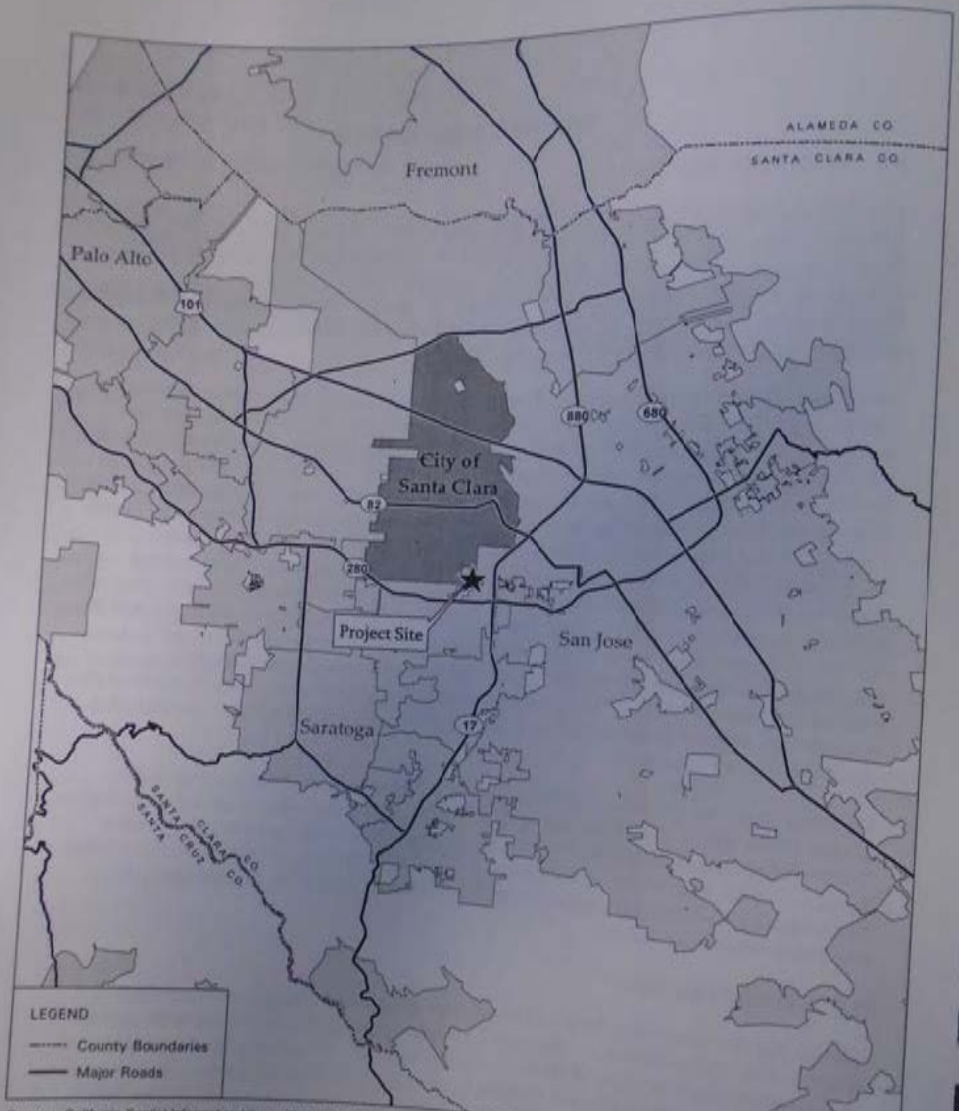
[illegible]

The lease of Lakeside Independent Living Centers (LILC) is the center of the project site. The lease would be renegotiated and Innovatek would assume all the housing and financial responsibilities to bring the apartments [illegible]. The lease would then sell to parcel of the property to the City Redevelopment Agency with 11 acres to the market rate developer. The City Redevelopment Agency would then transfer the property to an affordable housing developer and senior housing developer. The senior housing consortium (Santa Clara Redevelopment Foundation) and affordable housing developer (Habitat Development) would develop a senior housing facility on approximately 6 acres and the affordable housing developer (Innovatek Homes) would develop single family housing and park uses on approximately 11 acres. The lease property adjacent outside southeast side of the original property to the City Redevelopment Agency and transfer ownership and responsibilities of a new driving [illegible] under the direction of the Department of State Rehabilitation Control (DRC). The City's adjacent outside residential approximately of Lakeside Park Foundation, Wasatch Development Housing Foundation, Santa Barbara Bay, Innovatek Bay and Development Agreement.

For this project, the City of Santa Clara is the Lead Agency and the LILC is a Responsible Agency under CEQA. The proposed project requires a set of entitlements, actions (Section 3.4). Proposed between by the City involving the City, LILC, and other Responsible Agencies. Other Responsible Agencies include the City of San Jose, SFPUC, Santa Clara Valley Water District, the Regional Water Quality Control Board (RWQCB), and the City of Santa Clara Redevelopment Agency.

3.2 PROJECT LOCATION

The project site is located at 180 Martin Murphy Boulevard in the City of Santa Clara (Exhibit 3-1). The project site is bordered by residences along Pruneridge Avenue to the south, Kennedy Homes to the south, and Henry Avenue to the east. Martin Murphy Boulevard is located approximately east of the project site (Exhibit 3-1). Valley Fair Mall and Santana Row are across Pruneridge Boulevard from the project site. The City of San Jose incorporated City limits is located along the northern property line of the project site and east of Martin Murphy Boulevard.



Sources: California Spatial Information Library 2003, EDAW 2003

Regional Location

Santa Clara Gardens Development Project Recirculated Draft EIR

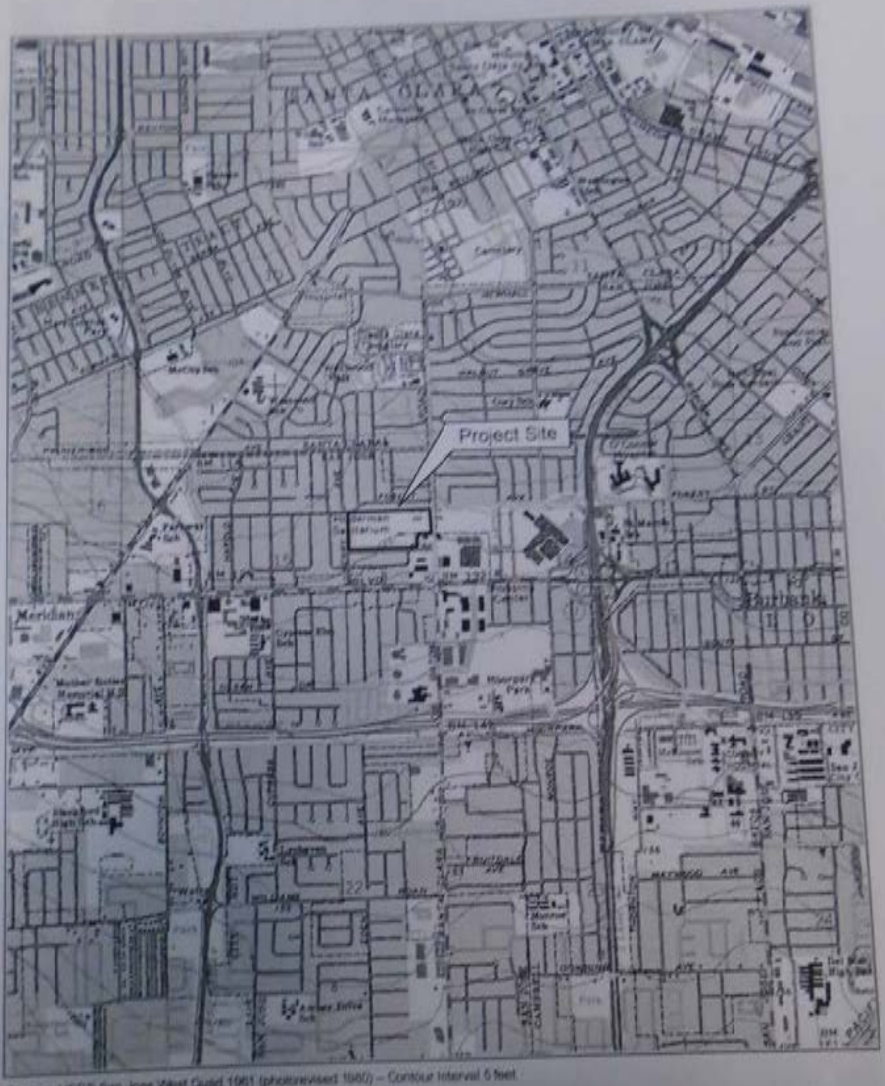
X 37008.01 11/03

0 2 4
Miles

NORTH

EXHIBIT 3-1

EDAW



Source: USGS San Jose West Quad 1961 (photorevised 1980) – Contour Interval 5 feet

EXHIBIT 3-2

Site Location

Santa Clara Gardens Development Project Recirculated Draft EIR

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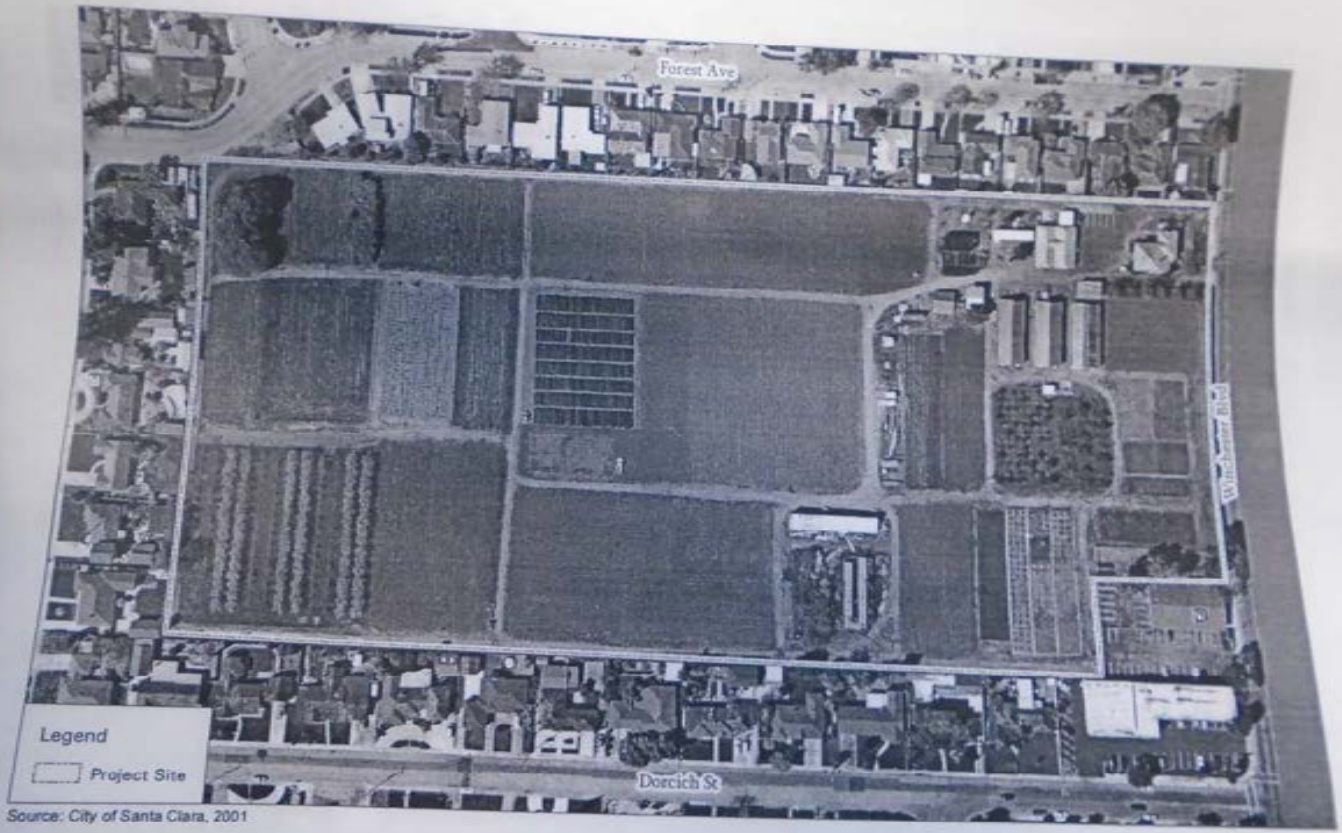

Source: City of Santa Clara, 2001

Project Vicinity

Santa Clara Gardens Development Project Recirculated Draft EIR

EXHIBIT 3-3

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3.3 Project Background

The University of California (UC) has used the property as an agricultural research station since the 1920s. Formerly known as the Bay Area Research Extension Center, the primary research efforts at the site focused on improving crop production methods, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Part of the research involved demonstrating the efficacy of a variety of research and development pesticides. Over the past decade, use of the site has decreased as technology in agricultural operations has improved. As a result, UC decommissioned the agricultural research station in January 2003 and turned the property over to DGS.

The California State Legislature subsequently designated the property as surplus land pursuant to the provisions of Section 11011.1 of the State of California Government Code and in accordance with Senate Bill 2099 (Vasconcellos, Statutes of 2002). As a result, DGS made the property available for sale, lease, or exchange to other state agencies, local governmental agencies, and to private developers. Approximately 6 acres of the property would be sold to a senior housing developer for development of senior housing; the remaining acreage (approximately 11 acres) would be sold to a market-rate housing developer. The development actions proposed for this project would be subject to the City's development ordinances and standards.

The Santa Clara City Council undertook a planning process that included nine public meetings aimed at developing planning objectives from various city commissions, the community, and the council over a 3-month period. The City Council has made it their goal to employ a proactive planning process and has conducted two public outreach meetings to solicit public comments on the proposed use of the property. Many of the adjacent residents indicated that they preferred the site to remain as open space. Based on public comments received and the City's vision for development at the site, a set of conceptual development alternatives was brought before the City Planning Commission and City Council for their review and consideration. After reviewing these conceptual alternatives, the City Council communicated their vision for development of the site and directed staff to formalize their vision in a set of development objectives. These objectives provide the framework for land uses at the property and recommend that the site be developed with senior housing, single-family residential, and park uses.

DGS distributed these objectives to prospective private developers in its Request for Proposals for qualified buyers. A buyer for the property was selected and the city selected a non-profit developer for the 6-acre portion of the site. Because development of the site with senior housing, single-family residential, and park uses is a reasonably foreseeable action of the sale of the property, this DEIR evaluates the environmental effects associated with both the surplus of state-owned property and sale and development of the site for these purposes.

3.4 Proposed Actions by the City

Project "approval" requires the lead agency (and Responsible Agencies) to approve the project and project components, issue various permits, or otherwise affirm compliance with agency requirements. A lead agency, as defined in State CEQA Guidelines Section 15367, is "the public agency that has the principal responsibility for carrying out or approving a project." The City of Santa Clara (City) is the Lead Agency for the proposed project.

The City, as the lead agency, is responsible for certification of the EIR on the proposed project as being adequate according to CEQA. At the time of project approval, the City's actions would include approval of the General Plan Amendment, Planned Development Zoning Amendment, Initial Parcel Map, Tentative Map and Development Agreement; adoption of findings of fact pursuant to State CEQA Guidelines Section 21081 for any significant effects of the proposed project; approval of a Statement of Overriding Considerations pursuant to State CEQA Guidelines Section 15093; and adoption of the Mitigation Monitoring and Reporting Program (MMRP).

The following CEQA review procedures and approval actions must occur before development of the proposed project can begin on the site. The procedures and actions are listed in sequential order:

- Circulation of the Notice of Preparation (NOP) for this DEIR to public agencies and the public.
- Hold a public scoping meeting to allow public and agency comment on the scope and content of the EIR
- Circulation of the DEIR and RDEIR by the City for public review and comment, as described in Chapter 1, Introduction.
- The City responds (in written form) to environmental issues raised in public comments.
- The Final EIR, consisting of all comments received on the DEIR and RDEIR, together with responses to significant environmental points raised in those comments and necessary changes to the EIR text will be made available, as described in Chapter 1. This step will include submittal of the proposed responses to comments on the DEIR and RDEIR to commenting public agencies at least 10 days before the City takes action in the project.
- The Planning Commission will hold a public hearing at which it will consider the adequacy of the Final EIR and make its recommendation to the City Council. The Planning Commission will also make its recommendations on the specific entitlement actions that should occur.
- The City Council will hold a public hearing at which it will decide whether to certify the Final EIR.

- After certification of the Final EIR, the City Council will take action on the proposed project. At this time, the City Council will consider the following actions:
  - Approve a General Plan Amendment changing the project site designation from moderate-density housing to single-family attached residential.
  - Adopt Rezoning of the project site from Agricultural to Planned Development for the single-family development and R3-18D (Low Density Multiple Dwelling) for the senior housing project.
  - Approve a Density Bonus for the project based on the affordable, senior housing to allow increased density and reduced parking for the senior project.
  - Approve one or more tentative and/or parcel maps, and Development Agreement for the project.
- Later, detailed site improvement and development plans (e.g., construction plans, final grading and paving plans) would be submitted to the City for design review. Approval of the plans would occur after design review. The proposed development plans would be reviewed in light of the information in this DEIR.

3.5 TRUSTEE AND RESPONSIBLE AGENCY ACTIONS

In addition to the Lead Agency, a number of other agencies will have discretionary approval related to the proposed project. A responsible agency includes "all public agencies other than the lead agency that have discretionary approval power over the project" (State CEQA Guidelines Section 15381). A trustee agency is a "state agency having jurisdiction by law over resources affected by the project which are held in trust for the people of the State of California" (State CEQA Guidelines Section 15386). Responsible and Trustee agencies for the proposed project and their related areas of review/discretionary authority are described below.

- State of California, Department of General Services: DGS will consider approval of the sale of the property to the City Redevelopment Agency and a market-rate developer. DGS is also responsible for preparing and the market-rate developer would implement the Removal Action Workplan (RAW) for site cleanup in accordance with its Voluntary Clean-up Agreement (VCA) with the DTSC.
- Regional Water Quality Control Board (RWQCB): The RWQCB has the authority to require a National Pollutant Discharge Elimination System (NPDES) storm water discharge permit for construction activities disturbing more that one acre of land.
- Department of Toxic Substances Control: DTSC will consider approval of the RAW and its implementation pursuant to a VCA with DGS.

- City of Santa Clara Redevelopment Agency: The City Redevelopment Agency will consider approval of a disposition and development agreement for the site and approval of acquisition of the 6-acre site.

- City of San Jose: The City of San Jose Public Works Department has authority to issue an encroachment permit that would allow improvements to Forest Avenue for emergency vehicle and pedestrian access, and any other traffic improvements required for the project in the City of San Jose limits.

- California Department of Fish and Game (CDFG): The project may affect wildlife under the jurisdiction of CDFG. As a State Trustee Agency for these resources, CDFG would comment on the EIR to seek actions that avoid or mitigate impacts to resources under its jurisdiction.

- State of California Department of Conservation, Division of Land Resource Protection (DLRP): DLRP oversees the California Farmland Conservancy Program (CFCP), which provides grant funding for projects that use and support agricultural conservation easements for protection of agricultural lands.

- State of California Department of Transportation (CALTRANS): The project would result in construction within Caltrans right-of-way. This would require an encroachment permit from Caltrans.

3.6 Project Characteristics

The project would include site cleanup; removal of existing structures; and development of senior housing, single-family residential, and park uses on the project site (Exhibit 3-4 and 3-5). A summary of the project characteristics are presented below.

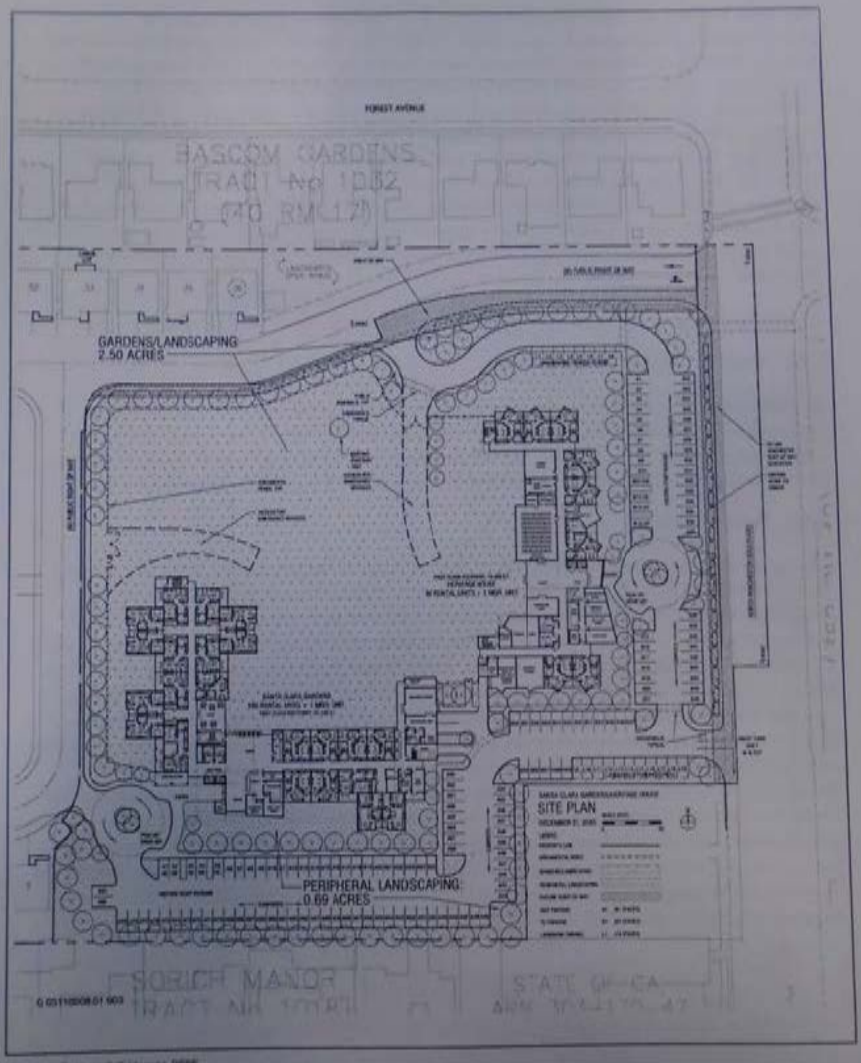
3.6.1 Voluntary Cleanup Agreement (VCA) and Removal Action Workplan (RAW)

As a result of pesticide use related to past agricultural practices on the site, some soils have concentrations of arsenic and dieldrin above U.S. Environmental Protection Agency (EPA) Preliminary Remediation Goals. DGS has entered into a VCA with DTSC. Pursuant to this agreement, DGS prepared a draft RAW that identifies necessary remediation activities. A copy of the draft RAW was released to the public during the DEIR (March 9, 2006–April 24, 2006) public comment period and is available for review at:

City of Santa Clara Planning Department
1500 Warburton Avenue
Santa Clara, California 95050
(408) 615-2450

Santa Clara Central Park Library
2635 Homestead Road
Santa Clara, California 95051
(408) 615-2970;

DTSC File Room
700 Heinz Avenue, Suite 200
Berkeley, California, 94710
(510) 540-3800.



Source: Summerhill Homes 2006

Conceptual Site Plan and Landscape Plan for Senior Housing Development

EXHIBIT 3-4

Santa Clara Gardens Development Project Recirculated Draft EIR

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The RAW outlines remediation activities such as excavation and removal of onsite contaminated soils and possible importation of clean fill material and was prepared consistent with the National Contingency Plan and California Health and Safety Code Section 25356.1. The primary objective of the RAW is to ensure the protection of human health and the environment consistent with the proposed land use. DTSC must approve the RAW before its implementation after comments received during DTSC's 30-day comment period are addressed. DGS would be responsible for and the market-rate housing developer would implement the cleanup plan for onsite soils in accordance with the VCA and the RAW approved by DTSC. Before development of the property, the RAW would be implemented and an Implementation Report would be approved by DTSC. Development of project facilities could not proceed unless onsite soils were remediated to levels suitable for unrestricted residential use.

This DEIR evaluates the actions proposed in the RAW as elements of the project.

3.6.2 Removal of Existing Structures

All of the existing structures on the project site would be demolished and removed in preparation for development. If demolition activities involve any features included in the RAW, they would be incorporated into the site cleanup workplan preparation and approval. Demolition materials would be transported to an authorized landfill or a recycling facility.

3.6.3 Senior Housing

The senior housing developer proposes to develop approximately 6 acres of the site with two senior housing facilities (Exhibit 3-4). One facility would be located along Winchester Boulevard and the other facility is proposed to be located near the southern property line. Both facilities would provide up to 165 senior housing units in buildings up to four stories tall (50 to 60 feet in height). The housing units, typically one bedroom, would range in size from 540 to 620 square feet. A two-bedroom manager's housing unit would be provided in each housing facility (total of 2 units). Approximately 165 parking spaces would be provided in a designated parking area; 44 spaces (including 9 handicap spaces) would be provided for visitor and staff parking and the remaining parking spaces would be for residents of the facility. Handicap spaces would be provided in accordance with state standards. This parking would be for the sole use of senior housing residents, guests of residents, and facility employees. The facility would also provide landscaped/garden areas in the 6-acre site. Primary access to the senior housing facility would be provided from a new road intersecting Winchester Boulevard north of the housing facilities. A secondary right-turn only entrance/exit along Winchester Boulevard would be provided south of the housing facilities.

al Site Plan for Single Family Housing Development

3-5

EDAW

3.6.4 Single-Family Housing

Approximately 10 acres of the project site would be developed with single-family residences (Exhibit 3-5). A maximum of 110 dwelling units on lots ranging in size from 2,000 to 5,000 square feet would be constructed. Individual units would range in size from 1,500 square feet to 3,000 square feet, and would include 3 to 4 bedrooms and a 2-car garage.

In general, the larger lots and homes would be located around the perimeter of the project site, with the smaller lots and homes concentrated in the center of the site. Perimeter residences would have rear-yard setbacks ranging from 15 to 20 feet. Perimeter units would be no more than two stories.

Residential units in the center of the site would be two stories tall above enclosed 2-car parking garages and would be compatible with surrounding residential development. Garages and driveways would accommodate resident parking. Access to this neighborhood would be provided by a new public road intersecting Winchester Boulevard. This road would also provide access to the senior housing facilities.

3.6.5 Park Uses

The project would include the dedication of a one-acre park to the City. The developer would construct the 1-acre park in conformance with City Department of Parks and Recreation requirements. The park would be located in the single-family housing area, in the northwest corner of the project site. The project includes the development of a neighborhood City park typical of other parks in the City, including water fountain, play areas, walking paths, restrooms, and barbeque areas.

3.6.6 Onsite Detention

Onsite stormwater detention would be included as part of the proposed project. Onsite detention alternatives could include, but are not limited to, the construction of a detention basin that discharges storm water to the storm water system, a retention pond that percolates to groundwater, or drainage swales that percolate to groundwater. Performance criteria for onsite detention requirements are discussed in this DEIR. The specific design of detention facilities are not included in this DEIR, but will be included in development plans submitted to the City after approval of the project.

3.7 Project Objectives

The City of Santa Clara, as the lead agency, has developed the following primary objectives to satisfy the requirements of the State CEQA Guidelines Section 15124 (b):

- provide senior affordable housing on the project site near Winchester Boulevard,
- provide onsite drainage consistent with City standards,
- provide additional housing units to assist in meeting the City's housing objectives, and
- create residential development compatible with surrounding uses.

In addition, through an extensive stakeholder process, the City Council identified several specific objectives for development of the project site, which build upon the primary CEQA objectives identified above. These secondary objectives include:

- providing clustered senior affordable housing along Winchester Boulevard in 2- to 4-story structures with open space on the site,
- dedicating at least one acre of the site for public park uses,
- providing vehicular access only from Winchester Boulevard,
- limiting access from Forest Avenue to emergency vehicles and pedestrians only, and
- investigating feasible improvements to the Forest Avenue/Winchester Boulevard intersection to resolve existing traffic congestion.

DGS has developed the following project objectives for the sale of the property:

- maximize the financial benefits to the State of California from the sale of the surplus property,
- provide affordable housing on the project site,
- remediate all onsite soils to levels that meet current DTSC regulatory requirements for unrestricted residential development, and
- use the site for private rather than state uses unless economically infeasible.

3.8 Project Construction

Construction activities related to the proposed project would include remediation (i.e., removal) of onsite contamination, construction of utilities (e.g., underground power utilities and storm drainage facilities), site preparation, mixing and redistribution of onsite soils, paving of parking and circulation areas, development of onsite detention facilities, development of a neighborhood City park, and construction of the proposed senior housing facilities and single-family residences. The remediation activity required by the RAW may include the excavation, scraping, moving, stockpiling and grading of discrete locations up to four feet in depth that at are elevated levels of contamination. Details on the RAW including the different remedial options are described in the recirculated Section 4.6, "Hazards and Hazardous Materials." Following the No Further Action Letter from DTSC, the remaining site preparation work will commence, which would include excavation and mixing of soil up to 4 feet in depth throughout the site. The site would then be graded and compacted to predetermined levels to prepare for housing development and other improvements. All construction activities would occur in the 17-acre project site except for roadway improvements on Forest Avenue and Winchester Boulevard. Equipment used for construction would vary day-to-day depending on the activity, but would include typical equipment such as scrapers/earthmovers, wheeled dozers, water trucks, fork-lifts, wheeled loaders, and motor graders. No unusual construction

requirements are anticipated (e.g., pile drivers). Construction activities would occur during normal business hours of operation.

During the construction period, a maximum of 150 construction workers would commute to the site at any one time. Construcion workers would enter the project site only from Winchester Boulevard and would park all vehicles onsite or in an arranged offsite location suitable for such purposes (e.g. parking garage). No vehicles would be permitted to park on surrounding neighborhood streets. Construction would commence following the initial site preparation phase (approximately 2 months). Construction of the project is expected to begin in 2006 and would last approximately 24 to 36 months.

4.6 HAZARDS AND HAZARDOUS MATERIALS

Since the 1920's, the project site has been used by students, researchers, and professors to research different agricultural practices and their effects on crop growth. Each student researcher, or professor was given a small plot of land, often on the scale of ¼ acre, to conduct their research. Some of the researchers tested the effectiveness of pesticides on crop development. Oftentimes research involved modifying irrigation practices to observe effects on crop development or adding different soil amendments such as cornmeal or other fertilizers to observe effects on crop growth. DGS conducted extensive testing at the site to determine if project site soils had been adversely affected by prior pesticide use and, if affected, would those soils pose a potential health risk to future occupants. The soil was tested for 89 different chemicals at approximately 60 different locations across the BAREC property. A chemical is considered a chemical of concern if its concentration is above a Federal or State screening concentration [i.e., a screening level such as a U.S. Environmental Protection Agency (EPA) Region 9 Preliminary Remediation Goal (PRG), or California Human Health Screening Level (CHHSL)]. There were only two chemicals identified as chemicals of concern in soil at the BAREC property: arsenic and dieldrin.

Because of these conditions, DGS entered into a Voluntary Cleanup Agreement (VCA) with the California Department of Toxic Substances Control (DTSC). The VCA provides the basis for DTSC to exercise regulatory control and oversight for the investigation and ultimate cleanup of contamination on the project site.

Pursuant to the VCA, DGS prepared a draft Removal Action Workplan (RAW) that identifies necessary remediation activities for soils with arsenic concentrations above background levels and dieldrin above regulatory screening levels. The objectives of the RAW are to (1) minimize exposure of future site residents to surface soils containing arsenic above 20 micrograms per kilogram (µg/kg), (2) ensure the mean concentration of dieldrin in an individual field is below 30 mg/kg, and (3) leave the site in a physical condition that is compatible with unrestricted residential use. This use would allow future residents to pursue a normal range of activities, including gardening, without restriction.

Excavated soils would be hauled to an appropriately permitted disposal facility. Approximately 5,000 to 6,000 cubic yards (cy) of soil would be excavated and removed from the site, and under worst case conditions a similar volume would be brought to the site as fill. It is possible that some of the soil excavated from the proposed senior housing parking garages could be used as fill. Confirmation soil samples would be taken at the site to ensure that arsenic and dieldrin levels do not exceed cleanup goals. DTSC must approve the draft RAW and has circulated (March 2006) it for review by public agencies and public. DGS would be responsible for the cleanup of onsite soils in accordance with the VCA and RAW approved by DTSC and would be required to prepare an Implementation Report. Remediation activities outlined in the RAW are elements of the project and have been evaluated throughout this RDEIR.

The goal of the following discussion is to identify as clearly as possible the extent and type of chemicals of concern found on the site and the actions proposed to reduce impacts to the general public, construction workers, and future users of the site to a less-than-significant level. The following analysis is based on a Phase I Environmental Assessment Report (Phase I) and Phase II Site Characterization Report (Phase II) prepared by Environ International Corporation (2002 and 2003, respectively). A copy of these reports have been recirculated as part of this RDEIR as Appendix D and E. No changes to these reports have been made since publication of the DEIR (March 2006). Copies of Phase I and II reports, including sampling results, are also on file with the City of Santa Clara Planning Department and are available for review during regular business hours.

4.6.1 Environmental Setting

The project site is not located within ¼ mile of an existing or proposed school, nor is the site within an airport land use plan or within 2 miles of a public or private airport. Further, the project site is surrounded by urban development and therefore would not be subject to wildland fires. As such, these issues are not evaluated further in this RDEIR. The effects of the project on emergency access routes and plans is discussed in Section 4.10, Transportation and Circulation.

The U.S. EPA's Envirofacts website database was searched to identify potential hazardous contamination sites on or near the project site. The project is not listed in the Envirofacts database as a known hazardous material contamination site. No sites within ¼ mile of the project site have the potential to create a hazardous condition on the project site or in groundwater beneath the site. Further, investigations of groundwater beneath the site revealed that no contamination was present (please refer to Section 4.8, Hydrology and Water Quality of the DEIR) (U.S. EPA 2003). Therefore, this issue is not addressed further in this RDEIR.

The site has been used as an agricultural research station since the 1920s. A variety of different buildings have been present on the site, some of which have historically been used for purposes such as storage or use of small quantities of pesticides. These buildings and storage areas included greenhouses, storage sheds and the administrative building basement. The small quantities of hazardous materials previously stored on the site have been removed.

Soil/Groundwater

Based on the results of the Phase I and Phase II reports (Appendix D and E), prior operations at the project site resulted in elevated concentrations of arsenic and dieldrin in shallow soil in portions of the project site. Prior agricultural research related to pesticide/herbicide use involved application of pesticides/herbicides at the ground surface. When used for agricultural purposes, pesticides/herbicides are not very mobile (i.e., the pesticides are designed to "stick" to the plant to prevent pests from attacking the plant). Herbicides are also designed to "stick" to the ground surface to inhibit weed growth. Soil samples were taken from approximately 60 locations across the project site and were screened for 89 different potentially toxic

pesticides/herbicides that were known to be in use at the time of operation of the BAREC facility. These soil samples were collected from the ground surface to 6 inches below ground surface (bgs). Locations of soil samples are shown in Exhibit 4-5. Where chemical concentrations were identified above Federal and State screening levels in surface samples, additional soil samples (approximately 76) were collected at adjacent locations and at additional depths from 2 feet bgs or greater. The purpose of the additional sampling was to fully characterize the extent of potential contamination at the project site. Samples were collected and analyzed at increasing depths until chemical levels were below or near Federal and State screening levels. The maximum depth of sampling was 10 feet bgs. Because pesticides/herbicides were not detected above Federal and State screening levels or RAW cleanup levels at depths greater than 4 feet bgs, it was determined that groundwater was not adversely affected by prior pesticide operations at the project site because groundwater occurs at depths 20 to 30 bgs.

The Phase I report also indicated that in 1973, a lined evaporation bed was installed to dispose of diluted pesticide wastes (Exhibit 4-4). The evaporation bed was located adjacent to and west of the equipment wash station, next to the pesticide shed. Use of the evaporation bed was discontinued in 1985. The liner and approximately 2-inch depth of underlying soils beneath the bed were removed and excavated in 1987 by the University of California (UC) under oversight by the California State Regional Water Quality Control Board (RWQCB). Subsequent to soil removal from the site, additional soil samples were collected to confirm that remaining soils did not contain elevated pesticide concentrations. The UC and the RWQCB concluded that operation of the evaporation bed had not been significantly affected the environment. Based on this information, the Phase I report concluded that operation of the evaporation bed had a low potential to contaminate soils at the site (Environ 2002). Additional testing in the former evaporation bed was performed as part of the Phase II investigation prepared for this project. This testing confirmed that the evaporation bed had not contaminated or did not adversely affect soil at the project site.

The Phase II Site Characterization was conducted under the assumption that future land use would be unrestricted (i.e., that residential development would be a possibility). Receptors that could come in contact with onsite contaminated soils include construction workers and residents. The report assumed that receptors could be exposed to onsite contaminated soils through ingestion of soil, dermal contact with soil, and inhalation of airborne particles released from soil. Inhalation would be the main concern during cleanup. Evaluation of the project's potential to release hazardous materials into the atmosphere are addressed in Section 4.3, Air Quality, of the DEIR.

The Phase II Site Characterization indicated that arsenic was found in surface soils (0.5 to 3 feet bgs) at concentrations above PRGs. Arsenic concentrations in shallow surface soils (i.e., 0 to 0.5 feet bgs) in the eastern portion of Field 4 were above background concentrations normally found in soils in northern Santa Clara County. In addition, elevated concentrations of arsenic were found in a small area (less than 5 square feet) adjacent to the dirt road in front

of the former screen house and within the dirt road between Fields 11 and 12. Areas with arsenic concentrations above background were recommended for remediation.

The Phase II Site Characterization also indicated that the organochlorine pesticide dieldrin, was found in surface soils at concentrations above PRGs at 0.5 feet bgs in three locations of the approximate 60 locations tested. The elevated concentrations of dieldrin found in Fields 1, 3, and 7 were isolated and limited in their horizontal and vertical extent. Dieldrin was not detected above the PRGs in any samples collected at 3 feet bgs. The two locations (one in Field 3 and one in Field 7) had concentrations of dieldrin at 0.5 feet bgs, which were barely above the PRG and as a result, no remediation of dieldrin was recommended. Remediation of the area of dieldrin in Field 1 was recommended.

Septic Tank and Leach Field

Before 1977, wastewater generated in the administrative building was discharged into a sewage leach pit. The leach pit was located west of the administrative building and was abandoned in 1977 in accordance with Uniform Plumbing Code Standards for cesspools (Environ 2002). Soil samples beneath the leach pit were collected and analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), organochlorine pesticides, total petroleum hydrocarbons (TPH), and metals/inorganics. VOCs, SVOCs, organochlorine pesticides and TPH were not detected in soil samples, but metals were found at low concentrations (Environ 2003). The metal concentrations were well within background levels for soils in the area. Therefore, there is no evidence that operation of the sewer leach pit adversely affected onsite soils or groundwater (Environ 2003).

Asbestos

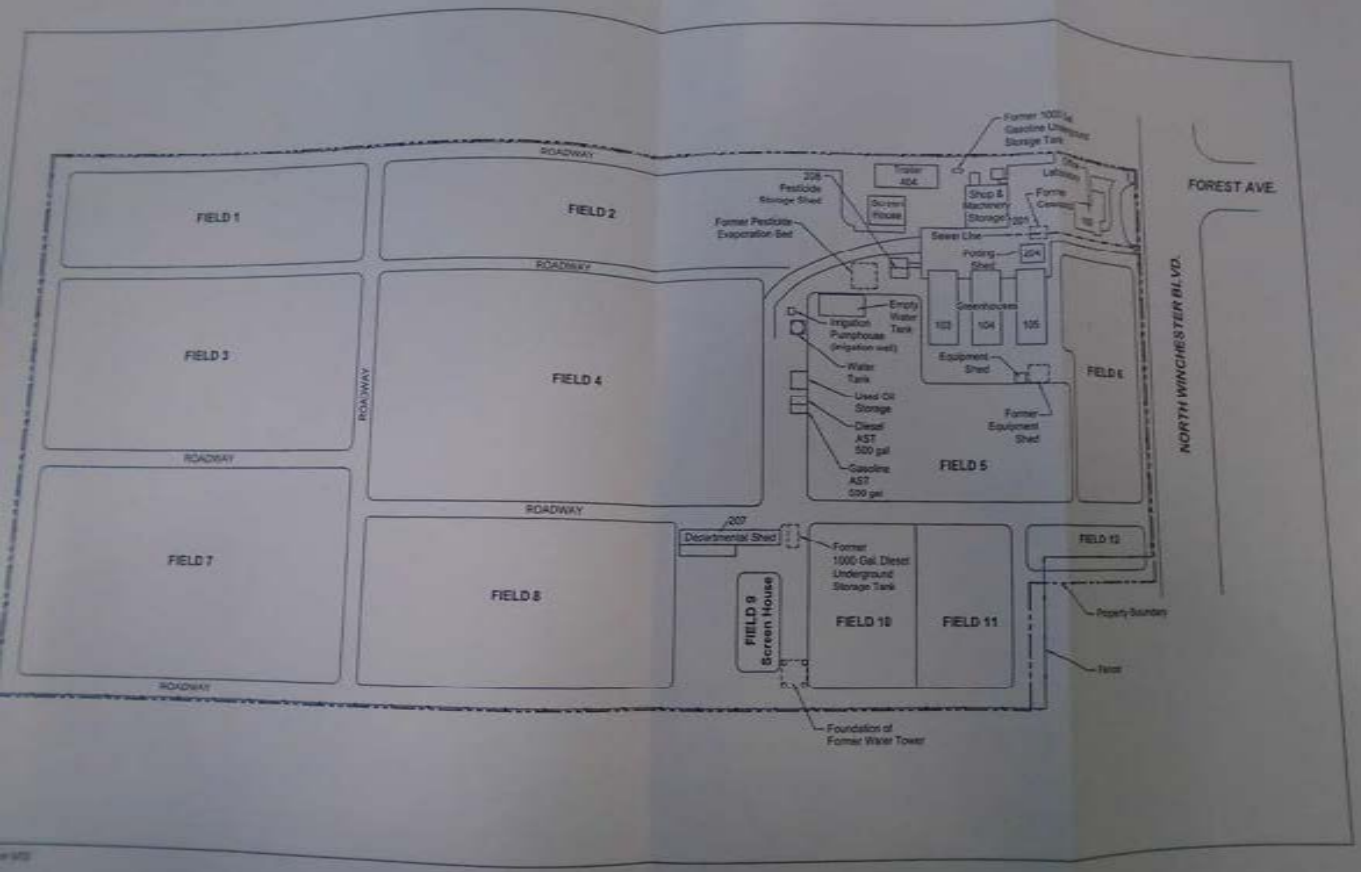
A limited asbestos survey of project facilities was conducted in 1989. The survey found that asbestos was present in several buildings primarily in heating ducts, insulation material in bench top ovens, planter boxes, vent pipes, and hard-board bench tops (Environ 2002).

Lead Paint

The use of lead as an additive to paint was discontinued in 1978. Although a lead-based paint survey was not performed at the site because site facilities were constructed before 1978, it is likely that lead-based paint is present in many of the buildings. The Phase I report recommended that the laboratory/office building be surveyed for lead-based paint if this building were to remain and could be occupied (Environ 2002).

PCBs

Several pole-mounted transformers and fluorescent light ballasts were observed on the project site. These objects may contain polychlorinated biphenyls (PCBs). The transformers were served by Pacific Gas and Electric (PG&E) which would be responsible for their removal before project construction. Fluorescent light ballasts would be removed during demolition of existing buildings.



the Former Research Facility

4-4

EDAW

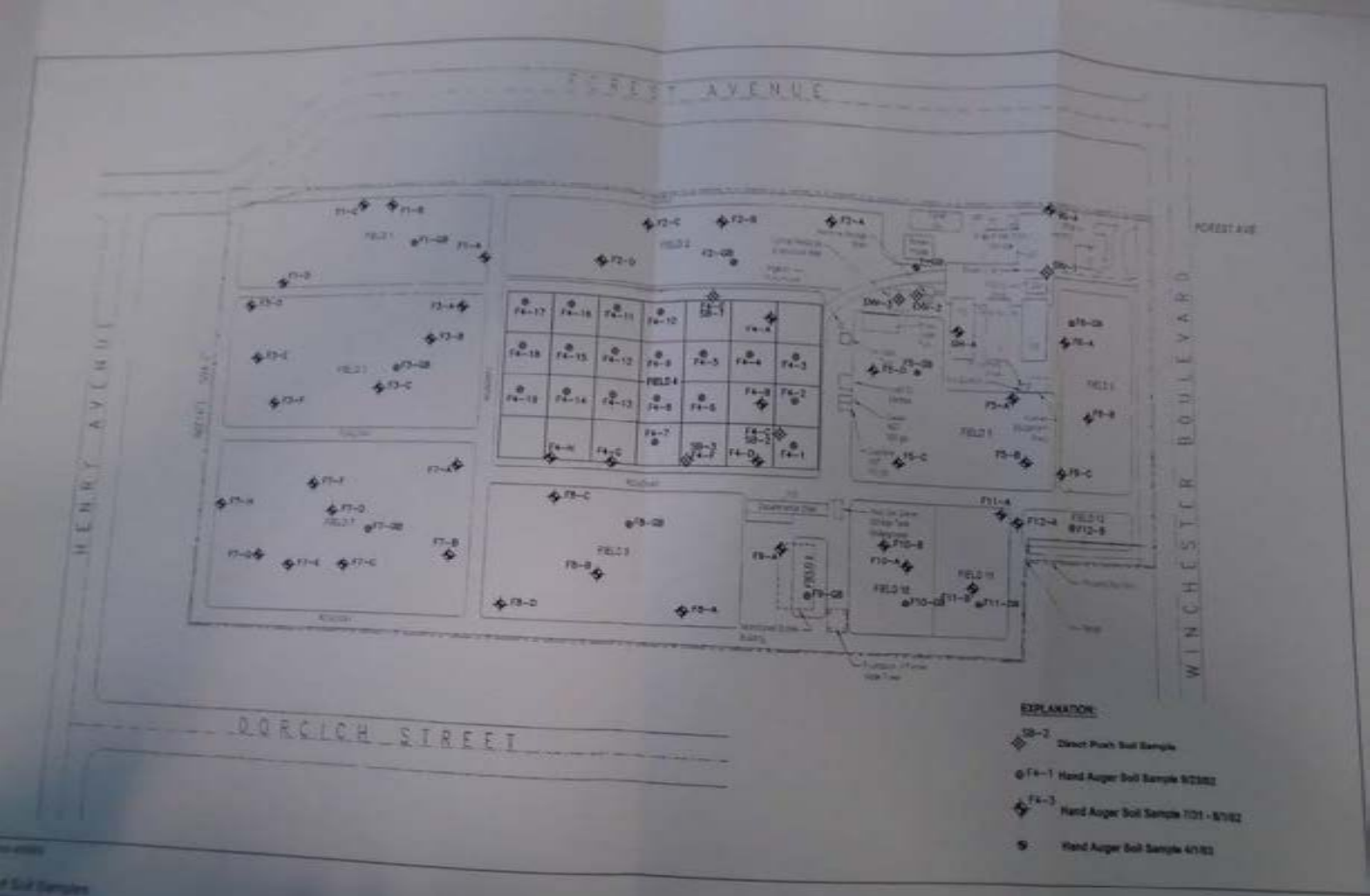

FOREST AVENUE
HENRY AVENUE
WINCHESTER BOULEVARD
DORCICH STREET
EXPLANATION:
Direct Push Soil Sample
Hand Auger Soil Sample 8/23/02
Hand Auger Soil Sample 7/31 - 8/1/02
Hand Auger Soil Sample 4/1/03

EXHIBIT 4-5

Petroleum Hydrocarbons

A 1,000-gallon gasoline underground storage tank (UST), located adjacent to the maintenance shop, and a 1,000-gallon diesel UST located adjacent to a storage building were removed from the project site in 1993. Before removal, the USTs were inspected and found to be in good condition with no evidence of leakage (i.e., stained soil, holes). Soil samples beneath the USTs were collected and analyzed for the presence of petroleum hydrocarbons. The analysis indicated that no petroleum hydrocarbons were present in soils beneath the USTs (Environ 2003).

Pesticide Residues

The soil sample analysis indicate that 7 organochlorine pesticides, diquat, and 13 inorganic compounds were detected in portions of the project site. A comparison of the pesticide results with U.S. EPA Region 9 PRGs indicated that only dieldrin and arsenic exceeded applicable PRGs. DGS has entered into a VCA with DTSC and prepared a draft RAW that identifies necessary remediation activity for soils contaminated with arsenic and dieldrin.

Radon is an odorless, invisible gas that naturally occurs in soils. Natural radon levels vary and are closely related to geologic formations. It cannot be detected without specialized equipment. Radon may enter buildings through basement sumps or other openings

The U.S. EPA has established the recommended safe radon level at 4 picocuries per liter (pCi/L). The EPA has prepared a map dividing the country into three Radon Zones; Zone 1 for those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA action limit of 4 pCi/L; Zone 2 for those areas where the average predicted radon level is between 2 and 4 pCi/L; and Zone 3 for those areas where the average predicted radon level is below 2 pCi/L.

According to the EPA Map of Radon Zones, the subject property, including all of Santa Clara County and most of California, is in Zone 2, where the predicted radon levels are between 2.0 and 4.0 pCi/L.

Regulatory Setting

Hazardous materials handling is subject to numerous laws and regulations at all levels of government. Table 4-11 lists the authority of federal and state regulatory agencies that oversee hazardous materials handling and management. A summary of the most pertinent regulations is provided below.

Hazardous Materials Management

Federal and state laws require detailed planning to ensure that hazardous materials are properly handled, used, stored and disposed of, and if such materials are accidentally released,

Table 4-11
Summary of Hazardous Materials Regulatory Authority

Regulatory Agency	Jurisdiction	Authority
Federal		
Environmental Protection Agency (EPA)	Federal	Federal Water Pollution Control Act Clean Air Act Resource Conservation & Recovery Act Federal Emergency Planning and Community Right to Know Act (EPCRA) Comprehensive Environmental Response, Compensation & Liability Act Superfund Amendments & Reauthorization Act Federal Insecticide, Fungicide & Rodenticide Act
Department of Transportation (DOT)	Federal	Hazardous Materials Transportation Act
Occupation Safety and Health Administration (OSHA)	Federal	Occupational Safety & Health Act
State		
Department of Toxic Substances Control (DTSC)	Statewide	Health and Safety Code CCR Titles 17, 19, & 22
Department of Industrial Relations (Cal-OSHA)	Statewide	California Occupational Safety & Health Act
Department of Transportation (Caltrans)	Statewide	Hazardous materials transportation
Public Utilities Commission (PUC)	Statewide	Natural gas pipelines; General Order No. 112-D
Office of Emergency Services (OES)	Statewide	Hazardous Materials Release/Response Plans Acutely Hazardous Materials Law
State Fire Marshall	Statewide	Uniform Fire Code, CCR Title 19 Hazardous liquid pipelines
Health & Welfare Agency	Statewide	Safe Drinking Water & Toxic Enforcement Act
Integrated Waste Management Board	Statewide	AB 939
State Water Resources Control Board (SWRCB)	Statewide	Porter-Cologne Water Quality Control Act CCR Title 23
San Francisco Bay Regional Water Quality Control Board (RWQCB)	Regional	Evaporation Ponds Underground Storage Tanks NPDES permit requirements
Bay Area Air Quality Management District (BAAQMD)	Regional	California Clean Air Act, BAAQMD Regulations
Local		
Santa Clara County Environmental Health Department	County	Hazardous materials disclosure Underground storage tanks Contaminated sites cleanup CCR Title 22 CEQA implementation
County Agricultural Commissioner	County	Agricultural chemicals regulation
Santa Clara Sewer Utility	Local	Wastewater treatment
City of Santa Clara Fire Department	Local	Hazardous materials disclosure Underground storage tanks Emergency response

Sources: EDAW 2004

to prevent or to mitigate injury to health or the environment. The Federal Emergency Planning and Community Right to Know Act (EPCRA) of 1986 impose hazardous materials planning requirements to help protect local communities in the event of accidental release.

The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires preparation of Hazardous Materials Business Plans and disclosure of hazardous materials inventories. A Business Plan includes an inventory of hazardous materials handled, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee training in safety and emergency response procedures (California Health and Safety Code, Division 20, Chapter 6.95, Article 1). Statewide, DTSC has primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the state. Local agencies, including the Santa Clara County Department of Environmental Health and the City of Santa Clara Fire Department administer laws and regulations.

The Santa Clara Fire Department Hazardous Materials Division acts as a technical consultant advising on site construction, process installation and the safe use and handling of hazardous materials. They also train fire department members on safety hazard mitigation, incident management, hazardous assessment and legal obligations (City of Santa Clara 2003).

Storage of hazardous materials in underground tanks is regulated by the State Water Resources Control Board (SWRCB), which has overall responsibility for implementing all regulations set forth in the California Code of Regulations (CCR). State standards cover installation and monitoring of new tanks, monitoring of existing tanks, and corrective actions for removed tanks. Implementation of state underground storage tank regulations, including permitting for all hazardous materials storage, is enforced locally by the City of Santa Clara Fire Department.

Worker Safety

The California Occupational Safety and Health Administration (Cal-OSHA) and the Federal Occupational Safety and Health Administration (Fed-OSHA) are the agencies responsible for assuring worker safety in the handling and use of chemicals in the Occupational Safety and Health Act of 1970, Fed-OSHA has adopted numerous regulations pertaining to worker safety, contained in the Code of Federal Regulations Title 29 (29 CFR). These regulations set standards for safe workplaces and work practices, including standards relating to hazardous material handling. Cal-OSHA assumes primary responsibility for developing and enforcing state workplace regulations. Because California has a federally approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in 29 CFR. Cal-OSHA standards are generally more stringent than federal regulations.

Cal-OSHA regulations about the use of hazardous materials in the workplace, as detailed in CCR Title 8 include requirements for safety training, availability of safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal-OSHA enforces hazard communication

program regulations that contain training and information requirements, including procedures for identifying and labeling hazardous substances, communicating hazard information related to hazardous substances and their handling, and preparation of health and safety plans to protect workers and employees at hazardous waste sites. The hazard communication program requires that Material Safety Data Sheets (MSDSs) be available to employees and that employee information and training programs be documented.

Emergency Response to Hazardous Materials Incidents

California has developed an Emergency Response Plan to coordinate emergency services provided by federal, state, and local government and private agencies. Response to hazardous materials incidents is one part of this plan. The plan is managed by the State Office of Emergency Services (OES), which coordinates the responses of other agencies including the Cal-EPA, the California Highway Patrol (CHP), California Department of Fish and Game, San Francisco Bay Regional Water Quality Control Board, Santa Clara County Environmental Health Department, Santa Clara County Fire Department, and the City of Santa Clara Fire Department.

Hazardous Materials Transport

The U.S. Department of Transportation regulates hazardous materials transportation between states. State agencies with primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies are the CHP and the California Department of Transportation (Caltrans). Together, these agencies determine container types used and license hazardous waste haulers for hazardous waste transportation on public roads.

In addition, DTSC requires a Transportation Plan as part of the RAW. This plan requires the transportation route to be identified, a contingency plan in case of emergency, traffic control and flagging for entrance and exit of trucks and vehicles to the site, and covering of trucks to prevent release of contaminated soil into the air during transport.

Hazardous Waste Management

The California DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the Federal Resource Conservation and Recovery Act (RCRA) and the State Hazardous Waste Control Law. Both laws impose comprehensive regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

4.6.2 Environmental Impacts

Thresholds of Significance

The project would result in significant hazardous materials impacts if it would:

- 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 or through the routine transport, use, or disposal of hazardous materials, or
- result in safety hazards to people residing or working in the project area.

The discussion below addresses the physical impacts resulting from the presence of hazardous materials on the project site and proposed use of hazardous materials during construction. Those impacts on the environment that might reasonably be anticipated to occur as a result of cleaning up the existing contamination (generally called remediation) are addressed in other parts of this DEIR. For example, the impacts of traffic generated by cleanup operations are discussed under the transportation section; impacts from dust generated by excavating and removing contaminated soil are discussed in the air quality section.

METHODOLOGY

To address the potential presence of hazardous materials or substances at the project site, DGS completed a Phase 1 site assessment beginning in July 2002. Following completion of the Phase 1, DGS conducted a Phase II site investigation and entered into the California Environmental Protection Agency's DTSC Voluntary Cleanup Program (VCP) in May 2003. The DTSC's VCP is designed to protect human health and cleanup the environment during land redevelopment under the DTSC's oversight. For the project site, the VCP requires completion of an initial site assessment (the Phase 1), site investigation (the Phase II), preparation of a cleanup plan (the RAW), and ultimately, implementation of the cleanup plan.

Environ Corporation (ENVIRON) in Emeryville, California completed the initial site assessment (the Phase 1), site investigation (Phase II), and preparation of a draft cleanup plan (the Draft RAW) for the project site on behalf of the DGS. ENVIRON is an international technical and scientific consultancy providing state-of-the-art scientific, engineering and risk management services to clients who must address a wide variety of public health and environmental risks. ENVIRON personnel have performed this type of testing at numerous sites for both private and public entities in the Bay Area since 1988. The site investigation performed under the Phase II for the project site was conducted in accordance with the DTSC guidance for sampling agricultural soils for school sites. Sampling and testing for potential school sites requires a greater number of samples and tests than sampling and testing for other land uses because of the additional sensitivity of children to potentially toxic substances. The sampling and testing at the project site followed the DTSC school sites protocol and was approved by the DTSC as documented in the DTSC's approval letter dated November 10, 2003 (Appendix N). Subsequent to approval of the Phase 2 report, ENVIRON prepared a cleanup plan (i.e., the draft RAW) that outlines the methods by which contaminated soil would be excavated from the project site and the specific measures that would be implemented during remediation activities to prevent the disturbance or release of contaminated soils to offsite properties and to the atmosphere. The DTSC approved the Draft RAW on May 11, 2004. This RDEIR evaluates the remediation program outlined in the Draft RAW as an element of the project; therefore, potential hazards and hazardous material impacts associated

with implementation of the project consider the effects of remediation activities as well as the tier resulting impact after implementation of the RAW.

IMPACT ANALYSIS

Impact 4.6-1

Create a Safety Hazard to Construction Workers and Adjacent Residences. *Remediation activities would be completed in accordance with the provisions of the approved RAW under the oversight of the DTSC. The development contractors would be required to comply with state health and safety regulations during demolition and construction activities. Because remediation activities would occur in accordance with measures outlined in the RAW and demolition activities would comply with OSHA requirements, impacts related to creation of significant safety hazards for construction workers or adjacent residents would be* ***less than significant.***

The Phase I and II reports identified presence of elevated concentrations of arsenic and dieldrin in onsite soils as a result of past pesticide use. Further, asbestos, lead-based paint and PCBs are also likely to be present in onsite buildings and power poles. DGS entered into a VCA with DTSC and prepared a draft RAW that identifies the necessary remediation activities to excavate and remove onsite contaminated soils. The approved RAW would require the preparation of a site Health and Safety Plan. This plan would outline measures that would be employed to protect construction workers and residents from exposure to hazardous materials during remediation activities. These measures could include, but would not be limited to installing security barriers, posting notices, limiting access to the site; air monitoring, watering, and installing wind fences. Further, development contractors would be required to comply with state health and safety standards for all demolition work. This would include compliance with OSHA and Cal-OSHA requirements regarding exposure to asbestos and lead-based paint. Because remediation activities would occur in accordance with measures outlined in the RAW and demolition activities would comply with OSHA requirements, the potential to expose construction workers and residents to safety hazards as a result of remediation and demolition activities would be less than significant.

Impact 4.6-2

Create a Significant Hazard to the Public or the Environment. *The project would not involve the routine storage, use, or transportation of any hazardous materials. The use, storage and handling of hazardous substances during remediation activities and removal of existing buildings (e.g., contaminated soils, asbestos, lead-based paint) and during construction (e.g., fuels, asphalt) would occur in accordance with the approved RAW and applicable local, state, and federal laws. Therefore, impacts related to creation of significant hazards to the public through transport, use, disposal and risk of upset would be* ***less than significant.***

As a result of pesticide use related to past agricultural practices on the site, arsenic and dieldrin concentrations in onsite soils are a potential health risk of concern. As described above, DGS has prepared a draft RAW that identifies necessary remediation activities for unrestricted residential use, including excavation and removal of onsite contaminated soils, and importation of clean fill material. The project includes measures that ensure the safe

transport, use, and disposal of contaminated soil and building debris removed from the site. The development contractors would be required to comply with the approved RAW and applicable local, state, and federal laws. The RAW outlines measures for specific handling and reporting procedures for hazardous materials, and disposal of hazardous materials removed from the site at an appropriate offsite disposal facility. Analysis and mitigation measures addressing the potential release of hazardous materials into the atmosphere are addressed in Section 4.3, Air Quality, of this DEIR.

The project would include the construction of up to 110 single-family residences, 165 senior housing units, a 1 acre municipal park, and infrastructure typically associated with residential development. None of these uses would involve the use, storage or transport of hazardous materials on a routine basis. During construction, minor use, storage and handling of hazardous substances, including fuel and asphalt, would be expected. This would be done in accordance with applicable local, state and federal regulations, including Cal-OSHA requirements, and manufacturers' instructions. Because all activities would be in compliance with applicable laws pertaining to the handling, transport, and storage of hazardous materials, this impact would be less than significant.

4.6.3 Mitigation Measures

No mitigation measures are necessary for the following less-than-significant impacts.

4.6-1: Create a Safety Hazard for Construction Workers and Adjacent Residences.

4.6-2: Create a Significant Hazard to the Public or Environment.

4.6.4 Level of Significance after Mitigation

The project's hazards and hazardous materials impacts (Impact 4.6-1 and 4.6-2) would be less than significant. No mitigation is required.

4.10 Transportation and Circulation

The following section describes the transportation and circulation impacts associated with implementation of the project. The results of this analysis are based on a revised Transportation Impact Analysis (July 2006) and Neighborhood Impact Analysis (September 2005) prepared by Fehr & Peers, which are included in Appendix J and K respectively. This analysis has been prepared consistent with the requirements of Santa Clara Valley Transportation Authority (VTA). The project site is not located near an airport and would not change existing air traffic patterns. Therefore, this issue is not addressed further in this DEIR.

4.10.1 Environmental Setting

Site Description

The project site is located in the City of Santa Clara, on North Winchester Boulevard (Exhibit 4-9). Regional access to the project site is provided by Interstate 280 (I-280), Interstate 880 (I-880), State Route 17 (SR 17), and San Tomas Expressway. Primary local access to the site is provided by Winchester Boulevard, Stevens Creek Boulevard, Pruneridge Avenue, and Forest Avenue. Detailed descriptions of the key roadway facilities are presented below.

Freeways and Highways

I-280 is generally a north/south, eight-lane freeway that connects San Francisco with I-680 in San Jose. In the project area, it is oriented in an east/west direction. Between I-880 and the San Mateo County line, this freeway has three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction. Between I-880 and I-680, there are no HOV lanes and the cross section varies from eight to ten lanes. Access to and from the project site is provided via the I-280 ramps at Winchester Boulevard and Moorpark Avenue and via Stevens Creek Boulevard and the I-880/I-280 interchange.

I-880 is a north-south, four- to eight-lane freeway. This freeway extends from San Jose to Oakland. In the project area, I-880 has six lanes (three in each direction). Access to the site is provided by Bascom Avenue and Stevens Creek Boulevard interchanges.

SR 17 is a four-to eight lane highway that runs in a north-south direction from San Jose to Santa Cruz. State Route 17, between I-280 and Hamilton Avenue, is a freeway with four mixed-flow lanes in each direction.

San Tomas Expressway is a six-lane, limited access roadway that extends south from US 101 through Santa Clara and San Jose to SR 17. In the study area, one lane in the peak commute direction (northbound in the morning and southbound in the evening) is restricted to high occupancy vehicles (including carpools, buses, and motorcycles) during commute periods. Major intersections on San Tomas Expressway in the study area are signalized.

Source: Fehr & Peers 06/04

EXHIBIT 4-9

Site Location

Santa Clara Gardens Development Project Recirculated Draft EIR

G:37005.01 06/04

EDAW

Collectors and Local Roadways

Winchester Boulevard is a four- to six-lane north/south arterial street that extends from Santa Clara south to Los Gatos. Along the project frontage, Winchester Boulevard has four travel lanes (two in each direction) plus a center lane for left turns. Direct access to the project site is provided via one driveway on Winchester Boulevard at the northeastern corner of the project site.

Stevens Creek Boulevard is a four- to six-lane east/west arterial located south of the project site. It extends eastward from Cupertino, where its name changes to West San Carlos Street at the intersection with Bascom Avenue, and continues east through downtown San Jose.

Forest Avenue is a two- and four-lane east/west roadway located just north of the project site. Forest Avenue is a four-lane east/west roadway east of the project site. Forest Avenue extends east from Parkway Park on San Tomas Expressway to Bascom Avenue in San Jose, where its name changes to Naglee Avenue. Forest Avenue provides rear access to Valley Fair Mall.

Pruneridge Avenue is a four-lane, east/west street located north of the project site. It extends east from Wolfe Road in Cupertino, where its name changes to Hedding Street at the intersection with Winchester Boulevard, and continues east to in San Jose.

Parking

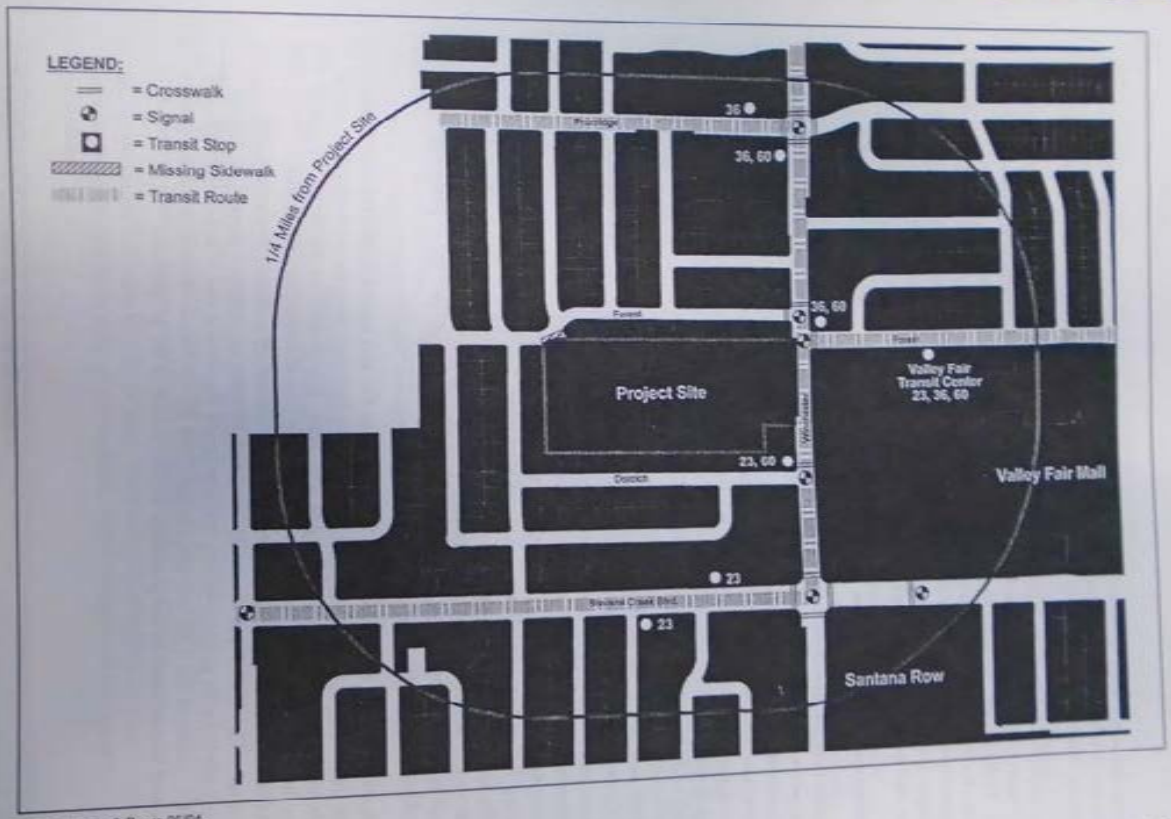
Approximately 20 onsite parking spaces are located near the entrance to the project site adjacent to the office/laboratory building. On-street parking is not available along North Winchester Boulevard. The parking spaces would be demolished before project construction.

Public Transportation

The VTA operates fixed route, commuter, and paratransit bus service and light rail transit service (LRT) in Santa Clara County. The existing transit facilities in the vicinity of the site are show in Exhibit 4-10. Three fixed routes operate within ¼ mile of the project site: routes 23, 36, and 60. Detailed service descriptions of these routes are provided below. The closest bus stop is located on Winchester Boulevard near the Office of Veteran's Affairs building. The Valley Fair Transit Center is located across Winchester Boulevard behind the Nordstrom's department store at Valley Fair Mall.

Route 23 provides daily bus service between downtown San Jose and the San Antonio Shopping Center in Mountain View. Near the project site, Route 23 operates on Stevens Creek Boulevard, Winchester Boulevard, and Forest Avenue. Service is provided between 5 a.m. and 1 a.m. on weekdays on 15- to 30-minute headways. Weekend service is provided between 6 a.m. and 1 a.m. on 15- to 30-minute headways. Route 23 connects with light rail service in downtown San Jose.

Route 36 provides fixed-route service on Pruneridge Avenue, Winchester Boulevard, and Forest Avenue. The route operates between Valleo Fashion Park in Cupertino and east San



Source: Fehr & Peers 06/04

EXHIBIT 4-10

EDAW

Transit and Pedestrian Facilities

Santa Clara Gardens Development Project Recirculated Draft EIR

G:\31008.01 06/04

Jose. Service is provided between 6 a.m. and 7 p.m. on weekdays on 30- to 60-minute headways. Weekend service is provided between 8 a.m. and 7:30 a.m. on 30- to 60-minute headways. Route 36 connects with light rail service at the San Jose Civic Center.

Route 60 provides daily fixed-route service between the Old Ironsides Light-duty Rail Transit (LRT) Station and Great America Amusement Park in Santa Clara and the Civic Center in Los Gatos. In the project vicinity, this route operates on Winchester Boulevard and Forest Avenue. Service is provided between 5:30 a.m. and 11 p.m. on weekdays on 15- to 30-minute headways. Weekend service is provided between 6:30 a.m. and 9:30 p.m. on 30- to 60-minute headways. Route 60 connects with Caltrain and light rail service at the Santa Clara Caltrain Station and the Old Ironsides LRT Station.

Pedestrian and Bicycle Facilities

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. In the project vicinity, sidewalks are located on the both sides of Winchester Boulevard, Forest Avenue, and neighborhood streets (Exhibit 4-10). Sidewalks in the project vicinity are in good condition and meet American with Disabilities Act (ADA) standards. Some sidewalks lead to the northwest corner of the project site; there is a short segment adjacent to the site where a sidewalk is currently not provided. Crosswalks, wheelchair ramps, and pedestrian signals are provided at the signalized intersections near the site.

Pedestrian access from the northern portion of the project site to the Valley Fair Transit Center (across Winchester Boulevard) is circuitous because of the location of existing pedestrian facilities (northern leg of Forest Avenue/Winchester Boulevard intersection). Pedestrians have to walk to the northern Forest Avenue/Winchester Boulevard intersection (the Forest Avenue/Winchester Boulevard intersection is offset by about 80 feet) and cross north using Forest Avenue and then east across Winchester Boulevard using the marked crosswalks and the pedestrian signals, south along the east side of Winchester Boulevard and then east on Forest Avenue to the Transit Center. A second crosswalk is located at Dorcich Street and Winchester Boulevard immediately south of the project site. These paths are illustrated on Exhibit 4-10.

Bicycle facilities include bike paths (Class I), lanes (Class II), and routes (Class III). Bike paths are paved trails that are separated from roadways. Bike lanes are lanes on roadways designated for bicycle use by striping, pavement legends, and signs. Bike routes are roadways designated with signs for bicycle use only. In the project area, the City of Santa Clara maintains undesignated bicycle facilities along Stevens Creek Boulevard, Winchester Boulevard, and Forest Avenue. These bikeways are not marked with striping or signs and assume the shared use of the roadways with motor vehicles. Stevens Creek Boulevard and Winchester Boulevard are rated for cyclists to use with 'extreme caution' and Forest Avenue is rated as cyclists 'alert'. No designated bicycle facilities are provided within ¼ mile of the project site.

County of Santa Clara Roads and Airports Department

The County of Santa Clara Roads and Airports Department is responsible for the operation and maintenance of the expressways and roads in its jurisdiction.

City of Santa Clara General Plan

The goal of the Transportation Element of the City's General Plan, is to provide a safe and convenient integrated transportation system that is efficient and cost effective. The Transportation Element provides policies and programs for roadways, highways, transportation demand management, bus and rail systems, sidewalks, bikeways, and trails.

Impacts at non-Congestion Management Program (CMP) (see description below) signalized intersections occur when the addition of project traffic causes:

- intersection operations to change from an acceptable level (Level of Service [LOS] D or better) under background conditions to an unacceptable level (LOS E or F), or
- exacerbation of unacceptable operations (LOS E or F) by increasing the critical delay by four or more seconds and increasing the volume-to-capacity (V/C) ratio by 0.01 or more, or
- an increase in the V/C ratio by 0.01 or more when the change in critical delay is negative at an intersection projected to operate unacceptably under background and project conditions.

City of San Jose 2020 General Plan

The San Jose 2020 General Plan (as amended through April 15, 2003) is the City's official policy regarding its future character and quality of development. City of San Jose transportation goals aim to provide a safe, efficient, and environmentally sensitive transportation system. Transportation policies have been developed for thoroughfares, impacts on local neighborhoods, transit and pedestrian facilities, transportation systems management/transportation demand management, truck facilities, parking, rail, aviation, and bicycling (San Jose 2003).

Significant traffic impacts at signalized intersections located in the City of San Jose (CMP and local intersections) would occur when the addition of project traffic causes:

- operations to deteriorate from LOS D or better under background conditions to LOS E or F under project conditions, or
- exacerbation of unacceptable operations (LOS E or F) by increasing the critical delay by 4 seconds or more and increasing the V/C ratio by 0.01 or more, or
- an increase in the V/C ratio by 0.01 or more when the change in critical delay is negative at an intersection projected to operate unacceptably under background and project conditions.

Santa Clara County Congestion Management Program

Proposition 111 and 116, passed by voters in June 1990, triggered state legislation requiring urban counties to designate a countywide public agency, known as a Congestion Management Agency (CMA), to create, manage, and update a countywide CMP. The purpose of a CMP is: (1) to establish level of service standards for designated freeways, state highways, and local arterials; and (2) to maintain or achieve those standards by increasing capacity of designated roads and/or managing travel demand. Incentives for incorporated cities and towns to take part in the CMP include the receipt of additional Proposition 111 gas tax revenue, Proposition 116 bond funds, and State Transportation system management funds, as well as eligibility for state and federal funds under the Regional Transportation Improvement Program (RTIP), as managed by the Metropolitan Transportation Committee (MTC). If a local government fails to comply with the CMP, the CMA may direct the state to withhold funds and declare local projects ineligible for state or federal funding.

For CMP intersections, VTA determined that significant traffic impacts would occur when the addition of project traffic causes:

- operations to deteriorate from LOS E or better under Background Conditions to LOS F under Project Conditions, or
- exacerbation of unacceptable operations (LOS F) by increasing the critical delay by four seconds or more and increasing the V/C ratio by 0.01 or more, or
- an increase in the V/C ratio by 0.01 or more when the change in critical delay is negative at an intersection projected to operate unacceptably under Background and Project Conditions.

City of Santa Clara's Zoning Ordinance

The City of Santa Clara's Zoning Ordinance requires a parking supply of two garage spaces for every single-family dwelling. The City's Zoning Ordinance does not have a separate parking requirement for senior housing development. In approving prior senior housing projects, the City has always granted a parking reduction. Further, density bonus standards for affordable housing development in the City's zoning ordinances would allow exceptions to parking requirements.

Levels of Service

Roadway Levels of Service

In consultation with staff of the City of Santa Clara, County of Santa Clara, and City of San Jose, 16 intersections in the City of Santa Clara and San Jose were selected for evaluation in the Transportation Impact Analysis (Fehr & Peers 2006). The peak-hour turning movement volumes and the existing lane configurations were used to calculate the AM and PM peak-hour levels of service for the 16 study intersections. The results of the existing LOS analysis are presented in Table 4-14 below. Corresponding calculation sheets are contained in Appendix J

(see Appendix C of that report). The reported delays and levels of service represent operations for the intersections as a whole. Specific vehicle movements may operate at better or worse conditions.

City of Santa Clara Intersections

The results of the LOS calculations indicate that the two key intersections located in Santa Clara are operating at acceptable levels (LOS D or better) according to City of Santa Clara standards.

City of San Jose Intersections

The results of the LOS calculations indicate that all 12 of the intersections located in the City of San Jose currently operate at an acceptable level.

Santa Clara County Intersections

The results of the LOS calculations indicate that all county intersections are operating within acceptable standards with the exception of the intersection of Stevens Creek Boulevard and San Tomas Expressway which is currently operating at LOS E+ during the AM peak hours and LOS F during the PM peak hours.

CMP Intersections

Five of the key intersections are designated CMP intersections. One of the five intersections is currently operating at an unacceptable level based on the CMP standard of LOS E or better (i.e., intersection of Stevens Creek Boulevard and San Tomas Expressway is operating at LOS E+ during AM peak and LOS F during PM peak hours).

Existing Freeway Segment Levels of Service

Table 4-15 shows the existing freeway segment levels of service based on the segment densities reported in the VTA's 2002 CMP Monitoring and Conformance Report. Based on the monitored freeway segment densities, the following freeway segments are operating at an unacceptable level of service (LOS F) under Existing Conditions:

- Northbound I-280 – Winchester Boulevard to Saratoga Avenue (AM peak/mixed-flow lanes)
- Northbound I-280 – Meridian Avenue to I-880 (AM peak/mixed-flow lanes)
- Southbound I-280 – I-880 to Meridian Avenue (PM peak/mixed-flow lanes)
- Northbound I-880 – Bascom Avenue to The Alameda (AM peak hour)
- Northbound I-880 – Stevens Creek Boulevard to Bascom Avenue (AM peak hour)
- Northbound I-880 – I-280 to Stevens Creek Boulevard (AM peak hour)

PHASE I SITE ASSESSMENT REPORT

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EXECUTIVE SUMMARY

ENVIRON International Corporation ("ENVIRON") conducted an environmental review of the University of California Bay Area Research & Extension Center (BAREC), located at 90 North Winchester Boulevard, Santa Clara County, City of Santa Clara, California (the Site). The purpose of the review was to identify areas of potential environmental concern at the Site and to formulate recommendations for additional investigation and/or remediation. In the context of our review, potential environmental concerns are considered to be issues that are likely to be present significant risks to a future onsite residential population or issues for which there is likely insufficient information to characterize the Site. It is ENVIRON's understanding that this parcel will be redeveloped for residential and open space use.

Based on our review, ENVIRON identified the following potentially significant environmental concern at the Site:

- Since the 1920s, the Site has been used as an agricultural research station. The primary research efforts at the Site have focused on improving crop production methods, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Part of this research has involved demonstrating the efficacy of a variety of research and development (R&D) pesticides. As required by California regulations, the facility began recording pesticide usage at the Site in the late 1970s. Prior to that time, a comprehensive record of pesticide usage in the test field plots does not exist. As a result of the application of pesticides to soil and the handling of pesticides on-site, it is possible shallow surface soil in test field plots and the greenhouses may contain pesticide residues. In addition to the application of pesticides to surface soil, the former presence of a sewer leach pit raises the possibility that deeper subsurface soil and potentially ground water beneath the Site may contain pesticide residues as well. Further surface and subsurface investigations of soil are necessary to reduce the uncertainty associated with the former operations that were conducted on-site.

The following noteworthy issues were identified:

- From 1973 to 1985, the facility operated an evaporation bed on-site that received rinsate from the washing of pesticide containers and application equipment. The washwater was allowed to evaporate in the rubber-lined evaporation bed. This area

was the subject of a soil investigation in 1988 and the bed was removed and closed under the oversight of the California Regional Water Quality Control Board. Based on the results of the report, soil beneath the former evaporation bed does not appear to be significantly impacted by former operations. No further investigation of the evaporation bed appears warranted at this time.

- In 1989, a limited asbestos survey was conducted of the building on-site and asbestos was identified in numerous areas of the Site including: heating ducts, insulation material in the bench top ovens, planter boxes, vent pipes, and hard board bench tops. Because the survey appears to have been limited in extent and because the buildings are old, it is possible that other sources of asbestos containing material exist on-site.

- Similarly, based on the age of the buildings, it is possible that the facility may have light ballasts that contain polychlorinated biphenyls (PCBs). Facility personnel were unaware of any other potential sources of PCBs. There are several pole-mounted, utility-owned transformers on-site. It is not know whether these transformers contain PCBs; however, it would be the responsibility of the utility to manage and dispose of these transformers.

- The facility formerly had two underground storage tanks on-site that were used to fuel facility vehicles including tractors and other field equipment. A 1000-gallon gasoline tank was located adjacent to the maintenance shop; the second tank, a 1000-gallon diesel tank was located adjacent to Building 207, a storage building. Both tanks were removed in May 1993 under the oversight of the City of Santa Clara Fire Department. The tanks were observed to be in good condition with no holes or corrosion. Soil samples were collected from below the tanks and analyzed for gasoline, diesel, lead, benzene, toluene, ethylbenzene and xylenes. None of these constituents were detected. The facility was granted a closure letter dated October 7, 1993, indicating that the City of Santa Clara Fire Department had reviewed and approved the closure of the tanks. Based on this information, no further investigation of the tanks is needed at this time.

I. INTRODUCTION

ENVIRON International Corporation ("ENVIRON") conducted an environmental review of the University of California Bay Area Research & Extension Center (BAREC), located at 90 North Winchester Boulevard, Santa Clara County, City of Santa Clara, California (the Site). The purpose of the review was to identify areas of potential environmental concern at the Site and formulate recommendations for additional study/investigation. This report does not include a review of current environmental compliance issues.

This report has been prepared exclusively for use by the State of California Department of General Services (DGS) and may not be relied upon by any other person or entity without ENVIRON's express written permission. The conclusions presented in this report represent ENVIRON's professional judgment based on the information available to ENVIRON during the course of this assignment and on conditions that existed at the time of the assessment. No independent verification of the information provided to ENVIRON was made. While ENVIRON has no reason to doubt the accuracy of any of the information provided, this report is accurate and complete only to the extent that information provided to ENVIRON was itself accurate and complete.

This report presents the results of our investigation. It is based primarily on the following:

- A Site visit by ENVIRON personnel, Margaret David and Daniel Barrientos, on July 23, 2002.

- An interview during the Site visit with Dr. Zak Mousli, Superintendent for the Bay Area Research and Extension Center.

- A review of documents and reports provided to ENVIRON by Dr. Mousli and David Towle of the Administrative Office for the Research & Extension Centers of the University of California (UC) including: a report of closure for the former evaporation bed, underground tank removal documents, an asbestos survey report, irrigation well documents, business plan documents, a chemical inventory, a pesticide list and restricted materials permit, septic system documents, a pesticide use summary monthly report from 1979 to 2002, and a business plan and chemical inventory.

- A review of historical aerial photographs for the Site and surrounding area dated 1937, 1954, 1958, 1960, 1963, 1966, 1968, 1971, 1974, 1976, 1978, 1980, 1982, 1984, 1988, 1989, 1990, 1992, 1994, 1996, 1997 and 1999 conducted at Pacific Aerial Surveys, Oakland, California on July 26, 2002.

- A review of regulatory agency databases for the Site and vicinity conducted by Environmental Data Resources, Inc. (EDR) and reported to ENVIRON on July 18, 2002. EDR conducted searches of federal databases including: United States Environmental Protection Agency (EPA) National Priorities List; EPA Comprehensive Environmental Response, Compensation, and Liability Information System; EPA Emergency Response Notification System; Corrective Action Report; and Resource Conservation and Recovery Information System; Flood Zone Data from the Federal Emergency Management Agency (FEMA). State databases included: Notify 65, which lists Proposition 65 records; California Environmental Protection Agency's Annual Workplan, which identifies known hazardous substance sites targeted for cleanup; Leaking Underground Storage Tank Information System; Underground Storage Tank Database; and Former Manufactured Gas (Coal Gas) Sites. In reviewing the environmental databases, it should be noted that such databases are not instantaneously updated by the specific regulatory agencies. Depending on the database and the agency, update frequency may be as infrequent as annually. The dates of the most recent updates for the searched environmental databases are listed in the EDR report, from which a copy is presented as Appendix A.

- A review of historic City Directory information for the Site and neighboring properties obtained from EDR.

- A review of a 1966 historic Sanborn Fire Insurance Map for the Site and neighboring properties obtained from EDR. Since the map showed only a small portion of the Site, ENVIRON requested but has not yet received a more complete map.

- A review of the United States Geological Survey (USGS) San Jose West, California 7.5-minute series topographical map, dated 1961, photorevised 1980.

- A review of historical United States Geological Survey (USGS) topographical maps, dating 1895, 1899, 1939, 1953, and 1961, with photo revisions from 1968 and 1978.

- A review of available Site files at the City of Santa Clara Fire Department on August 9, 2002.

- A review of available files for two properties in the vicinity of the Site (690 and 780 North Winchester Boulevard) at the City of San Jose Fire Department on August 9, 2002.

- A review of available files for the property located at 690 North Winchester Boulevard at the San Francisco Bay Area Regional Water Quality Control Board on September 3, 2002.

II. DESCRIPTION OF THE SITE AND ITS OPERATIONS

A. Site Description

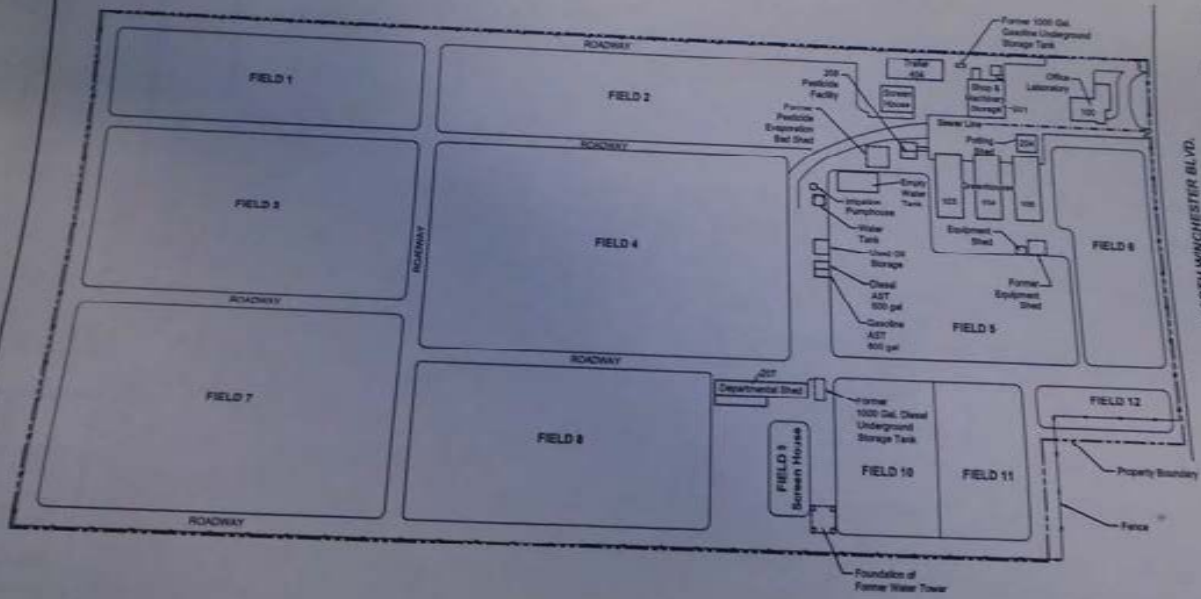
The Site is located at 90 North Winchester Boulevard, approximately three and one half miles south of downtown Santa Clara, California. The location of the Site is presented on Figure 1. The Site is an approximately 17-acre, roughly rectangular-shaped property.

As shown in Figure 2, 12 small buildings are located on the eastern portion of the Site. The estimated construction dates, the uses and a brief description of the buildings are presented on Table 1.

The remainder of the property consists of agricultural fields, unpaved roadways and paved parking lots. The fields are numbered one through twelve. They cover a total of approximately eleven acres. Field 9 is covered by screens, which form a covered building. It was used in the past to experiment the effects of insecticides and the screens have subsequently deteriorated. The unpaved roadways provide access to the fields. The only paved area is the northwest corner of the property, where buildings 100, 103, 104, 105, 201 and 204 are located, and is used for parking.

The area surrounding the Site consists primarily of residential/commercial land. Immediately surrounding the Site to the north, west and south are residential homes. In addition there is, to the south of the Site along Winchester Boulevard, a commercial building, a veterinary clinic and parking lot. To the east and southeast beyond Winchester Boulevard, is a large shopping mall (Valleyfair West Mall), a bank, and several restaurants. To the northeast of the Site are more restaurants and Dunn-Edwards Paints, a paint supply company.

The topographic elevation at the Site is approximately 125 feet above mean sea level (MSL). Based on a review of the USGS San Jose West Topographic Map, the nearest surface water bodies appear to be an intermittent stream, Saratoga Creek, situated one and one-half mile northwest of the Site and an intermittent river, Los Gatos Creek, situated two and one-half miles to the southeast. Additionally, a review of the historical topographical maps showed another intermittent stream, San Tomas Aquinas Creek, situated three-quarters of a mile west of the property. San Tomas Expressway currently appears to overlie this creek.



ENVIRON

Site Layout
BAREC
80 N. Winchester Blvd.
Santa Clara, California

2

Table 1
Description of Buildings at BAREC

BAREC Building No.	Estimated Construction Date	Use and Description
100	1928	A two-story wooden structure that is used as the main administration building.
103	1960s	Greenhouse. Single-story structure, wooden frame with corrugated fiberglass walls and roof. It has no floor.
104	1960s	Greenhouse. Single-story structure, wooden frame with corrugated fiberglass walls and roof. It has no floor.
105	1960s	Greenhouse. Single-story structure, wooden frame with corrugated fiberglass walls and roof. It has no floor.
201	1928	Vehicle maintenance shop. Single-story wooden structure.
203	Between 1937 and 1954	Shed and pump house. Single-story wooden structure.
204	Between 1937 and 1954	Small potting shed. Single-story wooden structure with corrugated fiberglass walls and roof.
207	1970s	Storage building. Single-story, wooden frame with corrugated metal walls and roof.
208	1970s	Pesticide shed. Single-story wooden structure.
404	Brought to the Site 10 years ago	Trailer, used for office space.
Unnumbered Screen House	1998	Screen house and plant nursery located directly east of Building 404
Unnumbered Equipment Shed	1970s	Storage area for plant pots located directly north of Building 105. It has no floor.
Unnumbered Military Trailer	Unknown	Small portable metal military trailer, located next to the two fuel ASTs. It is located next to Field 5
Unnumbered Covered Area	Unknown	Covered area located next to Building 208, used as parking for the tractors

In general, the topography of the area slopes in a northeasterly direction. Site personnel were not aware of any flooding at the Site. Flood information from the Federal Emergency Management Agency (FEMA) Santa Clara County map indicates the Site is located within a 500-year flood zone. Based on wetlands information compiled by the U.S. Fish and Wildlife Service and provided by EDR, the Site does not contain any wetlands. ENVIRON did not observe any vegetation indicative of wetlands at the time of the Site visit.

A.1 Geology and Hydrogeology

Site-specific geologic and hydrogeologic information was not obtained by ENVIRON as part of this environmental assessment; however, based on information in the Dames and Moore report regarding the closure of the former evaporation bed, the Site is located near the center of the South Bay hydrologic sub-basin of the San Francisco Bay hydrologic basin which is located in the Coast Ranges geomorphic province. The Coast Ranges geomorphic unit is characterized by predominantly northwest trending mountains, valleys and faults. The South Bay unit is a broad alluvial valley sloping north toward San Francisco Bay. The Site is underlain by Quaternary alluvium deposited by streams that merge near the center of the San Jose Alluvial Plain and flow north toward San Francisco Bay. The alluvium is composed of unconsolidated interbedded gravel, sand silt and clay. The alluvium becomes progressively finer-grained northward toward the Bay and contains a series of laterally extensive marine clay layers.

Dames and Moore interprets the Site to be within or on the margin of the area underlain by extensive clay layers. According documentation provided by David Towle for the irrigation well at the Site, gravel was observed at the Site to a depth of 39 feet. The gravel was underlain by layers of clay, sandy clay, gravelly clay and gravel to a depth of 360 feet. Blue clay was reported at depths of 70 to 75 feet, 105 to 119 feet, 239 to 244 feet, and 261 to 272 feet which is consistent with Dames and Moore's interpretation that the Site is on the margin of the area underlain by extensive clay layers.

A.2 Ground Water

According to the Dames and Moore report, most water wells in the San Jose Alluvial Plain withdraw ground water from the Quaternary alluvium. Four correlatable regional aquifers have been identified in the alluvial plain; the 60-foot, 250-foot, 350-foot, and 450-foot aquifers. Most major producing wells in the Santa Clara area withdraw water from a zone 150 to 250 feet below ground surface under confined or

semi-confined conditions. BAREC personnel indicate that one groundwater well is located on-site. It is located inside the pump house and is used for irrigation of the fields. The well at the Site is screened from a depth of 200 to 250 feet below ground surface (bgs); the depth to groundwater in this well is 140 feet and approximately 3.7-million gallons are pumped annually. The EDR report identified nine additional active wells within a one-mile radius of the Site. They are operated by O'Connor Hospital, the San Jose Water Company, the City of San Jose, and the City of Santa Clara. No additional information about these wells was found.

There is no Site-specific information on shallow ground water at the Site. ENVIRON reviewed a Soil and Ground Water Report prepared for McCulley, Frick & Gilman, Inc. for the Dunn-Edwards Corporation Facility located at 690 Winchester Boulevard, approximately 1/8 mile north of the Site. The report indicated that shallow ground water was encountered between 20 and 30 feet bgs and that shallow ground water flowed towards the Bay to the east.

B. Site History

According to facility personnel, the Site was originally occupied by a veterans' widows home. The agricultural experimental field station operations began in 1928. The home remained in operation until the 1960s, when it was demolished and replaced with more agricultural fields. According to historical topographical maps, the name of the facility used to be Holderman Sanitarium. Based on a review of historical titles and deeds, obtained from DGS, four lots owned by Margaret Osborne were deeded to the State of California in 1921 and 1924. The four lots were incorporated into three lots, two of which were deeded by the State of California to the UC in 1952 and 1963. The third lot, located directly southwest of the Site, remained property of the State of California, and is currently occupied by a commercial establishment.

The field station's initial purpose was to serve the farmers in the surrounding area. Up until roughly 1990, deciduous fruit trees (such as apples, citrus, cherries, almonds and ornamental) were planted in the different fields at different times to conduct research on fertilizers, irrigation, variety characteristics of crops, and crop disease control. This research included testing of pesticides and insecticides. As the surrounding area changed and became urban, the trees were replaced with various crops, such as strawberries, corn, tomatoes, beans and flowers. According to David Towle at the UC, during the past 5 years, eighty percent of the research at BAREC has focused on crop improvement, whereas only twenty percent has involved pesticide use.

Based on the information obtained from available historical information sources, ENVIRON has assembled the following chronology of historic activities at and in the vicinity of the Site:

- At some point before 1937, the Holderman Sanitarium was built. Based on a review of the aerial photograph from 1937, it apparently occupied most of what is now Fields 4,10 and 11 and consisted of two large structures and approximately six smaller structures. There were no roadways in-between the fields, but there was an access road from Winchester Boulevard south of the current gate. Buildings 100 and 201 were built before 1937, as well as another structure in the place of the current unnumbered screen house. A water tower also existed at that time, located next to the current Field 10. Agricultural fields similar in configuration to the current fields appear to occupy the remaining area of the property.

- Based on a review of aerial photographs from 1937 and 1954, buildings 103, 203 and 204 were built at some point between 1937 and 1954.

- Based on a review of aerial photographs from 1968, 1971, 1976 and 1982, the Holderman Sanitarium and water tower were demolished between 1968 and 1971. Buildings 103, 104, 105, 208 and the equipment shed behind Building 105 were apparently constructed in that period. Starting in 1971, the area previously occupied by the Holderman Sanitarium was transformed to agricultural fields. The evaporation bed appears to have been constructed between 1971 and 1976, and was covered with a roof between 1976 and 1982.

- Based on a review of aerial photographs from 1992, 1994, 1996, 1997 and 1999, Building 404 was placed between 1994 and 1996. The existing empty water tank was placed between 1996 and 1997. The current unnumbered screen house replaced the previous structure at some point between 1992 and 1999.

C. Description of Operations

Currently, the facility is an agricultural research facility that has provided community out-reach information on improving crop production, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Dr. Mousli

reported that a variety of crops are planted on-site including corn, tomatoes, beans, flowers, grass sod turf, and deciduous fruit trees (e.g., apples, cherries, ornamental trees). The 17-acre Site is parceled into 12 field plots. Within each field plot, a specific crop such as deciduous fruit trees or grass turf is grown. For research involving crop disease, select pesticides are applied to determine the efficacy at ameliorating the pest or disease of concern by UC researchers. According to Dr. Mousli, the crops and type of research are routinely changed and, therefore, the pesticides applied also change. Brief descriptions of activities are presented by building below.

Main Administration Building, Building 100 and Administrative Trailer Building 404. The building contains administrative offices, a large meeting room and a dry laboratory. According to facility personnel, no chemicals are used in the laboratory. Soils are dried and weighed in preparation for outside analysis of chemical and physical properties. Additional administrative activities are undertaken in a portable trailer, Building 404. The trailer contains a small office and a dry laboratory for specimen preparation. No chemicals are used or stored in this building.

Greenhouses, Buildings 103, 104, and 105, and Potting Shed, Building 204. Buildings 103 through 105 are fiberglass structures without floors that have been historically used as greenhouses. Currently, Greenhouse Building 103 stores compost bins; Greenhouse Building 104 stores planter boxes, old furniture and equipment. Greenhouse Building 105 is currently used to grow vegetables. The vegetables grow in pots located on top of tables. Water and fertilizer are sprayed directly onto the plants. Some herbicide is sprayed occasionally between the tables to control weeds.

The potting shed is located adjacent to the greenhouses and is used to pot small plants before they are placed in the greenhouse. At the time of the Site visit, one small sink was located in this room. Dr. Mousli indicated that the sink is no longer in service, and that was previously used exclusively to wash pots. According to Dr. Mousli, the sink used to drain through a pipe to a 6-feet wide, 6-feet long underground wooden tank, located in Field 6. The depth of the tank is unknown. Dr. Mousli indicated that the tank was accidentally broken, and that the pipe was subsequently plugged.

Pesticide Storage Shed, Building 208. This building is, according to facility personnel, the only storage area for pesticides. The building is divided into two rooms. In the first room, a variety of pesticides are stored on shelves. Small quantities of

pesticides are also mixed in this room and poured into 60-gallon tanks and backpacks for application in the field. A fume hood is located in the building and is used for mixing the pesticides. There are no drains or sinks in this room. The second room contains personal protective gear, showers and lockers for the employees using pesticides. A floor drain is located in this portion of the building that is currently connected to the City sanitary sewer. Prior to connection to the sewer, this floor drain discharged to the evaporation bed (Section G). No information is available regarding whether this drain existed prior to 1973 when the evaporation bed was constructed, and if it existed prior to 1977, where it discharged.

Adjacent to this building is a wastewater treatment system for pesticide rinsate. This area formerly contained an evaporative wastewater bed. Both of these wastewater systems are discussed in more detail in Section G.

Shop and Machinery Storage, Building 201 and Portable Military Trailer. BAREC owns nine vehicles consisting of: three trucks, four tractors, one forklift and one car. These vehicles are serviced inside Building 201. According to facility personnel, the operations conducted inside this building consist of oil changes and degreasing operations, in which a small amount of solvent is placed on rags and subsequently the rags are used to wipe the desired surface. The solvent is allowed to evaporate off the rags before they are discarded in the trash. At the time of the Site visit, ENVIRON observed a small shelf that contained small containers (less than one gallon) of a variety of solvents, lubricants, and cleaning supplies. One small air compressor was noted in the building. In addition to the maintenance shop, the facility also stores used oil and used oil filters in a portable metal trailer located adjacent to Field 5.

According to facility personnel, the maintenance shop has never had any hydraulic lifts or maintenance pits. At the time of the Site visit, no significant stains were observed on the floor of the shop. In addition to the shop, the building also houses a walk-in refrigerator that was formerly used to store vegetables.

An equipment washer is located outside the building, although the current personnel have never used it. Historically, a steam cleaner was used just outside the shop, however it was stolen sometime before 1996, according to facility personnel. No stains were noted at this location during the Site visit.

Irrigation Pumphouse, Building 203. The irrigation well is located inside this building. The pump was recently replaced due to a broken shaft. The current

submersible pump is located at a depth of 200 ft and has a capacity of 500 gallons per minute.

Departmental Shed, Building 207. This building is located in close proximity to the fields and is divided into several compartmentalized rooms with large barn doors for access. According to facility personnel, the building is used for storage of fertilizers, old equipment and furniture, and as parking for one of the tractors. Additionally, one room is used to grow mushrooms.

D. Polychlorinated Biphenyls (PCBs), Asbestos and Lead-Based Paint

PCBs

According to facility personnel, BAREC does not use nor own any transformers. At the time of the Site visit, ENVIRON noted six pole-mounted transformers located on the property, all of which are reportedly owned by PG&E. Since the UC does not own these transformers, demolition or relocation of these transformers would not be the responsibility of the UC or the Department of General Services. It is unknown whether these transformers contain PCBs, but no leaks have been observed by facility personnel and none were noted during the Site visit. Facility personnel were unaware of any PCB containing equipment. It is possible, based on the age of the buildings, that light ballasts from fluorescent lights contain small quantities of PCBs.

Asbestos

The UC conducted a limited asbestos survey in 1989. A total of six samples were analyzed for asbestos-containing material (ACM) and limited abatement was performed or recommended:

- The first sample, which contained a high percentage of asbestos, was obtained from the conference room cabinet in Building 100. The substance appeared to be fire door gasket material, and it was placed in a plastic bag for disposal.
- Two ACM containing samples were obtained from a cloth duct wrap used to connect the heating duct in the lower level of the same building. Only one spot of this cloth wrap was considered to be friable ACM, and was recommended to be sealed.
- One sample was obtained from a small quantity of insulating material inside

an oven in the laboratory of Building 100. It was considered extremely friable ACM and the recommendation was to abate it immediately.

- One sample was obtained from planter boxes in Building 105. Although the sample tested positive for ACM, the report considered most of the boxes in good condition and no abatement was recommended. Only a few were observed to be damaged, and they were recommended to be abated using a silicone sealant.
- The last sample was obtained from some floor tiles in Building 100. No ACM was detected.

No information was found in the documents provided to ENVIRON on whether the recommendations for abatement were followed.

Additionally, the following areas were found to contain non-friable ACM:

- Furnace vent pipe in the upper level crawl space, and floor tile throughout Building 100
- Hardboard surface in the work benches of Building 204
- Laboratory table tops, hardboard sections and several pipe sections in Building 207
- Fume hood and hardboard surfaces in the work bench in Building 208.

Additionally, facility personnel reported during the Site visit that one of the irrigation field standpipes has ACM. The standpipe was noted to be located south of Field 8, during the Site visit. Approximately six feet of the pipe extends above ground.

Lead-Based Paint

The only specific standard regarding the use of lead-based paint in buildings is 24 CFR 35, which prohibits the use of lead-based paint in public housing, effective in 1978. Therefore, buildings constructed prior to 1978 are more likely to contain lead-based paint. The majority of the structures within the Site were constructed prior to 1978 and, therefore, may contain lead-based paint. It was not within the scope of this study to determine which buildings may or may not contain lead-based paint. However, once specific future development plans are identified, an investigation for lead-based paint in buildings that are to remain at the Site may be warranted.

E. Hazardous Materials Use and Storage

Hazardous Materials Use

According to facility personnel, the facility uses the following chemicals on-site: pesticides and fertilizers for the crops; gasoline and diesel for the vehicles; paints and solvents for general maintenance. Most of these chemicals are stored in small quantities (i.e., less than five gallons) with the exception of diesel, gasoline, waste oil and ammonium nitrate. A list of the chemicals currently stored on-site is presented in Appendix B.

According to facility personnel, there were no regulations applicable to the Site as far as record keeping of pesticide use before 1980. ENVIRON obtained pesticide application records starting in 1979; they are summarized in Appendix C.

Underground Storage Tanks

There are no underground storage tanks (USTs) currently in use at the Site. Two 1,000-gallon fuel tanks were formerly located on-site. The date of installation of the tanks is unknown. A 1000-gallon gasoline UST was located next to Building 201 a 1000-gallon diesel UST was located next to Building 207 (see Figure 2).

UC personnel removed the tanks in 1993. Two samples were taken from approximately two feet below the bottom of the gasoline UST excavation, and one sample was taken from approximately two feet below the bottom of the diesel UST excavation. The soil samples were analyzed for gasoline, diesel, lead, benzene, toluene, ethylbenzene and xylenes. None of these constituents were detected. The tanks were reportedly in good condition with no evidence of damage at the time of the removal. A letter dated October 7, 1993, from the City of Santa Clara Fire Department confirms that there was no sign of contamination, and that no further work is required.

Aboveground Storage Tanks

Two double-walled 500-gallon aboveground storage tanks (ASTs) are located on-site in the vicinity of Field 5. The ASTs are currently on top of concrete pads. The date these tanks were installed is unknown but it was before 1996, according to facility personnel. It is likely they were installed after the USTs were removed in 1993.

Additionally, there is a water tank next to the pump house that is used for water storage. Another water tank was installed next to the first one, but has never been used.

As part of the equipment wash system, described in section G, three tanks of various sizes are located next to the pesticide shed (Building 208).

Drums and Small Containers

There are a number of smaller containers (less than five gallons) in Building 201, containing paints, diesel, gasoline, oil, and paint thinner.

F. Non-hazardous and Hazardous Waste

Non-hazardous Waste

Solid waste generated as a result of facility operations includes miscellaneous paper and cardboard debris and empty containers (e.g., potting containers). All of this solid waste is disposed in the garbage dumpster, which is located next to the trailer (Building 404).

Hazardous Waste

According to Dr. Mousli, hazardous wastes are generated sporadically at the Site. Reportedly, these wastes have always been sent off-site for disposal and, with the exception of pesticide rinsate, no materials have been disposed of on-site. Dr. Mousli was unable to provide a comprehensive file of manifests demonstrating off-site disposal of materials.

ENVIRON was, however, provided with a summary sheet that indicated several of the off-site haulers that BAREC has used. This information is presented on Table 2.

G. Wastewater

Sanitary Wastewater

Sanitary wastewater generated from the main administrative building, Building 100, is currently discharged into the City of Santa Clara sewer system. According to documentation given to ENVIRON by the UC, the connection to the city system occurred in 1977. Prior to 1977, wastewater from these buildings was discharged into a sewage leach pit. According to a drawing dated April 1, 1977, the leach pit was approximately four feet wide, six feet long and four feet deep, and was located between buildings 201 and 100 as shown on Figure 2. The leach pit was abandoned in accordance with Uniform Plumbing Code Standards for cesspools.

Table 2
Hazardous Waste

Waste Type	Volume Generated	Location of Storage	Company in Charge of Disposal
Used oil	50 gal/year	Military Trailer	Bayside Oil of Santa Cruz, CA
Used oil filters	12 / year	Military Trailer	Bayside Oil of Santa Cruz, CA
Used antifreeze	Unknown	Building 201	Santa Clara Valley Hazardous Waste of Santa Clara, CA
Unused Pesticide	Unknown	Building 208	Santa Clara Valley Hazardous Waste of Santa Clara, CA
Used Pesticide Containers	Unknown	Building 208	Santa Clara Valley Hazardous Waste of Santa Clara, CA
Fluorescent Lights	Unknown	Building 201	Santa Clara Valley Hazardous Waste of Santa Clara, CA
Used batteries	Unknown	Building 201	Santa Clara Valley Hazardous Waste of Santa Clara, CA
Solvent rags	Unknown	Building 201	Santa Clara Valley Hazardous Waste of Santa Clara, CA
Oil contaminated soil	Unknown	Military Trailer	Santa Clara Valley Hazardous Waste of Santa Clara, CA
Spent carbon	Unknown	Equipment Wash System Tanks	US Filter of Parker, AZ

Additionally, a 1963 plan indicates the existence of a septic tank located in a leach field next to the Holderman Sanitarium on what is currently Field 4. No additional information was found.

An equipment wash system is located next to the pesticide shed (Building 208). It was installed in the early 1990s, according to facility personnel. It consists of three aboveground tanks and a series of filters, and is used to wash the exterior of the fertilizer

tanks. The interior of the fertilizer tanks is rinsed thrice in the field and the contents applied to the same field. The sludge of the wash system was reportedly tested and contained diesel only.

There is currently one sewer line under the parking lot that discharges to the City of Santa Clara sewer system. It collects wastewater from the office building (Building 100) and from the equipment wash system.

Former Evaporation Bed

According to a Dames & Moore report (1988), an evaporation bed was constructed in 1973 to dispose of diluted pesticide wastes. Rinsate from the washing of pesticide containers and application equipment was applied to the evaporation bed from 1973 to 1985. Use of the evaporation bed was discontinued in 1985 and inlets to the basin were sealed.

The evaporation bed consisted of a lined soil evaporation bed, which was 20-feet long and 15-½feet wide. A translucent corrugated fiberglass roof shielded the bed from rainfall. A compacted earthen embankment covered by 2 inches of washed sand and a rubber liner formed the floor and walls of the bed. The fill in the evaporation bed consisted of 16 inches of sandy loam soil overlying a 6-inch layer of graded gravel and 2 inches of washed sand. Perforated bituminous fiber pipes in the gravel layer were connected to a distribution box within the bed. The distribution box was composed of pressure-treated wood. A 4-inch bituminous fiber pipe penetrated the liner on the east side of the bed and connected the distribution box to the sediment trap, located 5 feet east of the bed. The sediment trap consisted of a cylindrical concrete box, 3 feet in diameter and 6 feet deep, with a manhole cover. Because the elevation of the pipe carrying rinsate into the sediment trap was higher than that of the pipe carrying the rinsate out, heavier particles sank into the trap and were not carried to the evaporation bed. Two drains, one in the pesticide shed and one in the concrete wash slab, were connected to the sediment trap by a 4-inch plastic pipe and a 4-inch cast iron pipe, respectively.

The rinsing occurred in a concrete wash slab adjacent to the pesticide storage shed (Building 208). Rinsate drained first into the sediment trap from which sediment was cleaned out periodically and distributed on the evaporation bed. From the sediment trap water flowed into the distribution box of the evaporation bed where perforated pipes connected to the distribution box dispersed the diluted pesticide solutions throughout the bed's gravel layer. Capillary forces in the loam soil drew the rinsate solution up through the overlying soil to evaporate at the surface. Hydrated lime (calcium hydroxide) was

tilled into the soil bed to increase the soil pH, which accelerated the breakdown of organophosphate and carbamate pesticides.

The liner in the evaporation bed was composed of two sheets of 20-mil-thick nylon-reinforced butyl rubber liner, spliced together on-site. The liner was inspected carefully during bed removal activities and appeared to be in good condition. At the time the Dames & Moore report was written, there was no history of leaks or repairs to the liner at the Site.

Prior to its removal, the evaporation bed was sampled in July 1987 by UC (UC) staff. The bed was divided into 16 quadrants of approximately equivalent size; one sample from each quadrant was collected for depths of zero to 12 inches. A composite sample of all 16 samples was submitted for analysis. Based on the analytical results, Dames & Moore concluded that the soils in the evaporation bed would be considered non-hazardous according to California Department of Health Services (DHS) regulatory criteria (California Administrative Code, Title 22, Division 4, Chapter 30, Article 11). Sample results are summarized in Table 3.

Table 3

Summary of Soil Chemical Test Results – July 1987 Soil Samples

	Detection Limit (mg/kg)	Bed Soil (0-1 ft) (mg/kg)
Toxaphene	1.6	*
Guthion	10	16
Baygon	0.01	0.028
Chloropropham	0.005	0.04
Fluometuron	0.001	1.6
2,4-D	0.025	1.2
Afugan	(1)	0.089
2-(Phenylazo)-Benzoic Acid	(1)	2.5
Zytron	(1)	0.17
Arsenic	40	78
Copper	3	27
Calcium	10	28,800

* Not detected

(1) Detection Limit not available - constituent concentration estimated from library search

Source: Dames & Moore Report (1988), Table D-4

The UC, with the assistance of Dames & Moore, removed the evaporation bed in October 1987. All materials were excavated from inside of the liner and the liner was checked for integrity. After the liner was removed, the underlying two inches of soil were excavated from the bed to minimize any possible residual contamination.

Four samples were collected from the bottom of the evaporation bed excavation after the liner was removed. The carbamate pesticide chloropropham was reported at a concentration of 2.8 mg/kg in one of the samples. No other pesticides or herbicides were detected in the four samples collected below the former evaporation bed. Sample results are summarized in Table 4.

Table 4

Summary of Soil Chemical Test Results – October 1987 Soil Samples

	Detection Limit (mg/kg)	Background		Beneath the Evaporation Bed			
		DFFS-1A (mg/kg)	DFFS-2A (mg/kg)	DFFS-3A (mg/kg)	DFFS-4A (mg/kg)	DFFS-5A (mg/kg)	DFFS-6A (mg/kg)
DDE	0.016	0.023	0.17	*	*	*	*
DDT	0.016	0.016	0.17	*	*	*	*
Organophosphate Pesticides	0.1-2.0	*	*	*	*	*	*
Chloropropham	0.5	*	*	2.8	*	*	*
Triazine Herbicides	0.1	*	*	*	*	*	*
Chlorinated Herbicides	0.025-0.13	*	*	*	*	*	*
Other Organic Compounds	-	*	*	*	*	*	*
Arsenic	40	*	*	*	*	*	*
Copper	3	24	29	22	22	18	20
Barium	10	120	120	110	120	110	110
Cadmium	0.5	0.66	0.59	0.52	0.54	*	0.63
Chromium	1	42	34	34	37	35	47
Cobalt	3	9.4	8.4	8	9.1	8.2	10
Lead	5	*	27	*	*	*	*
Nickel	5	52	49	48	51	43	49
Vanadium	5	31	28	27	29	29	31
Zinc	2	51	56	44	48	41	45

- Not available

* Not detected

Source: Dames & Moore Report (1988), Table D-6

Dames & Moore concluded that there was no indication that the operation of the former evaporation bed had a significant impact on the environment.

Storm Water

Currently, storm water runoff at the facility percolates into the fields. The parking lot area stormwater goes to the street, where it enters the City of Santa Clara storm drain system.

H. On-site Soil and Ground Water Contamination, Investigation and Remediation

ENVIRON identified the following potential sources of on-site soil contamination:

1. Current and Historical Pesticide Use

Since the 1920s, the Site has been used as an agricultural research station. The primary research efforts at the Site have focused on improving crop production methods, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Part of this research has involved demonstrating the efficacy of a variety of research and development (R&D) pesticides. As a result of the application of pesticides to soil and the handling of pesticides on-site, it is possible shallow surface soil in test field plots and the greenhouses may contain pesticide residues. In addition to the application of pesticides to surface soil, the former presence of a sewer leach pit raises the possibility that deeper subsurface soil and potentially ground water beneath the Site may contain pesticide residues as well. Further surface and subsurface environmental investigations are necessary to determine whether soil and/or ground water has been adversely impacted by pesticide use.

2. *Former USTs*

The facility had two underground storage tanks on-site that were used to fuel facility vehicles including tractors and other field equipment. Both tanks were removed in May 1993 under the oversight of the City of Santa Clara Fire Department. The tanks were observed to be in good condition with no holes or

corrosion. Soil samples were collected from below the tanks and analyzed for gasoline, diesel, lead, benzene, toluene, ethylbenzene and xylenes. None of these constituents were detected. Based on this information, the facility was granted a closure letter dated October 7, 1993 by the City of Santa Clara Fire Department. No further investigation of the former USTs appears warranted at this time.

3. Former Evaporation Bed

From 1973 to 1985, the facility operated an evaporation bed on-site that received rinsate from the washing of pesticide containers and application equipment. The washwater was allowed to evaporate. This area was the subject of a soil investigation in 1988 and the bed was removed and closed under the oversight of the California Regional Water Quality Control Board. Based on the results of the report, soil beneath the former evaporation bed does not appear to be significantly impacted by former bed operations. No further investigation of the evaporation bed appears warranted at this time.

4. Off-site sources

The EDR report identified a Leaking Underground Storage Tank (LUST) site at the Dunn-Edwards Corporation facility. The contents of the leaking tank were reported to be paint thinner. ENVIRON reviewed a Soil and Ground Water Investigation Report prepared by McCulley, Frick & Gilman, Inc., for this facility, located at 690 North Winchester Boulevard, approximately less than a quarter of a mile north of the Site. Since the report indicated that the hydraulic gradient of the shallow ground water at the Dunn-Edwards facility was to the east away from the BAREC Site, ENVIRON considers the Dunn-Edwards site to pose little or no threat of contamination to the Site.

APPENDIX B
CHEMICALS STORED (1997 TO PRESENT)

Appendix B

Chemicals Stored (1997 to Present)

Material	Quantity Stored	Primary Chemical Components	Source 1
Cal Jan Tub Tile & Bowl Cleaner	9 QT. PLS BTL	Unknown	CIS
Clorox Toilet Bowl Cleanser	2-24 OZ. PLS BTL	Sodium Hypochlorite	CIS
Ajax Oxygen Bleach Cleanser	2-21 OZ. CARD CAN	Calcium Carbonate	CIS
Envirosafe Glass Blast	2 GAL. PLS BTL	Unknown	CIS
Lucky Bleach	4 GAL. PLS BTL	Sodium Hypochlorite	CIS
Liquid Plumr, clog remover	2QT. PLS BTL	Sodium Hypochlorite, Sodium Hydroxide	CIS
Spray N'Clean	24 OZ. CAN	Unknown	CIS
OSH Ant Roach & Spider Control	24 OZ. PLS BTL	Diazinon	CIS
Sta-Lube Lanolin Cream Hand Cleaner SL 1211	2-24 OZ. CARD CAN	Petroleum Distillate	CIS
Sta-Lube Lanolin Cream Hand Cleaner SL 1211	7 LB. CAN	Petroleum Distillate	CIS
Super Stripe Traffic Paint	12-18 OZ. CAN	Toluol	CIS
Lube-Zit Rubber Lubricant	1 GAL. CAN	Unknown	CIS
Sta-Lube Molybium #3143 Multi-purpose Grease	5 LB. CAN	Lithium Base	CIS
RPM Wheel Bearing Grease	10 LB. CAN	Unknown	CIS
Unitrac Universal Tractor Hydraulic Fluid	2-5 GAL. PLSDRUM	Unknown	CIS
Extra-Duty, Multipurpose Gear Lubricant 80-90-wt.	35 LB. PLSDRUM	Unknown	CIS
Chevron Multi-Motive Grease-1	35 LB. CAN	Unknown	CIS
Revere Hydro-Lock Quick Setting Hydraulic Cement	45 LB. PLSDRUM	Unknown	CIS
2 Cycle Engine Oil	2 QT. PLS BTL	Unknown	CIS

1 Notes: CIS = Chemical Inventory Sheet dated March 12, 1999

SCAG = Santa Clara County Department of Agriculture Restricted Materials Permit, dated January 9, 2002.

PL = BAREC Pesticide List, dated July 26, 2002

HAZMAT = Santa Clara Fire Department Hazardous Materials Inventory for BAREC dated April 2, 1997

The chemical names for materials found in SCAG and PL were found in the Crop Protection Reference, C&P Press 1997

Material	Quantity Stored	Primary Chemical Components	Source 1
Lacquer Thinner	1 GAL. CAN	Petroleum Naphta	CIS
Pure Row Linseed Oil	1 GAL. CAN	Petroleum Naphta	CIS
A-1 Thermolite Enamel	8 OZ. CAN	Petroleum Distillates, Pigment	CIS
Rust-Oleum Thinning Oil	8 OZ. CAN	Petroleum Spirits 84%	CIS
R-O Gloss Protective Enamel	2 QT. CAN	Unknown	CIS
Delthane Polyurethane	1 GAL. CAN	Unknown	CIS
Delthane Polyurethane	11.5 OZ. CAN	Unknown	CIS
Ace Acrylic Semi Gloss Latex Enamel	29 OZ. CAN	Unknown	CIS
Man-O-War Salin Spar Marine Varnish	1 QT. CAN	Unknown	CIS
Acry-luster Acrylic Semi-Gloss	1 GAL. CAN	Unknown	CIS
Emulsa-Bond Stir in Bonding Primer	1 GAL. CAN	Unknown	CIS
Weld On PVC P-70 Primer	1 QT. CAN	Unknown	CIS
Pipe Thread Compound	2-8 OZ. CAN	Unknown	CIS
Concrete Bonding Adhesive	2 QT. PLS BTL	Unknown	CIS
Wet Dry Roof Cement	1 GAL. CAN	Asphalt	CIS
Black Jack Pourable Driveway Crack Filler	Unknown	Unknown	CIS
Thompson's Deck Wash	2 GAL. PLS BTL	Unknown	CIS
Paint Thinner	1 GAL. PLS BTL	Petroleum Distillates	CIS
Jasco TSP	1 QT. PLAS BTL	Tri-Sodium phosphate Organic Esters	CIS
Revero Rev-Grip	1 GAL. CAN	Unknown	CIS
Luck Bond Floor Adhesive	2 GAL. CAN	Unknown	CIS
Jasco Termin-8	1 GAL. CAN	Copper Napthanate	CIS
Jasco Termin-8	1 QT. CAN	Copper Napthanate	CIS
Eager Beaver Solid Color Alkyd Stain	1 GAL. CAN	Unknown	CIS
Jack Belanger Enamel	1 GAL. CAN	Unknown	CIS
Solder Seal/Gunk Non-Flammable Puncture Seal	24.5 OZ. CAN	1,1,1,2 Tretrafluoroethane	CIS
Thrust Quick Starting Fluid (Solder Seal/Gunk)	1 OZ. CAN	n-beptane	CIS
S.S./Gunk Havy Duty Brake Fluid	1 QT. PLS BTL	Polyglycol esters	CIS
Bell-Ease Belt Dressing #BD-6	3-5.5 OZ. CAN	Petroleum Distillates	CIS

Material	Quantity Stored	Primary Chemical Components	Source 1
Mitee Threadcutting Oil (Dark)	2 QT. CAN	Unknown	CIS
Craftsman Penetrating Oil	1 PT. CAN	Petroleum Distillates	CIS
Rema Tip Top Bead Sealer	1 QT. CAN	Unknown	CIS
Sta-Lube Hydraulic & Jack Oil #2552	1 QT. PLS BTL	Petroleum Oil	CIS
Dupont No. 7 Cooling System Cleanser	10 OZ. CAN	Oxalic Acid / Sodium Carbonate	CIS
Ace Paint Thinner	1 QT. CAN	Stoddard Solvent	CIS
Aervoe Fluorescent Glo Paint	5-12.5 OZ. CAN	Toluol	CIS
OSH Spray Primer	12.5 OZ. CAN	Xylene	CIS
OSH Spray Enamel	4-12.5 OZ. CAN	Xylene	CIS
Evercoat Spray Under Coating #405	20 OZ. CAN	Unknown	CIS
Brush Flush Oil & Latex Paint Brush Cleaner	1 QT. BTL	Unknown	CIS
Ever Fix Epoxy Resin	8 OZ. CAN	Epoxy Resin	CIS
Evercoat Marine Resin	1 QT. PLS BTL	Epoxy Resin	CIS
Clearly Visible Summer Formula Windshield Wash	1 GAL. PLS BTL	Unknown	CIS
Prestone Antifreeze Coolant	2 GAL. PLS BTL	Ethylene Glycol	CIS
Sta Lube Disc Brake High Temp Grease #3161	2 GAL. PLS BTL	Aluminum Complex Base	CIS
Light Weight Titeseal	14 OZ. CAN	Unknown	CIS
Sta-Lube General Purpose Lithium Grease (SL 3310)	2-14 OZ. CARTRIDGE	Unknown	CIS
Permutez Form-A-Gasket (2B Small 2C Large)	1 OZ. TUBE	Unknown	CIS
Permutez Form-A-Gasket (2B Small 2C Large)	3 OZ. TUBE	Unknown	CIS
Deveon 5 Minute Epoxy	1 OZ. – 2 TUBE PACKAGE	Epoxy Resin / Polyamine Hardener	CIS
Rust-Oleum Striping Paint 2326 Blue	4-18 OZ. CAN	Xylene	CIS
Cover Right Acrylic Latex Semi-Gloss	1 GAL. CAN	Unknown	CIS
Exterior High Gloss Alkyd Enamel	1 GAL. CAN	Unknown	CIS
Compo Exterior Primer/Undercoater	1 GAL. CAN	Unknown	CIS

Material	Quantity Stored	Primary Chemical Components	Source 1
M-P Prime Acrylic Multi-Purpose Primer	1 QT. CAN	Unknown	CIS
Vin-L-Tex Premium Vinyl Acrylic Exterior Finish	1 QT. CAN	Unknown	CIS
Permasheen Acrylic Semi Gloss Paint	1 GAL. CAN	Unknown	CIS
Stainseal Wiping Oil Stain	1 QT. CAN	Unknown	CIS
MinWax Wood Finish	1 QT. CAN	Unknown	CIS
Armor All Car Wax Paste	8 OZ. CAN	Petroleum Distillates	CIS
Simoniz Super Blue Car Wax	9 OZ. CAN	Unknown	CIS
Plasti-Dip	2 PT. CAN	Unknown	CIS
WD-40	2-12.9 OZ. CAN	Petroleum Distillates	CIS
Noco NCP-2 Battery Corrosion Preventative Spray (A-202)	12 ¾ OZ. CAN	Unknown	CIS
Flux, Soldering Solder Seal/Gunk (VW-1)	4 OZ. JAR	Unknown	CIS
Powdered Car Wash	9 OZ. FIBER CAN	Alkyl Aryl Sulfonate	CIS
STP Fuel Injector Cleaner	20 OZ. PLS BTL	Petroleum Distillates	CIS
GM Power Steering Fluid	1 QT. CAN		CIS
DICAMBA	Unknown	3,6-dichloro-2-methoxybenzoic acid	SCAG
BANVEL	Unknown	3,6-dichloro-o-anisic acid	SCAG
2,4-D	Unknown	Dichlorophenoxyacetic Acid	SCAG
TRIMEC	Unknown	Mixture. Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid Dimethylamine salt of 2,4-dichlorophenoxy acetic acid. Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)	SCAG
PARAQUAT	Unknown	Paraquat Dichloride	SCAG
10% Sevin Dust	Unknown	1-napthyl N-methylcarbamate	PL
Kocide DF	Unknown	copper-hydroxide	PL

Material	Quantity Stored	Primary Chemical Components	Source 1
Thiolux	Unknown	Sulfur	PL
X-77 spreader	Unknown	Alkylarylpolyoxyethylene ether	PL
Reward	Unknown	Diquat dibromide	PL
Omite-30WS	Unknown	Propargite	PL
Poast	Unknown	Sethoxydim	PL
Ronstar G	Unknown	OXADIAZON	PL
Trimec	Unknown	Mixture. Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid Dimethylamine salt of 2,4-dichlorophenoxy acetic acid. Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)	PL
Subdue Maxx	Unknown	mefenoxam	PL
Fusilade II	Unknown	Fluazifop-P-butyl Butyl (R)-2-[4-[[5-(trifluoromethyl)-2-pyridinylloxy] phenoxy]propanoate	PL
Turflan II Amine	Unknown	Butoxyethanol Ester Dichlorophenoxyacetic Acid	PL
Turflon Ester	Unknown	Triethylamine triclopyr	PL
Turflon	Unknown	3,5,6-trichloro-2-pyridinyloxyacetic acid	PL
Tupersan	Unknown	3,5,6-trichloro-2-pyridinyloxyacetic acid	PL
Buctril	Unknown	Octanoic acid ester of bromoxynil	PL
Gramoxone	Unknown	PARAQUAT (1,1'-dimethyl-4,4'-bipyridilium ion)	PL

Material	Quantity Stored	Primary Chemical Components	Source 1
Methar 30	Unknown	Disodium Methanearsonate, Anhydrous	PL
Benlate	Unknown	benomyl	PL
Rally 40W	Unknown	Aluminum silicate dihydrate	PL
26019	Unknown	IPRODIONE	PL
Ambush	Unknown	(3-phenoxyphenyl) methyl(±)-cis, trans-3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate)	PL
Agrimek 0.15 EC	Unknown	Abamectin	PL
Roundup Pro	Unknown	Isopropylamine Salt of glyphosate	PL
Roundup Ultra	Unknown	Isopropylamine Salt of glyphosate	PL
Aatrex 4L	Unknown	atrazine	PL
Dacthal W-75	Unknown	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)	PL
Prowl 3.3 EC	Unknown	pendimethalin	PL
Dual Magnum	Unknown	acetamide	PL
Acetylene	150 CF	Acetylene	HAZMAT
Oxygen	200 CF	Oxygen	HAZMAT
Diesel Fuel	500 GAL.	Dodecane	HAZMAT
Gasoline	500 GAL.	Gasoline	HAZMAT
Ammonium Nitrate	500 LBS.	Ammonium Nitrate	HAZMAT
Waste Oil	30 GAL.	Unknown	HAZMAT

APPENDIX C
PESTICIDE USE SUMMARY

Appendix C
Pesticide Use Summary

Year	Pesticide Name	Chemical Name
1979	Round Up	Isopropylamine Salt of glyphosate
	Chevron Ortho Paraquat	Paraquat Dichloride
	Phytar 560	Sodium Cacodylate
	Vexiex 50WP	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]
	Pipron	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate
	Pentbc-WP	Bis (Pentachloro – 2,4 – cyclopentadien,1,yl)
1980	Chevron Ortho Paraquat	Paraquat Dichloride
	Phytar 560	Sodium Cacodylate
	Orthene 755	Acephate
	Round up	Isopropylamine Salt of glyphosate
	Pipron	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate
	Kocide 101	Copper Hydroxide
	Flowable Sulphur	Sulphur
1981	Phytar 560	Sodium Cacodylate
	Chevron Ortho Paraquat	Paraquat Dichloride
	Flowable Sulphur	Sulphur
	Round Up	Isopropylamine Salt of glyphosate
1983	Triforine	Triforine
	Round Up	Isopropylamine Salt of glyphosate
	Montar	Sodium Cacodylate/Cacodylic Acid
1984	Diquat	diquat dibromide
	Plictrac	Cyhexatin
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Kocide 101 copper	Copper Hydroxide
	Montar	Sodium Cacodylate/Cacodylic Acid
	Pentac	Bis (Pentachloro – 2,4 – cyclopentadien,1,yl)
	Round Up	Isopropylamine Salt of glyphosate
	Orthene 755	Acephate
	Diquat	diquat dibromide
	Triforine	Triforine
	Heavy Dormant Oil	Petroleum Oil
1985	Surflan	Oryzalin
	Triforine	Triforine
	Heavy Dormant Oil	Petroleum Oil
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Kocide 101 Copper	Copper Hydroxide
	Devrinol	Napropamide
	Montar	Sodium Cacodylate/Cacodylic Acid
	Round Up	Isopropylamine Salt of glyphosate
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotomate
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotomate
	Diquat	diquat dibromide
	Round Up	Isopropylamine Salt of glyphosate
	Kocide 101	Copper Hydroxide
1986	Astrex Nine-O	Atrazine
	Devrinol 50WP	Napropamide
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl
	Triforine	Triforine
	Surflan AS	Oryzalin
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotomate
	Diquat	diquat dibromide
	Round Up	Isopropylamine Salt of glyphosate
	Kocide 101	Copper Hydroxide
1987	Funginex	Triforine
	Surflan AS	Oryzalin
	Diazinon 50W	O,C-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Diquat	diquat dibromide
	Kocide 101	Copper Hydroxide
	Round Up	Isopropylamine Salt of glyphosate
	Triforine	Triforine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
1988	Devrinol 50WP	Napropamide
	Round Up	Isopropylamine Salt of glyphosate
	Malathion 50	Malathion

Year	Pesticide Name	Chemical Name
	Reflex 50WP	Fomesafen
		Calcium Lignosulfonate
	Pointer WP	Bis (Pentachloro – 2,4 – cyclopentadien, 1 yl)
	Diquat	diquat dibromide
	Aatrex Nine-O	Atrazine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Mavrik	Tau-Fluvalinate
1989	Mavrik	Tau-Fluvalinate
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Diquat	diquat dibromide
	Vendex	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]
	Round Up	Isopropylamine Salt of glyphosate
	Orthene	Acephate
	Fungitrex	Triforine
1990	Orthene	Acephate
	Mavrik Aquaflow	Tau-Fluvalinate
	Omite 30W	Propargite
	Fungitrex	Triforine
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Dimilin 25W	Diflunon
	Ronstar 50WP	Oxadiazon
	Ronstar G	Oxadiazon
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Malathion	Malathion
	Diazinon	O,C-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Spreader X77	Alkylarylpolyoxyethylene ether
	Diquat	diquat dibromide
	Cothion	O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-ylmethylphosphorodithioate
1991	Round Up	Isopropylamine Salt of glyphosate
	Orthene	Acephate
	Fungitrex	Triforine
	Aatrex Nine-O	Atrazine
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Ronstar-G	Oxadiazon
	Poast	Sethoxydim: 2-[1-(ethoxymino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one*
	Herbimax	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Malathion	Malathion
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
1992	Ronstar-G	Oxadiazon
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl
	Ronstar 50 WP	Oxadiazon
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	26019 Fungicide	Iprodione
	Primo/Experimental	cimectacarb 4-(cyclopropyl-alpha-hydroxy-methylene)-3,5-dioxo-cyclohexanecarboxylic acid ethyl ester
	Citridal	Not found
	Daconil 2787 75WP	Chlorothalonil
		Kaolin
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
	Surflan	Oryzalin
	Pre M 60 WDG	Pendimethalin
	Dimension 1E	Dithiopyr
	Promiadine 65 WDG	Experimental (Not found)
	Team 2g	Benefin
		Trifluralin
	Snapshot 2.5g	Trifluralin
		Isoxaben

Year	Pesticide Name	Chemical Name
	Balan 60 WDG	Benefin
	Treflan	Trifluralin
	Gallery 75DF	Isoxaben
	Betasan 4E	Benzulide
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
1993	Round up	Isopropylamine Salt of glyphosate
	Omite 30W	Propargite
	XL 20	Benefin
		Oryzalin
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chloropheoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Ronstar 50WP	Oxadiazon
	Dynamit (L)	Metolachlor
	Surflan AS	Oryzalin
	Gallery 75F	Isoxaben
	Prowlslum WDG	Pendimethalin
	Malathion	Malathion
	Treflan EC	Trifluralin
	Aatrex Nine-O	Atrazine
	Spreader X77	Alkylarylpolyoxyethylene ether
	Diquat	diquat dibromide
	Surflan	Oryzalin
	Ronstar G	Oxadiazon
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Basamid	Dazomet
	Vapam	Sodium methyldithiocarbamate (anhydrous)
	Weedar 64	2,4-d DMA Salt
	Acclaim 1E	Fenoxaprop-p-ethyl
	Turflon 4E	Triclopyr, butoxyethyl ester
	Buctril b	Monosodium acid methanearsonate
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
1994	Round Up	Isopropylamine salt of glyphosate
	Malathion	Malathion
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Avid	Abamectin
		N-methylpirrolidone
	Orthene	Acephate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Herbimax	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)
	Surflan	Oryzalin
	Aatrex Nine-O	Atrazine
	Eagle	Myclobutanil
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chloropheoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Safer Soap	Potassium salts of fatty acids
	Funginex	Triforine
	Ronstar G	Oxadiazon
1995	Round Up	Isopropylamine Salt of glyphosate
	Malathion	Malathion
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Reward	diquat dibromide
	Aatrex Nine-O	Atrazine
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Diquat	diquat dibromide
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chloropheoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Airmax PGR	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Spreader X77	Alkylarylpolyoxyethylene ether
1996	Omite 30W	Propargite
	Reward	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Airmax PGR	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)

Year	Pesticide Name	Chemical Name
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Rally 40W	Myclobutanil
		Kaolin
	Stinger	Clopyralid, monoethanolamine salt
	Weedar 64	2,4-d DMA Salt
	Confront	Triclopyr as triethylamine salt
		Clopyralid, monoethanolamine salt
	Round up	Isopropylamine Salt of glyphosate
	Astrex Nine-O	Atrazine
	Round Up Pro	Isopropylamine Salt of glyphosate
	Ace Lawn & Weedkiller	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Buno-6	Monosodium acid methanearsonate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Rosstar G	Oxadiazon
1997	Round Up Pro	Isopropylamine Salt of glyphosate
	Atrimmec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Reward	diquat dibromide
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Gallery	Isoxaben
	Dimension	Dithiopyr
	Pre M	Pendimethalin
	Dacthal	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Manage	Halosulfuron-methyl
		Silica, amorphous precipitated
		Kaolin
	Thiazopyr	Thiazopyr
	Dimension 1EC	Dithiopyr
	Rout	Oxyfluorfen
		Oryzalin
	Astrex Nine-O	Atrazine
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Banagran T/O	Sodium Bentazon
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Liberty	Glufosinate - Ammonium
	Weedar 64	2,4-d DMA Salt
	Confront	Clopyralid, monoethanolamine salt
		Triclopyr as triethylamine salt
	Decoate 4	Monosodium acid methanearsonate
	Tameline	Clopyralid, monoethanolamine salt
	Barricade	Prodiamine
	Spreader X77	Alkylarylpolyoxyethylene ether
1998	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Round up Ultra	Isopropylamine Salt of glyphosate
	Rosstar G	Oxadiazon
	Lorox 50WP	Linuron
	Prowl 3.3 EC	Pendimethalin
	A-Maizing Lawn	Maize Gluten Meal
	Factor 65 WDG	Prodiamine
	Dimension II	Dithiopyr
	Finale	Glufosinate - Ammonium
	Snapshot 2.5G	Trifluralin
	Venue 2E	Isoxaben
		Thiazopyr

Year	Pesticide Name	Chemical Name
		Xylene
		Ethylbenzene
	Abamectin	Abamectin
	Unknown (Acaricides)	Experimental (Not found)
	Cinnamaldehyde	Bacteria Bacillus Strain GHA
	Trifoxine carboxylic acid	Experimental (Not found)
	Fenpropathrin	Fenpropathrin
		Naphtalene
	Oxazole	Experimental (Not found)
	Experimental	Experimental (Not found)
	Mithomycin	Experimental (Not found)
	Chlorpyridazin	Pyridaben
	Hexythiazox	Hexythiazox
	Potassium Salt of fatty Acids	Potassium salts of fatty acids
	Round Up Pro	Isopropylamine Salt of glyphosate
	Round Up	Isopropylamine Salt of glyphosate
	Naphtalenedione	Experimental (Not found)
	Agrimek	Abamectin
		N-methylpirrolidone
	Aatrex 90	Atrazine
	Dual II	Metolachlor
	Dual Magnum	S-Metolachlor
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Ronstar G	Oxadiazon
	Pendulum 2G	Pendimethalin
	Prowl	Pendimethalin
2001	Round Up Pro	Isopropylamine Salt of glyphosate
	Goal	Oxyfluorfen
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Aatrex Nine-O	Atrazine
	Prowl 3.3 EC	Pendimethalin
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Up John Enide 50W	Not found
	Ronstar G	Oxadiazon
2002	Round Up Pro	Isopropylamine Salt of glyphosate
	Goal 2XL	Oxyfluorfen
		N-methylpirrolidone
		Naphtalene
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Aatrex 4L	Atrazine
	Dual Magnum	S-Metolachlor
	Sevin 5 Dalt	Carbaryl

Year	Pesticide Name	Chemical Name
		Solvent Naptha, petroleum, heavy aromatic
	Frontier S	Dimethenamid
	Quinclorac	Quinclorac
	Gallery 75DF	Isoxaben
	Regalkar	Oxadiazon
		Prochloraz
	RegalKade	Prochloraz
	Thiolux	Sulphur
	Kocide DF	Copper Hydroxide
	Trimec	Dimethylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Atrimmec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Devrinol 50 DF	Napropamide
	Quadris	Azoxystrobin Technical
	Aatrex Nine-O	Atrazine
	Dual 8E	Metolachlor
	Prefar 4E	Bensulide
	Home Defense #2	Chlorpyrifos
	Round up Pro	Isopropylamine Salt of glyphosate
1999	Round Up Pro	Isopropylamine Salt of glyphosate
	Round Up	Isopropylamine Salt of glyphosate
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Roustar O	Oxadiazon
	Trimec	Dimtylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid)
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Aatrex Nine-O	Atrazine
	Dual 8E	Metolachlor
	Atrimmec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Goal 1.6 E	Oxyfluorfen
	Devrinol 50DF	Napropamide
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Subdue Max	Mefenoxam
	Methyl Bromide	Methyl Bromide
	Telone C35 EC	1,3 - Dichloropropene
		Chloropicrin
	Chlorpicrin	Chloropicrin
	Vapam HL	Sodium methylthiocarbamate (anhydrous)
	Carventrazone	Carfentrazone-ehtyl
		Silica, amorphous precipitated
		Lignosulfate acid, sodium salt
	Sulfentrazone	Sulfentrazone
	Isoxaben	Isoxaben
	Confront	Clopyralid, monoethanolamine salt
		Triclopyr as triethylamine salt
	Turflon	Triclopyr, butoxyethyl ester
	Stinger	Clopyralid, monoethanolamine salt
	Fusilade II	Fluazifop - P - Butyl Technidal
		Naphtalene
		1,2,4 - Trimethylbenzene
	Azafenidin	Experimental (Not found)
	Flumioxazin	Experimental (Not found)
	Pendimethalin	Pendimethalin
	Isoxaben	Isoxaben
	Dithiopyr	Dithiopyr
	Dimethenamid	Dimethenamid
	Oxadiazon	Oxadiazon
	Trifluralin	Trifluralin
	Pendulum 2G	Pendimethalin
	Prowl	Pendimethalin
	Gramaxone	Paraquat Dichloride
	Spreader X-77	Alkylarylpolyoxyethylene ether
2000	Round Up Ultra	Isopropylamine Salt of glyphosate
	Zeneca Paraquat	Paraquat Dichloride
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene

Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental Protection

Maziar Movassaghi
Acting Director
700 Heinz Avenue
Berkeley, California 94710-2721

Arnold Schwarzenegger
Governor

August 11, 2010

Mr. Ron Small
California Department of General Services
707 Third Street, Suite 6-130
West Sacramento, California 95605

Dear Mr. Small:

The Department of Toxic Substances Control (DTSC) has received the Removal Action Completion Report dated August 2, 2010 for the Former UC Bay Area Research Extension Center site located at 90 North Winchester Boulevard, Santa Clara, California. DTSC provided guidance and oversight for the development and implementation of a removal action plan for this site along with the following additional documents: Health and Safety Plans, and a Community Profile.

Our review of the Removal Action Completion Report indicates that the work has been conducted in accordance with the approved RAW and that the remediation goals have been achieved. DTSC hereby approves the Completion Report as the final report.

With completion of this remediation, the BAREC site does not pose a threat to human health or the environment under any land use, including unrestricted residential development and is safe for occupancy for single family homes. Therefore, DTSC determines that no further action is necessary with respect to investigation and remediation of hazardous substances at the site. As with any real property, if previously unidentified contamination is discovered at the Site, additional assessment investigation and/or clean up may be required.

FILE COPY

If you have any questions regarding this approval, please contact me at (510) 540-3834.

Sincerely,

Karen M. Toth, Unit Chief
Brownfields and Environmental Restoration Program – Berkeley Office

cc: Ms. Anne Wooster Gates
Environ
6001 Shellmound Street, Suite 700
Emeryville, California 94608

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maziar Movassaghi
Acting Director
700 Heinz Avenue
Berkeley, California 94710-2721

Arnold Schwarzenegger
Governor

MEMORANDUM

TO: Ramunda Smith
Cost Recovery Unit
Attn: Vicky Brown
Department of Toxic Substances Control
1001 I Street, 21st Floor
P.O. Box 806
Sacramento, California 95812-0806

FROM: Karen M. Toth, Unit Chief
Brownfields and Environmental Restoration Program
Berkeley Office

DATE: August 11, 2010

SUBJECT: Bay Area Research Extension Center Site - 201464

All cost records should be summarized and closed as of August 30, 2010. A final billing should be prepared and submitted to the Project Proponent as soon as possible. Please prepare a final accounting, including all charges and crediting all payments received. Credit the Project Proponent, as appropriate, at the following address:

Mr. Ron Small
California Department of General Services
707 Third Street, Suite 6-130
West Sacramento, California 95605

Thank you for your assistance. If you have any questions, please contact me at (510) 540-3834

FILE COPY

REMEDIAL ACTION CERTIFICATION FORM

1. Site Name and Location:
   Bay Area Research Extension Center, 90 North Winchester Boulevard, Santa Clara, California
   A. List any other names that have been used to identify sites: N/A
   B. Address of site if different from above: N/A
   C. Assessor's Parcel Numbers: 303-17-053

2. Responsible Parties:
   Name: State of California, Department of General Services
   Address: 707 Third Street, Suite 6-130, West Sacramento, California 95605

3. Brief Description and History of the Site:

   Since the 1920s, the 17-acre Bay Area Research Extension Center site was used as an agricultural research station. The agricultural activities at the site involved the use of various pesticides and insecticides. It was closed in July 2002 and is currently owned by the State of California. Prior to the 1920s, the entire area was orchards.

4. Type of Site: (Check appropriate response)
   Included in Bond Expenditure Plan?
   Yes _____ No X

RCRA-Permitted Facility	_____	Bond-funded	_____
RCRA Facility Closure	_____	RP-funded	X
NPL	_____		
Federal Facility	_____		
Other:	_____	Explain Briefly:	_____

5. Size of Site :(Based on Expenditure Plan definition of size)
   Small _____ Medium _____ Large X Extra Large _____

6. Dates of Remedial Action
   Soil: 5/10/2010 Completed: 6/30/2010
   GW: n/a Completed: _

7. Response Action Taken on Site: (check appropriate action)

____ Initial Removal or Remedial Action (site inspection/ sampling)

_X_ Final Remedial Action

____ RCRA enforcement/closure action

____ No action, further investigation verified that no cleanup action at site was needed.

A. Type of Remedial Action (e.g. Excavation and re-disposal on-site treatment):

The removal action consisted of soil excavation and offsite disposal of eight areas where dieldrin or arsenic was above unrestricted cleanup goals.

B. Estimated quantity of waste associated with the site (i.e., ton/gallons/cubic yards) which was:

1a. __ treated (gw) Amount:_____

1b.___ treated (soil) Amount: _____

2. __ untreated (capped sites) Amount:_____

3. _X_ removed (soil) Amount: _____6,000 cubic Yards_____

8. Cleanup Levels/Standards

a. What were the cleanup standards established by DTSC pursuant to the final remedial action plan (RAP) or workplan (if cleanup occurred as the result of a removal action (RA) or interim remedial measures (IRM) prior to development of a RAP)?

The soil cleanup goal for arsenic was a ceiling of 20 milligrams per kilogram (based on background) and 30 micrograms per kilogram of dieldrin.

b. Were the specified cleanup standards met? Yes

c. If "no", why not: _____

9. DTSC Involvement in the Remedial Action:

A. Did the Department order the Remedial Action?

Yes_____ No_X_ Date of order _VCA_____

B. Did the Department review and approve (check appropriate action and indicate date of review/approval if done):

X Sampling Analysis Procedures Date: 10/19/2007

X Health & Safety Protections Date: 4/15/2010

X Removal/Disposal Procedures Date: 10/19/2007

C. If site was abated by a responsible party, did the Department receive a signed statement from a licensed professional on all Remedial Action?

Yes X No_ Dates 08/2/2010

D. Did a registered engineer or geologist verify that acceptable engineering practices were implemented?

Yes X No_ Dates 08/4/2010

E. Did the Department confirm completion of all Remedial Action?

Yes X No_ Dates August 2010

(i.e. manifest, sampling, demonstrated installation and operation of treatment)

F. Did the Department (directly or through a contractor) actually perform the Remedial Action?

Yes_ No X Name of Contractor:_____

G. Was there a community relations plan in place?

Yes X No_

H. Was a removal action plan (RAW) developed for this site?

Yes X No_

I. Did DTSC hold a public meeting regarding the draft RAW?

Yes X No _

J. Were public comments addressed?

Yes X No_

Date of DTSC analysis and response: 10/19/2007

K. Are all of the facts cited above adequately documented in the DTSC files? Yes X No.

If no, identify areas where documentation is lacking _____

0. EPA Involvement in the Remedial Action:

A. Was the EPA involved in the site cleanup? Yes __ No X

B. If yes, did EPA concur with all remedial actions? N/A

C. EPA comments N/A

EPA staff involved in cleanup: No

11. Other Regulatory Agency Involvement in the Cleanup Action:

	Agency:	Activity:
____	RWQCB	_____
____	BAAQMD	_____
____	CHP	_____
____	Caltrans	_____
X	City of Santa Clara	UST Removal

Name of contact persons and agency: Doug Hansen, City of Santa Clara Fire Department

12. Post-Closure Activities:

A. Will there be post-closure activities at this site? (e.g. Operation and Maintenance) Yes __ No X_____

If yes, describe: _____

B. Have post-closure plans been prepared and approved by the Department? Yes __ No __

The Operation and Maintenance Plan was approved on ____.

C. What is the estimated duration of post-closure (including operations and maintenance) activities? __years

D. Are deed restrictions proposed or in place?

Yes _ No _____ Not required X

If "yes" have deed restrictions been recorded with the County recorder? __

If "no", who is responsible for assuring that the deed restrictions are recorded? n/a____

Who is the Division contact? _____

Name/Phone Number

E. Has cost recovery been initiated? Yes X No ____

If yes, amount received: $ 129,034.23

F. Were local planning agencies notified of the cleanup action? Yes X No

If yes, the name and address of agency:

City of Santa Clara Planning Department, 1500 Warburton Avenue, Santa Clara

13. Expenditure of Funds and Source:
(Information to be supplied by Toxic Accounting Unit.)
Funding Source and amount expended:

___	HWCA $_____	___	HAS $_____
___	HSCF $_____	___	RCRA $_____
___	RP $_____	___	Other $_____
___	Federal Cooperative Agreement $_____		

14. Problems Encountered Which Caused Major Delays:
Project was on hold for several years due to a lawsuit on the CEQA document (City of Santa Clara lead) and a toxic tort case.

15. Accomplishments Unique to this Project:
None

16. Final Use of Site:
The site will be sold and redeveloped in housing, a senior living facility and a 1-acre open space.

17. Certification Statement: Based upon the information which is currently and actually known to the Department,

X The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary.

___ The Department has determined, based upon a remedial investigation or site characterization that the site poses no significant threat to public health, welfare or the environment and therefore implementation of removal/remedial measures is not necessary.

___ The Department has determined that all appropriate removal/remedial actions have been completed and that all acceptable engineering practices were implemented; however, the site requires ongoing operation and maintenance (O&M) and monitoring efforts. The site will be deleted from the "active" site list following (1) a trial operation and maintenance

period and (2) execution of a formal written settlement between the Department and the responsible parties, if appropriate. However, the site will be placed on the Department's list of sites undergoing O&M to ensure proper monitoring of long-term clean-up efforts.

18. Certification of Remedial Action:

I hereby certify that the foregoing information is true and correct to the best of my knowledge.

1. _____ 8/9/2010
Unit Chief Date

2. _____ 8/10/2010
Branch Chief, P.E. Date

Report of Completion
of
Removal Action

1. Site Name:

Bay Area Research Extension Center

2. Site address:

90 North Winchester Boulevard
Santa Clara, California

3. Type of Site:

[X] RP-lead [ ] NPL (listed or proposed)
[ ] DTSC-lead [ ] RWQCB-lead
[ ] EPA-lead [ ] Local Agency-lead

4. Size of Site:

[] Small [ ] Medium
[X] Large [ ] X-Large

5. Names of Responsible Parties:

State of California
Department of General Services

6. Role of DTSC in Removal Action (RA):

[ ] DTSC implemented RA directly.
[X] DTSC provided oversight/guidance to RPs or other state, local or federal agency for RA.

7. Description of RA:

The RA consisted of shallow excavation of soils contaminated with arsenic and dieldrin from a former agricultural research facility. In most areas, excavation went to between 1 and 3 feet below ground surface. The excavation under the former Building 100 basement went to 11 feet. Approximately 6,000 cys of soil was excavated and removed. Approximately 840 tons (from Hotspot #3) of this soil was disposed of as California (non-RCRA) hazardous waste at Clean Harbors Buttonwillow LLC. Approximately 12,532 tons were disposed of as nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California. During excavation activities in Field 4, an approximately 2,000 gallon underground fuel storage tank (UST) was found.

The UST was drained, washed, removed and disposed under oversight of the Santa Clara Fire Department. Dust monitoring was conducted on an hourly basis at the perimeter of the site as well as within the excavation and loading areas while contaminated soils were being handled.

8. Cost of RA:

The cost of the removal action is unknown.

9. Date of RA:

The removal action began on May 10th and was completed on June 30, 2010.

10. Work Remaining to be done at Site:

No further work related to hazardous substances remains.

Karen M. Toth P.E. - Unit Chief

8/9/2010
Date

Barbara J. Cook, P.E., Performance Manager

8/10/2010
Date

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
1001 "I" Street
P.O. Box 806
Sacramento, California 95812-0806

Arnold Schwarzenegger
Governor

January 25, 2008

URS Corporation Americas
Attn: Des Garner
221 Main Street, Suite 600
San Francisco, CA 94105

Subject: Agreement Number 07-T3387

Dear Mr. Garner:

Enclosed for your records is your original signed, fully executed Standard Agreement for the above mentioned agreement.

Thank you for your cooperation during the entire process. If you have any questions, please contact me at (916) 327-4031.

Sincerely,

Desa Donahue

Enclosure

cc: Virgina Lasky

Printed on Recycled Paper

CALIFORNIA
STANDARD AGREEMENT
STD 213 (Rev. 03/95)

FULLY EXECUTED

AGREEMENT NUMBER	AMENDMENT NUMBER
07-T3387	
REGISTRATION NUMBER	

1. This Agreement is entered into between the State Agency and the Contractor named below

STATE AGENCY'S NAME
Department of Toxic Substances Control

CONTRACTOR'S NAME
URS Corporation Americas

2. The term of this Agreement is: February 01, 2008 through May 30, 2008

3. The maximum amount of this Agreement is: $20,000.00 Twenty Thousand Dollars and No Cents

4. The parties agree to comply with the terms and conditions of the following exhibits which are by reference made a part of the Agreement:

Exhibit A - Scope of Work	5 Page(s)	
Exhibit B - Budget Detail and Payment Provision	5 Page(s)	
* Exhibit C - General Terms and Conditions	GTC-307 (Number)	3/07 (Dated)
Exhibit D - Special Terms and Conditions	15 Page(s)	
Exhibit E - Additional Provisions	N/A Page(s)	

* View at http://www.ols.dgs.ca.gov – Standard Language

IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.

CONTRACTOR

CONTRACTOR'S NAME (If other than an individual, state whether a corporation, partnership, etc.)
URS Corporation Americas

BY (Authorized Signature) — DATE SIGNED (Do not type): 01/16/08

PRINTED NAME AND TITLE OF PERSON SIGNING
Des Garner Project Manager / VICE PRESIDENT

ADDRESS
221 Main Street, Suite 600
San Francisco, CA 94105

STATE OF CALIFORNIA

AGENCY NAME
Department of Toxic Substances Control

BY (Authorized Signature) — DATE SIGNED (Do not type): 1/23/08

PRINTED NAME AND TITLE OF PERSON SIGNING
Sandra Poindexter Chief, Contracts and Business Management Branch

ADDRESS
P.O. Box 806
Sacramento, CA 95812-0806

CALIFORNIA
Department of General Services
Use Only

"EXEMPT FROM THE DEPARTMENT OF GENERAL SERVICES REVIEW PER EXEMPTION NOTICE 40.04"

☐ Exempt Per _____

The California Environmental Protection Agency

Department of Toxic Substances Control

CFA#

Budget Office Use

FISCAL APPROVAL TO ENTER INTO A CONTRACT/MASTER SERVICE AGREEMENT

INSTRUCTIONS: Requesting unit must complete form and obtain Budget Office approval prior to obtaining a contract number from the Contract Development and Implementation Unit (CDIU)

To: DTSC, Budget Office, 1001 I Street, Floor 21 — Date of Request: 10/11/2007

From: Northern Calif Coastal Cleanup Operations

Address: 700 Heinz Avenue, Suite 200 City: Berkeley State: CA Zip Code: 94710

Contact Person: Virginia Lasky Contact Phone: 510 540 3829

Signature of Deputy Director/Delegated Authority

3) Request is for:

- [x] New Contract — Contract Number: _____ (Information to be provided by CBSB)
- [ ] Renewal of Existing Contract — Contract Number: _____ (Information to be provided by Requestor)
- [ ] Amendment — Contract Number: _____ (Information provided by Program) — Amendment Number: _____ (Information provided by Program)
- [ ] Fund Strip Change Only
- [ ] Time Extension Only

4) Name of Contractor: URS Corporation

5a) Original Amount $ 20,000.00 6a) Original Contract Term: From: 11/1/2007 To: 3/30/2008

5b) Amount Amended +/- $ _____ 6b) Amendment Extend To: _____

7) Purpose: (Requestor explains the service to be rendered, payment type (progress, lump sum), special needs or requirements)

Site Specific work at the Chemical and Pigment Site: Amendment to extend time of contract.

8) Funding: FY_____ $_____ FY_____ $_____ FY_____ $_____

INDEX	OBJ (AGY)	PCA	PROJECT (SITE)
5200	418	17050	201766-17

9) If federal funds-approval: _____ Grant Manager Signature — Date of Grant Award: _____ Grant Number: _____

- [ ] Contractor is subrecipient of federal funds — Grant Term: From: _____ To: _____

10)

Item:	Chapter*	Statute	Fiscal Year
Fund:			
Optional Use:			

*If for Budget Year, the following language must be placed in the "Optional Use" block: "Subject to approval of the Budget Act of _____."

Funding is Available:

Reviewed by: _____ Analyst, Budget Office — _____ Date

Approved by: _____ Chief, Budget Office — _____ Date

Comments:

If the amount or term of the actual contract/MSA changes from what is approved on this form, CDIU will return the original CFA to Budgets for review/approval of changes. CDIU will return original CFA to Budgets if contracts are not executed.

Date

SCOPE OF WORK

1. URS, Contractor, agrees to enter into an Agreement with the Department of Toxic Substances Control (DTSC), to conduct a field investigation for the BAREC residential homes at the following addresses: 1) 112 North Henry Ave., Santa Clara. 2) 3217 Dorcich Ave.,San Jose. 3).2608 Forest Ave., San Jose. Details of the work start on Page 2 of this Exhibit and by this reference made a part hereof.

2. The Project Managers during the term of this agreement will be:

Dept. of Toxic Substances Control Attn: Ms. Virginia Lasky 700 Heinz Ave., Ste. 200 Berkeley, CA 94710 510-540-3817 Fax: 510-540-3819	URS Attn: 5801 Christie Avenue, Suite 600 Emeryville, CA 94608 510-650-6000 Fax: 510-547-5043

3. Either party may change the above referenced Project Managers upon written notification to each involved.

4. Work Orders will be issued detailing the implementation requirements for the work identified. Approval of Work Orders will be granted by the Contract Manager/Branch Chief, Barbara Cook, or designee.

   A sample Work Order Approval Form is attached and by this reference made a part hereof.

Intent

All work shall be conducted consistent with the requirements for hazardous substances release sites contained in Health and Safety Code Section 25300 et. seq., including consistency with the National Contingency Plan and other applicable State, Federal and local requirements, U.S. EPA and DTSC technical guidance documents, and directions from DTSC. The contractor shall perform all ancillary activities necessary to implement the objectives of the Scope of Work. Activities shall be conducted in a professional manner and consistent with the State Business Code.

Site Background

The sites to be samples are residential homes adjacent to the BAREC site. Investigations were conducted by homeowners and the results indicate dieldrin concentrations to be above the CHHSLs. The detected concentrations ranged from 121 to 183 ug/kg.

Implementation

It is the declared and acknowledged intention of this project to:

1. Prepare a Health and Safety Plan (HSP) for implementation of a DTSC-approved Sampling and Analysis Plan (SAP).

2. Perform field work to implement the DTSC-approved SAP.

3. Prepare a Technical Report summarizing results from the soil sampling.

The contractor shall conduct all activities in a timely and cost-effective manner. All deliverables shall be submitted to DTSC for approval.

Health and Safety Plan (HSP)

A site-specific Health and Safety Plan shall be prepared in accordance with federal (29 CFR 1910.120) and state (Title 8 CCR Section 5192) regulations. The purpose of the HSP is to establish prudent health and safety guidelines, which will minimize the risk of occupational accidents and exposure to hazardous substances, associated with environmental sampling. The HSP shall also provide emergency incidence response guidelines and contacts in the event of occupational accident or hazardous substance exposure. This HSP should include, at a minimum, the following elements:

1. Site Background/History/Workplan;
2. Key Personnel and Responsibilities;
3. Job Hazard Analysis/Summary;

4. Employee Training;
5. Personal Protection;
6. Medical Surveillance;
7. Air Surveillance;
8. Site Control;
9. Decontamination;
10. Contingency Planning;
11. Confined Space Operations;
12. Spill Containment;
13. Sanitation;
14. Illumination; and
15. Other applicable requirements based on the work to be performed.

DTSC's *Interim Draft Site Specific Health and Safety Plan Guidance Document for Site Assessment/Investigation, Site Mitigation Projects, Hazardous Waste Site Work Closure, Post Closure, and Operation and Maintenance Activities (DTSC, December 2000)* can be used as a reference tool.

All contractors and all subcontractors shall be given a copy of the Health and Safety Plan prior to entering the Site. Any supplemental health and safety plans prepared by any subcontractor shall also be prepared in accordance with the regulations and guidance identified above. The prime contractor will be responsible for ensuring that all subcontractor supplemental health and safety plans will follow these regulations and guidelines.

Submittal shall include a draft version of the document for DTSC comments.

Field Work

Contractor shall conduct field work in accordance with the approved Sampling and Analysis Plan which will be provided to them. The field work shall include the following:

- Soil shall be sampled at 0-6 inches and 18-24 inches below ground surface (bgs) for potential contaminants of concern, using direct-push equipment. Surface samples may be collected using trowels rather than direct-push equipment. Rinsate samples shall be collected for proper disposal of rinsate water.

Permitting, procurement of subcontractors, and waste containment activities.

Sampling and Analysis Report

Contractor shall complete a Technical Report. Submittal shall include a draft version of the document for DTSC review.

The Technical Report document shall include the following:

- A summary of the sampling activities and sample analysis results including figures, tables and lab data reports.

Federal Requirements

In accordance with 40CFR 31.22 the contractor must submit a document for labor rates for this Scope of Work identifying the breakdown of direct cost, overhead, profit, etc. See attached sample document.

Failure to comply with the above may result in termination of negotiations.

Residential Sampling near BAREC

Assumptions used for cost estimating:

- Soil sampling will be conducted at 6 locations in each residential backyard at 2 depths (0-6" and 18-24" below the ground surface (bgs)). Soil samples will be collected using direct-push equipment mounted on a limited access rig. DTSC will identify the exact sampling locations in the field. There will be a total of three residences to be sampled. All sampling will be completed in one day.

- Surface and subsurface soil samples will be collected by URS and placed in 8 oz glass containers provided by DTSC and then given to the DTSC staff.

- Sampling and drilling equipment will be decontaminated according to the approved sampling plan. Rinsate from the decontamination will be collected in drums which will be locked, secured, transported and stored at 90 North Winchester Blvd, Santa Clara. The rinsate will be analyzed by DTSC's ECL to determine disposal options. Within one month of the date of sampling, the drums will be picked up by URS and URS will dispose of the rinsate in compliance with the state and federal hazardous waste disposal requirements.

- Investigation derived wastes (IDW) are non-hazardous;

- The Health and Safety Plan must be signed by a Certified Industrial Hygienist.

- Utility locator survey will be conducted in one day.

- After each sampling event, all sampling materials and trash should be removed from the resident's backyards.

California Environmental Protection Agency

Department of Toxic Substances Control

FISCAL APPROVAL TO ENTER INTO A CONTRACT/MASTER SERVICE AGREEMENT

CFA# 07-148
Budget Office Use

INSTRUCTIONS: Requesting unit must complete form and obtain Budget Office approval prior to obtaining a contract number from the Contract Development and Implementation Unit (CDIU)

To: DTSC, Budget Office, 1001 I Street, Floor 21

From: Northern Calif Coastal Cleanup Operations

Address: 700 Heinz Avenue, Suite 200 City: Berkeley State: CA Zip Code: 94710

Contact Person: Virginia Lasky Contact Phone: 510 540 3829

Date of Request: 10/11/2007

Signature of Deputy Director/Delegated Authority

3) Request is for:

☑ New Contract Contract Number: _____ (Information to be provided by CBSB)

☐ Renewal of Existing Contract Contract Number: _____ (Information to be provided by Requestor)

☐ Amendment Contract Number: _____ (Information provided by Program) Amendment Number: _____ (Information provided by Program)

☐ Fund Strip Change Only ☐ Time Extension Only

4) Name of Contractor: URS Corporation

5a) Original Amount $ 20,000.00 6a) Original Contract Term: From: 11/1/2007 To: 3/30/2008

5b) Amount Amended +/- $ _____ 6b) Amendment Extend To: _____

7) Purpose: (Requestor explains the service to be rendered, payment type (progress, lump sum), special needs or requirements)

~~Site Specific work at the Chemical and Pigment Site. Amendment to extend time of contract.~~

To conduct sampling at the residents' backyards next to the BAREC site.

JL 10-18-07

8) Funding: FY 06/07 $ 20,000
FY _____ $ _____
FY _____ $ _____

INDEX	OBJ (AGY)	PCA	PROJECT (SITE)
5200	418	10263	201766-17

9) If federal funds-approval: _____ Grant Manager Signature

Date of Grant Award: _____
Grant Number: _____
Grant Term: From: _____ To: _____

☐ Contractor is subrecipient of federal funds

10)

Item:	Chapter*	Statute	Fiscal Year
Site Remediation Account	47	2006	06/07
Fund: 3960-001-0018			
Optional Use:			

*If for Budget Year, the following language must be placed in the "Optional Use" block: "Subject to approval of the Budget Act of _____."

Funding is Available:

Reviewed by: _____ Analyst, Budget Office — 10-18-07 Date

Approved by: Sara Benson Chief, Budget Office — 10/18/07 Date

Comments:

11) *If the amount or term of the actual contract/MSA changes from what is approved on this form, CDIU will return the original CFA to Budgets for review/approval of changes.CDIU will return original CFA to Budgets if contracts are not executed.*

ISAB

Budget Office Use

DTSC 1078 (06/01/04)

Linda Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
700 Heinz Avenue
Berkeley, California 94710-2721

Arnold Schwarzenegger
Governor

October 19, 2007

Mr. Ron Small
Department of General Services
Real Estate Service Division,
Asset Planning and Enhancement Div.
707 3rd Street, Suite 6-130
West Sacramento, CA 95605

Dear Mr. Small:

This letter is to notify you that the Final Removal Action Workplan (RAW) has been approved for the BAREC Site in Santa Clara. The Department of Toxic Substances Control (DTSC) has determined that the RAW satisfactorily addresses all applicable state and federal statutes and regulations. Please notify DTSC at least five days prior to start of fieldwork.

The Removal Action Completion Report should be submitted within 30 days after completion of the removal action.

Please insert the Responsiveness Summary and the Notice of Determination into the Final Removal Action Workplan (RAW). Please also update the RAW in the repository.

If you have any questions, please contact Virginia Lasky at (510) 540-3829.

Sincerely,

Barbara J. Cook, P.E., Chief
Northern California
Coastal Cleanup Operations Branch

Enclosures

cc: Ms. Anne Wooster Gates, P.E.
ENVIRON
6001 Shellmound St., Suite 700
Emeryville, CA 94608

Printed on Recycled Paper

SANTA CLARA CA
90 NORTH WINCHESTER BLVD
BER

State of California – California Environmental Protection Agency

Department of Toxic Substances Control

NOTICE OF DETERMINATION

To: Office of Planning and Research
State Clearinghouse
P.O. Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: Department of Toxic Substances Control
Northern California – Coastal Cleanup Branch
700 Heinz Avenue, Suite 200
Berkeley, CA 94710

Subject: FILING OF NOTICE OF DETERMINATION IN COMPLIANCE WITH SECTION 21108 OR 21152 OF THE PUBLIC RESOURCES CODE

Project Title: Removal Action Workplan for the former BAREC site (now Santa Clara Gardens Development Project)

State Clearinghouse No.: SCH# 2003072093

Project Location: 90 North Winchester Blvd., Santa Clara, CA

County: Santa Clara County

Project Description: The Removal Action Workplan (RAW) consists of a removal and off-site disposal of soil contaminated with arsenic and dieldrin to an approved offsite facility. Approximately 6,000 cubic yards of soil will be excavated from an area that is a little over an acre in size. Most excavation will go down to three feet. Excavated areas will be backfilled with clean soil. The RAW was prepared consistent with the Health and Safety Code, Section 25356.1.

As ☐ Lead Agency ☒ a Responsible Agency under the California Environmental Quality Act (CEQA), DTSC approved the above-described project on **[date]** and has made the following determinations:

1. The project ☐ will ☒ will not have a significant effect on the environment.
2. A ☐ Negative Declaration ☐ Mitigated Negative Declaration ☒ Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures ☒ were ☐ were not made a condition of project approval.
4. A mitigation reporting or monitoring plan ☒ was ☐ was not adopted for this project.
5. A Statement of Overriding Considerations ☐ was ☒ was not adopted for this project.
6. Findings ☒ were ☐ were not made pursuant to the provisions of CEQA.

This is to certify that the final environmental document, comments and responses, and the record of project approval are available to the public at the following location: [Address] [City], CA [Zip Code].

Virginia Lasky Contact Person Name	Hazardous Substances Engineer Contact Person Title	510-540-3829 Phone #
Barbara J. Cook Branch Chief Signature		10/19/2007 Date
Barbara J. Cook, P.E. Branch Chief Name	Hazardous Substances Engineer Sup. II Branch Chief Title	510-540-3843 Phone #

TO BE COMPLETED BY OPR ONLY

Date Received For Filing and Posting at OPR:

DTSC 1329 (3/06/06)

SANTA CLARA CA BER

CALIFORNIA ENVIRONEMNTAL QUALITY ACT
RESPONSIBLE AGENCY
STATEMENT OF FINDINGS

Project Title: Removal Action Workplan for the former BAREC (now Santa Clara Gardens Development Project)

State Clearinghouse Number: SCH 2003072093

Responsible Agency Contact Person: Virginia Lasky, Project Manager

Telephone No.: (510) 540-3829

Project Location: 90 North Winchester Blvd., Santa Clara, Santa Clara County.

Project Description: The Removal Action Workplan (RAW) consists of a removal and off-site disposal of soil contaminated with arsenic and dieldrin to an approved offsite facility. Approximately 6,000 cubic yards of soil will be excavated from an area that is a little over an acre in size. Most excavation will go down to three feet. Excavated areas will be backfilled with clean soil. The RAW was prepared consistent with the Health and Safety Code, Section 25356.1.

Findings:

As a Responsible Agency, DTSC reviewed the following documents prepared by the City of Santa Clara as Lead Agency for the larger redevelopment project to assess impacts as they relate to the project now before DTSC for consideration:

- City of Santa Clara, *Draft Environmental Impact Report (EIR) for the Santa Clara Gardens Development Project.* March 9, 2006 (SCH# 2003072093)
- City of Santa Clara, *Recirculated Draft EIR for the Santa Clara Gardens Development Project.* July 21, 2006.
- City of Santa Clara, Final EIR for the *Santa Clara Gardens Development Project.* March 26, 2007.

Using its independent judgment, DTSC makes the following findings:

1. The above documents a) adequately addressed the proposed impacts of the project now before DTSC for decision; and b) are adequate for use by DTSC for assessing potential impacts of the soil excavation, now before DTSC for approval.

   DTSC concurs with the findings made by the City in the above documents relating to the larger Santa Clara Gardens Development Project. In assessing impacts associated with the development project, the City concluded that approval of the overall development project would have significant unavoidable impacts to Land Use, Transportation and Circulation, and Cumulative Impacts on Air Quality, Transportation and Circulation, and Land Use and Agricultural Resources. As a result, the City adopted a Statement of Overriding Considerations. It should be noted that most of the significant and unavoidable impacts are associated with the larger project which is the development. However, in considering the impacts of the RAW, DTSC concluded the following:

   Land Use: The City finds the conversion of Farmland to Non-Agricultural Use to be a significant impact. There are no feasible mitigation measures available to reduce the project's important farmland impacts. Therefore, this would be a significant and unavoidable impact of the project. However, the DTSC project does not involve any land use decisions and therefore has no impact on agricultural resources.

   Transportation and Circulation: The EIR also found that future development may cause a potentially significant impact on vehicular site access and onsite circulation depending on the design/redesign and approval of project access roadways. This would, however, be mitigated by the following: by adding the project driveway to the existing signalized intersection and restricting the intersection of the west leg of Forest Avenue with Winchester Boulevard to right turns only. Because construction of this improvement requires a permit from the City of San Jose and the City of Santa Clara cannot guarantee that the mitigation measures will be constructed to accommodate project impacts on Winchester Blvd. This would result in significant, unavoidable short-term traffic impacts. However, the DTSC soil remediation project would generate up to 40 one-way truck trips per day. The remediation and development construction trips would not occur simultaneously since all remediation activities would be completed before project

SANTA CLARA CO.
SANTA CLARA CA
90 NORTH WINCHESTER BLVD
BAREC
BER

construction and would be using existing roadways. The remediation related trips would be temporary and would not substantially increase existing roadway traffic volumes. This would be a less-than-significant impact.

Cumulative Impacts:

a) Air Quality: EIR has determined that the development project could result in construction-related PM_{10} emissions that would contribute to the continued exceedance of BAAQMD thresholds. This is considered a significant cumulative PM_{10} air quality impact. However, the EIR acknowledged that remediation activities would not contribute to this cumulative impact due to the implementation of dust control measures incorporated into the RAW during remediation activities and the short duration of remediation activities. This would be a less-than-significant impact.

b) Transportation and Circulation: The development project would impact four intersections. Infrastructure improvements have been identified which would reduce these impacts to less than significant levels. However, due to the uncertainty of funding for the improvements, this remains a cumulatively significant and unavoidable impact. For remediation project, due to the limited number of trucks required for the implementation of the DTSC RAW, and it's temporary, short term duration, the DTSC RAW does not contribute to this significant unavoidable impact to Transportation and Circulation. This would be a less-than-significant impact.

c) Land Use and Agricultural Resources: The EIR determined that the conversion of agricultural land by the proposed development would result in a significant and unavoidable cumulative impact. However, the DTSC remediation of contaminated soil would not result in loss of agricultural land and does not involve any land use decisions. This would be a less-than-significant impact.

2. Approval of the RAW will not result in significant effects on the environment. Mitigation measures identified in the EIR for Noise and the Cultural Resources Impacts have been incorporated into the RAW, as appropriate, to reduce impacts to less-than-significant levels. No additional DTSC mitigation measures are necessary to approve the project, and no DTSC monitoring plan is required as otherwise required pursuant to Public Resources Code Section 21081.6.

A Notice of Determination (NOD) indicating the results of said findings will be filed with the State Clearinghouse of the Governor's Office of Planning and Research pursuant to Section 15096(i) of the State CEQA Guidelines.

Certification:

I hereby certify that the statements furnished above present the data and information used to support the findings made herein pursuant to Cal. Code Regs., tit. 14, § 15091 or 15096 (h), and the facts, statements, and information presented herein, are true and correct to the best of my knowledge and belief.

Barbara J. Cook		10/19/2007
DTSC Branch Chief Signature		Date
Barbara J. Cook, P.E.	Hazardous Substances Engineer Sup. II	(510) 540-3843
DTSC Branch Chief Name	DTSC Branch Chief Title	Phone #

Soil & Plant Laboratory, Inc.

Leaders in Soil & Plant Testing Since 1964
302 Gallinas Street Santa Clara, CA 95052 408-727-2330 (voice) 408-727-0123 (fax)
www.soilandplantlab@sandiego.com

VIVA
1888 Hamchett Ave
San Jose, CA 95128

Project Description: **Analytical Testing**

Lab Order Number: 07-116-0015
Lab ID: 0704935-002A
Field ID: Doruch
Sample Number: 28537

Report of Analysis
Received: 04/30/07
Matrix: Soil
Sampled: 04/26/07

Analytical Method 8081A
Prep Method: 3550B Prep Batch(s): 14008 Date/Time Prepped: 05/02/07 13:45

Compound	Result	Units		MQL	DF	Date/Time Analyzed	By	Analytical Batch
gamma-BHC	< 2.00	µg/Kg		2.00	10	05/07/07 22:32	DPC	26008
4,4'-DDE	701	µg/Kg		29.0	100	05/08/07 0:43	DPC	26008
4,4'-DDT	742	µg/Kg		20.0	100	05/08/07 0:43	DPC	26008
Dieldrin	183	µg/Kg		20.0	100	05/08/07 0:43	DPC	26008
Heptachlor epoxide	50.8	µg/Kg		2.00	10	05/07/07 22:32	DPC	26008
Surrogate: Decachlorobiphenyl		80 %	Limits:	37-165	10	05/07/07 22:32	DPC	26008
Surrogate: Tetrachloro-m-xylene		83 %	Limits:	18-158	10	05/07/07 22:32	DPC	26008

Qualifiers/ Definitions

*	Surrogate Recovery outside accepted limits
B	Analyte detected in the associated Method Blank
E	Value exceeds method calibration range
J	Estimated Value Analyte below reported detection limit
MDL	Method Dection Limit (unadjusted)
MRL	Method Reporting Limit
Q	RPD >40% between primary and confirmation columns
*1	Recoveries affected by interferences or high background
DF	Dilution Factor
H	Prepped / Analyzed out of holding time
M	Minimum value
MQL	Method Quantitation Limit (adjusted)
N	Refer to attached Non-Compliance Report
SQL	Sample Quantitation Limit (adjusted MDL)

Soil & Plant Laboratory, Inc.

Leaders in Soil & Plant Testing Since 1946
[illegible] Santa Clara Ca 95051 408-727-3330 (phone) 408-727-1123 fax
[illegible]

VIVA
1688 Menchett Ave
San Jose, CA 95128

Project Description: **Analytical Testing**

Lab Order Number: **07-116-0015**
Lab ID: **0704935-003A**
Field ID: **Forest**
Sample Number: **58528**

Report of Analysis
Received: **04/30/07**
Matrix: **Soil**
Sampled: **04/26/07**

Analytical Method 8081A

Prep Method 3550B **Prep Batch(s)** 14068 **Date/Time Prepped** 05/02/07 13:45

Compound	Result	Units		MQL	DF	Date/Time Analyzed	By	Analytical Batch
gamma-BHC	< 2.00	µg/Kg		2.00	10	05/07/07 22:58	DPC	26008
4,4'-DDE	174	µg/Kg		20.0	100	05/08/07 1:09	DPC	26008
4,4'-DDT	118	µg/Kg		20.0	100	05/08/07 1:09	DPC	26008
Dieldrin	134	µg/Kg		20.0	100	05/08/07 1:09	DPC	26008
Heptachlor epoxide	7.45	µg/Kg		2.00	10	05/07/07 22:58	DPC	26008
Surrogate: Decachlorobiphenyl		79 %	Limits:	37-105	10	05/07/07 22:58	DPC	26008
Surrogate: Tetrachloro-m-xylene		73 %	Limits:	18-158	10	05/07/07 22:58	DPC	26008

Qualifiers/ Definitions

*	Surrogate Recovery outside accepted limits	*1	Recoveries affected by interferences or high background
B	Analyte detected in the associated Method Blank	DF	Dilution Factor
E	Value exceeds method calibration range	H	Prepped / Analyzed out of holding time
J	Estimated Value. Analyte below reported detection limit	M	Minimum value
MDL	Method Decision Limit (unadjusted)	MQL	Method Quantitation Limit (adjusted)
MRL	Method Reporting Limit	N	Refer to attached Non-Compliance Report
Q	RPD >40% between primary and confirmation columns	SQL	Sample Quantitation Limit (adjusted MDL)

05/10/07 1862 VIVA_SPL

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Leaders in Soil & Plant Testing Since 1946
312 Walker Street Santa Clara, CA 95050 408-727-0135 (phone) 408-727-5121 (fax)

VIVA
1249 Hamilton Ave
San Jose, CA 95125

Project Description: **Analytical Testing**

Lab Order Number: 07-116-0015
Lab ID: 0704935-001A
Field ID: Heavy
Sample Number: 28526

Report of Analysis
Received: 04/30/07
Matrix: Soil
Sampled: 04/26/07

Analytical Method 8081A

Prep Method: 3550B Prep Batch(s): 14508 Date/Time Prepped: 05/02/07 13:45

Compound	Result	Units	MQL	DF	Date/Time Analyzed	By	Analytical Batch
gamma-BHC	< 2.00	µg/Kg	2.00	10	05/07/07 21:13	DPC	26008
4,4'-DDE	62.0	µg/Kg	2.00	10	05/07/07 21:13	DPC	26008
4,4'-DDT	51.2	µg/Kg	2.00	10	05/07/07 21:13	DPC	26008
Dieldrin	121	µg/Kg	2.00	10	05/07/07 21:13	DPC	26008
Heptachlor epoxide	17.3	µg/Kg	2.00	10	05/07/07 21:13	DPC	26008
Surrogate: Decachlorobiphenyl		87 %	Limits: 37-165	10	05/07/07 21:13	DPC	26008
Surrogate: Tetrachloro-m-xylene		61 %	Limits: 18-158	10	05/07/07 21:13	DPC	26008

Qualifiers/ Definitions

*	Surrogate Recovery outside accepted limits	*1	Recoveries affected by interferences or high background
B	Analyte detected in the associated Method Blank	DF	Dilution Factor
E	Value exceeds method calibration range	H	Prepped / Analyzed out of holding time
J	Estimated Value. Analyte below reported detection limit	M	Minimum value
MDL	Method Detection Limit (unadjusted)	MQL	Method Quantitation Limit (adjusted)
MRL	Method Reporting Limit	N	Refer to attached Non-Compliance Report
Q	RPD>40% between primary and confirmation columns	SQL	Sample Quantitation Limit (adjusted MDL)

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www.soilandplantlaboratory.com

Report Number
07-116-2015

Account Number
01862

Send To : Viva
NII
1698 Hanchett Ave.
San Jose , CA 95128

Project :

Purchase Order :
Report Date : 5/11/2007
Date Received : 4/25/2007

REPORT OF ANALYSIS

Date Sampled : 4/24/2007

Lab Number : 28527
Sample Id : Dorcich

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Arsenic , mg/Kg	12.4	0.455	SW-6010B	05/04/2007 08:25	JTR
Total Cadmium , mg/Kg	0.281	0.091	SW-6010B	05/04/2007 08:25	JTR
Total Chromium , mg/Kg	37.9	0.227	SW-6010B	05/04/2007 08:25	JTR

Method Reference:
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision.
Comments:

M. Scott McKee, Technical Director

Results are reported 'as received' and are not moisture corrected unless noted

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Report Number
07-115-2015 Page: 3 of 3

Account Number
01862

Send To : Viva
spl
1698 Hanchett Ave.
San Jose , CA 95126

Project :

Purchase Order :
Report Date : 5/11/2007
Date Received : 4/26/2007

REPORT OF ANALYSIS

Date Sampled : 4/24/2007

Lab Number : 28528
Sample Id : Forest

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Arsenic , mg/Kg	9.78	0.5	SW-6010B	05/04/2007 08:25	JTR
Total Cadmium , mg/Kg	0.283	0.1	SW-6010B	05/04/2007 08:25	JTR
Total Chromium , mg/Kg	34.6	0.25	SW-6010B	05/04/2007 08:25	JTR

Method Reference:
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
Comments:

M. Scott McKee, Technical Director

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Report Number
07-116-2015 Page: 1 of 3

Account Number
01852

Send To : Viva
IGF
1688 Hanchett Ave.
San Jose , CA 95125

Project :

Purchase Order :
Report Date : 5/11/2007
Date Received : 4/26/2007
Date Sampled : 4/26/2007

REPORT OF ANALYSIS

Lab Number : 28528
Sample Id : Henry

Analysis	Result	Quantitation Limit	Method	Date and Time Test Started	Analyst
Total Arsenic , mg/Kg	5.79	0.5	SW-6010B	05/04/2007 08:25	JTR
Total Cadmium , mg/Kg	0.907	0.1	SW-6010B	05/04/2007 08:25	JTR
Total Chromium , mg/Kg	88.3	0.25	SW-6010B	05/04/2007 08:25	JTR

Method Reference:
USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. Current Revision
Comments:

M. Scott McKee, Technical Director

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Lucianna Barsanti (408) 296-1232
3217 Dorcich St.
San Jose, CA 95117
(Dorcich St. resident since 5/1953)

Thank you for the opportunity to speak to you.

I am a concerned cancer ~~survivor~~ victim, having been diagnosed with Lymphoma in April 2002. I am currently in remission after having had 4 rounds of 4 weeks each of Rituxan.

There have been 6 cases of cancer, ~~4~~ 1 out of 13 homes all Dorcich St. residents bordering **BAREC**, 4 are deceased, 2 of us survivors, and many more cancer victims in the neighborhood.

Soil contamination in the **BAREC** property is a major concern. Contamination in the soil in our backyard which borders **BAREC** is **WAY OVER EPA** standards. Our soil samples were removed on April 24th and tested April 26th by Soil and Plant Laboratory in Santa Clara.

EPA requires clean up for Dieldrin levels over 30mg/kg.

Our soil level is 183 mg/kg. This is **INCREDIBLE!!**

We want **MORE INDEPENDENT** testing of the **BAREC** property.

WE ARE ALL VERY CONCERNED! WE NEED YOUR HELP!

I am attaching a copy of the report for your records.

Thank you for your attention,

Soil & Plant Laboratory, Inc.

Leaders in Soil & Plant Testing Since 1946

352 Mathew Street Santa Clara, CA 95050 408-727-[illegible] (phone) 408-727-5425 (fax)
www.soilandplantlaboratory.com

VIVA
[illegible] Hamilton Ave
San Jose, CA 95128

Project Description: Analytical Testing

Lab Order Number: 07-116-0015
Lab ID: 0704935-002A
Field ID: Dorach
Sample Number: 28527

Report of Analysis
Received: 04/30/07
Matrix: Soil
Sampled: 04/30/07

Analytical Method 8081A

Prep Method: 3550B Prep Batch(s): 14968 Date/Time Prepped: 05/02/07 13:45

Compound	Result	Units	MQL	DF	Date/Time Analyzed	By	Analytical Batch
gamma-BHC	<2.00	µg/Kg	2.00	10	05/07/07 22:32	DPC	26035
4,4'-DDE	701	µg/Kg	30.0	100	05/08/07 9:43	DPC	26035
4,4'-DDT	742	µg/Kg	30.0	100	05/08/07 9:43	DPC	26035
Dieldrin	163	µg/Kg	30.0	100	05/08/07 9:43	DPC	26035
Heptachlor epoxide	86.6	µg/Kg	2.00	10	05/07/07 22:32	DPC	26035
Surrogate: Decachlorobiphenyl		86 %	Limits: 37-105	10	05/07/07 22:32	DPC	26035
Surrogate: Tetrachloro-m-xylene		83 %	Limits: 15-158	10	05/07/07 22:32	DPC	26035

EPA requires clean-up for levels over 30 µg/Kg

Qualifiers/Definitions

- * Surrogate Recovery outside accepted limits
- B Analyte detected in the associated Method Blank
- E Value exceeds method calibration range
- J Estimated Value. Analyte below reported detection limit
- MDL Method Detection Limit (unadjusted)
- MRL Method Reporting Limit
- Q RPD >40% between primary and confirmation columns
- *1 Recovery affected by interferences or high background
- DF Dilution Factor
- H Prepped / Analyzed out of holding time.
- M Minimum value
- MQL Method Quantitation Limit (adjusted)
- N Refer to attached Non-Compliance Report
- SQL Sample Quantitation Limit (adjusted MDL)

09/18/07 18:03 VIVA_STL

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
700 Heinz Avenue
Berkeley, California 94710-2721

Arnold Schwarzenegger
Governor

November 7, 2006

Mr. Ron Small
Department of General Services
Real Estate Service Division,
Asset Planning and Enhancement Div.
707 3rd Street, Suite 6-130
West Sacramento, CA 95605

FILE COPY

Dear Mr. Small:

The Department of Toxic Substances Control (DTSC) has completed its review of the Revised Screening-level Risk Assessment dated October 26, 2006 for the Bay Area Research Extension Center (BAREC). DTSC hereby approves the Revised Screening-level Risk Assessment.

If you have any questions, please contact Virginia Lasky of my staff at (510) 540-3829.

Sincerely,

Barbara J. Cook, P.E., Chief
Northern California
Coastal Cleanup Operations Branch

cc: Mr. Jeffrey Crone
Department of General Services
Real Estate Service Division,
Asset Planning and Enhancement Div.
707 3rd Street, Suite 6-130
West Sacramento, CA 95605

cc: Ms. Anne Wooster Gates, P.E.
ENVIRON
5820 Shellmound Street, Suite 700
Emeryville, California 94608

Printed on Recycled Paper

Department of Toxic Substances Control

Maureen F. Gorsen, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

MEMORANDUM

TO: Virginia Lasky
Site Mitigation and Brownfields Reuse Program
700 Heinz Avenue, Suite 200
Berkeley, CA 94710

FROM: Kimiko Klein, Ph.D.
Staff Toxicologist
Human and Ecological Risk Division (HERD)

DATE: October 30, 2006

SUBJECT: Screening-level Risk Assessment
FORMER UNIVERSITY OF CALIFORNIA BAY AREA RESEARCH AND EXTENSION CENTER (BAREC)
PCA CODE: 12175 SITE CODE: 201464-11

Background

This site was a former agricultural research station that operated from the 1920s to 2003. Since the results of soil investigation showed that arsenic and dieldrin are present in surface soil, contaminated soils will be removed and disposed of off-site. A screening-level human health risk assessment has been performed to evaluate the potential health risks to residents living adjacent to the site associated with the proposed remedial action activities. The Human and Ecological Risk Division (HERD) has been requested to provide technical support and commented on a draft screening-level risk assessment in a memorandum, dated October 4, 2006.

Documents Reviewed

The HERD reviewed a memorandum, dated October 25, 2006, from ENVIRON, with the subject: "Screening-Level Risk Assessment for the former University of California Bay Area Research and Extension Center (BAREC)". The HERD received this memorandum via electronic mail on October 27, 2006. At the same time, the HERD received responses to DTSC comments.

General Comments and Conclusions

This assessment has been acceptably revised to address all of the comments of the HERD. The responses to DTSC comments is also acceptable.

If you have any questions, please contact me at (916) 255-6643, (510) 540-3792, or via electronic mail at kloeng@dtsc.ca.gov.

Reviewed by: David L. Berry, Ph.D.
Senior Toxicologist
Human and Ecological Risk Division

Responses to DTSC Comments
Screening-level Risk Assessment
Former University of California Bay Area Research and Extension Center (BAREC)

This attachment presents responses to comments from the California Department of Toxic Substances Control (DTSC) on the *Screening-level Risk Assessment for the former University of California Bay Area Research and Extension Center (BAREC)*, dated September 6, 2006. The comments were received from DTSC in a memorandum dated October 4, 2006.

No.	DTSC Comment	ENVIRON Response
General Comment		
	The HERD agrees with ENVIRON's risk assessment for the former University of California Bay Area Research and Extension Center (BAREC). The risk assessment concludes that the potential risks and hazards from inhaling contaminated dust that may be generated by the remedial activities are insignificant. The HERD also agrees with the establishment of an arsenic cleanup goal of 20 mg/kg, based on regional background, which will result in an average concentration of arsenic of approximately 12 mg/kg, if used as a ceiling value, and a dieldrin cleanup goal of 0.03 mg/kg, which is equivalent to the U.S. Environmental Protection Agency (US EPA) residential preliminary remedial goal (PRG).	ENVIRON acknowledges HERD's concurrence with the conclusions of the screening-level risk assessment for the proposed removal action and the cleanup goals of 20 mg/kg for arsenic and 0.03 mg/kg for dieldrin.
Specific Comments		
1.	The estimate of the time it will take to complete remedial activities is six weeks. The equations characterizing the cancer risks are based upon studies and assumptions that chronic exposure will take place over a period of years. Since this exposure duration is so short and measured in weeks, the use of these equations to estimate cancer risk may not be appropriate (see references: 1) Goddard, M.J., Murdoch, D.J. and Krewski, D. 1995. Temporal aspects of risk characterization. *Inhal. Toxicol.* 7:1005-1018 and 2) Murdoch, D.J. and Krewski, D. 1988. Carcinogenic risk assessment with time-dependent exposure patterns. *Risk Anal.* 8: 521-530.) The more relevant measure of potential harm to off-site residents is the hazard index (HI). However, the HIs calculated in this assessment used chronic toxicity criteria to evaluate short term exposure. The report should at least be revised to include in the discussion section the validity of using chronic toxicity criteria to evaluate short term exposure.	ENVIRON prepared the risk assessment in part to respond to specific concerns of nearby residents regarding potential health effects, including cancer, associated with possible exposures during the removal action. As HERD has noted, risk assessment methodologies have been derived assuming chronic exposure to chemicals, in contrast to the six-week time frame evaluated in this risk assessment. While the absence of methodologies and toxicity values specific to the shorter timeframe evaluated in this assessment introduces additional uncertainties into the risk estimates, the evaluation of noncancer effects using chronic toxicity values provides very conservative (health protective) estimates of the hazard index. For the carcinogenic endpoint, the

Responses to DTSC Comments
Screening-level Risk Assessment
Former University of California Bay Area Research and Extension Center (BAREC)

No.	DTSC Comment	ENVIRON Response
		studies cited by HERD suggest that the cancer risks may be over- or underestimated by a factor of up to approximately ten. As requested by HERD, the text of the report has been expanded to include a discussion of the additional uncertainties associated with the use of methodologies developed for evaluating chronic exposures to an evaluation of the short-term exposure considered in this assessment.
2.	The calculation of the concentration of chemical in dusts is dependent upon the estimate of respirable dust in the air at the perimeter of the site. The respirable dust estimate used in the risk assessment is taken from the draft removal action workplan (RAW). In addition, the respirable dust estimate is dependent upon implementation of dust control measures at the site. The HERD has not reviewed this RAW and assumes that other DTSC staff have reviewed and approved of the workplan. In particular, the HERD assumes that real-time daily dust monitoring will take place at the site perimeter during remedial activities as part of the dust control program.	As discussed in Section 5.4.3 of the Draft RAW, real-time dust monitors will be installed at the fenceline and data collected at an hourly rate. In addition, dust control measures will be implemented to minimize the amount of dust generated during soil excavation and handling activities.
3.	Table 2 Calculation of Exposure Point Concentration in Air. Include a footnote that explains whether the soil concentrations used for the calculation of exposure point concentrations are the maximum concentrations detected, the 95% upper confidence limits (UCL) on the mean concentrations, or some other statistically-derived values.	The requested footnote has been added to Table 2, stating that maximum detected concentrations are used as the exposure point concentrations.

ENVIRON

MEMORANDUM

Date: October 26, 2006

To: Virginia Lasky

From: Anne Gates, ENVIRON Corporation
Lynne Haroun, ENVIRON Corporation

Subject: **Screening-level Risk Assessment for the Former University of California Bay Area Research and Extension Center (BAREC)**

This memorandum presents a screening-level, human health risk assessment (SRA) for the Former University of California Bay Area Research and Extension Center (BAREC). The site is located at 90 North Winchester Boulevard in the City of Santa Clara, California. As described in the Draft Removal Action Workplan (RAW) (ENVIRON International Corporation [ENVIRON] 2003b), approximately 6,000 cubic yards of soil containing arsenic and dieldrin will be excavated and removed from the site. The purpose of this SRA is to evaluate potential health risks to off-site (nonworker) populations associated with proposed remedial action activities. In particular, the SRA evaluates potential risks to residents living adjacent to the site.

BACKGROUND

Since the 1920s, the BAREC was used as an agricultural research station. The primary research activities focused on improving crop production methods, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Part of this research involved testing the efficacy of a variety of pesticides applied to soils. The State of California closed the BAREC in early 2003 and plans to sell the property for development of single-family homes, open space, and senior housing. As part of the closure process, a series of environmental investigations were conducted at the site. The investigations included collection of surface soil samples and analysis for pesticide residues at over 60 locations. The chemicals analyzed included 14 chemicals known to have been used at the site, and 75 pesticides that were commonly used prior to 1979. Subsurface soil samples were also collected and analyzed from a former sewer leach pit, a former evaporation pond, and former sediment trap to determine if deeper subsurface soil beneath the site contained pesticide residues. A detailed summary of the soil and other investigations completed at the site is presented in the Site Characterization (ENVIRON 2003a) and Draft RAW Reports (ENVIRON 2003b).

The soil investigation results indicated that arsenic and dieldrin are present in surface soil at concentrations above United States Environmental Protection Agency (USEPA) Region 9

6001 Shellmound St., Suite 700 / Emeryville, California 94608-1934 / USA / Tel (510) 655-7400 / Fax (510) 655-9517

Preliminary Remediation Goals (PRGs). The recommended remediation presented in the Draft RAW is excavation and offsite disposal of soils in areas of the site where these chemicals are present at concentrations above the cleanup goals established in the Draft RAW. The cleanup goal for arsenic is 20 milligrams per kilogram (mg/kg), the natural background concentration for arsenic in the area. The cleanup goal for dieldrin is 0.03 mg/kg, the residential PRG (USEPA 2004)[1]. Approximately 6,000 cubic yards of soil will be excavated and disposed of at an offsite location. Following remediation, the average concentration of arsenic is expected to be approximately 12 mg/kg and the average concentration of dieldrin is expected to be less than 0.03 mg/kg.

SCREENING-LEVEL HUMAN HEALTH RISK ASSESSMENT

A SRA was completed to evaluate the potential health risks associated with potential exposures to airborne dusts released from the site during remedial action activities. The assessment is referred to as a "screening-level" assessment because it is based on simplifying, but health-protective, assumptions that are intended to overestimate the potential risks. The approach used is consistent with risk assessment guidelines from the California Environmental Protection Agency (Cal/EPA) (1994, 2005) and the USEPA (1989).

The available risk assessment guidance and toxicity values from Cal/EPA and USEPA were developed to evaluate long-term (chronic) exposures to chemicals and in some cases, acute (less than one day) exposures. The time to implement the proposed remedial activities at the property is six weeks, which falls between these two general timeframes. For this assessment, the equations and toxicity values used were those developed assuming chronic exposure. This is considered a health-protective approach, in that it allows for the evaluation of potential carcinogenic and noncarcinogenic health effects. Uncertainties associated with the use of methodologies derived for evaluating chronic exposures to evaluate short-term exposures are discussed below with the risk results.

Chemicals of Potential Concern (COPCs)

The COPCs identified in the Draft RAW are arsenic and dieldrin. Both chemicals are carcinogens and can also induce other, noncarcinogenic effects. All other chemicals analyzed for were below their USEPA residential PRGs and were therefore not identified as COPCs.

Receptors, Exposure Pathways, and Exposure Parameters

The BAREC is located in a mixed commercial and residential area, with residences adjacent to the site boundary. Consistent with this land use, a child and adult resident receptor are identified for evaluation. Although other off-site receptors could be exposed (e.g.,

---

[1] The California Environmental Protection Agency (Cal/EPA) issued California Human Health Screening Levels (CHHSLs) in 2005 (Cal/EPA 2005). CHHSLs are functionally equivalent to the more familiar U.S. EPA Region 9 PRGs. However, the CHHSLs are derived using toxicity values applicable for California. The residential CHHSL for dieldrin (0.035 mg/kg) is slightly higher than the USEPA Region 9 residential PRG (0.030 mg/kg).

commercial workers or individuals walking by the site), the potential risks of these receptors would be less than those estimated for a resident. The complete exposure pathway evaluated for the resident is inhalation of airborne dusts or particulates released from soil to air. The site is fenced and access is currently restricted such that exposure through direct contact with soil (resulting in possible soil ingestion or dermal contact) would not occur.

The intake (or dose) through the inhalation pathway was estimated using the following equation:

$$I = \frac{C \times IR \times ET \times EF \times ED}{BW \times AT}$$

where:

I	=	Intake of a chemical (mg chemical/kg body weight-day)
C	=	Chemical concentration in air (mg chemical/cubic meter [m^3] air)
IR	=	Inhalation rate (m^3/hour)
ET	=	Exposure time (hours/day)
EF	=	Exposure frequency (days/week)
ED	=	Exposure duration (weeks)
BW	=	Body weight (kg)
AT	=	Averaging time; period over which exposure is averaged (days)

Consistent with USEPA guidance (1989), the exposure parameter values (or assumptions) used in the intake equation correspond to a reasonable maximum exposure (RME) scenario. Intake assumptions for the RME scenario represent "the highest exposure that is reasonably expected to occur at the site" (USEPA 1989). The intent of the RME scenario is "to estimate a conservative exposure case (i.e., well above the average case) that is still within the range of possible exposures" (USEPA 1989). The RME is estimated by combining "upper-bound and mid-range exposure factors so that the results represent an exposure scenario that is both protective and reasonable; not the worst possible case."

ENVIRON used default values for the exposure parameters recommended by Cal/EPA and USEPA where available and appropriate. For values specific to the exposure scenario evaluated in this assessment, ENVIRON considered the scope of work, proposed duration of remedial action activities, and typical work hours to identify appropriate values. These exposure parameter values are listed in Table 1 and discussed below.

- **Exposure Time, Exposure Frequency, and Exposure Duration.** The three parameters — exposure time, exposure frequency and exposure duration — together define the total extent of exposure of a receptor. The exposure time, which is the number of hours per day during which the receptor is exposed, is assumed to be 8 hours per day and corresponds to a standard 8-hour workday. This estimate is considered to be conservative because it assumes that dusts would be generated during the entire workday and that the resident would be home during the entire day.

For this assessment, which is of short duration, the exposure frequency is defined as the number of days per week that exposure occurs and the exposure duration is defined as the total number of weeks over which exposure occurs[2]. As reported in the Draft RAW (ENVIRON 2003b), excavation of contaminated soils is expected to take about 2 weeks of the total 6 weeks of remedial action activities. As a conservative assumption, exposure to dusts was assumed to occur the entire 6-week period, with an exposure frequency of 5 days per week, corresponding to a standard workweek.

- **Inhalation Rate.** The inhalation rates for the child and adult were estimated based on assumed activity levels during an 8-hour day and the inhalation rates associated with these activity levels. Information in Table 5-17 USEPA's *Exposure Factors Handbook* (EFH) indicates that activity levels for children and adults in indoor and outdoor environments are "heavy" for approximately 0.2 hr per day; "moderate" for approximately 1.4 hours per day, and "light" for approximately 11 hours per day (USEPA 1997). Corresponding inhalation rates for a child are 1.9, 1.2, and 1.0 m^3/hr, and those for an adult are 3.2, 1.6, and 1.0 m^3/hr (from Table 5-23 of the EFH). Assuming that all heavy and moderate activities occur during working hours, with the remaining time at a light activity level, activity-weighted inhalation rates are 1.1 m^3/hr and 1.2 m^3/hr for the child and adult, respectively.

- **Body Weight.** A default body weight of 70 kilograms was used for the adult resident and 15 kilograms for the child resident, age 0 to 6 years (Cal/EPA 2005).

- **Averaging Time.** The averaging times for estimating chemical intake depend on the type of effect being assessed. The basis for using different averaging times for carcinogens and noncarcinogens is related to the different mechanisms of action for the two categories of chemicals. In accordance with regulatory guidance (USEPA 1989), intakes for carcinogens are calculated by averaging the dose received over a lifetime (i.e., 70 years or 25,550 days). The 70-year averaging time is used for consistency with the basis of the cancer slope factors. For noncarcinogens, the averaging time is the total number of calendar days over which remedial action activities occur[3].

Exposure Point Concentration

The exposure point concentration is the estimated chemical concentration in air to which a receptor is assumed to be exposed. The concentrations of COPCs in air are estimated based

---

[2] Exposure frequency is typically defined as the number of days per year exposure occurs and exposure duration is typically defined as the number of years exposure occurs. However, due to the short duration of remedial activity being evaluated, exposure frequency and exposure duration are defined as days per week and total number of weeks for this evaluation. This is an equivalent calculation, but is expressed in different units because of the short duration of the exposure.

[3] Typically, the averaging time fore evaluating the noncarcinogenic endpoint is expressed as the total number years that exposures are assumed to occur. For this assessment, where the total exposure duration is less than 1 year (i.e., 6 weeks), the averaging time is expressed as the total number of weeks. This is an equivalent calculation.

on (1) the concentration of dust in air originating from site soils during excavation activities and (2) the concentration of the COPCs in the soil being excavated.

The dust concentrations used for risk assessment purposes are based on the "respirable" dust fraction (i.e., PM_{10}, which is the concentration of particulate matter with an aerodynamic diameter of 10 microns or less). ENVIRON estimated particulate concentrations in air based on information in the Draft RAW indicating that dust levels at the fence line will be managed to meet California Ambient Air Quality Standards (AAQS). The AAQS state that concentrations of PM_{10} must not exceed 50 micrograms per cubic meter ($\mu g/m^3$) for a 24-hr period or an annual arithmetic mean of 20 $\mu g/m^3$. The Draft RAW details the dust control measures that will be implemented, as needed, to minimize dust emissions during the removal action and meet the AAQS. These measures include wet suppression (watering), work stoppages during high winds, and wind fences. As described in the Draft RAW, action levels for 8-hour averaging periods were developed using an averaging-time conversion factor of 1.75, taken from USEPA's *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources* (USEPA 1992). Using this conversion factor, the recommended action level (RAL) is 87.5 $\mu g/m^3$.

To estimate airborne concentrations of COPCs in dust, the RAL of 87.5 $\mu g/m^3$ was multiplied by the maximum detected concentrations of arsenic and dieldrin in site soil and an appropriate units conversion factor. Using the maximum detected concentrations of COPCs is a simplifying, but health-protective assumption given that the concentrations of these COPCs in areas to be excavated are not uniform, and much of the soil contains less than the maximum. The exposure point concentrations in air are shown in Table 2.

Toxicity Values

The toxicity values for evaluating potential health effects are reference doses (RfDs), used to evaluate the noncancer health hazard, and cancer slope factors (CSFs), used to evaluate carcinogenic risk. The toxicity values for arsenic and dieldrin were obtained from Cal/EPA and USEPA sources and are listed in Table 3.

As no inhalation RfD was identified for dieldrin, route-to-route extrapolation from the recommended oral RfD of 5×10^{-5} mg/kg-d was used to evaluate the inhalation route.

The CSFs and RfDs used in this assessment for arsenic and dieldrin were developed to evaluate exposures occurring over a lifetime of 30 or more years. Uncertainties associated with the use of these values to evaluate potential cancer risks and noncancer health effects for an exposure of six weeks or less are discussed below.

Risk Characterization

Risk characterization, which is the final step of a risk assessment, combines information from the exposure assessment and toxicity assessment to estimate cancer risk and noncancer hazard.

For carcinogenic effects, the cancer risk is estimated using the following equation:

where:

$$Risk = I \times CSF$$

Risk = Cancer risk; the incremental probability of an individual developing cancer as a result of exposure to a cumulative dose of a potential carcinogen (unitless)

I = Intake of a chemical (mg chemical/kg body weight-day)

CSF = Cancer Slope Factor (mg chemical/kg body weight-day)$^{-1}$

The measure of noncarcinogenic effects is the hazard quotient (HQ), which is estimated using the following equation:

$$HQ = \frac{I}{RfD}$$

where:

HQ = Hazard quotient; an expression of the potential for noncarcinogenic effects (unitless)

I = Intake of a chemical (mg chemical/kg body weight-day)

RfD = Reference Dose; the toxicity value indicating the threshold amount of chemical contacted below which no adverse health effects are expected (mg chemical/kg body weight-day).

The estimated cancer risks and HQs for arsenic and dieldrin are shown in Table 4 and the risk results are discussed in the following section.

Summary and Discussion

The objective of this SRA was to evaluate the cancer risk and noncancer health hazard associated with potential exposures of a residential receptor to airborne dusts released during remedial action activities. Potential airborne dust concentrations were estimated based on information on allowable dust levels presented in the Draft RAW. The exposure pathway evaluated was inhalation of airborne particulates. No other complete exposure pathway was identified because the site is fenced and access restricted, precluding direct contact with soil.

To help place the results of the SRA in perspective, the risk results can be compared to target risk ranges or benchmarks established by the USEPA in the National Contingency Plan and the California Environmental Protection Agency (Cal/EPA). The USEPA "target risk range" includes excess cancer risks from one in one million (1×10^{-6}) to one hundred in one million (100×10^{-6}). As a risk management policy, the Cal/EPA generally requires that cancer risks be closer to the one in one million (1×10^{-6}) end of the target risk range. A "hazard index" is used to evaluate noncancer health effects; a hazard index of one (1) or less is not expected to result in adverse noncancer health effects.

As shown in Table 4, the total cancer risk for exposure to arsenic and dieldrin combined was six in one billion (6×10^{-9}) for an adult resident and three in 100 million (3×10^{-8}) for a child resident. These levels are approximately 30 to 200 times below the lower end of the target risk range. The noncancer hazard indices are 0.04 for an adult and 0.2 for a child, well below 1 (one), the level of concern.

A number of uncertainties are inherent in the estimates of potential cancer risk and noncancer hazard that are derived in risk assessments. The uncertainties result in part from the estimates of what the actual exposure will be and from incomplete information about the toxicity of chemicals in humans. In general, risk assessment guidelines require use of assumptions and toxicity values that will tend to overestimate risks. The SRA is based, by necessity, on a number of assumptions regarding the actual time and number of days a person could be exposed to airborne dusts from the Site. In general, the values for the exposure parameters were selected to overestimate possible exposures and associated risk. For example, ENVIRON assumed that residents would be exposed to dust 8 hours per day, 5 days per week, for 6 weeks. These assumptions are considered to be health protective because excavation of contaminated areas is expected to take approximately 2 weeks, with building demolition and other activities occurring during the remaining 4 weeks that would not involve working in contaminated areas. The risks would be 3-fold less for a 2-week excavation period as compared to the 6-week period conservatively assumed in this assessment. Further, residents typically are away from home during some portion of the day, further reducing possible exposure and risk. In addition, ENVIRON assumed that exposure would be to the maximum detected concentrations of arsenic and dieldrin. Again, this is a health-protective assumption in that the concentrations of these chemicals in areas to be excavated are not uniform such that the average concentration in airborne dusts over the exposure period would be less than the concentration used in this assessment.

For this assessment, an additional uncertainty not typically found in most risk assessments is the use of assumptions and equations that have been developed to estimate risks associated with long-term (or chronic) exposures to estimate the risks from potential exposures at this site that will occur over a relatively short time period of six weeks. Because different methods are used to evaluate the risk for cancer and noncancer health endpoints, these uncertainties are discussed separately for the two different endpoints.

- **Cancer endpoint.** Cal/EPA considers arsenic and dieldrin, the two COPCs evaluated in this assessment, to be carcinogens. ENVIRON developed cancer risk estimates for these chemicals based on an exposure duration of six weeks. The equations and toxicity values used in this assessment to characterize cancer risk are based on studies and assumptions that exposure occurs continuously over a lifetime of 70 years. The regulatory agencies have not developed a separate methodology for evaluating cancer risk for a short-term exposure. While acknowledging that additional uncertainty is associated with the risk estimates, it is common practice to apply the equations developed assuming chronic exposure to exposures of shorter duration. The modeling exercises described below suggest that using methodologies derived for

long-term exposures to derive cancer risk estimates for short-term exposures may over- or underestimate the cancer risk by a factor of ten or less.

Investigators have conducted modeling exercises to evaluate the potential uncertainty in the assumption that time-dependent exposure patterns can be characterized by a constant dose, such as the simple time-weighted lifetime average daily dose (LADD) used in this assessment (Goddard et al. 1995; Murdoch and Krewski 1988). The impact of using a time-weighted average dose when estimating cancer risk is dependent on the stage in carcinogenic process that the chemical affects, which for most chemicals is unknown. In general, when using a model such as the Multistage model, the actual low-dose risk induced by time-dependent dosing patterns may exceed that predicted by a time-weighted average. However, with the Multistage model, this difference for low doses is likely to be no more than a factor of 2 (Murdoch and Krewski 1988). More focused evaluations considering specific chemicals, such as temporal exposure to pesticide residues in diets of infants and children have indicated a limited degree of underestimation (approximately a factor of 5 or less) when using a LADD, as compared to a time-dependent dose (Goddard et al. 1995). In addition, there was also a suggestion of overestimation of risk of up to a factor of 4, depending on the dose-dependent stage in the cancer process.

In general, these modeling exercises suggest that there is some uncertainty in the use of a LADD to estimate potential risk from exposure to carcinogenic chemicals. Depending on the mechanism of action of the chemical and sensitive stage in the carcinogenic process, use of a LADD could under- or overestimate cancer risk. Based on comparisons of the use of temporal versus time-weighted averages with the Multistage model (Goddard et al. 1995; Murdoch and Krewshi 1988), the potential for over- or underestimation of risk appears to be less than one order of magnitude (i.e., a factor of 10). For this assessment, in which the estimated cancer risk for the most sensitive receptor (the child) was 1×10^{-8}, the potential cancer risk would remain below agency-established target risk levels even if underestimated by a factor of 10.

- **Noncancer endpoint.** In addition to being carcinogens, arsenic and dieldrin also have the potential to cause other types of adverse health effects. As discussed previously, the potential for the occurrence of noncancer effects is evaluated by comparing the estimated average daily intake to an RfD, where an RfD is the level of exposure that is not expected to cause any adverse health effects. For arsenic and dieldrin, the available RfDs are applicable to chronic (long-term) exposures that are protective for exposures occurring over a lifetime of 30 years or more. RfDs derived for shorter timeframes were not available for these chemicals. In all cases, using a chronic RfD to evaluate a short-term exposure yields a higher hazard index than would be derived if an RfD for a short-term exposure were used, and for most chemicals, the chronic RfD significantly overestimates the hazard index. That is, the hazard indices for arsenic and dieldrin estimated in this assessment using a chronic RfD are higher than those that would be estimated using RfDs derived for short-term exposures.

CONCLUSIONS

The results of this SRA indicate that potential risks to nearby residents associated with the proposed removal action at the property are well below risk levels of concern established by USEPA and Cal/EPA. The estimated cancer risks are well below the lower end of the acceptable risk range and the noncancer health hazards are below levels at which adverse health effects would be expected.

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California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC). 1994. *Preliminary Endangerment Assessment (PEA) Guidance Manual*. January.

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Goddard, M.J., Murdoch, D.J. and Krewski, D. 1995. Temporal aspects of risk characterization. *Inhal. Toxicol.* 7:1005-1018.

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U.S. Environmental Protection Agency (USEPA). 1989. *Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A), Interim Final*, EPA/540/1-89/002. December.

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USEPA. 1997. *Exposure Factors Handbook. Volume I – General Factors*. EPA/600/P-95/002Fa. Washington, D.C. August.

USEPA. 2004. *Region 9 Preliminary Remediation Goals (PRGs) 2004*. San Francisco, CA. October.

Table 1
Exposure Parameters
Former University of California Bay Area Research and Extention Center
Santa Clara, California

Parameter	Symbol	Units	Child Resident	Adult Resident	Reference
Inhalation Pathway					
Inhalation Rate	IR	m^3/hr	1.1	1.2	See text
Exposure Time	ET	hrs/day	8	8	See text
Exposure Frequency	EF	day/wk	5	5	See text
Exposure Duration	ED	week	6	6	See text
Body Weight	BW	kg	15	70	DTSC 1994
Averaging Time (cancer)	AT	days	25,550	25,550	DTSC 1994
Averaging Time (non-cancer)	AT	days	42	42	See text

Source:
Department of Toxic Substances Control (DTSC). 1994. *Preliminary Endangerment Assessment Guidance Manual.* California Environmental Protection Agency. January.

Table 2: Calculation of Exposure Point Concentrations in Air
Former University of California Bay Area Research and Extension Center
Santa Clara, CA

Chemical of Potential Concern	EPC for Chronic Assessment			
	Soil Conc[a] (C_{soil}) (mg/kg)	PM_{10} Air Conc (mg/m^3)	Conversion Factor (kg/mg)	EPC in Air (C_{air})[b] (mg/m^3)
Arsenic	37	0.0875	1.E-06	3.2E-06
Dieldrin	0.24	0.0875	1.E-06	2.1E-08

Notes:

[a] The soil concentration is the maximum detected concentration at the site.

[b] Concentration in air calculated using the following equation:

$$Cair = Soil\ Concentration \times PM_{10}\ Air\ Concentration \times Conversion\ Factor$$

Table 3
Cancer and Noncancer Toxicity Values
Former University of California Bay Area Research and Extension Center
Santa Clara, California

Chemical of Potential Concern	Cancer Slope Factor (CSF) (1/mg/kg-d)		Chronic Noncancer Reference Dose (RfD) (mg/kg-d)	
	Inhalation	Source	Inhalation	Source
Arsenic	1.2E+01	Cal/EPA 2005a	8.6E-06	Cal/EPA 2005b
Dieldrin	1.6E+01	Cal/EPA 2005a	5.0E-05	IRIS

Notes

IRIS	Integrated Risk Information System (USEPA 2006)
mg/kg-d	milligram per kilogram per day
NA	not available

Sources:

Cal/EPA. 2005a. Cancer Potency Factors (CPFs). http://www.oehha.ca.gov/risk/pdf/cancerpotalpha81005.pdf. Accessed: May 17, 2006.

Cal/EPA. 2005b. Reference Exposure Levels. http://www.oehha.ca.gov/air/chronic_rels/index.html. Accessed: May 17, 2006.

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Table 4
Calculation of Hazards and Cancer Risks for a Resident
Former University of California Bay Area Research and Extension Center
Santa Clara, California

Adult

Chemical of Potential Concern	Cair (mg/m³)	IR (m³/hr)	ET (hr/d)	EF (d/wk)	ED (wk)	BW (kg)	ATnc (d)	ATc (d)	Intake_nc (mg/kg-d)	Intake_c (mg/kg-d)	RfD (mg/kg-d)	CSFi (1/mg/kg-d)	HQ	Risk
Arsenic	3.2E-06	1.2	8	5	6	70	42	25,550	3.2E-07	5.2E-10	8.6E-06	1.2E+01	0.037	6.3E-09
Dieldrin	2.1E-08	1.2	8	5	6	70	42	25,550	2.1E-09	3.4E-12	5.0E-05	1.6E+01	0.000041	5.4E-11
												TOTAL	0.037	6.3E-09
TOTAL RISK														

Child

Chemical of Potential Concern	Cair (mg/m³)	IR (m³/hr)	ET (hr/d)	EF (d/wk)	ED (wk)	BW (kg)	ATnc (d)	ATc (d)	Intake_nc (mg/kg-d)	Intake_c (mg/kg-d)	RfD (mg/kg-d)	CSFi (1/mg/kg-d)	HQ	Risk
Arsenic	3.2E-06	1.1	8	5	6	15	42	25,550	1.4E-06	2.2E-09	8.6E-06	1.2E+01	0.158	2.7E-08
Dieldrin	2.1E-08	1.1	8	5	6	15	42	25,550	8.8E-09	1.4E-11	5.0E-05	1.6E+01	0.00018	2.3E-10
												TOTAL	0.158	2.7E-08
TOTAL RISK														

Receptor	HI	TOTAL RISK
Total for Adult	0.04	6E-09
Total for Child	0.2	3E-08

STATE OF CALIFORNIA
Department of General Services
Real Estate Services Division
Asset Planning and Enhancement
707 Third Street, Suite 6-130
West Sacramento, CA 95605

TO

Name: Barbara J. Cook, P.E.
Company: California Environmental Protection Agency
Department of Toxic Substances Control
Northern California Region
Northern California Coastal Cleanup Operations
Address: 700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Telephone: (510) 540-3843 Fax: (510) 540-3849

FROM

Name: Jeff Crone, Senior Real Estate Officer
Company: RESD-Asset Planning and Enhancement Branch
Address: 707 Third Street, Suite 6-130
West Sacramento, CA 95605
Telephone: (916) 376-1825 Fax: (916) 376-1833

TRANSMITTED: Date: September 6, 2002

COMMENTS: Hi Barbara, Here is an application for Voluntary Cleanup on the BAREC (Bay Area Research and Extension Center) property in Santa Clara. This is being sent in advance of our scheduled meeting with Dan Potash, Anne Gates et al on September 10, 2002, at 9:30 a.m. in your office. Please let me know if there are any problems with the application. Thank You. JEFF CRONE.

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL
SITE MITIGATION STATEWIDE CLEANUP OPERATIONS

VOLUNTARY CLEANUP PROGRAM APPLICATION

The purpose of this application is to obtain information necessary to determine the eligibility of the site for acceptance into the Voluntary Cleanup Program. Please use additional pages, as necessary, to complete your responses.

SECTION 1 PROPONENT INFORMATION

Proponent Name
STATE OF CALIFORNIA, DEPARTMENT OF GENERAL SERVICES

Principal Contact Name
J. FRANK DAVIDSON, ASSISTANT CHIEF Phone (916) 376-1826

Address
707 THIRD STREET, SUITE 6-130, WEST SACRAMENTO, CA 95605

Proponent's relationship to site
REAL PROPERTY ADMINISTRATOR, ASSET ENHANCEMENT BRANCH, DEPARTMENT OF GENERAL SERVICES, STATE OF CALIFORNIA

Brief statement of why the proponent is interested in DTSC services related to site
DUE TO THE PROPERTY'S PREVIOUS USE AS AN AGRICULTURAL EXPERIMENT STATION WE WISH TO COMPLY WITH DTSC REGULATIONS.

SECTION 2 SITE INFORMATION

Is this site listed on Calsites? ☐ Yes ☒ No
If Yes, provide specific name and number as listed

Name of Site UNIVERSITY OF CALIFORNIA
BAY AREA RESEARCH AND EXTENSION CENTER (BAREC)

Address City County ZIP
90 NORTH WINCHESTER BLVD., SANTA CLARA, SANTA CLARA, 95050-6701
(Please attach a copy of an appropriate map page)

SECTION 2 SITE INFORMATION (continued)

Current Owner

Name STATE OF CALIFORNIA

Address 707 THIRD STREET, SUITE 6-130, SACRAMENTO, CA 95605

Phone (916) 376-1826

Background: Previous Business Operations

Name AGRICULTURAL LAND

Type

Years of Operation PRIOR TO 1928 TO PRESENT

If known, list all previous businesses operating on this property NOT AVAILABLE

What hazardous substances/wastes have been associated with the site?

PESTICIDES, HERBICIDES

What environmental media is/was/may be contaminated?

☒ Soil ☐ Air ☐ Groundwater ☐ Surface water

Has sampling or other investigation been conducted? ☒ Yes ☐ No

Specify SOIL SAMPLING AT 48 LOCATIONS; SAMPLES COLLECTED AT 0.5 AND 3 FEET bgs.

If Yes, what hazardous substances have been detected and what were their maximum concentrations?

ARSENIC - 36 mg/kg 4,4'-DDT - 0.380 mg/kg

DIELDRIN - 0.240 mg/kg 4'4 - DDE - 1.5 mg/kg

ENDRIN - 0.030 mg/kg HEPTACHLOR EPOXIDE - 0.014 mg/kg

SECTION 2 SITE INFORMATION (continued)

Are any Federal, State or Local regulatory agencies currently involved with the site? ☐ Yes ☒ No
If Yes, state the involvement, and give contact names and telephone numbers

Agency	Involvement	Contact Name	Phone

What is the future proposed use of the site? SINGLE FAMILY HOMES; SENIORS HOUSING

What oversight service is being requested of the Department?

☒ PEA ☐ RI/FS ☐ Removal Action ☐ Remedial Action ☒ RAP ☐ Certification
☐ Other (describe the proposed project) _____

Is there currently a potential of exposure of the community or workers to hazardous substances at the site?

☐ Yes ☒ No If Yes, explain _____

SECTION 3 COMMUNITY PROFILE INFORMATION

Describe the site property (include approximate size) 17± ACRE SITE USED FOR TESTING AGRICULTURAL CHEMICALS ON FRUIT TREES AND OTHER ROWCROPS SINCE 1928

Describe the surrounding land use (including proximity to residential housing, schools, churches, etc.) RESIDENTIAL HOUSING ADJACENT TO SITE.

Describe the visibility of activities on the site to neighbors VERY VISIBLE.

SECTION 3 COMMUNITY PROFILE INFORMATION (continued)

What are the demographics of the community (e.g. socioeconomic level, ethnic composition, specific language considerations, etc.)? MIDDLE CLASS MULTI-ETHNIC NEIGHBORHOOD WITH LONG TERM STABILIZED RESIDENTIAL OCCUPANCY.

Local Interest
Has there been any media coverage? THERE HAS BEEN COVERAGE WITH RESPECT TO THE CLOSURE OF THE BAREC SITE AS AN AG. EXPERIMENT CENTER

Past Public Involvement
Has there been any past public interest in the site as reflected by community meetings, ad hoc committees, workshops, fact sheets, newsletters, etc.? YES. AN AD HOC NEIGHBORHOOD COMMITTEE HAS BEEN ESTABLISHED. THE CITY AND THE STATE REPRESENTATIVES HAVE MET WITH THIS COMMITTEE. THERE ARE NO FACT SHEETS OR NEWSLETTERS TO OUR KNOWLEDGE.

Key Issues and Concerns
Have any specific concerns/issues been raised by the community regarding past operations or present activities at the site?

NO SPECIFIC CONCERNS TO OUR KNOWLEDGE.

Are there any concerns/issues anticipated regarding site activities?

ONLY WITH RESPECT TO TRAFFIC AND LOSS OF OPEN SPACE.

Are there any general environmental concerns/issues in the community relative to neighboring sites?

NOT TO OUR KNOWLEDGE.

Key Contacts
Please attach a list of key contacts for this site, including: city manager; city planning department; county environmental health department; local elected officials; and any other community members interested in the site. (Please include addresses and phone numbers.)

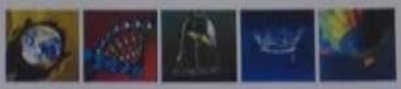
A LIST WILL BE PROVIDED AT THE MEETING ON 09/10/02.

SECTION 4 CERTIFICATION

The signatories below are authorized representatives of the Project Proponent and certify that the preceding information is true to the best of their knowledge.

J. Frank Davidson 09/05/02 ASSISTANT CHIEF
Proponent Representative By Date Title
J. FRANK DAVIDSON,
REAL ESTATE SERVICES DIVISION

FINAL



Removal Action Completion Report

Former University of California
Bay Area Research and
Extension Center (BAREC)
90 North Winchester Boulevard
Santa Clara, California

Prepared for:
California Department of General Services
Real Estate Services Division
Sacramento, CA

Prepared by:
ENVIRON International Corporation
Emeryville, California

Date:
August 2, 2010

Project Number:
03-24293A

ENVIRON

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List of Acronyms

BAREC	Bay Area Research and Extension Center
BAAQMD	Bay Area Air Quality Management District
bgs	below ground surface
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CCR	California Code of Regulations
cys	Cubic yards
DGS	California Department of General Services
DTSC	Department of Toxic Substances Control
EBAM	Environmental Beta Attenuation Mass Monitors
EBS	Environmental Business Solutions
HASP	Health and Safety Plan
HEPA	High Efficiency Particulate Air
kg	Kilogram
mg/kg	milligrams per kilogram
mg/m3	milligrams per cubic meter
NA	Not Analyzed
ND	Not Detected
OCPs	Organochlorine pesticides
OSHA	Occupational Safety and Health Administration
PDR	Personal DataRAM
PM10	10-micron size particulate matter
PRG	Preliminary Remediation Goal
RAOs	Removal Action Objectives
RCRA	Resource Conservation and Recovery Act
SCFD	Santa Clara Fire Department
STLC	Soluble Threshold Limit Concentration
TCLP	Toxic Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
ug/kg	micrograms per kilogram
ug/m3	micrograms per cubic meter
UC	University of California
USA	Underground Services Alert
UST	Underground Storage Tank
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

Prepared by:

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

REGISTERED PROFESSIONAL ENGINEER
ANNE WOOSTER
No. C 043195
Exp. 3/31/2012
CIVIL
STATE OF CALIFORNIA

Anne Wooster Gates

Anne Wooster Gates, P.E.
Senior Manager
ENVIRON International Corporation

Executive Summary

Beginning in 2002, a series of environmental investigations were conducted at the former University of California (UC) Bay Area Research and Extension Center (BAREC) in Santa Clara, California (the site) to determine whether prior agricultural research operations had impacted soil. The State of California (the State) has closed the BAREC and plans to sell the property for development of single-family homes, open space and senior housing.

The results of the environmental investigations recommended that a removal action (RA) be performed to address elevated concentrations of arsenic and dieldrin in surface soil at the site. Specifically, arsenic was present at concentrations above typical background levels in surface soil in the eastern sector of Field 4 and in "two hotspot" areas. In addition, the dieldrin concentration in a surface soil sample collected from Field 1 was present at a concentration above USEPA Region 9 Preliminary Remediation Goals (PRGs). A Removal Action Workplan ("RAW") was prepared to identify, evaluate, and recommend remediation alternatives for arsenic- and dieldrin- impacted surface soils at the site. The primary objective of this RAW is to ensure the protection of human health and the environment. On October 19, 2007, the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) approved the Final RAW. Subsequently in October 2008, three additional areas with elevated concentrations of arsenic in surface soil and an additional area of elevated arsenic beneath the concrete foundation of the Shop and Machinery Building (Building 201) were identified during collection of data for a toxic tort case. The State and DTSC agreed that remediation of these four additional "hotspots" would occur as part of implementation of the Final RAW.

As stated in the Final RAW, the removal action objectives (RAOs) for the site are:

- Minimize exposure of future site residents to surface soil containing arsenic above the 20 mg/kg background level,
- Ensure the mean concentration of dieldrin in an individual field is below 30 µg/kg; and
- Leave the site in a physical condition that is compatible with single-family residential use.

Building demolition activities were initiated the week of May 3, 2010 after lead-based paint and asbestos abatement activities were completed during the last week of April 2010.

Following demolition of the buildings, RAW implementation activities were initiated beginning May 10, 2010. Soil samples from beneath the former foundations of the Potting Shed (Building 204), the Shop and Machinery Building (Building 201), the Pesticide Storage Shed (Building 208), the Department Shed (Building 103), and the Office/Laboratory Building (Building 100) were collected for analysis of metals, organochlorine pesticides (OCPs), total petroleum hydrocarbons (TPH) and asbestos as described in the RAW. In addition, a 10 feet by 10 feet basement area was discovered in the southeast corner of Building 100 and as a result, an additional soil sample was collected from beneath the basement and analyzed for arsenic and OCPs. Soil sample results indicated that arsenic and dieldrin concentrations were elevated in the basement sample. All other soil sample results collected from beneath the former building foundations were below RAOs. In addition, the elevated concentration of arsenic that was identified beneath the concrete foundation of Building 201 during the 2008 investigation was

exempted from excavation after the results of a post-demolition soil sample collected from the same location indicated that the arsenic concentration was below the RAO.

Prior to the start of Field 4 excavation activities, a grid was surveyed onto Field 4 with 50-foot grid intervals and the hotspot locations marked by a California-licensed land surveyor (HMH Engineers). Surface soil samples were collected from Field 4 grid nodes that were within areas previously known to have been impacted by arsenic at concentrations in excess of the RAO for arsenic. Based on the results of the pre-excavation surface soil sampling, soil excavation activities at Field 4 commenced on May 10, 2010. The 50-foot grid area around grid nodes with arsenic concentrations above 20 mg/kg were excavated. Bottom confirmation samples were collected from Field 4 grid node locations after each approximately one-foot lift of soil was removed. Areas where confirmation samples indicated arsenic at greater than 20 mg/kg of arsenic were excavated an additional one foot. After grid node confirmation samples indicated that RAOs had been met, the Field 4 excavation area was backfilled with clean import fill. Backfilling and compaction activities in Field 4 were completed on June 18, 2010.

On May 26, 2010, during excavation of one of the last remaining Field 4 grid nodes, an underground storage tank (UST) was discovered at a depth of approximately 1.5 feet below ground surface (bgs). The UST, which had a capacity of approximately 2,000 gallons, was thought to have contained fuel oil used to power a steam boiler that operated at the site when it was used as a veterans' widows' home (UC Davis 1964). The UST was drained, washed, removed, and disposed on June 8, 2010. Tank liquids, washing liquids, and the UST itself were transported and disposed under hazardous waste transport manifests. The UST pit was over excavated to a depth of approximately 3.5 feet below the bottom of the tank, and two confirmation soil samples were collected for laboratory analysis. All activities related to removal and closure of the UST were performed under supervision of the Santa Clara Fire Department (SCFD) and DTSC. Confirmation soil sample results indicated no significant impacts to soil beneath the UST. A UST Closure Report dated June 22, 2010 was provided to SCFD and closure was granted by the SCFD on June 29, 2010.

Excavation of the six hotspots and the Building 100 basement was initiated when analytical results for Field 4 were pending. The areas excavated included Hotspot #1, Hotspot #2, Hotspot #3, Hotspot #5, Hotspot #6, Hotspot #7 and the basement of Building 100 (see Figure 4). Soil was excavated from the six hotspots and the Building 100 basement until stepout and/or confirmation samples indicated that RAOs were met.

Hotspots #1, #2, #3, #5, #6 and #7 were first excavated to three feet bgs in a 10 foot by 10 foot square centered on the original sample location. Confirmation soil samples were then collected from the bottom of each excavation and from surface soil at the midpoint of each of the four sidewalls. Based on this sampling, no additional excavation of Hotspots #6 and #7 were needed. At the remaining hotspots, where RAOs were not met in confirmation samples, step-out samples were collected from surface soil at horizontal intervals of generally 10 feet. Soil samples were also collected from selected locations within defined hotspot boundaries from a depth of two feet bgs in order to define the vertical extent of soil with concentrations that did not meet RAOs. Once stepout samples met RAOs, hotspots were excavated to the boundaries defined by surface step-out samples and two-foot depth samples. The hotspot excavation

areas were backfilled with clean import fill. Backfilling and compaction activities at the hotspots were completed on June 29, 2010.

Excavation of the Building 100 basement area began on May 18, 2010, following the receipt of analytical results of a sample collected from beneath the concrete foundation of the former basement. The sub-slab sample indicated that concentrations of arsenic and dieldrin did not meet RAOs. After an additional three feet of excavation below the bottom of the basement, dieldrin was no longer detected, but the arsenic concentration remained above 20 mg/kg. The excavation was deepened an additional three feet, and a confirmation sample indicated that the arsenic concentration at 11 feet bgs was below 20 mg/kg. Horizontal step out samples indicated that additional excavation was needed to the north, east, and south and the excavation was extended accordingly. Bottom confirmation samples collected from selected locations within the three-foot excavation around the basement area indicated that RAOs for arsenic and dieldrin had been met.

Except for soil excavated from Hotspot 3, excavated soil was loaded into trucks for disposal at TriCities Recycling and Disposal Facility, a nearby nonhazardous, municipal landfill located in Fremont, California.

The soil excavated from Hotspot 3 was profiled as California (non-RCRA) hazardous waste based on the results of arsenic leaching analyses. Soil excavated from Hotspot 3 was loaded onto trucks for disposal at Clean Harbors Buttonwillow LLC Landfill, a permitted hazardous waste landfill located in Buttonwillow, California.

Air monitoring and dust control measures were implemented during removal action activities. The action level for dust monitoring was 50 micrograms per cubic meter (ug/m3) of 10-micron size particulate matter (PM_{10}). In order to monitor dust at the property boundary, a solar-powered meteorological monitoring station was first set up to provide hourly measurements of wind speed and wind direction. Five battery-powered Environmental Beta Attenuation Mass Monitors (EBAMs) were installed at perimeter locations chosen based on the prevailing northwesterly wind direction. EBAMs 1, 4, and 5 were set up across the eastern and central portions of the southern boundary of the site in order to monitor dust downwind of the site, and EBAMs 2 and 3 were set up on the western and middle portion of the northern boundary of the site to monitor dust upwind of the site. Hourly measurements of dust originating from site work activities were calculated as the difference between the upwind and downwind dust concentrations measured by the EBAMs. EBAM dust measurements were compared with prevailing wind directions on a daily basis, and ENVIRON field staff responded to any exceedances of the dust action level on the previous day by requesting additional dust control measures, such as extra water spraying, for problematic work areas and/or activities.

Real-time hourly dust monitoring was also conducted around active work zones using a hand-held Personal DataRAM (PDR). The PDR was calibrated to fresh air each morning, and an upwind measurement of background dust concentration was collected prior to the first work zone measurement. For each set of work zone measurements, the ENVIRON field person carried the PDR to a position approximately 50 feet upwind of work zone activities and recorded the dust concentration on a log sheet. Then the ENVIRON field person carried the PDR to three

additional positions, all approximately 50 feet downwind of the work zone activities, recording the dust concentration at all three locations. If the difference between the upwind dust concentration and the three downwind dust concentrations was greater than 50 micrograms per cubic meter, the ENVIRON field person informed the work crew that additional dust control measures are required, and then observed as the additional dust control measures (such as extra water spraying) were implemented.

Completion of air monitoring and earthwork activities occurred on June 29, 2010 and equipment and personnel were demobilized on June 29 and June 30, 2010.

The removal action at the Site was completed in accordance with the Final RAW and all RAOs were met.

1 Introduction

This Removal Action Completion Report was prepared by ENVIRON International Corporation (ENVIRON), an environmental consulting firm, on behalf of the State of California Department of General Services (DGS). The purpose of this report is to document the completion of Removal Action activities which were implemented to address the presence of arsenic- and dieldrin-impacted surface soil at the former University of California (UC) Bay Area Research and Extension Center (BAREC) site ("the site"). The State of California closed the BAREC site in 2003. DGS plans to sell the property for development of single-family homes, open space and senior housing.

RAW implementation activities were performed under a Voluntary Cleanup Agreement between the DGS and the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) dated May 12, 2003. Implementation activities were performed in accordance with the Final Removal Action Workplan (RAW) for the BAREC site dated November 2007 under the oversight of the DTSC (ENVIRON, 2007).

This report is organized as follows: Site background information is provided in the remainder of Section 1. Sections 2 and 3 describe the implementation and completion of RAW activities. Appendices provide supporting information such as laboratory data reports, dust monitoring data and site photographs.

1.1 Background

The site is located at 90 North Winchester Boulevard in the City of Santa Clara, California. The location of the site is presented on Figure 1. The site is an approximately 17-acre, roughly rectangular-shaped property. As shown in Figure 2, several small buildings were located on the eastern portion of the site. These buildings were demolished prior to implementation of RAW activities. The remainder of the property consists of agricultural fields, unpaved roadways and a paved parking area. The fields are identified by a number from one through twelve and cover a total of approximately eleven acres. Unpaved roadways, which were largely overgrown with weeds since UC ceased operations in 2003, provided access to the fields. The only paved area at the site is the northwest corner of the property, where Buildings 100, 103, 104, 105, 201 and 204 are located. This paved area was used for parking.

According to UC personnel, the site was originally occupied by a veterans' widows' home. According to historical topographical maps, the name of the facility was the Holderman Sanitarium. Agricultural experimental field station operations at the site began in 1928. The home remained in operation until the 1960s, when it was demolished and replaced with more agricultural fields, primarily Field 4. Based on a review of historical titles and deeds obtained from DGS, four lots owned by Margaret Osborne were deeded to the State of California in 1921 and 1924. The four lots were incorporated into three lots, two of which were deeded by the State of California to the UC in 1952 and 1963. The third lot, located directly to the southwest of the site, remained the property of the State of California, and is currently occupied by an office building containing offices of the Department of Veterans' Affairs.

The field station's initial purpose was to assist farmers in the surrounding area. Until 1990, deciduous fruit trees (such as apples, citrus, cherries, almonds and ornamental) were planted to conduct research on fertilizers, irrigation, variety characteristics of crops, and crop disease control. Part of this research has involved demonstrating the efficacy of a variety of research and development pesticides. Monthly records of pesticide use were available from 1979 until July 2002. These records indicated that small quantities of 90 different chemicals had been tested on crops at the site. As the surrounding area changed and became urban, the trees were replaced with various crops, such as strawberries, corn, tomatoes, beans and flowers. Since about 1995, eighty percent of the research at BAREC focused on crop improvement, whereas only twenty percent involved pesticide use (UC, 2002).

In early 2003, UC closed the site. As part of closure, UC personnel removed all hazardous materials (i.e. fertilizers, pesticides, fuels, oils, cleaning solutions), portable tanks, and trailers from the site. The irrigation well was also abandoned by DGS in 2005. The buildings and related utilities remained in place at the site until they were demolished prior to and in conjunction with RAW implementation activities.

1.1.1 ENVIRON Site Characterization Investigations 2002/2003

ENVIRON conducted a series of site characterization investigations on behalf of DGS in August and September 2002 and in April 2003. The primary focus of these investigations was to determine whether current or past pesticide use at the site had resulted in soil concentrations that might pose a threat to public health and the environment. Initially, over 50 samples of surface soil were collected to determine if surface soil in field plots and the greenhouses contained pesticide residues. These samples were analyzed for chemicals/pesticides that may persist in soil for many years following application. The chemicals analyzed included 14 chemicals of potential concern, known to have been used at the site, and 60 pesticides that were commonly used prior to 1979. In addition, subsurface soil samples were collected and analyzed from a former sewer leach pit, the former evaporation pond and sediment trap to determine if deeper subsurface soil and potentially ground water beneath the site contained pesticide residues.

Arsenic and dieldrin were the chemicals of potential concern that were found at concentrations above USEPA Region 9 Preliminary Remediation Goals (PRGs) in surface soil. Elevated concentrations of dieldrin were isolated and of limited horizontal and vertical extent. However, the dieldrin concentration in one surface soil sample (F1-C) in Field 1 exceeded the PRG. As a result, it was recommended that this "hotspot" of dieldrin be addressed. For the purposes of RAW implementation activities, the dieldrin hotspot is referred to as "Hotspot #1".

In addition, an area in the eastern portion of Field 4 had elevated concentrations of arsenic in surface soil relative to background levels and other areas at the site. These results suggested that the elevated concentrations of arsenic in Field 4 may have resulted from prior use of arsenical pesticides. For the purposes of RAW implementation activities, this area is referred to as the "Field 4 excavation area."

In addition, two other areas had isolated, elevated concentrations of arsenic:

- Adjacent to the road in front of the former screen house, a less than five square foot area of distressed vegetation (sample location 1-GB) had an elevated concentration (37 mg/kg) of arsenic in surface soil. For the purposes of RAW implementation activities, this area is referred to as "Hotspot #3"; and
- Between Field 11 and 12, there was an elevated concentration (27 mg/kg) of arsenic in surface soil at sample location F12-A. For the purposes of RAW implementation activities, this area is referred to as "Hotspot #7."

The results of the environmental investigation recommended that a removal action be performed to address elevated concentrations of arsenic in the eastern sector of Field 4, and the three "hotspots" in surface soil (Hotspots #1, #3, and #7).

1.1.2 Removal Action Workplan (RAW)

A Removal Action Workplan ("RAW") was prepared by ENVIRON to identify, evaluate, and recommend remediation alternatives for addressing elevated concentrations of arsenic and dieldrin in surface soil at the site. Since the primary objective of the RAW was to ensure the protection of human health and the environment, the following removal action objectives (RAOs) were to be implemented at the site:

- Minimize exposure of future site residents to surface soil containing arsenic above the 20 mg/kg level,
- Ensure the mean concentration of dieldrin in an individual field is below 30 ug/kg; and
- Leave the site in a physical condition that is compatible with single-family residential use.

The recommended removal action alternative was excavation and offsite disposal of soil. Soil that did not meet RAOs would be excavated from the site and disposed of at a nearby nonhazardous, municipal landfill. Soil samples were to be collected to ensure that RAOs and waste disposal criteria were met. In addition, dust monitoring would be performed to comply with Bay Area Air Quality Management District (BAAQMD) dust regulations and ensure that workers and nearby residents were not exposed to elevated concentrations of arsenic or dieldrin during RAW implementation activities.

1.1.3 2008 Environmental Investigation

Four additional areas with elevated concentrations of arsenic in surface soil were identified for remediation during collection of environmental data in 2008. These four additional "hotspots" are as follows:

- Elevated arsenic was found in a surface soil sample in the northwest corner of Field 2. For the purposes of RAW implementation activities, this area is referred to as "Hotspot #2;"
- Elevated arsenic was found in a sub-slab soil sample collected from beneath the concrete foundation of Building 201;

- Elevated arsenic was found in a surface soil sample in the northern portion of Field 5. For the purposes of RAW implementation activities, this area is referred to as "Hotspot #5;" and
- Elevated arsenic was found in a surface soil sample in the eastern end of Field 12. For the purposes of RAW implementation activities, this area is referred to as "Hotspot #6."

The locations of these four additional hotspots are shown on Figure 2. Soil from these additional hotspots (#2, #5 and #6) was excavated in accordance with Section 5 of the RAW. As discussed in Section 2.1.1, following demolition and removal of the Building 201 foundation, a soil sample was collected at the approximate location of the 2008 sample at Building 201. The sample results indicated that the arsenic concentration at this location was below 20 mg/kg following excavation and removal of the Building 201 foundation. As a result no additional soil was excavated from this area beneath the Building 201 foundation.

2 Removal Action Implementation

This Section details the steps that were taken to implement the recommended removal action alternative at the former BAREC site, leading up to the excavation activities (Section 3). Removal activities were performed by a California certified contractor ["Environmental Business Solutions (EBS)"] and were overseen by a California professional civil engineer from ENVIRON International Corporation ("ENVIRON").

2.1 Site Preparation

Prior to equipment mobilization for the proposed removal action (RA), the preparation activities detailed in the following sections were implemented.

2.1.1 Building Demolition

Prior to implementation of RAW activities, the site buildings/structures and their foundations were demolished. Demolition activities were conducted in accordance with all applicable regulations. Of particular concern were regulations pertaining to the handling, management and disposal of asbestos containing materials and lead-based paint.

Areas requiring asbestos abatement were isolated using full negative pressure containment consisting of plastic sheeting secured with tape, with ventilation through high efficiency particulate air (HEPA) filters. Asbestos-containing materials were wetted prior to removal according to wet removal methods. After removal, the materials were wrapped in plastic and stored in an appropriate hazardous waste bin prior to disposal under hazardous waste manifest documentation. All employees conducting the removal activities worked under approved respiratory protection and decontamination programs. RGA Environmental, Inc. (RGA) was contracted to act as the asbestos abatement observation service, and a representative of RGA was present during all asbestos removal activities to confirm all safety measures and procedures were followed.

Lead-based paint material was also removed using wet removal methods and was contained in plastic and waste storage bins prior to disposal under hazardous waste manifest documentation.

Following asbestos and lead-based paint abatement activities, site buildings were demolished using an excavator. Demolition areas were thoroughly wetted prior to and during demolition. All building debris was removed from the site following demolition.

A minimum of one sample was collected from soil up to 6 inches beneath the building foundations of the office/laboratory (Building 100), the pesticide storage shed (Building 208), the shop/machinery building (Building 201), the department shed (Building 103) and the potting shed (Building 204) following building/foundation removal. No samples were collected from the greenhouse footprints, which were already sampled in prior environmental investigations. Samples were analyzed for asbestos, lead, arsenic, organochlorine pesticides (OCPs) and total petroleum hydrocarbons (TPH), (except in cases where these analyses had been performed on sub-foundation soil samples during previous investigations). Building footprints were also inspected by ENVIRON following

demolition of foundation structures. While no evidence of possible releases of contaminants to soils beneath the former building/structures was observed by ENVIRON at any of the building footprints, a 10 foot by 10 foot by 5 foot deep basement structure was observed at Building 100. As such, a soil sample was also collected from beneath the former basement of Building 100 as well as beneath the remaining portion of Building 100.

With the exception of the soil sample collected beneath the Building 100 basement, the analytical results of the building footprint soil samples met RAOs. The results of soil samples collected from beneath and around the basement structure indicated impacts from arsenic and dieldrin at concentrations that did not meet RAOs, necessitating the excavation of additional soil beneath the former basement structure. Building 100 basement excavation activities are described in Section 3.2. Building footprint sample results are summarized in Table 1.

As previously described, during the investigation in October 2008, an additional area of elevated arsenic was identified beneath the concrete foundation of the Shop and Machinery Building (Building 201). Sample AV4 indicated a concentration of 30 mg/kg arsenic beneath the concrete slab foundation of Building 201. However, following removal of the Building 201 foundation, soil sample 201-050710 (as summarized in Table 1) was collected at the approximate location and depth of sample AV4. The sample results indicated that the arsenic concentration at this location was 3.9 mg/kg, which is well below 20 mg/kg. Additional excavation of soil in the area from beneath Building 201 was therefore not needed.

2.1.2 Mowing and Preparatory Compaction

Based on the need to minimize fugitive dust, the site was not stripped following building demolition as originally planned, and mowing was used to remove excess vegetation from work areas. Mowed grasses and root systems were left in place to improve surface conditions and minimize fugitive dust. A sheep's foot vibratory compactor was used in work areas following mowing in order to facilitate truck and equipment movement and to prevent muddy areas and/or ruts that may have resulted from rainy weather, which remained a factor through the end of May 2010.

2.1.3 Utility Clearance

Prior to initiation of invasive activities at the site, EBS provided notification to "Underground Services Alert (USA)" at least 48 hours prior to beginning of work, in order to notify local utility companies of the planned intrusive activities so that they could mark any underground utilities in and around the excavation areas. EBS also performed its own supplementary assessments of underground utilities in work areas to ensure that any active underground utilities at the site were properly marked and avoided during intrusive work.

2.1.4 Delineation of Excavation Areas

Following site preparation, California licensed land surveyors from HMH Engineers marked the locations of all six hotspots (Hotspot #1 at F1-C, Hotspot #2 at AV23, Hotspot #3 at 1-GB/AV8, Hotspot #5 at AV31, Hotspot #6 at AV41, and Hotspot #7 at F12-A, respectively). The surveyors also marked the Field 4 excavation area with an excavation grid. The grid was established at Field 4 to facilitate pre- and post-excavation sampling and to guide

excavation activities. The grid was marked at 50 foot intervals, with the north-south gridlines labeled as 1 through 7. These gridlines labeled as A through G and the east-west gridlines labeled as 1 through 7. These identifiers were marked in paint on the 10-foot dust fence installed around the excavation area. Pre-excavation soil samples were collected from grid nodes in order to determine where excavation would be required. Two additional north-south gridlines were measured and marked later: the Z line (50 feet west of the A line), because a pre-excavation sample was needed between the A and Z lines to define the western boundary of the excavation, and the H line (50 feet east of the G line), because a pre-excavation sample was needed between the G and H lines to define the eastern boundary of the excavation, making the total east-west dimension of the grid 400 feet (Figure 2). Grid node samples were identified using a coordinate system based on these labels (e.g., A1, B2, etc.).

At the hotspots, the initial planned excavation boundary was a 10 foot by 10 foot by 3 feet deep centered on the hotspot sample location marked by the surveyors. These boundaries were marked on the ground surface around the surveyed hotspot locations.

Table 2 summarizes the state plane coordinates for each of the hotspot locations and Field 4 grid nodes. Figure 2 shows the hotspot locations and grid layout.

2.1.5 Security Measures

Appropriate barriers and/or privacy fencing were installed prior to beginning the excavation process to ensure that all work areas remained secure and safe. To ensure trespassers or unauthorized personnel did not approach work areas, security measures included:

- Posting notices directing visitors to the prime contractor (Mr. Ron Rinehart of EBS) and limiting access to work areas. Mr. Rinehart acted as the Site Manager and was in charge of supervising all activities at the site.
- Maintaining a visitor and personnel's log. Visitors were required to obtain prior approval from the Site Manager to enter the site. Visitors were not permitted to enter the site without first receiving site-specific health and safety training from the Site Manager and/or the Site Health and Safety Officers of EBS and/or ENVIRON. The Site Health and Safety Officers of EBS and ENVIRON were in charge of ensuring their respective employees' and subcontractors' compliance with the health and safety plans (HASPs) of each company, and of providing a point of contact for employees working at the site who have questions regarding the HASP.
- Installing chain-link barrier fencing around the perimeter of hotspot work areas, which were closed and secured during non-work hours to restrict access to the excavation areas.
- Requiring that all personnel sign out in the visitor and personnel's log when leaving the site.
- Maintaining a safe and secure work area, including areas where equipment was stored or placed, at the close of each work day.

Persons requesting site access were required to demonstrate a valid purpose for access and provide appropriate documentation to demonstrate they have received proper training required by the site-specific HASP (discussed below).

2.1.6 Permits

Because the work was taking place on the property of the State of California, a grading permit was not required to complete the removal action.

2.1.7 Waste Management

Based on the results of prior site investigations, it was anticipated that soil excavated from the site would be nonhazardous. Analytical results of pre-excavation samples were compared to the California hazardous waste identification criteria in the California Code of Regulations (CCR) Title 22 § 66261. These results indicated that the waste could be classified as a nonhazardous waste and the selected landfill was TriCities Recycling and Disposal Facility, located in Fremont, California. However, based on the results of step-out surface soil sampling performed at Hotspot #3, all soil excavated from Hotspot #3 had to be classified as California (non-RCRA) Hazardous Waste, requiring transport and disposal under hazardous waste manifest documentation and disposal at a licensed hazardous waste disposal facility. The selected hazardous waste disposal facility was Clean Harbors Buttonwillow LLC, located in Buttonwillow, California.

2.1.8 Bay Area Air Quality Management District (BAAQMD)

Potentially applicable BAAQMD regulations include those addressing particulate matter emissions (Regulation 6). BAAQMD Regulation 6 addresses particulate matter and visible emissions mostly pertaining to discrete point sources. However, Regulation 6-305 states:

> "**Visible Particles:** A person shall not emit particles from any operation in sufficient number to cause annoyance to any other person, which particles are large enough to be visible as individual particles at the emission point or of such size and nature as to be visible individually as incandescent particles. This Section 6-305 shall only apply if such particles fall on real property other than that of the person responsible for the emission."

The air monitoring network and the dust control measures described in Section 3.4 were implemented in order to ensure the project remained in compliance with this regulation.

2.1.9 Health And Safety Plan (HASP)

All contractors are responsible for operating in accordance with the most current Occupational Safety and Health Administration (OSHA) regulations including 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and 29 CFR 1926, Construction Industry Standards, as well as other applicable federal, state and local laws and regulations. HASPs were prepared by West Environmental Services and Technology (for EBS) and by ENVIRON. Both HASPs were submitted to DTSC on April 15, 2010 prior to implementation of the RAW. Revised HASPs were submitted during the week of May 31, 2010, following the discovery of an underground storage tank (UST) within the Field 4

excavation area. The revised HASPs provided additional guidelines for the safe excavation and removal of the UST.

2.2 Field Documentation

ENVIRON field personnel maintained a field logbook during the RAW activities. The field logbook was used to document observations, soil sampling information, personnel on-site, equipment arrival and departure times, and other vital project information.

2.2.1 Photographs

Photographs were taken at every excavation area and in other areas of interest on-site. A photographic log is provided in Appendix E.

3 Excavation and Backfilling Activities

The following sections describe the excavation and backfilling activities at Field 4, the Building 100 basement area, and the hotspots.

3.1 Excavation of Field 4

At Field 4, excavation activities began on May 10, 2010 and were conducted in one-foot lifts. Pre-excavation sampling (Section 2.1.4), consisting of surface soil samples collected at grid nodes, was used to define the lateral extent of the first one-foot lift. The grid node samples that had arsenic results below 20 mg/kg were connected with a line applied to the ground surface with spray marking paint, defining the boundaries of the first one-foot lift. The 50-foot grid area around grid nodes with arsenic concentrations above 20 mg/kg were excavated to a one-foot depth. Samples were then collected from grid nodes within the one-foot excavated area at the base of the excavation, i.e. a depth of one foot below ground surface (bgs). Using the same process, one-foot depth samples that had arsenic results below 20 mg/kg were connected with marking spray paint lines, and these lines formed the boundaries of the second one-foot lift. The excavation continued in these areas to a depth of two feet bgs. Grid node samples collected from within the two-foot excavated area at the base of the excavation, i.e. a depth of two feet bgs, were then used to define the area that required an additional one-foot lift to a depth of three feet bgs. The three-foot excavation was limited to a small area adjacent to grid node A-2. Soil sample results are provided on Table 3. All final confirmation soil samples met RAOs.

The Field 4 excavation area is shown on Figure 3 with colored areas indicating the extent of areas excavated to one, two, and three feet bgs. Approximately 3783 cubic yards (cys) were excavated from an area of approximately 1.6 acres in size in Field 4. Several sample results exceeded 50 mg/kg of arsenic, the threshold at which Soluble Threshold Limit Concentration (STLC) leach tests are required in order to assess whether the soil must be classified as California (non-RCRA) hazardous waste. STLC leach testing results were below the thresholds for California (non-RCRA) hazardous waste and as a result, the excavated soil was disposed of as a nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California. The STLC testing results are summarized in Table 6.

3.1.1 Backfilling of Field 4

Backfilling activities at Field 4 began on June 7, 2010. Clean import fill soil was brought from a residential housing site in Sunnyvale, California after approval from DTSC. Import fill was deposited directly onto backfill areas by trucks, and was then spread out using a buildozer and compacted using a sheep's foot vibratory compactor. The analytical data for the import fill is provided in Appendix G.

3.2 Excavation of Building 100 Basement Area

Excavation of the Building 100 basement area began on May 18, 2010, following the receipt of analytical results of a sample collected from beneath the concrete foundation of the former basement. The sub-slab sample indicated concentrations of arsenic (69 mg/kg) and dieldrin (220 ug/kg), both of which were above 20 mg/kg and 30 ug/kg, respectively. After an additional three feet of excavation below the bottom of the basement, dieldrin was no longer detected at or

above the laboratory reporting limit. However, the concentration of arsenic was 55 mg/kg, so the excavation was deepened an additional three feet, and a confirmation sample indicated that the arsenic concentration at that depth (11 feet bgs) was below 20 mg/kg. Horizontal step out samples indicated that additional excavation was needed to the north, east, and south. The excavation was extended a total of 20 feet north, 20 feet east, and 10 feet south. Bottom confirmation samples were collected from selected locations within the boundaries of the three-foot excavation surrounding the basement area, and results indicated that the RAOs for arsenic and dieldrin had been met. Soil sampling results are summarized in Table 4.

Confirmation sample locations and results, and the extent of the excavation at the Building 100 basement area, are shown on Figure 4. Approximately 83 cys were excavated from an area of approximately 739 square feet in size at the former Building 100 basement. Several sample results exceeded 50 mg/kg of arsenic, the threshold at which STLC leach tests are required in order to assess whether the soil must be classified as California (non-RCRA) hazardous waste. STLC leach testing results were below the thresholds for California (non-RCRA) hazardous waste and as a result, the excavated soil was disposed of as a nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California. The STLC testing results are summarized in Table 6. Analytical results were transmitted to the landfill by EBS, and based on the landfill's approval of basement area soil concentrations, all soil removed from the basement area was added to Field 4 soil stockpiles for offsite disposal.

3.3 Excavation of Hotspots

Hotspot excavations began on May 18, 2010, and began with excavation to an initial 10 foot by 10 foot square centered on the original hotspot sample, to a depth of three feet bgs. Following excavation to the initial excavation boundaries, surface confirmation soil samples were collected at the midpoint of each of the four sides of each excavation, and at the bottom of the excavation. Based on surface confirmation sample results, step-out samples were collected as needed at horizontal intervals of 10 feet until the step-out sample results indicated concentrations of arsenic or dieldrin (in the case of Hotspot #1) met RAOs. In addition to surface confirmation samples, vertical confirmation soil samples were collected from a depth of two feet bgs at selected locations within the excavation boundary as defined by surface step-out sample results. Details specific to individual hotspots are provided in the following subsections.

3.3.1 Hotspot #1

In the environmental investigation in 2002, dieldrin was detected above 30 ug/kg at sample location F1-C, which is identified as Hotspot #1. After the initial excavation of a 10 foot by 10 foot square to three feet bgs centered on sample location F1-C, horizontal step out samples indicated that additional excavation was needed to the west and south. The excavation was extended a total of 30 feet to the west and 20 feet to the south, and bottom confirmation samples were collected from the excavation at a depth of three feet bgs. Soil sample results are summarized in Table 5. Confirmation sample locations and results, and the extent of the excavation at Hotspot #1, are shown on Figure 5. All final confirmation soil samples met RAOs. Approximately 133 cys were excavated from an area of approximately

1,200 square feet in size in Hotspot #1. The excavated soil was disposed of as a nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California.

3.3.2 Hotspot #2

In the environmental investigation conducted in 2008, arsenic was detected above 20 mg/kg at sample location AV-23, which is identified as Hotspot #2. After the initial excavation of a 10 foot by 10 foot square to a depth of three feet bgs, centered on sample location AV23, horizontal step out samples indicated that additional excavation was needed to the north, west, south, and northeast. The excavation was extended a total of 30 feet to the north, 20 feet to the south, and 15 feet to the west. To the northeast, a roughly triangular-shaped wedge of soil was removed based on the results of surface samples collected in that area.

To the north, the excavation could only be extended for a total of 30 feet due to the site boundary fence line. The arsenic concentration in surface soil was 110 mg/kg at the fence line 30 feet north of the original excavation, a location designated as "Hotspot2-30N". In order to delineate soil impacts along this portion of the fence line, surface samples were collected along the fence line to the east and west of Hotspot2-30N. Surface sample results indicated that RAOs were met at 35 feet east and 35 feet west of Hotspot2-30N, and thus the excavation was extended along this 70-foot interval of the fence line. At selected locations within the excavation boundaries, bottom confirmation samples were collected from the excavation at a depth of three feet bgs. All of the three foot depth confirmation samples had results indicating RAOs had been met, except for the three foot sample collected at Hotspot2-30N, which had a value of 21 mg/kg arsenic, just above 20 mg/kg. The excavation was not deepened beyond three feet bgs in this area since the stability of the fence would have been comprised if the excavation had extended any deeper. All other confirmation soil samples met RAOs. Soil sample results are summarized in Table 5.

Confirmation sample locations and results, and the extent of the excavation at Hotspot #2, are shown on Figure 6. Approximately 238 cys were excavated from an area of approximately 2938 square feet in size at Hotspot #2. One sample result exceeded 50 mg/kg of arsenic, the threshold at which STLC leach tests are required in order to assess whether the soil must be classified as California (non-RCRA) hazardous waste, and 100 mg/kg of arsenic, the threshold at which Toxicity Characteristic Leaching Procedure (TCLP) leach tests are required in order to assess whether the soil must be classified as Federal (RCRA) hazardous waste. The results of STLC and TCLP leach testing indicated that the soil did not require classification as California (non-RCRA) or Federal (RCRA) hazardous waste. The STLC and TCLP testing results are summarized in Table 6. As a result, the excavated soil was disposed of as a nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California.

3.3.3 Hotspot #3

In the environmental investigations in 2002 and 2008, arsenic was detected above 20 mg/kg at sample location 1-GB and AV-8. This location is identified as Hotspot #3. After the initial excavation of a 10 foot by 10 foot square to a depth of three feet bgs, centered on the co-located sample locations of 1-GB and AV-8, horizontal step-out samples indicated

that additional excavation was needed to the north, south, east, and west. The excavation was extended a total of 20 feet to the north, 20 feet to the west, 40 feet to the south, and 100 feet to the east. Several surface samples were also collected between the northern, southern, eastern, and western extent samples in order to ensure adequate delineation of elevated arsenic areas. In addition, at selected locations within the excavation boundaries bottom confirmation samples were collected from a depth of two feet bgs to ensure adequate vertical delineation.

A number of step out sample results exceeded 50 mg/kg of arsenic, the threshold at which STLC leach tests are required in order to assess whether the soil must be classified as California (non-RCRA) hazardous waste. STLC leach testing indicated that excavated soil from this area must be classified as California (non-RCRA) hazardous waste. At some step out sample locations, the arsenic concentration also exceeded 100 mg/kg, the threshold at which TCLP leach tests are required in order to assess whether the soil must be classified as Federal (RCRA) hazardous waste. The results of TCLP leach testing indicated that the soil did not require classification as Federal (RCRA) hazardous waste. The STLC and TCLP testing results are summarized in Table 6.

A portion of the southern boundary of Hotspot #3 was along the same line as the northeastern boundary of Hotspot #5. All soils removed from the northern side of this shared boundary (within Hotspot #3) were disposed as California (non-RCRA) hazardous waste at Clean Harbors Buttonwillow LLC, in Buttonwillow, California. Approximately 508 cys were excavated from an area of approximately 6808 square feet in size at Hotspot #3. Soil sample results are summarized in Table 5.

Confirmation sample locations and results, and the extent of the excavation at Hotspot #3 are shown on Figure 7. All final confirmation soil samples met RAOs.

3.3.4 Hotspot #5

In the environmental investigation conducted in 2008, arsenic was detected above 20 mg/kg at sample location AV-31, which is identified as Hotspot #5. After the initial excavation of a 10 foot by 10 foot square to a depth of three feet bgs, centered on the sample AV-31, horizontal step-out samples indicated that additional excavation was needed to the north, south, east, and west. The excavation was first extended 25 feet in the cardinal directions to a depth of three feet bgs. The excavation was then extended in an irregular star-shape to a depth of two feet bgs, to a distance of 80 feet to the north, 40 feet to the west, 80 feet to the south, and 90 feet to the east. Several surface samples were also collected to the northeast, northwest, southeast, and southwest in order to ensure adequate delineation of impacted areas. In addition, at selected locations within the excavation boundaries, bottom confirmation samples were collected from a depth of two feet bgs to ensure adequate vertical delineation.

The northeastern boundary of Hotspot #5 was along the same line as a portion of the southern boundary of Hotspot #3. All soils removed from the southern side of this shared boundary (within Hotspot #5) were disposed as non-hazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California. Approximately 1264 cys were excavated from

an area of approximately 0.35 acres in size at Hotspot #5. Soil sample results are summarized in Table 5. Confirmation sample locations and results, and the extent of the excavation at Hotspot #5, are shown on Figure 7. All final confirmation soil samples met RAOs.

3.3.5 Hotspot #6

In the environmental investigation conducted in 2008, arsenic was detected above 20 mg/kg at sample location AV-41, which is identified as Hotspot #6. After the initial excavation of a 10 foot by 10 foot square to a depth of three feet bgs, centered on the sample AV-41, sidewall and bottom confirmation samples had arsenic concentrations were less than 20 mg/kg and as a result, no additional excavation was necessary. Soil sample results are summarized in Table 5. Confirmation sample locations and results, and the extent of the excavation at Hotspot #6, are shown on Figure 8. The excavated soil was disposed of as a nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California.

3.3.6 Hotspot #7

In the environmental investigation in 2002, arsenic was detected above 20 mg/kg at sample location F12-A, which is identified as Hotspot #7. After the initial excavation of a 10 foot by 10 foot square to a depth of three feet bgs, centered on the sample F12-A, sidewall and bottom confirmation samples had arsenic concentrations that were less than 20 mg/kg. As a result, no additional excavation was necessary. Soil sample results are summarized in Table 5. Confirmation sample locations and results, and the extent of the excavation at Hotspot #7, are shown on Figure 8. The excavated soil was disposed of as a nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California.

3.3.7 Backfilling of Hotspots

Hotspot backfilling began on June 9, 2010 with Hotspot #6 and #7, using the same source of imported fill that was used for backfilling Field 4. Backfilling of Hotspot #1 occurred on June 14, 2010, and backfilling of Hotspot #2 occurred on June 21, 2010, also using the same source of imported fill that was used for Field 4. Backfilling of Hotspots #3 and #5, using a different source of imported fill material, began on June 24, 2010 and continued through June 29, 2010. All hotspots were compacted with a sheep's foot vibratory compactor during and after backfilling. The analytical data for the two sources of import fill is provided in Appendix G.

3.3.8 Excavated Soil Area, Volume and Tonnage

During implementation of the RAW, approximately 6,000 cys of soil was excavated and removed from an area approximately 2.2 acres in size as shown on Figure 9. Approximately 840 tons (from Hotspot #3) of this soil was disposed of as California (non-RCRA) hazardous waste at Clean Harbors Buttonwillow LLC, located in Buttonwillow,

California. Approximately 12,532 tons[1] were disposed of as nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California. Table 8 summarizes the excavated volumes of soil from Field 4, the former Building 100 basement and from the six hotspots.

3.3.9 Temporary Storage Operations

As soil was excavated, it was temporarily stockpiled on-site before off-site transportation and disposal. This was done so that hauling trucks could be loaded with soil without delay at the start of the next work day, and also so that excavation equipment could continue digging while loading equipment was used to load soil onto trucks. Soil stockpiles, in general, were located on areas of soil that were scheduled to be excavated later.

To minimize fugitive dust emissions during loading, drop heights were minimized and water spraying was used. At the end of each work day or when moving to a different area of the site, soil stockpiles were covered with plastic sheeting and secured with sand bags to limit dust. Stockpile height was limited to approximately six feet. In general, all excavation areas and associated stockpiles were secured behind temporary fencing and dust screens at the end of each work day.

3.3.10 Decontamination Procedures

Entry to the excavation areas was limited to critical equipment and vehicles, in order to avoid unnecessary exposure, control dust, and limit any potential transfer of impacted soil. Trucks and vehicles leaving the site drove over steel "rumble-strips" to dislodge soil from tires and undercarriages, immediately followed by an area paved with four- to six-inch diameter rock ("rubble") to further remove soil from tires and undercarriages. When necessary, dry decontamination methods (brushing and sweeping) were used to remove dust and soil from vehicles and tires before leaving the site. Decontamination was conducted in a contamination reduction zone adjacent to the site entrance. Wet decontamination, using brushes and a water-detergent solution, was not performed unless absolutely necessary, in order to limit track-out of wet soil or dust onto city roads. Any track-out that did occur on city roads was cleaned regularly using a street sweeper.

3.3.11 Demobilization

Prior to final demobilization of personnel and equipment from the site on June 30, 2010, the steel rumble strips and rubble area were removed. Asphalt pavement and concrete curbs were removed from the site driveway. Fencing was relocated to the property line and the gate at the entrance to the site was secured with a combination padlock.

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[1] This tonnage includes the soil from a soil stockpile that was onsite near the former Department Shed and soil from removal of the UST.

3.4 Air and Meteorological Monitoring

This section details the air and meteorological monitoring strategy and methodologies that were used during the removal action. The strategy and methodologies were designed to achieve several goals:

- Measure the particulate matter generated during the excavation and decontamination activities to assign the appropriate personal protective equipment (PPE) for on-site workers;
- Measure particulate matter and meteorological variables to assist the Contractor with planning and implementation of dust control measures;
- Measure particulate matter to assess the potential for off-site impacts during excavation and decontamination activities and respond with additional dust control measures.

Air and meteorological monitoring was conducted during excavation and backfilling activities. Meteorological monitoring was conducted using an on-site meteorological monitoring station (RM Young 5305 AQ Wind Monitor with Campbell Scientific CR10X datalogger ["met station"]). The on-site met station was located in an area representative of wind patterns for the site, as described in published guidance.[2,3] On-site meteorological data collected included wind speed and direction, temperature, and relative humidity. The location of the met station is shown on Figure 2.

Air monitoring was conducted using two separate methods, with two types of equipment, to monitor for dust or particulate matter with an aerodynamic diameter less than 10 micrometers (PM_{10}). The first method consisted of a real-time dust monitor (Thermo Scientific, Inc. PDR-1000 Personal DataRAM [PDR]) that was used by ENVIRON field personnel to collect hourly measurements of dust concentrations immediately upwind and downwind of work zones. The second network consisted of real-time PM_{10} monitors (Met One Instruments, Inc. Environmental Beta Attenuation Mass Monitors [EBAMs]) that were set up at selected locations around the site perimeter to collect measurements of dust concentrations at the fence lines upwind and downwind of the site. EBAM locations were selected based on the prevailing wind direction at the site (from the northwest).

Meteorological data, work zone dust monitoring data, and fence line dust monitoring data were collected on an hourly basis during excavation and backfilling activities. If measured PM_{10} levels exceeded a net difference of 50 $\mu g/m^3$ between the upwind and downwind monitoring location, then additional dust control measures were implemented. Dust monitoring procedures, instances when the dust action level was exceeded, and descriptions of additional dust control measures, are presented in the following sections.

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[2] Bay Area Air Quality Management District (BAAQMD). 1996. "Meteorological Monitoring Guidance." *Manual of Procedures*. Volume IV, Appendix A. May 8.
[3] United States Environmental Protection Agency (USEPA). 2000. *Meteorological Monitoring Guidance for Regulatory Modeling Applications*. EPA-454/R-99-005. February.

Daily charts with line graphs depicting wind direction and speed and EBAM dust concentrations at upwind and downwind monitors are provided in Appendix A.

3.4.1 Work Zone Dust Monitoring Procedures

Monitoring locations for the PDR dust measurements were based on the location of daily work activities (work zones) that had the potential to generate dust. The locations were representative of ambient dust concentration (upwind) and of worker exposure and potential fugitive dust (downwind). At the beginning of each day, the PDR was calibrated to fresh air using a plastic pouch connected to an air filter and pump. Following fresh air calibration, the PDR was used to measure background conditions in an upwind, relatively remote area of the site. Then, on an hourly basis during the work day, measurements were collected at one upwind location and three downwind locations within approximately 50 feet of work activities, except when health and safety precautions required a longer distance. All work zone dust monitoring results were recorded on dust monitoring log sheets, which were provided to DTSC at the end of each work day. Work zone dust monitoring was used to determine if dust control measures were adequate or if additional methods were required, and also to determine if any upgrades to the PPE of site workers was required for certain activities. If work zone measurements indicated a concentration of 50 micrograms per cubic meter (ug/m^3) or more of dust above the site background concentration or the upwind dust concentration, workers were immediately informed and additional dust control methods were implemented.

3.4.2 Work Zone Dust Monitoring Results

The dust concentration action level of 50 ug/m^3 above the upwind or background dust concentration was occasionally exceeded in the work zone areas. Each time the action level was exceeded, the causes were analyzed in order to more effectively prepare for and respond to activities with the potential to generate dust. The following list provides the date and time of each exceedance, and the corrective actions taken:

- **May 14, 2010 at 12:20 PM:** A dust concentration of 90 ug/m^3 was recorded downwind of soil loading activities; however the high reading was most likely due to emissions from an idling soil hauling truck within 20 feet of the measurement location. No corrective action was taken. Subsequent measurements were below the dust action level.

- **June 9, 2010 at 1:48 PM, 1:49 PM, 3:46 PM, and 3:47 PM:** Dust concentrations ranging from 69 ug/m^3 to 96 ug/m^3 were recorded downwind of irrigation pipe removal activities in and around Field 4. The irrigation pipes were being removed from areas outside of the RAW excavation areas in Field 4. EBS was asked to increase water spraying during irrigation pipe removal activities. Subsequent measurements were below the dust action level.

- **June 10, 2010 at 8:58 AM, 10:44 AM, 3:52 PM and 3:54 PM:** Dust concentrations ranging from 61 ug/m^3 to 92 ug/m^3 were recorded downwind of backfilling and compaction activities in Field 4. The dust was generated from clean import fill soil and not from impacted site soil. EBS was asked to increase water spraying during backfilling and compaction activities. Subsequent measurements were below the dust action level.

- **June 11, 2010 at 8:29 AM, 10:33 AM, 10:36 AM, and 3:37 PM:** Dust concentrations ranging from 56 ug/m^3 to 170 ug/m^3 were recorded downwind of backfilling and compaction activities in Field 4; and downwind of excavation activities at Hotspot #5 at 8:41 AM and 9:41 AM. EBS was asked to increase water spraying at both of these work locations. Subsequent measurements were below the dust action level.

3.4.3 Fence Line Dust Monitoring Procedures

The fence line PM_{10} monitoring network (EBAMs) consisted of two locations (EBAM #2 and #3) along the fence line upwind of the site (based on the prevailing northwesterly wind direction), and three locations (EBAM #1, #4, and #5) along the fence line downwind of the site, in the direction of sensitive off-site locations (commercial and residential properties). EBAMs, which were powered by 12 volt marine deep-cycle batteries, were calibrated and leak-checked prior to setup and were leak-checked again immediately after setup, according to manufacturer guidelines. On each morning of RAW activities, freshly charged batteries were attached to the EBAMs, replacing the discharged batteries. At the end of each work day, data files were downloaded from the EBAMs and sent to ENVIRON's offices for data processing.

Using a computer program written in MATLAB, hourly EBAM dust monitoring data was plotted against wind direction (recorded by the on-site met station) so that values recorded by upwind EBAMs could be compared with values recorded by downwind EBAMs. If the net difference between the upwind dust concentration and the downwind dust concentration was greater than 50 ug/m3, was flagged and compared with site activities that had occurred at that time, as recorded in the log book. Work activities and work zones that generated dust in excess of the 50 ug/m3 action level were adjusted in order to include additional dust control measures. In some cases, dust measurements in excess of the action level were found to be unrelated to earthwork in RAW excavation areas; for example, when the water truck sprayed water along the imported roadbase material near the site entrance, the water hitting the imported roadbase material sometimes generated dust above the action level. .

3.4.4 Fence Line Dust Monitoring Results

The dust concentration action level of 50 ug/m^3 above the upwind dust concentration was occasionally exceeded. Each time the action level was exceeded, the causes were analyzed in order to more effectively prepare for and respond to activities with the potential to generate dust. The following list provides the date and time of each exceedance, and the corrective actions taken:

- **May 13, 2010 at 3 PM:** EBAM 1 registered a concentration of approximately 100 ug/m^3 .The dust spike was a result of the water sprayer truck moving over and spraying the entry/exit roadway, which was paved with imported roadbase fill. The dust originated from the imported roadbase fill, and not from soil excavation or loading activities. Nonetheless, the contractor was asked to increase the frequency of water spraying on the roadways to reduce such nuisance dust.

- **May 14, 2010 at 11 AM:** EBAM 5 registered a concentration of approximately 90 ug/m^3 at 11:00 AM. As noted on the previous day, the dust spike resulted from the water sprayer truck spraying water on the imported roadbase material of the roadways.

- **June 3, 2010 at 4 PM:** EBAM 5 registered a concentration of approximately 65 ug/m^3. No digging or other earthwork was occurring at the site at this time. The dust spike was likely related to the ENVIRON field vehicle driving on the perimeter access road used to access the EBAMs for battery changes. Watering and dust suppression was not conducted on the perimeter road until later in June when utility pipes were removed, because no RAW excavation areas or hotspots were located in that area. The dust in this case is thought to have resulted from dry grasses being crushed by the ENVIRON field vehicle as it passed, not from soil excavation or loading activities.

- **June 4, 2010 at 3 PM:** EBAM 4 registered a concentration of approximately 120 ug/m^3. As noted on the previous day, the dust spike likely resulted from the ENVIRON field vehicle driving on adjacent perimeter access roadways.

- **June 11, 2010 at 8 AM:** EBAMs 1 and 5 registered dust concentrations of approximately 100 ug/m^3 and 135 ug/m^3, respectively. The dust spike was caused by trucks driving along the imported roadbase material on the roadways and depositing clean import fill material in order to continue backfilling the Field 4 excavation area. EBS was asked to increase the frequency of water spraying for dust suppression.

- **June 15, 2010 between 8 and 9 AM:** EBAM 5 registered a dust concentration of approximately 210 ug/m^3. The dust spike was caused by trucks and equipment conducting backfilling operations. EBS was asked to continue regular watering for dust suppression.

- **June 17, 2010 at 9 AM and 3 PM:** EBAM 5 registered dust concentrations of approximately 75 ug/m^3 and 85 ug/m^3 at 9:00 AM and 3:00 PM, respectively. The dust spikes were caused by trucks and equipment conducting backfilling operations, and possibly contributed to by the ENVIRON field vehicle driving along the perimeter access road for battery changes and data downloads. EBS was asked to continue regular watering for dust suppression.

- **June 21, 2010 at 3 PM:** EBAM 5 registered a dust concentration of approximately 100 ug/m^3, coinciding with battery changes conducted using the ENVIRON field vehicle. Due to an irrigation pipe having been removed from beneath the southern perimeter roadway, no grasses remained on this roadway at this time, and dust was more easily generated by the field vehicle. ENVIRON field personnel began to drive more slowly on this roadway to control dust.

- **June 22, 2010 between 3 and 4 PM:** EBAM 1 registered a dust concentration of approximately 65 ug/m^3. The dust spike was generated by the ENVIRON field vehicle driving on bare soil areas near EBAM 1 during battery changes.

- **June 25, 2010 at 1 PM:** EBAM 1 registered a dust concentration of approximately 60 ug/m^3. Based on the wind direction at this time, the monitor was not downwind of any excavation or backfilling area. It is likely the exceedance was related to trucks moving on the import roadbase material at the site entrance. Additional water spraying was conducted on the roadway material to continue dust mitigation.

3.5 Dust Control Plan

This section details dust control measures implemented by the Contractor to minimize dust emissions during the removal action. Dust emissions resulted from activities during removal action, such as moving equipment, soil excavation, and soil loading, and from wind erosion. In general, these sources were effectively controlled using wet suppression. In addition, low visibility/permeability wind fencing material was installed around the excavation areas, helping to reduce wind erosion and capture dust particles entrained by the wind. Soil stockpiles were also covered with plastic sheeting except during active stockpiling or soil loading. A water sprayer truck was also used to spray water on areas which have already been excavated to minimize wind erosion and to wet excavation areas and soil stockpiles on the day prior to excavation and/or loading.

3.5.1 Wet Suppression

The main mechanism for the control of fugitive dust emissions from construction activities and wind erosion was by watering, which leads to the formation of a surface crust to reduce the available reservoir of dust. Chemical dust suppressants, which can enhance the formation of a surface crust, were not considered to be necessary and were not used.

The effectiveness of wet suppression is dependent on the type of activities occurring, the frequency of watering, and the meteorological conditions. The watering schedule was determined based on daily evaluation of the air monitoring and meteorological data, site conditions, and site activities.

3.5.2 Wind Fences

Wind fences were used as a dust control measure in conjunction with other dust control measures discussed above. The fences acted to reduce the wind speed within fenced areas, and also to capture dust particles that were entrained by the wind. Low visibility/permeability wind fencing material was installed around the excavation areas, including a 10-foot wind fence around the Field 4 excavation area and six-foot temporary fences with attached wind screens around the Building 100 basement excavation and the hotspot excavations.

3.6 Transportation Plan for Off-Site Disposal

Soil from the various excavation areas was profiled and approval was received from disposal facilities before commencement of soil hauling from each area. Soil hauling trucks were required to follow specific routes to the disposal facilities, and the maximum number of truckloads per day was limited to 40. The Transportation Plan was included in the RAW as Appendix A.

3.7 Site Restoration

Clean import fill was brought to the site to backfill all excavated areas. The imported soil was placed in 6-inch lifts and compacted using a sheep's foot vibratory compactor to the standards specified in the City-approved construction plans for site re-development. Two sources of import fill were used to complete backfilling. The first source was used to backfill Field 4 and Hotspots #1, #2, #6, and #7. The second source was used to backfill Hotspots #3 and #5. The analytical data for the two sources of import fill is provided in Appendix G.

3.7.1 Load Checking, Diversion, and Documentation of Rejected Loads

All loads of imported fill were subject to visual and olfactory checks for staining, fuel/hydraulic oil leaks, or other potentially contaminated material as they were placed in backfill areas. No loads of imported fill soil were found to be unacceptable during the removal action.

3.8 Conclusion

As described above in detail, the removal action at the Site was completed in accordance with the procedures described in the Final RAW. Except for one location adjacent to the property line which had a final arsenic concentration of 21 mg/kg (see Section 3.3.2), soil with elevated concentrations of arsenic and dieldrin were excavated until RAOs were met. All excavated soils were removed from the Site and transported for disposal to an appropriately licensed and permitted landfill.

4 References

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Tables

TABLE 1 - SUMMARY OF SOIL SAMPLE RESULTS FROM BEFORE AND AFTER DEMOLITION FOR BUILDINGS
Former BAREC Site
Santa Clara, California

				Metals (mg/kg)								
	Sample ID	Sample Date[1]	Sample Depth (feet bgs)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead
204-Potting Shed	AV-2-1.0	10/02/08 12:31	1	NA	5.0	NA	NA	NA	NA	NA	NA	NA
	AV-2-2.5	10/02/08 12:36	2.5	NA	4.3	NA	NA	NA	NA	NA	NA	NA
	204-050710	05/07/10	1	NA	NA	NA	NA	NA	NA	NA	NA	27
201-Shop and Machinery Building	AV-4-1.0	10/02/08 16:04	1	<2.0	30	110	<0.51	<0.51	32	9.8	22	13
	AV-4-10.5	10/02/08 17:30	10.5	<2.0	3.3	83	<0.50	<0.50	40	8.1	21	4.2
	AV-4-2.5	10/02/08 16:18	2.5	<2.0	4.7	120	<0.50	<0.50	42	9.6	21	5.6
	AV-4-5.5	10/02/08 16:55	5.5	<1.9	3.8	110	0.51	<0.48	32	8.0	20	5.6
	201-050710	5/7/2010 12:55	1	NA	3.9	NA	NA	NA	NA	NA	NA	NA
208-Pesticide Storage Shed	AV-5-1.5	10/01/08 15:20	1.5	NA	5.2	NA	NA	NA	NA	NA	NA	NA
	AV-5-16.0	10/01/08 15:55	16	NA	3.6	NA	NA	NA	NA	NA	NA	NA
	AV-5-3.0	10/01/08 15:30	3	NA	4.1	NA	NA	NA	NA	NA	NA	NA
	AV-5-6.0	10/01/08 15:45	6	NA	3.7	NA	NA	NA	NA	NA	NA	NA
	208-050710	05/07/10	1.5	NA	NA	NA	NA	NA	NA	NA	NA	9.8
100-Office/Laboratory	100-050710	5/07/2010 09:46	1	NA	4.7	NA	NA	NA	NA	NA	NA	29
100-Office Basement	100-BASEMENT-050710	5/07/2010 09:35	5	NA	69	NA	NA	NA	NA	NA	NA	9.4
SEE TABLE 4 FOR ADDITIONAL SAMPLING RESULTS FOR BASEMENT												
Department Shed	E7-050610	5/06/2010 08:48	0.5	NA	4.6	NA	NA	NA	NA	NA	NA	9.4
	103-050710	05/07/10	0.5	NA	NA	NA	NA	NA	NA	NA	NA	8.9

NOTES
NA -Not analyzed
ND - Not detected
[1] Samples collected in 2008 were prior to demolition.
Samples collected in 2010 were after demolition.

TABLE 1 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER DEMOLITION FOR BUILDINGS
Former BAREC Site
Santa Clara, California

				Metals (mg/kg)								
	Sample ID	Sample Date[1]	Sample Depth (feet bgs)	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Tin	Vanadium	Zinc
204-Potting Shed	AV-2-1.0	10/02/08 12:31	1	NA	NA	NA	NA	NA	NA	<10	NA	NA
	AV-2-2.5	10/02/08 12:36	2.5	NA	NA	NA	NA	NA	NA	<10	NA	NA
	204-050710	05/07/10	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
201-Shop and Machinery Building	AV-4-1.0	10/02/08 16:04	1	**0.27**	<1.0	**46**	<2.0	<1.0	<1.0	<10 U	**30**	**57**
	AV-4-10.5	10/02/08 17:30	10.5	<0.052	<0.99	**49**	<2.0	<0.99	<0.99	<10	**37**	**38**
	AV-4-2.5	10/02/08 16:18	2.5	<0.052	<0.99	**59**	<2.0	<0.99	<0.99	<10	**35**	**50**
	AV-4-5.5	10/02/08 16:55	5.5	<0.049	<0.95	**46**	<1.9	<0.95	<0.95	<10	**32**	**48**
	201-050710	5/7/2010 12:55	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
208-Pesticide Storage Shed	AV-5-1.5	10/01/08 15:20	1.5	NA	NA	NA	NA	NA	NA	<10	NA	NA
	AV-5-16.0	10/01/08 15:55	16	NA	NA	NA	NA	NA	NA	<10	NA	NA
	AV-5-3.0	10/01/08 15:30	3	NA	NA	NA	NA	NA	NA	<10	NA	NA
	AV-5-6.0	10/01/08 15:45	6	NA	NA	NA	NA	NA	NA	<10	NA	NA
	208-050710	05/07/10	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
100-Office/Laboratory	100-050710	5/07/2010 09:46	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
100-Office Basement	100-BASEMENT-050710	5/07/2010 09:35	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
SEE TABLE 4 FOR ADDITIONAL SAMPLING RESULTS FOR BASEMENT												
Department Shed	E7-050610	5/06/2010 08:48	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	103-050710	05/07/10	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES
NA -Not analyzed
ND - Not detected
[1] Samples collected in 2008 were prior to demolition.
Samples collected in 2010 were after demolition.

TABLE 1 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER DEMOLITION FOR BUILDINGS
Former BAREC Site
Santa Clara, California

					Organochlorine Pestides (ug/kg)							
	Sample ID	Sample Date[1]	Sample Depth (feet bgs)	pH	4,4'-DDD	4,4'-DDE	4,4'-DDT	Aldrin	alpha-BHC	alpha-Chlordane	beta-BHC	Chlordane (technical)
204-Potting Shed	AV-2-1.0	10/02/08 12:31	1	7.06 J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<39
	AV-2-2.5	10/02/08 12:36	2.5	7.47 J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40
	204-050710	05/07/10	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
201-Shop and Machinery Building	AV-4-1.0	10/02/08 16:04	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AV-4-10.5	10/02/08 17:30	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AV-4-2.5	10/02/08 16:18	2.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	AV-4-5.5	10/02/08 16:55	5.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
	201-050710	5/7/2010 12:55	1	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40
208-Pesticide Storage Shed	AV-5-1.5	10/01/08 15:20	1.5	7.57 J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40
	AV-5-16.0	10/01/08 15:55	16	7.57 J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40
	AV-5-3.0	10/01/08 15:30	3	7.19 J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40
	AV-5-6.0	10/01/08 15:45	6	7.99 J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40
	208-050710	05/07/10	1.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
100-Office/Laboratory	100-050710	5/07/2010 09:46	1	NA	<2.0	<2.0	**2.4**	<2.0	<2.0	<2.0	<2.0	<40
100-Office Basement	100-BASEMENT-050710	5/07/2010 09:35	5	NA	<2.0	<2.0	**13**	<2.0	<2.0	**7.8**	<2.0	51
SEE TABLE 4 FOR ADDITIONAL SAMPLING RESULTS FOR BASEMENT												
Department Shed	E7-050610	5/06/2010 08:48	0.5	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40
	103-050710	05/07/10	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA

NOTES
NA -Not analyzed
ND - Not detected
[1] Samples collected in 2008 were prior to demolition.
Samples collected in 2010 were after demolition.

TABLE 1 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER DEMOLITION FOR BUILDINGS
Former BAREC Site
Santa Clara, California

				Organochlorine Pestides (ug/kg)						
	Sample ID	Sample Date[1]	Sample Depth (feet bgs)	delta-BHC	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan sulfate	Endrin	Endrin aldehyde
204-Potting Shed	AV-2-1.0	10/02/08 12:31	1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	AV-2-2.5	10/02/08 12:36	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	204-050710	05/07/10	1	NA	NA	NA	NA	NA	NA	NA
201-Shop and Machinery Building	AV-4-1.0	10/02/08 16:04	1	NA	NA	NA	NA	NA	NA	NA
	AV-4-10.5	10/02/08 17:30	10.5	NA	NA	NA	NA	NA	NA	NA
	AV-4-2.5	10/02/08 16:18	2.5	NA	NA	NA	NA	NA	NA	NA
	AV-4-5.5	10/02/08 16:55	5.5	NA	NA	NA	NA	NA	NA	NA
	201-050710	5/7/2010 12:55	1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
208-Pesticide Storage Shed	AV-5-1.5	10/01/08 15:20	1.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	AV-5-16.0	10/01/08 15:55	16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	AV-5-3.0	10/01/08 15:30	3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	AV-5-6.0	10/01/08 15:45	6	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	208-050710	05/07/10	1.5	NA	NA	NA	NA	NA	NA	NA
100-Office/Laboratory	100-050710	5/07/2010 09:46	1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
100-Office Basement	100-BASEMENT-050710	5/07/2010 09:35	5	<2.0	**220**	<2.0	<2.0	<2.0	**6**	<2.0
SEE TABLE 4 FOR ADDITIONAL SAMPLING RESULTS FOR BASEMENT										
Department Shed	E7-050610	5/06/2010 08:48	0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	103-050710	05/07/10	0.5	NA	NA	NA	NA	NA	NA	NA

NOTES
NA -Not analyzed
ND - Not detected
[1] Samples collected in 2008 were prior to demolition.
Samples collected in 2010 were after demolition.

TABLE 1 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER DEMOLITION FOR BUILDINGS
Former BAREC Site
Santa Clara, California

				Organochlorine Pestides (ug/kg)							
	Sample ID	Sample Date[1]	Sample Depth (feet bgs)	Endrin ketone	gamma-BHC (Lindane)	gamma-Chlordane	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Perchloratе
204-Potting Shed	AV-2-1.0	10/02/08 12:31	1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<30	1.9
	AV-2-2.5	10/02/08 12:36	2.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	1.4
	204-050710	05/07/10	1	NA	NA	NA	NA	NA	NA	NA	NA
201-Shop and Machinery Building	AV-4-1.0	10/02/08 16:04	1	NA	NA	NA	NA	NA	NA	NA	NA
	AV-4-10.5	10/02/08 17:30	10.5	NA	NA	NA	NA	NA	NA	NA	NA
	AV-4-2.5	10/02/08 16:18	2.5	NA	NA	NA	NA	NA	NA	NA	NA
	AV-4-5.5	10/02/08 16:55	5.5	NA	NA	NA	NA	NA	NA	NA	NA
	201-050710	5/7/2010 12:55	1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	NA
208-Pesticide Storage Shed	AV-5-1.5	10/01/08 15:20	1.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	NA
	AV-5-16.0	10/01/08 15:55	16	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	NA
	AV-5-3.0	10/01/08 15:30	3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	NA
	AV-5-6.0	10/01/08 15:45	6	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	NA
	208-050710	05/07/10	1.5	NA	NA	NA	NA	NA	NA	NA	NA
100-Office/Laboratory	100-050710	5/07/2010 09:48	1	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	NA
100-Office Basement	100-BASEMENT-050710	5/07/2010 09:35	5	<2.0	<2.0	11	<2.0	<2.0	<2.0	<40	NA
SEE TABLE 4 FOR ADDITIONAL SAMPLING RESULTS FOR BASEMENT											
Department Shed	E7-050610	5/06/2010 08:48	0.5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<40	NA
	103-050710	05/07/10	0.5	NA	NA	NA	NA	NA	NA	NA	NA

NOTES
NA -Not analyzed
ND - Not detected
[1] Samples collected in 2008 were prior to demolition.
Samples collected in 2010 were after demolition.

TABLE 1 - SUMMARY OF SOIL SAMPLE RESULTS FROM BEFORE AND AFTER DEMOLITION FOR BUILDINGS
Former BAREC Site
Santa Clara, California

	Sample ID	Sample Date[1]	Sample Depth (feet bgs)	TPH (mg/kg)			VOCs & SVOCs	Asbestos
				Diesel Range Organics C10-C28	Motor Oil Range Organics C24-C36	Gasoline Range Organics (GRO)-C5-C12		
204-Potting Shed	AV-2-1.0	10/02/08 12:31	1	NA	NA	NA	NA	NA
	AV-2-2.5	10/02/08 12:30	2.5	NA	NA	NA	NA	NA
	204-050710	05/07/10	1	<1.0	<50	NA	NA	ND
201-Shop and Machinery Building	AV-4-1.0	10/02/08 16:04	1	2.7	<50	<0.25	ND	NA
	AV-4-10.5	10/02/08 17:30	10.5	<1.0	<50	<0.22	ND	NA
	AV-4-2.5	10/02/08 16:18	2.5	<0.99	<49	<0.22	ND	NA
	AV-4-5.5	10/02/08 16:55	5.5	<0.99	<50	<0.20	ND	NA
	201-050710	5/7/2010 12:55	1	NA	NA	NA	NA	ND
208-Pesticide Storage Shed	AV-5-1.5	10/01/08 15:20	1.5	NA	NA	NA	NA	NA
	AV-5-16.0	10/01/08 15:55	16	NA	NA	NA	NA	NA
	AV-5-3.0	10/01/08 15:30	3	NA	NA	NA	NA	NA
	AV-5-6.0	10/01/08 15:45	6	NA	NA	NA	NA	NA
	208-050710	05/07/10	1.5	1.4	<50	NA	NA	ND
100-Office/Laboratory	100-050710	5/07/2010 09:46	1	1.9	<50	NA	NA	ND
100-Office Basement	100-BASEMENT-050710	5/07/2010 09:35	5	3	<50	NA	NA	ND
SEE TABLE 4 FOR ADDITIONAL SAMPLING RESULTS FOR BASEMENT								
Department Shed	E7-050610	5/06/2010 08:48	0.5	NA	NA	NA	NA	NA
	103-050710	05/07/10	0.5	1.1	<50	NA	NA	ND

NOTES
NA -Not analyzed
ND - Not detected
[1] Samples collected in 2008 were prior to demolition.
Samples collected in 2010 were after demolition.

Table 2 - Dust Monitor and Soil Sample Survey Coordinates
Former BAREC Site
Santa Clara, California

DESCRIPTION OF LOCATION	NORTHING	EASTING	LATITUDE(N)	LONGITUDE(W)	ELEVATION
DUST MONITOR NO. 1	1944234.245	6139724.358	37.32542713	121.9511758	Not measured
DUST MONITOR NO. 2	1944793.52	6139314.232	37.3269455	121.952616	Not measured
DUST MONITOR NO. 3	1944810.11	6139020.616	37.32697854	121.9536266	Not measured
DUST MONITOR NO. 4	1944243.504	6139209.977	37.32543064	121.9529451	Not measured
DUST MONITOR NO. 5	1944240.015	6139435.111	37.32543065	121.9521708	Not measured
Hot Spot No. 1 (Dieldrin at F1-C)	1944795.605	6138894.942	37.32693335	121.954058	121.55
Hot Spot No. 2 (AV 23)	1944780.039	6139115.098	37.32689999	121.9533001	122.53
Hot Spot No. 3 (1-GB and AV 8)	1944735.517	6139637.867	37.32680001	121.9515	122.12
Hot Spot No. 5 (AV 31)	1944626.749	6139607.085	37.32650001	121.9516	123.57
Hot Spot No. 6 (AV-41)	1944403.802	6139894.447	37.3259	121.9506	122.16
Hot Spot No. 7 (F12-A)	1944402.725	6139835.776	37.32589454	121.9508017	122.41
Former Building 201 Shop (AV-4)	1944757.673	6139758.275	37.32686598	121.9510871	121.36
FIELD 4 GRID NODE:					
A1	1944696.074	6139267.045	37.32667589	121.9527731	122.63
B1	1944696.068	6139317.052	37.32667801	121.9526011	122.8
C1	1944696.069	6139367.057	37.32668014	121.9524291	122.72
D1	1944696.068	6139417.049	37.32668227	121.9522572	122.87
E1	1944696.067	6139467.046	37.3266844	121.9520853	123.02
F1	1944696.061	6139517.05	37.32668651	121.9519133	122.97
G1	1944696.058	6139567.048	37.32668863	121.9517414	123.05
G2	1944646.083	6139567.052	37.32655139	121.9517387	124.2
F2	1944646.074	6139517.05	37.32654924	121.9519107	123.85
E2	1944646.058	6139467.038	37.32654706	121.9520827	123.74
D2	1944646.072	6139417.052	37.32654497	121.9522545	123.58
C2	1944646.074	6139367.057	37.32654285	121.9524265	123.62
B2	1944646.075	6139317.048	37.32654072	121.9525984	123.54
A2	1944646.077	6139267.059	37.32653859	121.9527703	123.41
A3	1944596.075	6139267.051	37.32640128	121.9527677	123.63
B3	1944596.072	6139317.046	37.3264034	121.9525958	123.72
C3	1944596.07	6139367.049	37.32640553	121.9524238	123.69
D3	1944596.074	6139417.04	37.32640767	121.9522519	123.86
E3	1944596.07	6139467.045	37.32640979	121.95208	123.95
F3	1944596.071	6139517.055	37.32641192	121.951908	123.79
G3	1944596.078	6139567.061	37.32641407	121.951736	124.33
G4	1944546.058	6139567.061	37.32627671	121.9517334	124.58
F4	1944546.058	6139517.053	37.32627458	121.9519053	123.91

Table 2 - Dust Monitor and Soil Sample Survey Coordinates
Former BAREC Site
Santa Clara, California

DESCRIPTION OF LOCATION	NORTHING	EASTING	LATITUDE(N)	LONGITUDE(W)	ELEVATION
E4	1944546.06	6139467.044	37.32627246	121.9520773	123.9
D4	1944546.056	6139417.044	37.32627031	121.9522492	123.92
C4	1944546.079	6139367.053	37.32626825	121.9524211	123.84
B4	1944546.071	6139317.033	37.32626609	121.9525932	123.72
A4	1944546.065	6139267.046	37.32626394	121.952765	123.67
A5	1944496.069	6139267.055	37.32612665	121.9527623	123.64
B5	1944496.059	6139317.054	37.32612875	121.9525904	123.69
C5	1944496.072	6139367.043	37.32613092	121.9524185	123.8
D5	1944496.083	6139417.053	37.32613308	121.9522465	123.78
E5	1944496.076	6139467.046	37.32613519	121.9520746	123.99
F5	1944496.075	6139517.047	37.32613732	121.9519027	124.16
G5	1944496.076	6139567.046	37.32613945	121.9517307	124.33
G6	1944446.075	6139567.035	37.32600214	121.9517281	124.55
F6	1944446.077	6139517.047	37.32600002	121.9519	124.22
E6	1944446.071	6139467.045	37.32599787	121.952072	124.02
D6	1944446.072	6139417.05	37.32599574	121.9522439	124.1
C6	1944446.067	6139367.032	37.3259936	121.9524159	123.72
B6	1944446.064	6139317.05	37.32599146	121.9525878	123.72
A6	1944446.069	6139267.048	37.32598934	121.9527597	123.77
A7	1944396.079	6139267.043	37.32585206	121.952757	124.01
B7	1944396.061	6139317.047	37.32585414	121.9525851	124.01
C7	1944396.069	6139367.048	37.3258563	121.9524132	124.18
D7	1944396.073	6139417.057	37.32585844	121.9522412	124.26
G7	1944396.065	6139567.049	37.32586481	121.9517254	124.47

Notes

All coordinates are in California State Plane Zone 3 (NAD 83)
Elevations are based on City of San Jose Datum (BM 641-B Elevation= 129.50 NGVD'29)
Former BAREC Site Survey Performed April 30 & May 3, 2010, HMH Engineers,
Survey Party Chief: Julie Jacobsen

TABLE 3 - SUMMARY OF SOIL SAMPLE RESULTS
FIELD 4 EXCAVATION
Former BAREC Site
Santa Clara, California

GRID NODE	ARSENIC CONCENTRATION (mg/kg)			
	Pre-Excavation	Post - Excavation		
	Sample Depth	*Sample Depth*		
	Surface	1 ft bgs	2 ft bgs	3 ft bgs
ZA2	18			
ZA4	8.7			
A1-A2	8.7			
A2	21	21/22	69, 69	9
A3	15			
A4	25	10		
A5	15			
AB2	24	INTERIM EXCAVATED TO A2		
AB3	24	INTERIM EXCAVATED TO A3		
AB4	31	INTERIM EXCAVATED TO A4		
AB5	19			
B1-B2	9.9			
B2	22	9.6		
B3	25	6.3/8.8		
B4	27	4.8		
B5	32	31	7.2	
B6	15			
C1-C2	12			
C2	22	20	5.2	
C3	33, 46	60	12	
C4	30	19, 31	5.4	
C5	43, 44	35	5.4, 4.6	
C6	28	5.3		
C6-C7	16			
D1-D2	15			
D2	23	11		
D3	27	14		
D4	27	16,12		
D5	27	15		
D6	41	40	6.6	
D6-D7	26	INTERIM EXCAVATED TO D7		
D7	16			
E1-E2	14			
E2	32	70	<4.2	
E3	32	8.6		
E4	33, 34	5.3		
E5	44	7.6		
E6	48	93	13	
E6-E7	27, 12	INTERIM EXCAVATED TO E7		
E7	4.6			
F1-F2	6.4			
F2	34, 28	5.4		
F3	28	28	UST discovered	4.2, 4.9*
F4	29	23	5.7, 5.1	
F5	35	21	4.6	

TABLE 3 - SUMMARY OF SOIL SAMPLE RESULTS
FIELD 4 EXCAVATION
Former BAREC Site
Santa Clara, California

GRID NODE	ARSENIC CONCENTRATION (mg/kg)			
	Pre-Excavation	Post - Excavation		
	Sample Depth	*Sample Depth*		
	Surface	1 ft bgs	2 ft bgs	3 ft bgs
F6	34	4.3		
F6-F7	14			
FG-2	7.6			
FG-3	34	INTERIM EXCAVATED TO G3		
FG-4	8.8			
FG-5	8.3			
FG-6	18			
G3	25	5.3	5.7	
GH3	15			

NOTES-

1. Duplicate results are separated with a comma
2. Highlighted values have arsenic concentrations above cleanup goals.
3. Grid nodes with arsenic concentrations above cleanup goals were excavated and then resampled.

* Samples collected following removal and excavation of approximately 3 feet of soil following removal of the UST

TABLE 4 - SUMMARY OF SOIL SAMPLE RESULTS FOR FORMER BUILDING 100 BASEMENT
Former BAREC Site
Santa Clara, California

Sample ID	Sample Date	Sample Name	DIELDRIN CONCENTRATION (ug/kg)			ARSENIC CONCENTRATION (mg/kg)		
			Pre-Excavation	Post - Excavation		Pre-Excavation	Post - Excavation	
			Sample Depth	*Sample Depth*		*Sample Depth*	*Sample Depth*	
			5 ft bgs	8 ft bgs	11 ft bgs	5 ft bgs	8 ft bgs	11 ft bgs
SAMPLES BELOW BASEMENT FLOOR								
100-BASEMENT-050710	5/07/2010	100B-5	220			69		
100-BASEMENT-051810	5/18/2010	100B-8		<2.0			55	
100-BASEMENT-11-060410	06/04/10	100B-11						5.9
Sample ID	**Sample Date**		*Sample Depth*	*Sample Depth*		*Sample Depth*	*Sample Depth*	
			Surface	3 ft bgs	4 ft bgs	Surface	3 ft bgs	4 ft bgs
STEP-OUT SAMPLES FROM BASEMENT								
100-BASEMENT-N-052010	5/20/2010	100B-N	370			66		
100-BASEMENT-E-052010	5/20/2010	100B-E	310			88		
100-BASEMENT-W-052010	5/20/2010	100B-W	15			8.1		
100-BASEMENT-S-052010	5/20/2010	100B-S	3.9			24		
100-BASEMENT-10N-052410	5/24/2010	100B-10N	130			17		
100-BASEMENT-10E-052410	5/24/2010	100B-10E	140			26		
100-BASEMENT-10S-052410	5/24/2010	100B-10S	NA			<3.8		
100-BASEMENT-20N-052610	5/26/2010	100B-20N	<2.0			NA		
100-BASEMENT-20E-052610	5/26/2010	100B-20E	<2.0			7.6		
100-BASEMENT-3E-3-060410	6/4/2010	100B-3E-3		<2.0			5.6	
100-BASEMENT-10S-3-060410	6/4/2010	100B-10S-3		<2.0			5.2	
100-BASEMENT-20N-3-060410	6/4/2010	100B-20N-3		<2.0			6.6	
100-BASEMENT-20E-3-060410	6/4/2010	100B-20E-3		<2.0			5	
100-BASEMENT-15NE-3-060410	6/4/2010	100B-15NE-3		<2.0			5.5	

NOTES-

1. Blank cells indicate sample was not collected at that depth
2. Highlighted values have concentrations above cleanup goals.
3. bgs = below ground surface

< less than or not detected below detection limit

NA - Not analyzed

TABLE 5 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	DIELDRIN CONCENTRATION (ug/kg)		
				Pre-Excavation Sampling		
				Sample Depth		
				Surface	3 ft bgs	4 ft bgs
Hot Spot No. 1 (Dieldrin at F1-C)						
	020731-F1-C-0.5	07/31/2002	F1-C	240		
	020731-F1-C-3	07/31/2002	F1-C		<10	
	HOTSPOT 1-W-052110	05/21/2010	1-W	170		
	HOTSPOT 1-S-052110	05/21/2010	1-S	97		
	HOTSPOT1-10W-052610	05/26/2010	1-10W	73		
	HOTSPOT1-10S-052610	05/26/2010	1-10S	100		
	HOTSPOT1-20W-052610	05/26/2010	1-20W	73		
				Post-Excavation Confirmation Sampling		
				Sample Depth		
				Surface	3 ft bgs	4 ft bgs
	HOTSPOT 1-051810	05/18/2010	1-3		<2.0	
	HOTSPOT 1-N-052110	05/21/2010	1-N	20		
	HOTSPOT 1-E-052110	05/21/2010	1-E	9.3		
	HOTSPOT1-30W20S-0-060810	06/08/2010	1-30W20S	6.4		
	HOTSPOT1-25W15S-3-060810	06/08/2010	1-25W15S-3		<2.0	
	HOTSPOT1-15S-060410-3	06/04/2010	1-15S-3		<2.0	
	HOTSPOT1-20S-052610	05/26/2010	1-20S	28		
	HOTSPOT1-30W-060210	06/02/2010	1-30W	14		
	HOTSPOT1-25W-060410-3	06/04/2010	1-25W-3		<2.0	

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TABLE 5 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	ARSENIC CONCENTRATION (mg/kg) Pre-Excavation Sampling Sample Depth: Surface	2 ft bgs	3 ft bgs
Hot Spot No. 2 (AV 23)						
	AV-23-0.5	10/01/2008	AV-23	24		
	AV-23-2.0	10/01/2008	AV-23		6.7	
	HOTSPOT 2-N-052110	05/21/2010	2-N	22		
	HOTSPOT 2-W-052110	05/21/2010	2-W	21		
	HOTSPOT 2-S-052110	05/21/2010	2-S	21		
	HOTSPOT2-10N-052610	05/26/2010	2-10N	33		
	HOTSPOT2-10W-052610	05/26/2010	2-10W	36		
	HOTSPOT2-10S-052610	05/26/2010	2-10S	23, 24		
	HOTSPOT2-20N-052610	05/26/2010	2-10N	40		
	HOTSPOT2-20N-060210	06/02/2010	2-20N	37		
	HOTSPOT2-30N-060210	06/02/2010	2-30N	110		
	HOTSPOT2-30N-1-061110	06/11/2010	2-30N-1	57		
	HOTSPOT2-30N-2-061110	06/11/2010	2-30N-2		23	
	HOTSPOT2-30N-3-061610	06/16/2010	2-30N-3			21
	HOTSPOT2-FENCE-10E-061010	06/10/2010	2-FENCE-10E	48		
	HOTSPOT2-FENCE-10W-061010	06/10/2010	2-FENCE-10W	30		
	HOTSPOT2-FENCE-20E-0-060410	06/04/2010	2-FENCE-20E	44		
	HOTSPOT2-FENCE-20W-0-060410	06/04/2010	2-FENCE-20W	31		
	HOTSPOT2-15S15W-0-060810	06/08/2010	15S15W	21		
	HOTSPOT2-FENCE-25W-060910	06/08/2010	2-FENCE-25W	28		
	HOTSPOT2-FENCE-25E-060410	06/08/2010	2-FENCE-25E	36		
	HOTSPOT2-FENCE-30E-060810	06/08/2010	2-FENCE-30E	44		
	HOTSPOT2-FENCE-30W-060810	06/08/2010	2-FENCE-30W	22		
	HOTSPOT2-15N15E-0-061510	06/15/2010	2-15N15E	28, 25		
	HOTSPOT2-5N15E-0-061710	06/16/2010	2-5N15E	21		

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TABLE 5 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	ARSENIC CONCENTRATION (mg/kg) Post-Excavation Confirmation Sampling Sample Depth		
				Surface	2 ft bgs	3 ft bgs
Hot Spot No. 2 (AV 23)						
	HOTSPOT 2 -051810	05/18/2010	2-3			4.1
	HOTSPOT 2-E-052110	05/21/2010	2-E	9.5		
	HOTSPOT2-20W-052610	05/26/2010	2-20W	19		
	HOTSPOT2-20S-052610	05/26/2010	2-20S	19		
	HOTSPOT2-25N15W-0-060810	06/08/2010	2-25N15W	18		
	HOTSPOT2-25N15W-3-060810	06/08/2010	2-25N15W-3			6.9
	HOTSPOT2-15S-3-061010	06/10/2010	2-15S-3			5.7
	HOTSPOT2-20S15W-0-061010	06/10/2010	2-20S15W	15		
	HOTSPOT2-15S15W-3-060810	06/08/2010	2-15S15W-3			7.1, 7.4
	HOTSPOT2-FENCE-35W-061010	06/10/2010	2-FENCE-35E	17		
	HOTSPOT2-FENCE-35E-2-061510	06/15/2010	2-FENCE-35E-2		7.3	
	HOTSPOT2-FENCE-35E-061010	06/10/2010	2-FENCE-35W	20		
	HOTSPOT2-FENCE-35W-2-061510	06/15/2010	2-FENCE-35W-2		6.5	
	HOTSPOT2-15N15E-2-061510	06/15/2010	2-15N15E-2		4.7	
	HOTSPOT2-0N15E-0-062110	06/21/2010	2-0N15E	20		

TABLE 5 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	ARSENIC CONCENTRATION (mg/kg) Pre-Excavation Sampling Sample Depth		
				Surface	2 ft bgs	3 ft bgs
Hot Spot No. 3 (1-GB and AV 8)						
	030401-GRASS-1-GB	04/01/2003	1-GB	37		
	AV-8-0.5	10/01/2008	AV8	27		
	AV-8-2.3	10/01/2008	AV8		4.3	
	HOTSPOT 3-N-052110	05/21/2010	3-N	21		
	HOTSPOT 3-W-052110	05/21/2010	3-W	120		
	HOTSPOT 3-E-052110	05/21/2010	3-E	130		
	HOTSPOT 3-S-052110	05/21/2010	3-S	95		
	HOTSPOT3-10N-052610	05/26/2010	3-10N	33		
	HOTSPOT3-10W-052610	05/26/2010	3-10W	140		
	HOTSPOT3-10E-052610	05/26/2010	3-10E	190		
	HOTSPOT3-10S-052610	05/26/2010	3-10S	160		
	HOTSPOT3-20E-052610	05/26/2010	3-20E	180		
	HOTSPOT3-20S-052610	05/26/2010	3-20S	150		
	HOTSPOT3-30E-060110	06/01/2010	3-30E	110		
	HOTSPOT3-30S-060110	06/01/2010	3-30S	89		
	HOTSPOT3-25S30E-0-061110	06/11/2010	3-25S30E	21		
	HOTSPOT3-15N30E-0-061110	06/11/2010	3-15N30E	30		
	HOTSPOT 3-40E-060310	06/03/2010	3-40E	90		
	HOTSPOT 3-50E-060310	06/03/2010	3-50E	71		
	HOTSPOT3-60E-0-060910	06/09/2010	3-60E	97		
	HOTSPOT3-70E-0-060910	06/09/2010	3-70E	180		
	HOTSPOT3-80E-0-061110	06/11/2010	3-80E	22		
	HOTSPOT3-90E-0-061110	06/11/2010	3-90E	69		
	HOTSPOT3-15N60E-0-061710	06/17/2010	3-15N60E	77		
	HOTSPOT3-20S15W-0-061810	06/18/2010	3-20S15W	45		

TABLE 6 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	ARSENIC CONCENTRATION (mg/kg) Post-Excavation Confirmation Sampling Sample Depth		
				Surface	2 ft bgs	3 ft bgs
Hot Spot No. 3 (1-GB and AV 8)						
	HOTSPOT 3-061610	06/16/2010	3-3			4.5
	HOTSPOT3-10W-2-061610	06/16/2010	3-10W-2		5.1	
	HOTSPOT3-10E-2-061110	06/11/2010	3-10E-2		5.7	
	HOTSPOT3-10E-3-061110	06/11/2010	3-10E-3			7.3
	HOTSPOT3-10S-2-061610	06/16/2010	3-10S-2		4.9	
	HOTSPOT3-20N-052610	05/26/2010	3-20N	18		
	HOTSPOT3-20N-2-060910	06/09/2010	3-20N-2		6.9	
	HOTSPOT3-20W-052610	05/26/2010	3-20W	15		
	HOTSPOT3-20W-2-060910	06/09/2010	3-20W-2		7.6	
	HOTSPOT3-20E-2-061610	06/16/2010	3-20E-2		6.7	
	HOTSPOT3-30E-2-061610	06/16/2010	3-30E-2		5.6	
	HOTSPOT3-25S30E-2-061110	06/11/2010	3-25S30E-2		4.8	
	HOTSPOT3-35S30E-0-061110	06/11/2010	3-35S30E	14		
	HOTSPOT3-35S30E-2-061110	06/11/2010	3-35S30E-2		4.4	
	HOTSPOT3-15N30E-2-061110	06/11/2010	3-15N30E-2		5.7	
	HOTSPOT3-25N30E-0-061110	06/11/2010	3-25N30E	16		
	HOTSPOT3-25N30E-2-061110	06/11/2010	3-25N30E-2		4.6	
	HOTSPOT 3-40S-060310	06/03/2010	3-40S	11		
	HOTSPOT3-40S-2-060910	06/09/2010	3-40S-2		6.6	
	HOTSPOT3-70E-2-061610	06/16/2010	3-70E-2		10	
	HOTSPOT3-100E-0-061110	06/11/2010	3-100E	18		
	HOTSPOT3-15N60E-2-061710	06/17/2010	3-15N60E-2		7.2	
	HOTSPOT3-20S60E-0-061710	06/17/2010	3-20S60E	7.1		
	HOTSPOT3-20S60E-2-061710	06/17/2010	3-20S60E-2		5.6	
	HOTSPOT3-25N60E-0-061710	06/17/2010	3-25N60E	11		

TABLE 5 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	ARSENIC CONCENTRATION (mg/kg) Pre-Excavation Sampling Sample Depth		
				Surface	2 ft bgs	3 ft bgs
Hot Spot No. 5 (AV 31)						
	AV-31-0.5	10/01/2008	AV-31	26		
	AV-31-2.3	10/01/2008	AV-31		4.6	
	HOTSPOT 5-N-052110	05/21/2010	5-N	25		
	HOTSPOT 5-W-052110	05/21/2010	5-W	22		
	HOTSPOT 5-E-052110	05/21/2010	5-E	28		
	HOTSPOT 5-S-052110	05/21/2010	5-S	22		
	HOTSPOT5-10N-052610	05/26/2010	5-10N	26		
	HOTSPOT5-10W-052610	05/26/2010	5-10W	29		
	HOTSPOT5-10E-052610	05/26/2010	5-10E	34		
	HOTSPOT5-10S-052610	05/26/2010	5-10S	32		
	HOTSPOT5-20N-052610	05/26/2010	5-20N	35		
	HOTSPOT5-20W-052610	05/26/2010	5-20W	28		
	HOTSPOT5-20E-052610	05/26/2010	5-20E	33		
	HOTSPOT5-20S-052610	05/26/2010	5-20S	31		
	HOTSPOT5-30N-060210	06/02/2010	5-30N	37, 30		
	HOTSPOT5-30W-060210	06/02/2010	5-30W	34		
	HOTSPOT5-30E-060210	06/02/2010	5-30E	36		
	HOTSPOT5-30S-060210	06/02/2010	5-30S	25		
	HOTSPOT5-40N-0-060410	06/04/2010	5-40N	22		
	HOTSPOT5-40E-0-060410	06/04/2010	5-40E	28		
	HOTSPOT5-40S-0-060410	06/04/2010	5-40S	22		
	HOTSPOT5-50S-0-060810	06/08/2010	5-50S	26		
	HOTSPOT5-50N-0-060810	06/08/2010	5-50N	35		
	HOTSPOT5-50E-0-060810	06/08/2010	5-50E	27		
	HOTSPOT5-60N-0-061010	06/10/2010	5-60N	28		
	HOTSPOT5-60S-0-061010	06/10/2010	5-60S	21		
	HOTSPOT5-60E-0-061010	06/10/2010	5-60E	33		
	HOTSPOT5-TREE1-0-061110	06/11/2010	5-TREE1	25		
	HOTSPOT5-TREE2-0-061110	06/11/2010	5-TREE2	33		
	HOTSPOT5-TREE3-0-061110	06/11/2010	5-TREE3	30		
	HOTSPOT5-TREE4-0-061110	06/11/2010	5-TREE4	31		
	HOTSPOT5-TREE5-0-061410	06/16/2010	5-TREE5	25		
	HOTSPOT5-30N30W-0-061110	06/11/2010	5-30N30W	30		
	HOTSPOT5-30S30E-0-061110	06/11/2010	5-30S30E	28, 27		
	HOTSPOT5-40S40E-0-061510	06/16/2010	5-40S40E	21		
	HOTSPOT5-40N40E-0-061510	06/16/2010	5-40N40E	24		
	HOTSPOT5-70N-0-061410	06/14/2010	5-70N	18, 32		
	HOTSPOT5-70S-0-061410	06/14/2010	5-70S	20, 22		
	HOTSPOT5-85E-0-061010	06/10/2010	5-85E	32		
	HOTSPOT5-50S55E-0-062210	06/22/2010	5-50S55E	21		
	HOTSPOT5-50S50E-0-061810	06/18/2010	5-50S50E	21		

TABLE 5 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	ARSENIC CONCENTRATION (mg/kg) Post-Excavation Confirmation Sampling Sample Depth		
				Surface	2 ft bgs	3 ft bgs
Hot Spot No. 5 (AV 31)						
	HOTSPOT 5 -061810	06/18/2010	5-3			4.4
	HOTSPOT5-30N-2-060410	06/04/2010	5-30N-2		13	
	HOTSPOT5-30W-2-060410	06/04/2010	5-30W-2		10	
	HOTSPOT5-30E-2-060410	06/04/2010	5-30E-2		7.3	
	HOTSPOT5-30S-2-060410	06/04/2010	5-30S-2		8	
	HOTSPOT5-40N40W-0-061810	06/18/2010	5-40N40W	12		
	HOTSPOT5-30S30W-0-061110	06/11/2010	5-30S30W	17		
	HOTSPOT5-10N60E-0-061810	06/18/2010	5-10N60E	6.4		
	HOTSPOT5-60S-0-061410	06/14/2010	5-60S	20		
	HOTSPOT5-60S-2-0-061810	06/18/2010	5-60S-2		4.3	
	HOTSPOT5-60N-0-061410	06/14/2010	5-60N	16		
	HOTSPOT5-60N-2-061810	06/18/2010	5-60N-2		5.5	
	HOTSPOT5-10S60E-0-061810	06/18/2010	5-10S60E	15		
	HOTSPOT5-90E-0-061810	06/18/2010	5-90E	18		
	HOTSPOT5-90E-2-061810	06/18/2010	5-90E-2		5.5	
	HOTSPOT5-60S50E-0-062210	06/22/2010	5-60S50E	9.6		
	HOTSPOT5-60S55E-2-062210	06/22/2010	5-60S55E-2		5.1	

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TABLE 5 - SUMMARY OF SOIL SAMPLE RESULTS
FROM BEFORE AND AFTER HOT SPOT EXCAVATION
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	Sample Name	ARSENIC CONCENTRATION (mg/kg)	
				Pre-Excavation Sampling	
				Sample Depth	
				Surface	3 ft bgs
Hot Spot No. 5 (AV-41)					
	AV-41-0.5	09/30/2008	AV-41	32	
	AV-41-2.0	09/30/2008	AV-41		4.4 @ 2 ft bgs
				Post-Excavation Confirmation Sampling	
				Sample Depth	
				Surface	3 ft bgs
	HOTSPOT 6 -051810	05/18/2010	6-3		<4.0
	HOTSPOT 6-N-052110	05/21/2010	6-N	11	
	HOTSPOT 6-W-052110	05/21/2010	6-W	9.8	
	HOTSPOT 6-E-052110	05/21/2010	6-E	11	
	HOTSPOT 6-S-052110	05/21/2010	6-S	6.8	
				Pre-Excavation Sampling	
				Sample Depth	
				Surface	3 ft bgs
Hot Spot No. 7 (F12-A)					
	020801-F12-A-0.5	08/01/2002	F12-A	27	
	020801-F12-A-3.0	08/01/2002	F12-A		7.7
				Post-Excavation Confirmation Sampling	
				Sample Depth	
				Surface	3 ft bgs
	HOTSPOT 7 -051810	05/18/2010	7-3		4.6
	HOTSPOT 7-N-052110	05/21/2010	7-N	9.2	
	HOTSPOT 7-W-052110	05/21/2010	7-W	7.4	
	HOTSPOT 7-E-052110	05/21/2010	7-E	8.4	
	HOTSPOT 7-S-052110	05/21/2010	7-S	5	

NOTES:

1. Duplicate results are separated with a comma
2. Highlighted values have concentrations above cleanup goals.

TABLE 6 - SUMMARY OF SOIL SAMPLE LEACH TEST RESULTS
Former BAREC Site
Santa Clara, California

Location	Sample ID	Sample Date	ARSENIC CONCENTRATION		
			TTLC	STLC	TCLP
			mg/kg	mg/L	mg/L
Field 4					
	E6-051010	05/10/2010	93	4	NA
	C3-051310	05/13/2010	60	1.9	NA
	E2-051710	05/17/2010	70	2.5	NA
	A2-052610	05/26/2010	69	1.8	NA
Former Building 100 Basement					
	100-BASEMENT-050710	5/07/2010	69	4.5	NA
	100-BASEMENT-051810	5/18/2010	55	NA	NA
	100-BASEMENT-N-052010	5/20/2010	66	2	NA
	100-BASEMENT-E-052010	5/20/2010	88	1.2	NA
Hot Spot No. 3 (1-GB and AV 8)					
	HOTSPOT 3-W-052110	05/21/2010	120	8.7	1.5
	HOTSPOT 3-E-052110	05/21/2010	130	6.5	1.2
	HOTSPOT 3-S-052110	05/21/2010	95	6.5	NA
	HOTSPOT3-10W-052610	05/26/2010	140	6.4	1.6
	HOTSPOT3-10E-052610	05/26/2010	190	8.8	1.6
	HOTSPOT3-10S-052610	05/26/2010	160	7.3	<0.25
	HOTSPOT3-20E-052610	05/26/2010	180	NA	1.6
	HOTSPOT3-20S-052610	05/26/2010	150	NA	0.72
	HOTSPOT3-30E-060110	06/01/2010	110	NA	1.1
	HOTSPOT3-70E-0-060910	06/10/2010	180	NA	0.29
	HOTSPOT3-15N60E-0-061710	06/17/2010	77	NA	NA
Hot Spot No. 2 (AV 23)					
	HOTSPOT2-30N-060210		110	3.3	0.34

Exceeds California (Non-RCRA) Hazardous Waste Criteria

< ### = not detected at or above laboratory reporting limit as shown.

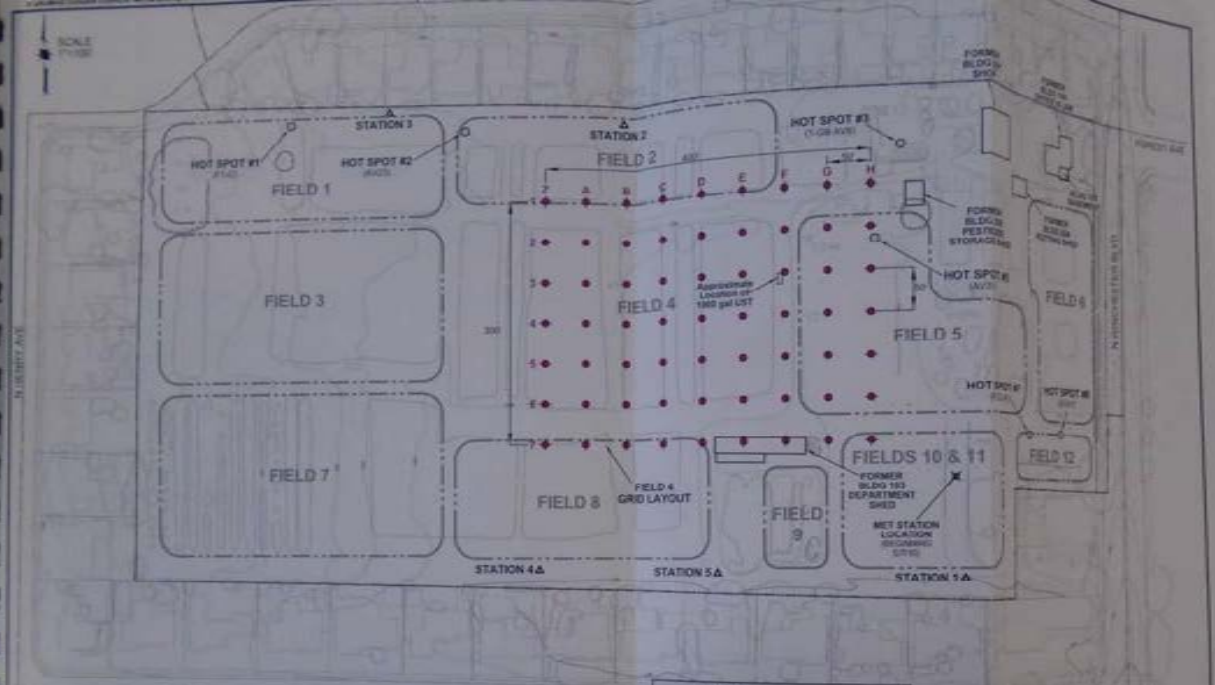
TABLE 7 - SUMMARY OF SOIL SAMPLE RESULTS FOLLOWING REMOVAL OF UST
Former BAREC Site
Santa Clara, California

Constituent	Units	UST-N-060810	UST-S-060810	Detection Limit
Arsenic	mg/Kg	4.2	4.9	4
Lead	mg/Kg	5.5	5.7	2
Diesel Range Organics [C10-C28]	mg/Kg	1.5	ND	1
Organochlorine Pesticides (EPA Method 8081A)				
4,4'-DDD	ug/Kg	ND	ND	2
4,4'-DDE	ug/Kg	ND	ND	2
4,4'-DDT	ug/Kg	ND	ND	2
Aldrin	ug/Kg	ND	ND	2
alpha-BHC	ug/Kg	ND	ND	2
alpha-Chlordane	ug/Kg	ND	ND	2
beta-BHC	ug/Kg	ND	ND	2
delta-BHC	ug/Kg	ND	ND	2
Dieldrin	ug/Kg	ND	ND	2
Endosulfan I	ug/Kg	ND	ND	2
Endosulfan II	ug/Kg	ND	ND	2
Endosulfan sulfate	ug/Kg	ND	ND	2
Endrin	ug/Kg	ND	ND	2
Endrin aldehyde	ug/Kg	ND	ND	2
Endrin ketone	ug/Kg	ND	ND	2
gamma-BHC (Lindane)	ug/Kg	ND	ND	2
gamma-Chlordane	ug/Kg	ND	ND	2
Heptachlor	ug/Kg	ND	ND	2
Heptachlor epoxide	ug/Kg	ND	ND	2
Methoxychlor	ug/Kg	ND	ND	2
Chlordane (technical)	ug/Kg	ND	ND	40
Toxaphene	ug/Kg	ND	ND	40
Fuel Constituents (EPA Method 8260B/ CA LUFT MS)				
Benzene	ug/Kg	ND	ND	4.9
DIPE	ug/Kg	ND	ND	4.9
Ethyl t-butyl ether	ug/Kg	ND	ND	4.9
Ethylbenzene	ug/Kg	ND	ND	4.9
1,2-DCA	ug/Kg	ND	ND	4.9
EDB	ug/Kg	ND	ND	4.9
Methyl tert-butyl ether	ug/Kg	ND	ND	4.9
TAME	ug/Kg	ND	ND	4.9
TBA	ug/Kg	ND	ND	9.7
Toluene	ug/Kg	ND	ND	4.9
Xylenes, Total	ug/Kg	ND	ND	9.7

ND - Not Detected

TABLE 8 - SUMMARY OF EXCAVATED SOIL AREA AND VOLUME
Former BAREC Site
Santa Clara, California

Location	Approximate Excavated Area (ft^2)	Approximate Excavated Area (acres)	Approximate Volume of Soil Excavated (cubic yards)
Field 4	68,624	1.58	3,783
Building 100 Basement	739	0.02	83
Hotspot #1	1,200	0.03	133
Hotspot #2	2,938	0.07	238
Hotspot #3	6,808	0.16	508
Hotspot #5	15,259	0.35	1,264
Hotspot #6	100	0.00	11
Hotspot #7	100	0.00	11
TOTAL	**95,768**	**2.20**	**6,031**



NOTES:
1. ALL COORDINATES ARE IN CALIFORNIA STATE PLAN ZONE 3 (NAD 83)
2. ELEVATIONS ARE BASED ON CITY OF SAN JOSE DATUM (BM 941-B ELEVATION = 129.50 NGVD '29)

LEGEND:
- FIELD 4 GRID NODE
- Stations 5 ▲ ERAM FENCELINE DUST MONITOR
- HOT SPOT LOCATION

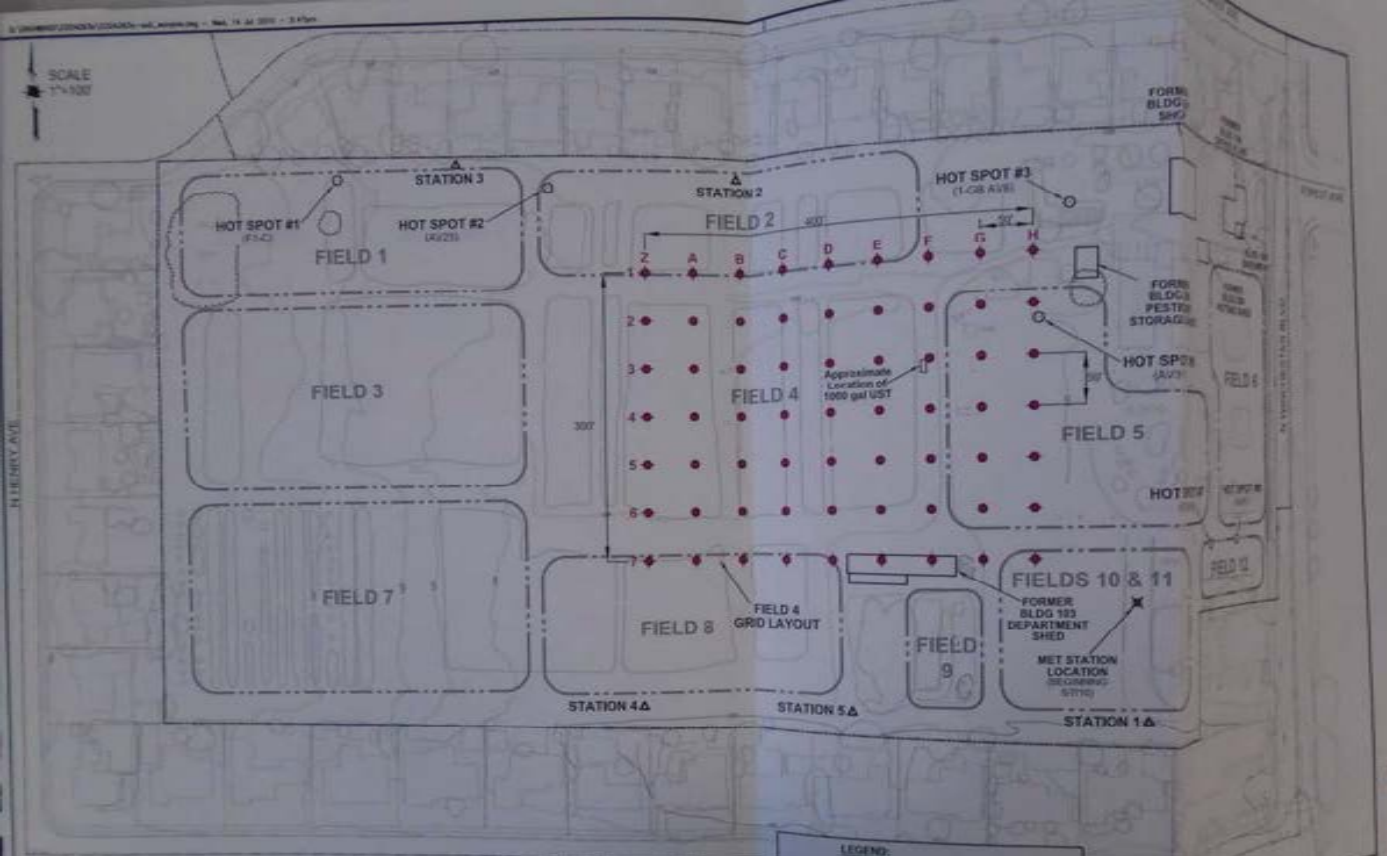
ENVIRON

Drafter: RS Date: 5/17/10 Contract Number: 03-24283A

Approved: Revised:

Excavation Sampling Layout
Former BAREC Site
Santa Clara, California

Figure 2



NOTES:
1. ALL COORDINATES ARE IN CALIFORNIA STATE PLAN ZONE 3 (NAD 83)
2. ELEVATIONS ARE BASED ON CITY OF SAN JOSE DATUM (BM 641-B ELEVATION = 129.50 NGVD '29)

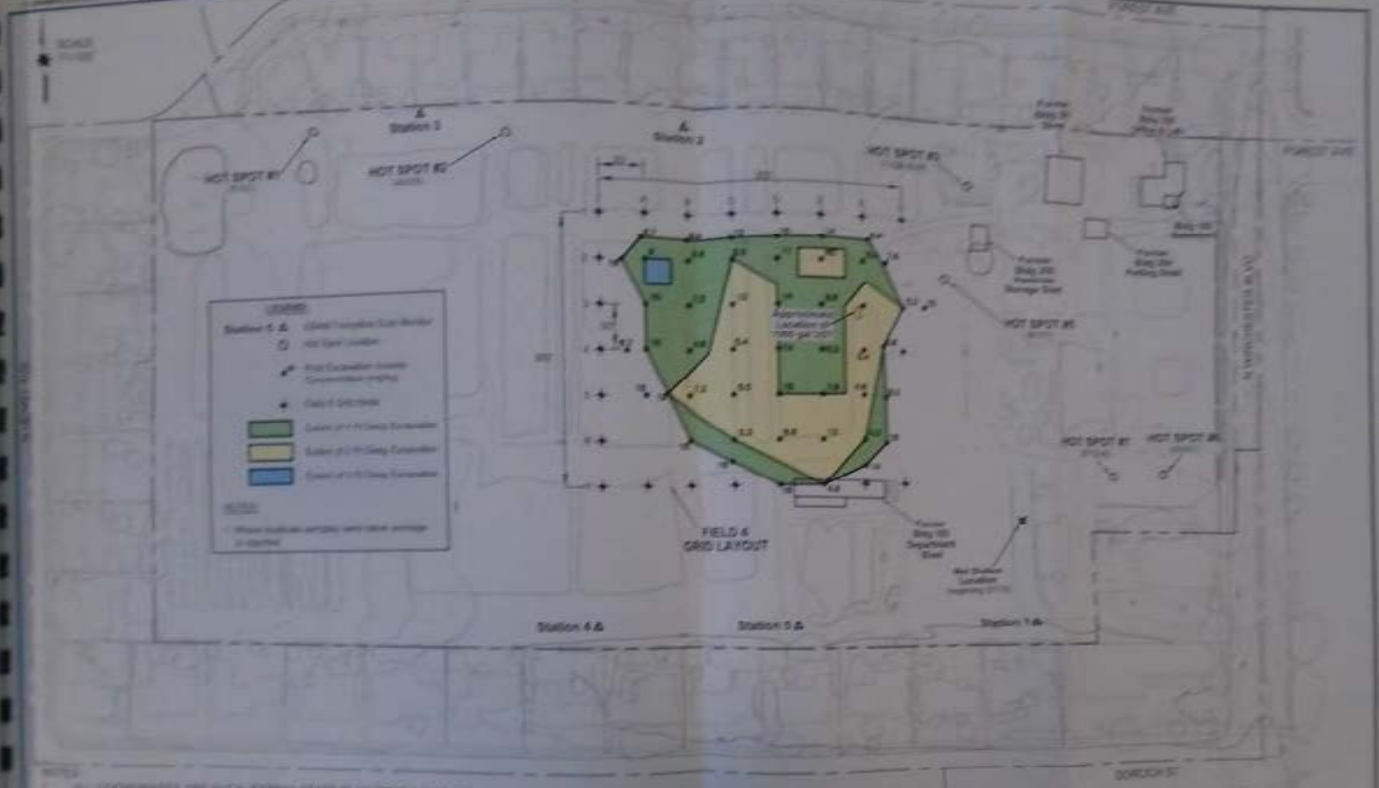
ENVIRON

Drafter: RS Date: 5/17/10 Contract Number: 01-24293A

Approved: Revised:

Excavation Sampling Layout
Former BAREC Site
Santa Clara, California

2



NOTES:
1. ALL COORDINATES ARE IN CALIFORNIA STATE PLAN ZONE 3 (NAD 83)
2. ELEVATIONS ARE BASED ON CITY OF SAN JOSE DATUM (BM 541-8 ELEVATION = 105.50 NGVD '29)

ENVIRON

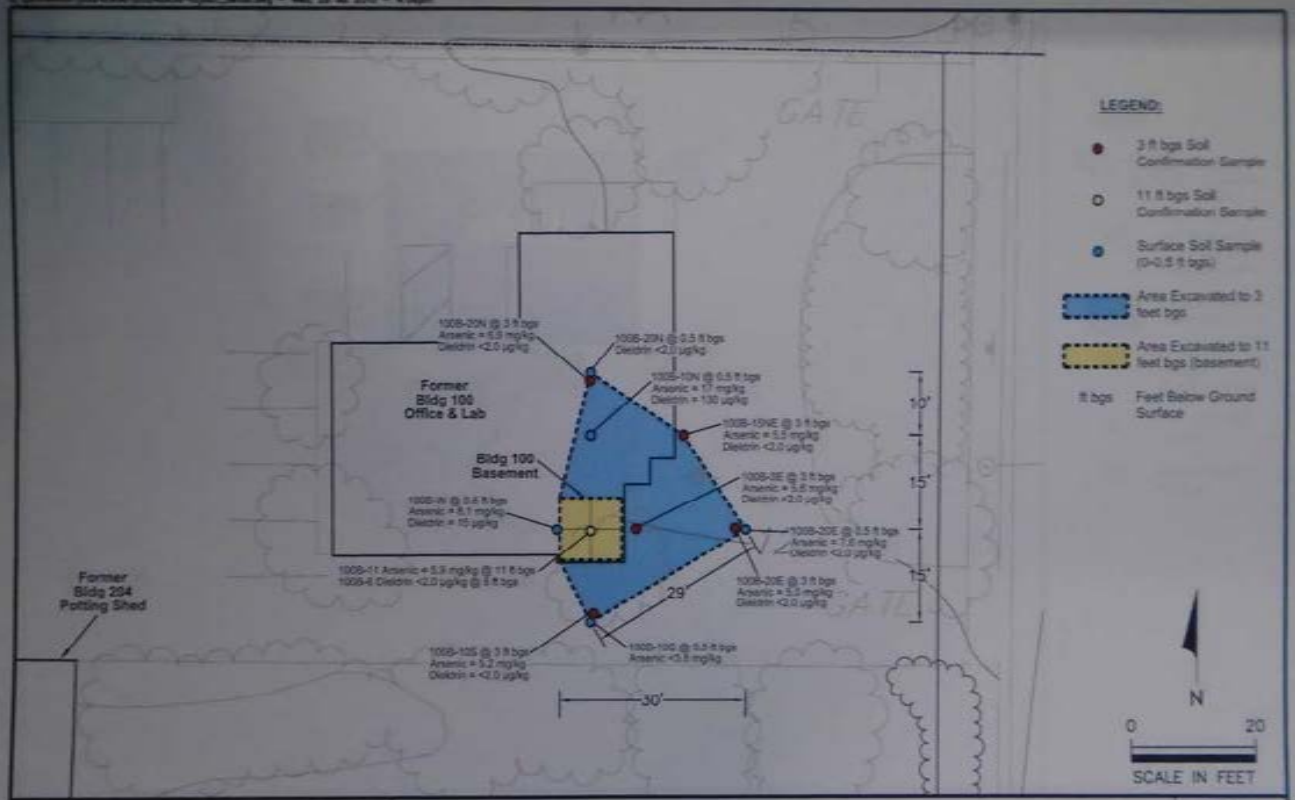
Drafter: MS Date: 6/9/10 Document Number: 03-2X293A

Approved: Revised:

FIELD 4 EXCAVATION EXTENT AND CONFIRMATION SAMPLING RESULTS

Former SARDC Site
Santa Clara, California

Figure 3

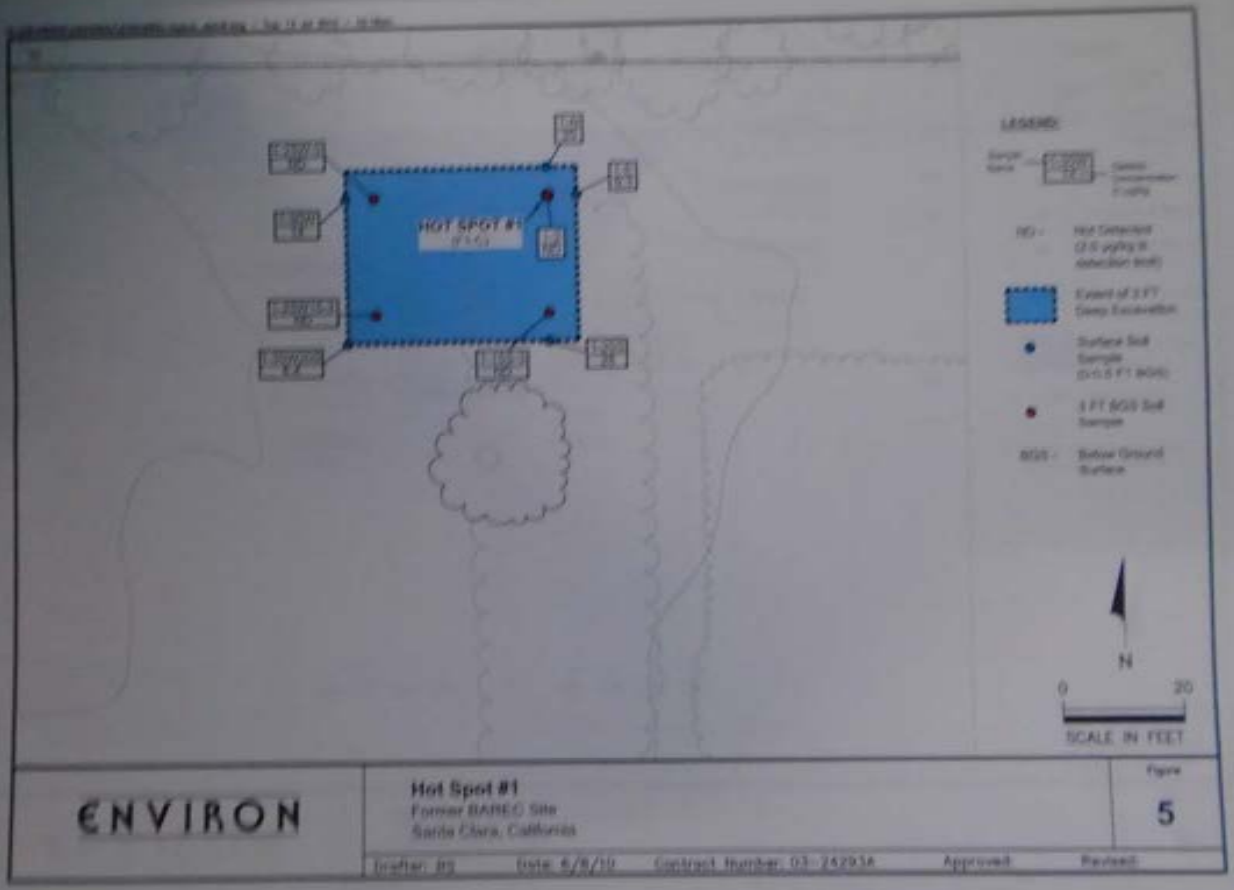


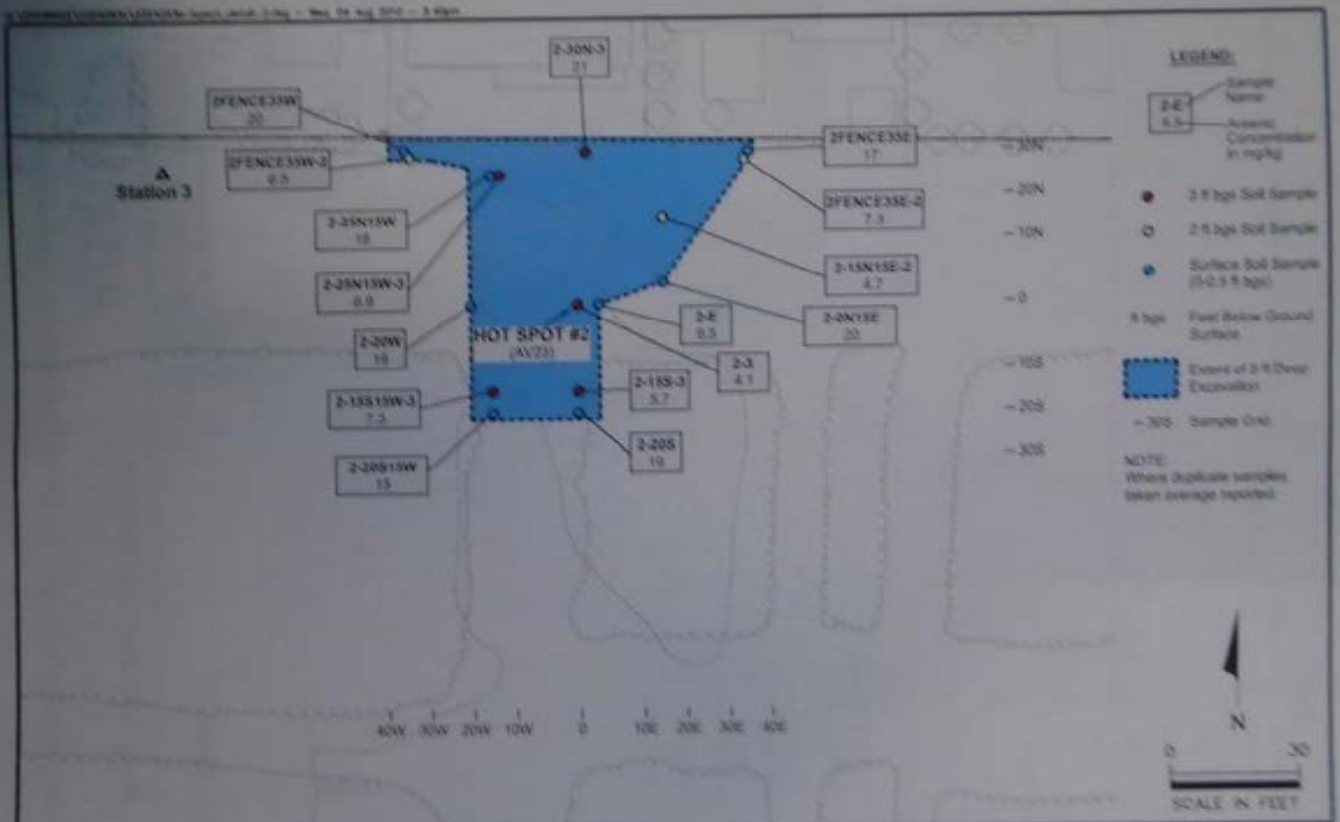
ENVIRON

Former Building 100 Basement Excavation
Former BAREC Site
Santa Clara, California

Figure 4

Drafter: RS | Date: 6/8/10 | Contract Number: 03-24293A | Approved: | Revised:


HOT SPOT #1
LEGEND:
Extent of 3 FT Deep Excavation
Surface Soil Sample
3 FT BGS Soil Sample
BGS - Below Ground Surface
N
0
20
SCALE IN FEET
ENVIRON
Hot Spot #1
Former BAREC Site
Santa Clara, California
Figure
5
Drafter: BS
Date: 6/8/10
Contract Number: 03-24793A
Approved:
Revised:

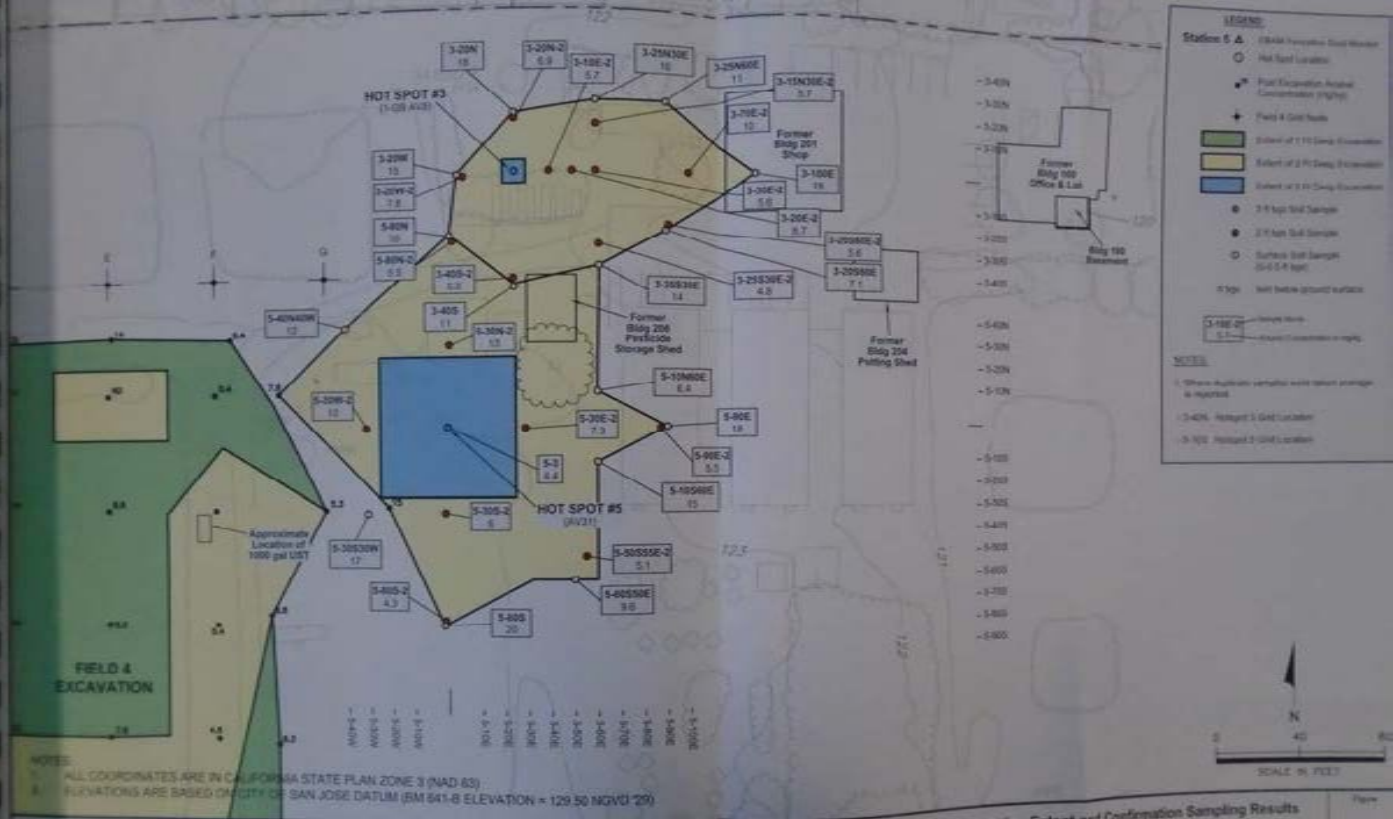


ENVIRON

Hot Spot #2
Former BAREC Site
Santa Clara, California

Figure
6

Drafter: RS Date: 8/4/10 Contract Number: 03-24283A Approved: Revised:



ENVIRON

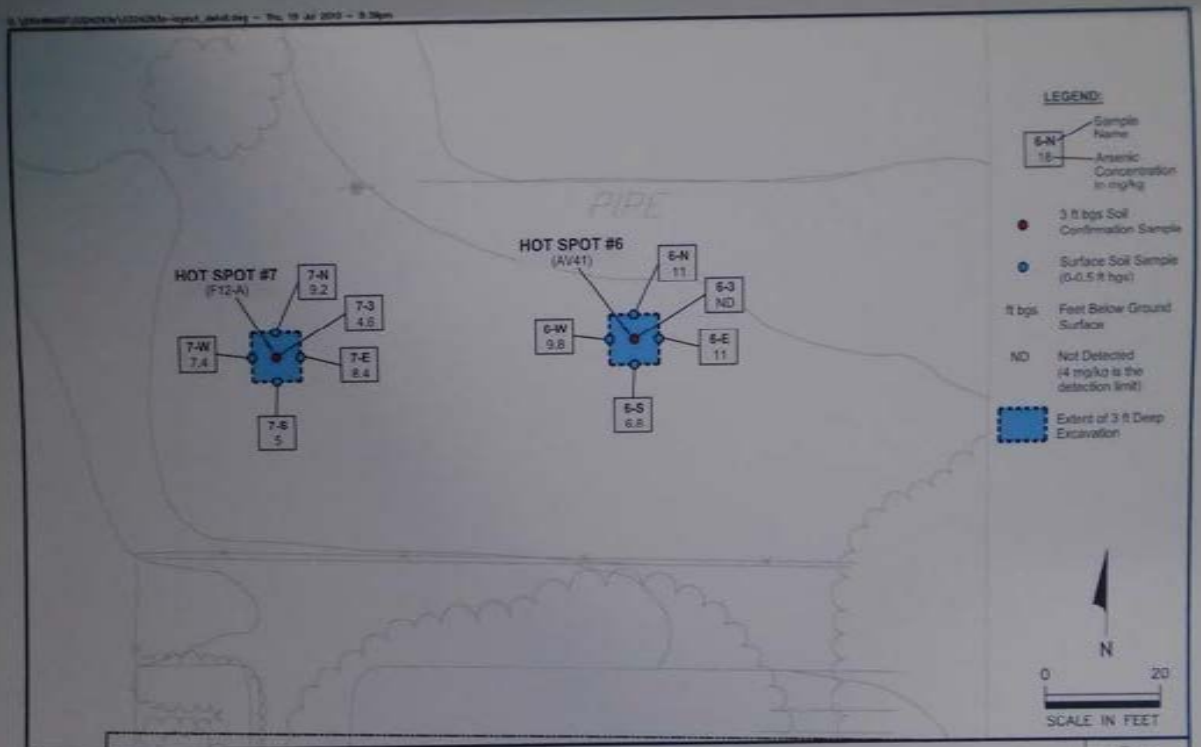
Drafter: RS Date: 6/22/10 Contract Number: 03-24293A

Approved: Revised:

Hot Spots 3 and 5 Excavation Extent and Confirmation Sampling Results

Former BAREC Site
Santa Clara, California

Figure 7



ENVIRON

Hot Spot #6 & #7
Former BAREC Site
Santa Clara, California

Figure
8

Drafter: RS | Date: 6/8/10 | Contract Number: 03-24293A | Approved: | Revised:

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee , Director
1001 I Street
P.O. Box 806
Sacramento , CA 958120806

Edmund G. Brown Jr.
Governor

EPA ID PROFILE

Map

ID Number: CAC002652233
Name:
STATE OF CALIFORNIA GENERAL SERVICES
County: SANTA CLARA
NAICS: N/A

Status: INACTIVE
Inactive Date: 10/3/2010 1:58:09 PM
Record Entered: 4/5/2010 1:58:09 PM
Last Updated: 4/5/2010 1:58:09 PM

	Name	Address	City	State	Zip Code	Phone
Location	STATE OF CALIFORNIA GENERAL SERVICES	90 N WINCHESTER BLVD	SANTA CLARA	CA	95050	
Mailing		707 3RD ST 4TH FLR STE 4-430	WEST SACRAMENTO	CA	95605	
Owner	DEPT OF GENERAL SERVICE	707 3RD ST 4TH FLR STE 4-430	WEST SACRAMENTO	CA	95605	9163754907
Operator/Contact	DAVID PERRY	707 3RD ST 4TH FLR STE 4-430	WEST SACRAMENTO	CA	95605	9163754907

Based Only Upon ID Number: **CAC002652233**

Calif. Manifests?	Non Calif. Manifests?	Transporter Registration?
Yes	N/A	INACTIVE

California and Non California Manifest Tonnage Total and Waste Code by Year Matrix by Entity Type (if available) are on the next page

Calif. Manifest Counts and Total Tonnage

Top line represents Manifest Count and Bottom line represents Total Tonnage

Year	Generator	Trans. 1	Trans. 2	TSDF	ALT. TSDF
2010	41 756.82544	0 0.00000	0 0.00000	0 0.00000	0 0.00000

Non California Manifest Total Tonnage

No Records Found

Waste Code Matrix					
California	Generator	Trans. 1	Trans. 2	TSDF	Alt. TSDF
RCRA	Generator	Trans. 1	Trans. 2	TSDF	Alt. TSDF

Waste Code Matrix as a spreadsheet

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

Report Generation Date: 04/28/2016

California Waste Code by Year Matrix

ID Number: CAC002652233
Entity Type: Generator

2010 ▾ 2016 ▾ Select Years

Calif. Code	Description	2010
151	ASBESTOS-CONTAINING WASTE	1.60000
181	OTHER INORGANIC SOLID WASTE	0.05000
223	UNSPECIFIED OIL-CONTAINING WASTE	10.42500
261	POLYCHLORINATED BIPHENYLS & MATLS W/	0.35044

512	**OTHER EMPTY CONTAINERS >= 30 GALLONS**	1.00000
611	**CONTAMINATED SOILS FROM SITE CLEAN-UP**	743.40000
	Grand Totals	**756.82544**

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

Report Generation Date: 04/28/2016

Matthew Rodriquez
Secretary for
Environmental Protection

Department of Toxic Substances Control

Barbara A. Lee , Director
1001 I Street
P.O. Box 806
Sacramento , CA 958120806

Edmund G. Brown Jr.
Governor

EPA ID PROFILE

Map

ID Number: CAD981975329
Name:
BAY AREA RESEARCH AND EXTENSION CENTER
County: SANTA CLARA
NAICS: 6114

Status: INACTIVE
Inactive Date: 8/5/2005 12:00:00 AM
Record Entered: 7/3/1987 12:00:00 AM
Last Updated: 10/26/2005 10:29:22 AM

	Name	Address	City	State	Zip Code	Phone
Location	BAY AREA RESEARCH AND EXTENSION CENTER	90 N WINCHESTER BLVD	SANTA CLARA	CA	950500000	
Mailing		AGRICULTURAL FIELD STATION BLDG	DAVIS	CA	956169999	
Owner	UC DANR-OFPM	AGRICULTURAL FIELD STATION BUILDING	DAVIS	CA	956160000	5307520128
Operator/Contact	FRED PERRY DIRECTOR	AGRICULTURAL FIELD STATION BUILDING	DAVIS	CA	956169999	5307523930

Based Only Upon ID Number: **CAD981975329**

Calif. Manifests?	Non Calif. Manifests?	Transporter Registration?
Yes	N/A	INACTIVE

California and Non California Manifest Tonnage Total and Waste Code by Year Matrix by Entity Type (if available) are on the next page

Calif. Manifest Counts and Total Tonnage

Top line represents Manifest Count and Bottom line represents Total Tonnage

Year	Generator	Trans. 1	Trans. 2	TSDF	ALT. TSDF
2002	2 2.28200	0 0.00000	0 0.00000	0 0.00000	0 0.00000

Non California Manifest Total Tonnage

No Records Found

Waste Code Matrix					
California	Generator	Trans. 1	Trans. 2	TSDF	Alt. TSDF
RCRA	Generator	Trans. 1	Trans. 2	TSDF	Alt. TSDF

Waste Code Matrix as a spreadsheet

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

Report Generation Date: 04/28/2016

California Waste Code by Year Matrix

ID Number: CAD981975329
Entity Type: Generator

2002 ▾ 2016 ▾ Select Years

Calif. Code	Description	2002
122	ALKALINE SOLUTION (PH>=12.5) W/O METALS	0.00400
151	ASBESTOS-CONTAINING WASTE	0.56250
181	OTHER INORGANIC SOLID WASTE	0.07000
221	WASTE OIL AND MIXED OIL	0.62500
	PESTICIDES/PESTICIDE PRODUCTION	

232	**WASTE**	0.62500
241	**TANK BOTTOM WASTE**	0.32500
331	**OFF-SPEC, AGED, OR SURPLUS ORGANICS**	0.00250
551	**LABORATORY WASTE CHEMICALS**	0.06600
725	**LIQUIDS WITH MERCURY >= 20 MG/L**	0.00200
	Grand Total	**2.28200**

The Department of Toxics Substances Control (DTSC) takes every precaution to ensure the accuracy of data in the Hazardous Waste Tracking System (HWTS). However, because of the large number of manifests handled, inaccuracies in the submitted data, limitations of the manifest system and the technical limitations of the database, DTSC cannot guarantee that the data accurately reflect what was actually transported or produced.

Report Generation Date: 04/28/2016

PHASE II - SITE CHARACTERIZATION REPORT

University of California
Former Bay Area Research and Extension Center (BAREC)
90 North Winchester Boulevard
Santa Clara, California

Prepared for:
DVP and Associates

Prepared By:
ENVIRON International Corporation
Emeryville, CA

October 2003

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LIST OF ACRONYMS

BAREC	Bay Area Research and Extension Center
bgs	below ground surface
Cal/EPA	California Environmental Protection Agency
CFR	Code of Federal Regulations
cm^2	Square centimeter
COPC	Chemical of Potential Concern
4,4'-DDD	4,4'-Dichorodiphenyldichloroethane
4,4'-DDE	4,4'-Dichorodiphenyldichloroethene
4,4'-DDT	4,4'-Dichorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
kg	Kilogram
LBNL	Lawrence Berkeley National Laboratory
m^3/day	cubic meters per day
mg/cm^2	milligrams per square centimeter
mg/day	milligrams per day
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
mm of Hg	millimeters of mercury
MRL	Method Reporting Limit
MSL	Mean Sea Level
NA	Not Applicable
NCP	National Contingency Plan
ND	Not Detected
NR	Not Reported
PEA	Preliminary Endangerment Assessment
PRG	Preliminary Remediation Goal
R&D	Research and Development
T&CVSC	Town and Country Village Shopping Center
UC	University of California
UCL	Upper Confidence Limit
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

An environmental investigation was conducted at the former University of California (UC) Bay Area Research and Extension Center (BAREC) in Santa Clara, California (the Site) The overall purpose of this investigation was to determine whether current or past chemical use at the Site has resulted in soil concentrations that might pose a threat to public health and the environment The State of California has closed the BAREC and plans to sell the property for development of single-family homes, open space and senior housing

The BAREC was used as an agricultural research station since the 1920s The primary research efforts at the BAREC have focused on improving crop production methods, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Part of this research has involved demonstrating the efficacy of a variety of research and development (R&D) pesticides. Monthly records of pesticide use were available from 1979 until the July 2002 These records indicated that small quantities of 90 different chemicals had been tested on crops at the Site Fourteen of these 90 chemicals were considered of potential concern because of their toxicity and persistence in the environment The remaining chemicals were not of potential concern because of their lack of persistence and/or low toxicity

As a result of the application of pesticides to soil and the handling of pesticides on-site, over 50 samples of surface soil were collected to determine if surface soil in field plots and the greenhouses contained pesticide residues. These samples were analyzed for chemicals/pesticides that may persist in soil for many years following application The chemicals analyzed included the 14 chemicals of potential concern, known to have been used at the Site, and 60 pesticides that were commonly used prior to 1979 Subsurface soil samples were also collected and analyzed from a former sewer leach pit, the former evaporation pond and sediment trap to determine if deeper subsurface soil and potentially ground water beneath the Site contained pesticide residues.

Arsenic and dieldrin were the chemicals of potential concern that were found at concentrations above USEPA Preliminary Remediation Goals (PRGs) in surface soils Elevated concentrations of dieldrin were isolated and of limited horizontal and vertical extent However, the mean dieldrin concentration in Field 1 exceeded the PRG primarily because of an isolated detection of dieldrin at a concentration of 240 ug/kg in surface soil As a result, it is recommended that this "hot spot" of dieldrin be addressed such that the mean concentration in Field 1 will be below the PRG of 30 ug/kg.

Arsenic, a naturally-occurring inorganic chemical found in soil as well as in certain pesticides, was detected at concentrations above natural, background levels for Santa Clara An additional 79 soil samples were collected and analyzed to define the extent of arsenic in soil at the site An area in the eastern portion of Field 4 had elevated concentrations of arsenic in surface soils relative to background levels and other areas at the site These results suggest that the elevated concentrations of arsenic in Field 4 may be a result of prior use of arsenical pesticides There were also two additional areas that had isolated, elevated concentrations of arsenic: 1) adjacent to the road in front of the former screen house, a less than five square foot area of distressed vegetation had an elevated concentration (37 mg/kg) of arsenic in surface soil; and 2) between Field 11 and 12, there is an elevated concentration (27 mg/kg) of arsenic in surface soil

Based on these results, a removal action is recommended to address the elevated concentrations of arsenic in the eastern sector of Field 4 and the three "hot spots" in surface soil Removal of soils in this area would reduce potential health risks for future receptors to levels similar to those in the remaining and surrounding areas of the site.

With respect to the former sanitary sewer leach pit, the former evaporation pond and sediment trap, there is no evidence that subsurface soil and/or ground water has been adversely impacted as a result of their operation No further investigation of subsurface soil and/or ground water is warranted based on these sampling results.

1.0 INTRODUCTION

This report presents the results of an environmental investigation conducted at the former University of California (UC) Bay Area Research and Extension Center (BAREC) in Santa Clara, California (the Site). This work was performed by ENVIRON International Corporation ("ENVIRON") in accordance with their agreement dated July 16, 2002 with DVP Associates on behalf of the State of California Department of General Services ("DGS").

The overall purpose of this investigation was to investigate whether current or past chemical use at the Site has resulted in soil concentrations that might pose a threat to public health and the environment. DGS plans to sell the former BAREC property for development of single-family homes, open space and senior housing.

This report is organized as follows: Specific sampling objectives and the scope of the Site investigation are presented in Section 2; Section 3 presents the physical characteristics of the Site; and, Section 4 discusses the nature and extent of contamination at the Site. The remainder of Section 1 presents background information regarding the Site.

1.1 SITE BACKGROUND

The Site is located at 90 North Winchester Boulevard in the city of Santa Clara, California. The location of the Site is presented on Figure 1. The Site is an approximately 17-acre, roughly rectangular-shaped property. As shown in Figure 2a, 12 small buildings are located on the eastern portion of the Site. The remainder of the property consists of agricultural fields, unpaved roadways and a paved parking area. The fields are identified by a number from one through twelve and cover a total of approximately eleven acres. Field 9 is enclosed by screens, which form a covered building over the field. Unpaved roadways provide access to the fields. The only paved area at the Site is the northwest corner of the property, where buildings 100, 103, 104, 105, 201 and 204 are located. This paved area was used for parking.

1.1.1 Site History

According to UC personnel, the Site was originally occupied by a veterans' widows home. Agricultural experimental field station operations at the Site began in 1928. The home remained in operation until the 1960s, when it was demolished and replaced with more agricultural fields. According to historical topographical maps, the name of the facility used to be Holderman Sanitarium. Based on a review of historical titles and deeds, obtained from

the DGS, four lots owned by Margaret Osborne were deeded to the State of California in 1921 and 1924 The four lots were incorporated into three lots, two of which were deeded by the State of California to the UC in 1952 and 1963. The third lot, located directly southwest of the Site, remained property of the State of California, and is currently occupied by an office building

The field station's initial purpose was to assist farmers in the surrounding area Until 1990, deciduous fruit trees (such as apples, citrus, cherries, almonds and ornamental) were planted to conduct research on fertilizers, irrigation, variety characteristics of crops, and crop disease control. This research included testing of pesticides and insecticides As the surrounding area changed and became urban, the trees were replaced with various crops, such as strawberries, corn, tomatoes, beans and flowers. Since about 1995, eighty percent of the research at BAREC focused on crop improvement, whereas only twenty percent has involved pesticide use (UC, 2002) In early 2003, UC closed the BAREC As part of closure, UC personnel removed all hazardous materials (i e fertilizers, pesticides, fuels, oils, cleaning solutions), portable tanks and trailers from the Site The buildings and related utilities remain in place at the Site

1.1.2 Description of the Former BAREC Operations

As stated above, a variety of crops have been planted on-site In 2002, these crops included corn, tomatoes, beans, flowers, grass sod turf, and deciduous trees (e.g , apples, cherries, ornamental trees) Typically, within each of the 12 fields, a specific crop such as deciduous fruit trees or turf grass was grown. For research involving crop disease, select pesticides were applied to determine the efficacy at ameliorating the pest or disease of concern by UC researchers. The crops were routinely changed and, therefore, the pesticides applied to each field also changed Brief descriptions of activities within certain areas of the Site are presented below

- **Main Administration Building, Building 100 and Administrative Trailer Building 404.** The building contains administrative offices, a large meeting room and a dry laboratory. According to UC personnel, no chemicals were used in the laboratory Soils were dried and weighed in preparation for outside analysis of chemical and physical properties Additional administrative activities were undertaken in a portable trailer, Building 404 The trailer contains a small office and a dry laboratory for specimen preparation No chemicals were used or stored in this building.

- **Greenhouses, Buildings 103, 104, and 105, and Potting Shed, Building 204.** Buildings 103 through 105 are fiberglass structures without floors that have been

historically used as greenhouses In 2002, Greenhouse Building 103 stored compost bins; Greenhouse Building 104 stored planter boxes, old furniture and equipment Greenhouse Building 105 was used to grow vegetables The vegetables were grown in pots located on top of tables Water and fertilizer were sprayed directly onto the plants Some herbicide was sprayed occasionally between the tables to control weeds.

The potting shed is located adjacent to the greenhouses and was used to pot small plants before they were placed in the greenhouse. At the time of the Site visit in 2002, one small sink was located in this room. According to UC personnel, the sink was no longer in service, and was previously used exclusively to wash pots The sink used to drain through a pipe to a 6-feet wide, 6-feet long underground wooden tank, located in Field 6 The depth of the tank is unknown UC personnel indicated that the tank was accidentally broken, and that the pipe was subsequently plugged No chemicals were reportedly used in the potting shed

- **Pesticide Storage Shed, Building 208.** This building is, according to UC personnel, the only storage area for pesticides The building is divided into two rooms In the first room, a variety of pesticides were stored on shelves. Small quantities of pesticides were also mixed in this room and poured into 60-gallon tanks and backpacks for application in the field. A fume hood is located in the building and was used for mixing the pesticides. There are no drains or sinks in this room The second room contained personal protective gear, showers and lockers for the employees using pesticides. A floor drain is located in this portion of the building that is currently connected to the City sanitary sewer Prior to connection to the sewer, this floor drain discharged to an evaporation bed, (which is discussed in more detail below) No information is available regarding whether this drain existed prior to 1973 when the evaporation bed was constructed, and if it existed prior to 1973, where it discharged

- **Equipment Wash System near Building 208**. An equipment wash system was located next to the pesticide shed (Building 208) It was installed in the early 1990s, according to UC personnel in the area formerly occupied by the evaporation bed (discussed below) It consisted of three aboveground tanks and a series of filters, and was used to wash the exterior of the fertilizer tanks. The interior of the fertilizer tanks were rinsed thrice in the field and the contents applied to the same field. The equipment wash system was removed by UC when BAREC operations ceased in early 2003

- **Shop and Machinery Storage, Building 201 and Portable Military Trailer.** BAREC owned nine vehicles consisting of: three trucks, four tractors, one forklift and one car These vehicles were serviced inside Building 201. According to UC personnel, the operations conducted inside this building consisted of oil changes and degreasing operations, in which a small amount of solvent was placed on rags and subsequently the rags were used to wipe the desired surface The solvent was allowed to evaporate off the rags before they were discarded in the trash Only small containers (less than one gallon) of a variety of solvents, lubricants, cleaning supplies and a small air compressor were stored in this building According to UC records, the small quantities of solvents used were mineral-based and/or petroleum based (such as Stoddard) There is no record that Freon or other chlorinated solvents were used at the Site In addition to the maintenance shop, the facility also stored used oil and used oil filters in a portable metal trailer located adjacent to Field 5 The portable metal trailer and its contents were removed from the Site by UC when operations ceased in early 2003.

  According to UC personnel, the maintenance shop never had any hydraulic lifts or maintenance pits In addition to the shop, the building also houses a walk-in refrigerator that was formerly used to store vegetables

  An equipment washer was located outside the building, although the current personnel have never used it. Historically, a steam cleaner was used just outside the shop, however it was stolen sometime before 1996, according to UC personnel. During ENVIRON's visit to the Site in July 2002, there were no visual signs of staining on the ground near Building 201 or inside the building

- **Irrigation Pumphouse, Building 203.** An irrigation well is located inside this building The current submersible pump is located at a depth of 200 feet below ground surface (bgs) and has a capacity of 500 gallons per minute (gpm) The well has not been used since UC closed the BAREC in early 2003 The well will be closed and abandoned prior to Site redevelopment

- **Departmental Shed, Building 207.** This building is located in close proximity to the fields and is divided into several compartmentalized rooms with large barn doors for access. According to UC personnel, the building was used for storage of fertilizers, old equipment and furniture, and as parking for one of the tractors Additionally, one room was used to grow mushrooms

- **Aboveground Storage Tanks.** Two portable, double-walled 500-gallon aboveground storage tanks (ASTs) were located on-site in the vicinity of Field 5. Up until early 2003, the ASTs were on top of concrete pads. The date these tanks were installed is unknown but it was before 1996, according to UC personnel. It is likely they were installed after the USTs[1] were removed in 1993. The ASTs were removed from the Site by UC when BAREC operations ceased.

  Additionally, there is a water tank next to the pump house that was used for water storage. Another water tank was installed next to the first one, but was never used.

1.1.3 Chemical Use

According to UC personnel, the following types of chemicals have been used on-site: pesticides and fertilizers for the crops; gasoline and diesel for the vehicles; paints and solvents for general maintenance. Most of these chemicals were stored in small quantities (i.e., less than five gallons) with the exception of diesel and gasoline, which was stored in double-walled 500-gallon ASTs, waste oil, (which was stored in drums in the portable metal trailer), and ammonium nitrate, (a fertilizer, stored in sacks in Building 207). There are no records of pesticide use prior to 1979[2]. ENVIRON obtained pesticide application records from July 1979 to July 2002, which are summarized in Appendix A. Generally, these records indicate that small quantities of a wide variety of pesticides were used on different crops likely in different fields at the Site. The monthly records indicate the brand name, quantity, crop applied to, and size of the area applied. Additional discussion of pesticide use at the Site is discussed below in Section 2.1.

1.1.4 Previous Site Investigations

In 1993 and 1987, there were two environmental investigations at the Site. These investigations were related to removal of two underground fuel storage tanks and closure of an evaporation bed. Details of these investigations are described below.

1.1.4.1 Underground Storage Tanks

Two 1,000-gallon fuel tanks were formerly located on-site. The date of installation of the tanks is unknown. A 1000-gallon gasoline UST was located next to Building 201, and a 1000-gallon diesel UST was located next to Building 207 (see Figure 2a).

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[1] USTs are discussed below in Section 1.1.4.1.

[2] California regulations did not require records of pesticide use until 1980.

In 1993, UC personnel removed the USTs The USTs were reportedly in good condition with no evidence of damage or leaks at the time of the removal. As part of removal activities, two samples were taken from approximately two feet below the bottom of the gasoline UST excavation, and one sample was taken from approximately two feet below the bottom of the diesel UST excavation. The soil samples were analyzed for gasoline, diesel, lead, benzene, toluene, ethylbenzene and xylenes None of these constituents were detected A letter dated October 7, 1993, from the City of Santa Clara Fire Department confirms that there was no sign of contamination, and that no further work was required.

1.1.4.2 Former Evaporation Bed

An evaporation bed was constructed in 1973 to dispose of diluted pesticide wastes. Rinsate from the washing of pesticide containers and application equipment was applied to the evaporation bed from 1973 to 1985 Use of the evaporation bed was discontinued in 1985 and inlets to the basin were sealed In 1987, UC initiated an investigation to close the bed Dames and Moore was retained to oversee closure activities and prepare the closure report

According to the Dames and Moore closure report (Dames and Moore, 1988), the evaporation bed consisted of a lined soil evaporation bed, which was 20-feet long and 15-½-feet wide (Figure 2b) A translucent corrugated fiberglass roof shielded the bed from rainfall. A compacted earthen embankment covered by 2 inches of washed sand and a rubber liner formed the floor and walls of the bed The fill in the evaporation bed consisted of 16 inches of sandy loam soil overlying a 6-inch layer of graded gravel and 2 inches of washed sand Perforated bituminous fiber pipes in the gravel layer were connected to a distribution box within the bed. The distribution box was composed of pressure-treated wood A 4-inch bituminous fiber pipe penetrated the liner on the east side of the bed and connected the distribution box to the sediment trap, located 5 feet east of the bed The sediment trap consisted of a cylindrical concrete box, 3 feet in diameter and 6 feet deep, with a manhole cover Because the elevation of the pipe carrying rinsate into the sediment trap was higher than that of the pipe carrying the rinsate out, heavier particles sank into the trap and were not carried to the evaporation bed Two drains, one in the pesticide shed and one in the concrete wash slab, were connected to the sediment trap by a 4-inch plastic pipe and a 4-inch cast iron pipe, respectively.

The rinsing occurred in a concrete wash slab adjacent to the pesticide storage shed (Building 208) Rinsate drained first into the sediment trap from which sediment was

cleaned out periodically and distributed on the evaporation bed. From the sediment trap water flowed into the distribution box of the evaporation bed where perforated pipes connected to the distribution box dispersed the diluted pesticide solutions throughout the bed's gravel layer. Capillary forces in the loam soil drew the rinsate solution up through the overlying soil to evaporate at the surface. Hydrated lime (calcium hydroxide) was tilled into the soil bed to increase the soil pH, which reportedly accelerated the breakdown of organophosphate and carbamate pesticides.

The liner in the evaporation bed was composed of two sheets of 20-mil-thick nylon-reinforced butyl rubber liner, spliced together on-site. The liner was inspected carefully during bed removal activities and appeared to be in good condition. At the time the Dames & Moore report was written, there was no history of leaks or repairs to the liner at the Site.

Prior to its removal, the evaporation bed was sampled in July 1987 by UC staff. The bed was divided into 16 quadrants of approximately equivalent size; one sample from each quadrant was collected for depths of zero to 12 inches. A composite sample of all 16 samples was submitted for analysis. Sample results are summarized in Table 1.

The UC, with the assistance of Dames & Moore, removed the evaporation bed in October 1987. All materials were excavated from inside of the liner and the liner was checked for integrity. After the liner was removed, the underlying two inches of soil were excavated from the bed to minimize any possible residual contamination.

Four samples were collected from the bottom of the evaporation bed excavation after the liner was removed. The carbamate pesticide chloropropham was reported at a concentration of 2.8 mg/kg in one of the samples. No other pesticides or herbicides were detected in the four samples collected below the former evaporation bed. Sample results are summarized in Table 2. Dames & Moore concluded that there was no indication that the operation of the former evaporation bed had a significant impact on the environment.

1.2 POTENTIAL SOURCES OF CONTAMINATION

The results of the two previous environmental investigations show no evidence of environmental contamination as a result of prior operation of the USTs and evaporation bed at the Site. However, these prior investigations were limited to the USTs and evaporation bed and did not investigate other areas of the Site that may have been impacted by prior pesticide use. Based on the Site history, there appear to be additional sources of potential

environmental contamination that require further investigation. These potential sources are discussed below and include:

- **Current and Historical Pesticide Use on Crops**
  Since the 1920s, the Site has been used as an agricultural research station. As a result of the application of pesticides to soil and the handling of pesticides on-site, it is possible shallow surface soil in field plots and the greenhouses may contain pesticide residues. It is unlikely that deeper soils (i.e. greater than 3 feet) were impacted from prior pesticide/fertilizer use. Since crops were planted in small plots by individual researchers, crop tilling methods involved use of manual labor or small tractors, which typically mixed only the top 12 to 18 inches of soil.

- **Historical Wastewater Discharges**
  Sanitary wastewater generated from the main administrative building, Building 100, is currently discharged into the City of Santa Clara sewer system. According to UC documentation, the connection to the city system occurred in 1977. However, prior to 1977, wastewater from these buildings was discharged into a sewage leach pit (or "cesspool"). According to a drawing dated April 1, 1977, the leach pit/cesspool was approximately four feet wide, six feet long and four feet deep, and was located between buildings 201 and 100 as shown on Figure 2a. The former presence of this sewer leach pit raises the possibility that deeper subsurface soil and potentially ground water beneath the Site may contain pesticide residues from discharges to sanitary sewer system.

- **Former Evaporation Pond and Sediment Trap**
  The arsenic detection limits for samples analyzed in October 1987 following removal of the bed were above typical background arsenic concentrations. As a result, it is unknown whether concentrations of arsenic above typical background levels remain in soil beneath the former evaporation pond. Also, the sediment trap, which is adjacent to the pesticide shed and evaporation pond, was not sampled during pond closure activities and so it is unknown whether the sediment trap adversely affected subsurface soil.

Further surface and subsurface environmental investigation are necessary to determine whether these potential sources of contamination have adversely impacted soil and/or ground water at the Site. This report presents the scope and results of an environmental investigation to determine the potential impact from these sources.

2.0 SCOPE OF INVESTIGATION

To determine whether pesticide use at the Site had impacted surface and near surface soils at the Site, soil samples were collected during two phases of investigation at the Site. The sampling density was based on DTSC's: "Interim Guidance for Sampling Agricultural Soils for School Sites" dated August 26, 2002 ("DTSC Guidance"). Soil samples were collected from the Site initially on July 31 and August 1, 2002. Additional samples were collected in second and third phases of investigation on September 23, 2002 and April 1, 2003.

Soil samples were collected at each of the twelve field plots and from the greenhouse floor to depths of 3 feet bgs on July 30 and August 1, 2002 using a hand auger and an Arts-brand hand-sampling device. The samples were collected in 2-inch inner diameter by 6-inch-long stainless-steel sample tubes hammered directly into the ground using the Arts sampler after hand auguring to a specific depth. During the September 23, 2002 sampling event, a 1.75-inch diameter by 6-inch-long stainless-steel liner was placed inside a hollow stem hand auger upon reaching the desired sample depth. An additional soil sample was collected by this means on April 1, 2003 in a small area of distressed vegetation adjacent to the road in front of the former screen house. After sample tubes were extracted from the ground, the ends were covered with Teflon™ tape and sealed with plastic end caps and silicone tape. The samples were labeled indicating the project number, sample ID number, date and time of sample collection, and initials of the sampler. The label was placed directly onto the side of the stainless-steel sample sleeve. Each sample was then placed in a re-sealable Ziplock™ type plastic bag and sealed. Samples were packed in insulated coolers containing ice and picked up by the analytical laboratory the following morning after sample collection.

To investigate releases from the former sewer leach pit, former evaporation pond, sediment trap, and to collect soil samples from depths greater than 3 feet bgs in the field plots, direct-push soil borings were installed at specific locations using a Geoprobe™ direct-push sampling rig equipped with a hydraulic driving/hammering system. Direct-push sampling was performed on September 23, 2002 and April 1, 2003. The Geoprobe™ system uses 2-inch outer diameter (OD) stainless-steel probes to collect soil samples in 1.75-inch OD stainless steel sample sleeves. Probes were advanced and samples collected from specified intervals beginning at each sampling location. Direct-push soil samples were collected in 6-inch long by 1.75-inch OD stainless-steel sampling sleeve for transport to the analytical laboratory. Immediately after a sample was collected, the ends of the stainless-steel sleeves were covered with Teflon tape and sealed with plastic end caps and silicone tape. The

samples were labeled and packaged in the same manner as the hand auger samples, as described above.

At the end of each sampling day sample information was written on chain-of-custody (COC) forms. Information entered onto the form included the sample ID number, sample matrix, date of sample collection, location and depth of sample, and requested analyses. Each COC form consisted of three carbon copy sheets, two of which were placed in the appropriate sample shipping cooler for laboratory use, with the third sheet being retained by the Field Manager. COC forms were placed in adhesive plastic windows and affixed to the inside of the shipping cooler lid. Coolers were then closed, sealed with duct tape, and custody seals affixed to each cooler to enable detection of tampering.

2.1 CHEMICALS OF POTENTIAL CONCERN

Samples from field plots were analyzed for a variety of pesticides and metals. To determine chemicals of potential concern (COPCs) and the specific constituents for which the samples should be analyzed, a review of pesticide use records from 1979 to 2002 was conducted. According to these records, the BAREC tested small quantities of 90 different chemicals at the Site since 1979. Given that the Site has likely conducted agricultural testing of chemicals since the 1930's, it is likely there are other chemicals that were used prior to 1979, although no written records are available to document their use. The chemicals of greatest potential concern at the Site are those that persist in the environment. DTSC Guidance states that for the majority of newer pesticides persistence or "half-life" is limited to a few days (DTSC, 2002). The DTSC Guidance recommends testing for organochlorine pesticides since these compounds can persist in soil at levels of health concern for many years following application. The DTSC Guidance also recommends testing for anaerobically stable pesticides such as ametryn. Ametryn is a triazine herbicide. Based on DTSC Guidance, organochlorine (OC) pesticides and triazine herbicides (including ametryn) were analyzed in soil at the Site. The specific OC pesticides and triazine herbicides tested are listed in Table 3.

Of the 90 chemicals known to have been used at the Site since 1979, soil samples were analyzed for 14 of these chemicals and are listed as COPCs in the Table 3. These chemicals fall into general categories of chemicals: organophosphorous pesticides, carbamate and urea pesticides, chlorinated herbicides and inorganics/heavy metals. Other chemicals typical of these chemical categories may also have been used at the Site, but there are no written records of pesticide use prior to 1979. Soil samples were analyzed for inorganic chemicals because heavy metals may have been applied to the fields as pesticides and fertilizers. Soil

samples were analyzed for the specific organophosphorous pesticides, carbamate and urea pesticides, chlorinated herbicides, and inorganic chemicals listed in Table 3. Soil samples were also tested for diquat and paraquat because there are written records of their use at the Site. Soil pH was also tested since some of the chemicals used at the Site were acids or bases. An elevated or low pH in soil could indicate a release of these chemicals.

There are 76 chemicals that were listed in pesticide use records but were not identified as COPCs and not analyzed for at the Site. These 76 chemicals were not included for several reasons. First, a chemical's lack of persistence in the environment or short half-life justified exclusion as a COPC for the Site. DTSC Guidance states that it is not necessary to analyze for chemicals with short persistence in the environment. Twenty-eight of these 76 chemicals have half-lives indicating that at least 99.99% of the mass would be removed by August 2002 given the last year of its usage. The mass removed is estimated from the half-life using the following formula:

$$M = 1 - e^{\frac{\ln 0.5}{t_{0.5}} t}$$

- where M is fraction mass removed;
- t is time elapsed where current time is October 2002 and time of last application is assumed to be at the end of the year of last use or July 2002 for chemicals used in 2002; and
- $t_{0.5}$ is half-life as provided by EXTOXNET (Extension Toxicology Network Pesticide Information Profiles, ARS (USDA Agricultural Research Service Pesticide Properties Database), or Agency for Toxic Substances & Disease Registry (ATSDR 1991)

Table 3a shows the 28 chemicals, their half-lives, the last dates of usage and the estimated mass removed.

Eleven of the remaining 48 chemicals were not included as COPCs because the quantities used would result in very low concentrations in soil. To estimate the concentrations of these 11 chemicals, the mass of the chemical used each month and the area applied was obtained from monthly pesticide records. Using this mass and area information and making the conservative assumption that the chemical was not diluted with inert ingredients, the chemical's concentration in soil was estimated. This estimate assumed a soil mixing depth of 6 inches and a soil bulk density of 1600 kg/m^3. Even without taking into accounts the effects

of degradation based on half-life or chemical volatilization information, the concentrations of these 11 chemicals were well below the USEPA Region IX Preliminary Remediation Goals (PRGs)[3] for residential land use Table 3b presents the estimates of soil concentration for these 11 chemicals

Thirty-seven chemicals remain of the 76 compounds that were listed in pesticide use records but were not identified as COPCs and not analyzed for at the Site These 37 chemicals are listed in Table 3c and the rationale for not analyzing these chemicals is also summarized in the Table 3c Concentrations were estimated for most of these chemicals using the same assumptions as for the chemicals in Table 3b Contrary to the chemicals listed in Table 3b, however, these 37 chemicals do not have PRGs and many do not have half-life information Where half-life information was available, estimated concentrations were adjusted as noted in the table In addition, in some cases, concentrations were also adjusted to take into account dilution by other inert ingredients in the pesticide mixture. The resulting estimated concentrations for the chemicals listed in Table 3c are very low and as such, these chemicals were not analyzed for at the Site

Several of the substances listed in Table 3c are also noted as having low toxicity. This designation is assigned to the substances, which are essentially inert ingredients such as kaolin clay, lignosulfate salts, fatty acid salts, maize gluten meal (cornmeal), sulphur and the various oil sprays that are commonly sprayed on plants The bacteria GHA is also noted as having low toxicity, based on a determination made by the USEPA. USEPA stated that the bacteria should be exempt from the requirement of setting a tolerance because testing had shown that the organism did not exhibit toxic or infective properties (Federal Register 95-7452, March 22, 1995)

2.2 NUMBER AND LOCATION OF SAMPLES

DTSC Guidance states that when differing agricultural crops are produced on different areas of a site, each area should be addressed separately and the sampling rate should be sufficient to characterize each area Since each field plot at the Site contains or may have contained different crops at different times, the number of samples per field was based on the size of each field plot and the recommended number of sampling locations listed in Table 1 of the DTSC Guidance For example, based on Table 1 in the DTSC Guidance, if the field plot was between one and two acres, a minimum of four discrete samples should be collected or approximately one sample every ¼-acre Where possible and based on the DTSC Guidance,

[3] USEPA Region IX PRGs were used for screening purposes only The PRGs used for comparison are for residential soil from: November 1, 2000, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

a minimum of one sample was collected for every ¼-acre in each field plot Sampling locations are shown on Figure 3, and Table 4 lists the analyses performed for each sample collected The scope of the field investigation is discussed below

2.2.1 Field 1

Field 1 is slightly less than one acre During the first phase of investigation, soil samples were collected at four locations in Field 1 at depths of 0.5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0 5 bgs were analyzed Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic, and one sample from 3 feet bgs from location F1-C was analyzed for organochlorine pesticides. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from the center of Field 1 and analyzed for paraquat and diquat

2.2.2 Field 2

Field 2 is just over one acre in size During the first phase of investigation, soil samples were collected at four locations in Field 2 at depths of 0 5 and 3 feet bgs (Figure 3) These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3 Initially, only soil samples from depths of 0 5 bgs were analyzed Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from the center of Field 2 and analyzed for paraquat and diquat

2.2.2.1 Grassy Area Next to the Former Screen House

During a third phase of investigation in April 2003, a distressed area of grass was identified next to the access road that runs along the eastern edge of Field 2 With the exception of this small patch of brown grass, the surrounding area and vegetation was very green and heavily vegetated as a result of the heavy rainfall that occurred in Spring 2003. One shallow sample was collected from soil in the brown grassy area and analyzed for organochlorine pesticides by EPA Method 8081 and metals/inorganics by EPA Method 6010

2.2.3 Field 3

Field 3 is just over 1 5 acres in size During the first phase of investigation, soil samples were collected at six locations in Field 3 at depths of 0.5 and 3 feet bgs (Figure 3) These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3.

Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all six samples from 3 feet bgs were analyzed for arsenic, and five samples from 3 feet bgs from locations F3-A, F3-B, F3-D, F3-E and F3-F were analyzed for organochlorine pesticides. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 3 and analyzed for paraquat and diquat

2.2.4 Field 4

Field 4 is just over two acres in size. During the first phase of investigation, soil samples were collected initially at eight locations in Field 4 at depths of 0.5 and 3 feet bgs (Figure 3) These soil samples were analyzed for the COPCs (except paraqnat and diquat) listed in Table 3. Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all eight samples from 3 feet bgs were analyzed for arsenic.

During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0.5 bgs from the center of Field 4 and analyzed for paraquat and diquat. Samples were also collected from an additional 4 locations at a depth of 0.5 feet bgs from the western portion of Field 4 for analysis of arsenic and organochlorine pesticides These samples were collected because this portion of Field 4 was inaccessible during the first phase of sampling. These samples were analyzed only for organochlorine pesticides and arsenic because these were the only constituents detected at concentrations above PRGs during the first phase of investigation[4]. Samples were also collected from an additional 11 locations at depths of 0.5, 2 and 3 feet bgs to define the extent of elevated concentrations of arsenic identified in the eastern portion of Field 4 during the first phase of investigation Direct-push borings were also installed at locations F4-C, F4-E and F4-F in the eastern portion of Field 4 Samples were collected from these borings and analyzed for arsenic to define the vertical extent of arsenic below 3 feet bgs in this area of Field 4

2.2.5 Field 5

Field 5 is just over one acre in size. During the first phase of investigation, soil samples were collected at four locations in Field 5 at depths of 0.5 and 3 feet bgs (Figure 3) These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3 Initially, only soil samples from depths of 0.5 bgs were analyzed. Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic During the

[4] As stated above, USEPA Region IX PRGs were used for screening purposes only The PRGs used for comparison are for residential soil from November 1, 2000, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from the center of Field 5 and analyzed for paraquat and diquat

2.2.6 Field 6

Field 6 is just over ½-acre in size During the first phase of investigation, soil samples were collected at three locations in Field 6 at depths of 0.5 and 3 feet bgs (Figure 3) These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3 Initially, only soil samples from depths of 0 5 bgs were analyzed Upon receipt of laboratory analytical results, all three samples from 3 feet bgs were analyzed for arsenic During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from the center of Field 6 and analyzed for paraquat and diquat.

2.2.7 Field 7

Field 7 is less than two acres in size During the first phase of investigation, soil samples were collected at eight locations in Field 7 at depths of 0 5 and 3 feet bgs (Figure 3) These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0 5 bgs were analyzed Upon receipt of laboratory analytical results, all eight samples from 3 feet bgs were analyzed for arsenic During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from the center of Field 7 and analyzed for paraquat and diquat

2.2.8 Field 8

Field 8 is just over one acre in size During the first phase of investigation, soil samples were collected at four locations in Field 8 at depths of 0 5 and 3 feet bgs (Figure 3) These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3 Initially, only soil samples from depths of 0.5 bgs were analyzed Upon receipt of laboratory analytical results, all four samples from 3 feet bgs were analyzed for arsenic During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from the center of Field 8 and analyzed for paraquat and diquat.

2.2.9 Field 9

Field 9 is less than ¼-acre in size As mentioned above, Field 9 is completely enclosed by screens During the first phase of investigation, soil samples were collected at one location in Field 9 at depths of 0 5 and 3 feet bgs (Figure 3). Initially, only the soil sample from a depth of 0 5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3 Upon receipt of laboratory analytical results, the sample from 3 feet bgs was analyzed for

arsenic During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from Field 9 and analyzed for paraquat and diquat

2.2.10 Field 10

Field 10 is just over ½-acre in size. During the first phase of investigation, soil samples were collected at two locations in Field 10 at depths of 0 5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3 Initially, only soil samples from depths of 0.5 bgs were analyzed Upon receipt of laboratory analytical results, all two samples from 3 feet bgs were analyzed for arsenic During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from Field 10 and analyzed for paraqnat and diquat

2.2.11 Field 11

Field 11 is less than ½-acre in size. During the first phase of investigation, soil samples were collected at two locations in Field 11 at depths of 0 5 and 3 feet bgs (Figure 3). These soil samples were analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Initially, only soil samples from depths of 0 5 bgs were analyzed Upon receipt of laboratory analytical results, all two samples from 3 feet bgs were analyzed for arsenic During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from Field 11 and analyzed for paraquat and diquat

2.2.12 Field 12

Field 12 is less than ½-acre in size During the first phase of investigation, soil samples were collected at one location at the edge of Field 12 at depths of 0 5 and 3 feet bgs (Figure 3) Initially, only the soil sample from a depth of 0 5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3 Upon receipt of laboratory analytical results, the sample from 3 feet bgs was analyzed for arsenic. During the second phase of investigation in September 2002, an additional soil sample was collected at a depth of 0 5 bgs from Field 12 and analyzed for arsenic, paraquat and diquat

2.2.13 Greenhouse Building 103

Soil samples were collected from one location of the floor in Greenhouse Building 103 at depths of 0.5 and 3 feet bgs (Figure 3) The other two greenhouses were not sampled because the floor was inaccessible due to ongoing activities in each of the buildings Initially, only the soil sample from a depth of 0 5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Upon receipt of laboratory analytical results, the

sample from 3 feet bgs was analyzed for arsenic

2.2.14 Former Sewer Leach Pit

A direct-push soil boring was installed at two adjacent locations at the former sewer leach pit between Buildings 100 and 201. Initially, one boring was installed to approximately 7 feet bgs directly in the bottom of the leach pit. A sample was collected for analysis at approximately 7 feet bgs. However, the boring could not extend deeper because wood and concrete was encountered in the borehole. A second boring was installed approximately 3 feet away and a sample was obtained for analysis from this borehole at 10 feet bgs. Samples from the former leach pit were analyzed for volatile organic compounds (VOCs) by EPA Method 8260B, semi-volatile organic compounds (SVOCs) by EPA Method 8270C, organochlorine pesticides by EPA Method 8081, total petroleum hydrocarbons (TPH) as gas, diesel and motor oil fractions, and metals/inorganics by EPA Method 6010.

2.2.15 Former Evaporation Pond and Sediment Trap

In the center of the former evaporation pond, soil samples were collected from depths of 2, 3.5, 6.5 and 7.8 feet bgs and analyzed for arsenic. A sample was collected from the liquid inside the sediment trap and analyzed for organochlorine pesticides by EPA Method 8081 and metals/inorganics by EPA Method 6010. Soil samples were also collected at depths of 3.5 and 8.5 feet bgs from a soil boring adjacent to the sediment trap, but below the bottom of the sediment trap. Since organochlorine pesticides were not detected in the water sample from the sediment trap and metals concentrations were low, the soil samples were only analyzed for arsenic.

2.2.16 Background Location

Soil samples were collected from one location at the north end of the parking lot near Building 100. The purpose of this sample was to determine ambient levels of pesticides or metals in areas, which are not known to have been impacted by former BAREC agricultural operations. DTSC Guidance suggests that four samples should be collected to determine background concentrations; however, only one small area of the Site, which was outside of buildings, was identified where there was no known pesticide/chemical use. Since the area surrounding the Site is highly urbanized, there were also no offsite areas where representative background samples could be collected. Initially, only the soil sample from a depth of 0.5 bgs was analyzed for the COPCs (except paraquat and diquat) listed in Table 3. Upon receipt of laboratory analytical results, the sample from 3 feet bgs was analyzed for arsenic.

3.0 PHYSICAL CHARACTERISTICS OF THE SITE

This section describes the general physical characteristics of the Site Information on the general physical characteristics of the Site was obtained during visits to the Site, interviews with individuals knowledgeable about the Site, a review of regulatory agency files regarding the Site and an adjacent property, and a review of documents provided by the UC.

3.1 SURROUNDING AREA LAND USE

The 17-acre Site is located approximately three and one half miles south of downtown Santa Clara, California (Figure 1) The area surrounding the Site consists primarily of residential and commercial land Immediately surrounding the Site to the north, west and south are residential homes. To the south of the Site along Winchester Boulevard, there is a commercial building, a veterinary clinic and parking lot To the east and southeast beyond Winchester Boulevard, are a large shopping mall (Valleyfair West Mall), a bank, and several restaurants. To the northeast of the Site are more restaurants and Dunn-Edwards Paints, a paint supply company

3.2 SITE TOPOGRAPHY

The Site is flat at a topographic elevation of approximately 125 feet above mean sea level (MSL) Based on a review of the USGS San Jose West Topographic Map, the nearest surface water bodies appear to be an intermittent stream, Saratoga Creek, situated one and one-half mile northwest of the Site and an intermittent river, Los Gatos Creek, situated two and one-half miles to the southeast Additionally, a review of the historical topographical maps showed another intermittent stream, San Tomas Aquinas Creek, situated three-quarters of a mile west of the property San Tomas Expressway currently appears to overlie this creek

In general, the topography of the area slopes in a northeasterly direction. Site personnel were not aware of any flooding at the Site Flood information from the Federal Emergency Management Agency (FEMA) Santa Clara County map indicates the Site is located within a 500-year flood zone. Based on wetlands information compiled by the U S. Fish and Wildlife Service, the Site does not appear to contain any wetlands. ENVIRON did not observe any vegetation indicative of wetlands at the time of the Site visit.

3.3 CLIMATE

Mean annual rainfall in the general vicinity of the Site is approximately 16 inches (41 cm) with mean monthly rainfall of 1 75 inches (4.4 cm) (US Department of Commerce, 1983)

Median annual Class A pan evaporation rate is 55 inches which indicate that evaporation rates tend to exceed rainfall rates (US Department of Commerce, 1983)

Monthly mean temperatures average approximately 55 degrees Fahrenheit (°F), with temperature extremes that range from 35°F to 90°F The mean daily temperature during the winter months (January and February) is 40°F, and in the hottest summer month (August), 70°F (US Department of Commerce, 1983)

3.4 GEOLOGY

Geologic information was based on information in the Dames and Moore report regarding the closure of the former evaporation bed The Site is located near the center of the South Bay hydrologic sub-basin of the San Francisco Bay hydrologic basin, which is located in the Coast Ranges geomorphic province The Coast Ranges geomorphic unit is characterized by predominantly northwest trending mountains, valleys and faults The South Bay unit is a broad alluvial valley sloping north toward San Francisco Bay The Site is underlain by Quaternary alluvium deposited by streams that merge near the center of the San Jose Alluvial Plain and flow north toward San Francisco Bay The alluvium is composed of unconsolidated interbedded gravel, sand silt and clay The alluvium becomes progressively finer-grained northward toward the Bay and contains a series of laterally extensive marine clay layers

Dames and Moore interprets the Site to be within or on the margin of the area underlain by extensive clay layers According to documentation provided by the UC for the irrigation well at the Site, interbedded gravel, sand, and clay was observed at the Site to a depth of 39 feet. The gravel was underlain by layers of clay, sandy clay, gravelly clay and gravel to a depth of 360 feet Blue clay was reported at depths of 70 to 75 feet, 105 to 119 feet, 239 to 244 feet, and 261 to 272 feet, which is consistent with Dames and Moore's interpretation that the Site is on the margin of the area underlain by extensive clay layers

3.5 GROUND WATER

According to the Dames and Moore report, most water wells in the San Jose Alluvial Plain withdraw ground water from the Quaternary alluvium. Four correlatable regional aquifers

have been identified in the alluvial plain; the 60-foot, 250-foot, 350-foot, and 450-foot aquifers Most major producing wells in the Santa Clara area withdraw water from a zone 150 to 250 feet below ground surface under confined or semi-confined conditions. BAREC personnel indicate that one groundwater well is located on-site. It is located inside the pump house and is used for irrigation of the fields. The well at the Site is screened from a depth of 200 to 250 feet below ground surface (bgs); the depth to groundwater in this well is 140 feet and approximately 3 7-million gallons are pumped annually A report by Environmental Data Resources, Inc (EDR) identified nine additional active wells within a one-mile radius of the Site. The wells are operated by O'Connor Hospital, the San Jose Water Company, the City of San Jose, and the City of Santa Clara. No additional information about these wells was found

There is no Site-specific information on shallow ground water at the Site ENVIRON reviewed a Soil and Ground Water Report prepared by McCulley, Frick & Gilman, Inc for the Dunn-Edwards Corporation Facility located at 690 Winchester Boulevard, approximately 1/8 mile north of the Site The report indicated that shallow ground water was encountered between 20 and 30 feet bgs and that shallow ground water flowed towards the Bay to the east

4.0 NATURE AND EXTENT OF CONTAMINATION

This section presents the results of laboratory analyses of soil samples collected from the Site, and in the context of these results, the nature and extent of chemicals in soil at the Site. The term "nature" refers to the type and concentration of chemicals released, while the term "extent" refers to the spatial distribution of the chemicals in environmental media (i e , soil)

4.1 FIELD PLOT/GREENHOUSE SAMPLING RESULTS

The results of analyses of soil samples from the Site indicate that only seven organochlorine pesticides, diquat and thirteen inorganic compounds were detected Triazine pesticides, organophosphorous pesticides, chlorinated herbicides, paraquat, carbamate pesticides and urea pesticides were not detected in any of the samples analyzed. Laboratory results are provided in Appendix B A statistical summary of the compounds detected and comparison to USEPA Region IX PRGs[5] is provided in Table 5

Of the pesticides, 4,4'-DDT, 4-4'DDE and diquat were detected the most frequently at a rate of about 66 percent in the samples analyzed Dieldrin was detected the next most frequently at a rate of about 25 percent while chlordane and endrin were detected at a frequency of less than 10 percent. Only one detection of heptachlor epoxide was reported in the 59 samples analyzed.

A comparison of the pesticide results with USEPA Region IX PRGs showed that only dieldrin exceeded the PRG for samples collected at 0 5 feet bgs Exceedences of the PRGs occurred in one sample from Field 1 and two samples from Field 3. As a result, samples collected at 3 feet bgs from these locations (in addition to 3 more locations in Field 3 and one location in Field 7[6]) were analyzed for organochlorine pesticides For samples from 3 feet bgs, dieldrin was detected in two of the samples from Field 3 at concentrations below the PRG Dieldrin was not detected at 3 feet bgs in the other locations analyzed in Field 3 or in Field 1 and Field 7 4,4'-DDT and 4-4'-DDE were also detected in samples from Fields 3 and 7 at 3 feet bgs, but at concentrations well below the PRG. Diquat was detected in 8 of the 12 fields A summary of the results is presented in Table 6 and shown on Figure 4

Although dieldrin exceeded the PRG in three localized areas in shallow soil, the 95% upper confidence level (UCL) of the mean dieldrin concentration in shallow soil for the site was below the PRG of 30 ug/kg (Table 5) With the exception of Field 1, the mean concentration

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[5] USEPA Region IX PRGs were used for screening purposes only The PRGs used for comparison are for residential soil from: October 1, 2002, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

[6] These samples were analyzed because preliminary laboratory showed detection limits above the PRGs

of dieldrin in shallow soil in each individual field is also below the PRG However, the mean concentration of dieldrin in Field 1, which is where the maximum dieldrin concentration (240 ug/kg) is located, exceeds the PRG There were three other samples collected from shallow soil in Field 1 and analyzed for dieldrin Dieldrin was not detected in two of these samples and was detected at 11 ug/kg in the third sample However, because the dieldrin concentration in the sample collected at F1-C is well above the PRG, the mean dieldrin concentration in Field 1 exceeds the PRG

For the inorganic compounds, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, cyanide, lead, mercury, nickel, vanadium, and zinc were detected in samples from 0 5 feet bgs Except for beryllium, cyanide and mercury, these inorganics were detected in all samples This is expected since these compounds are naturally-occurring constituents of soil. Soil pH was also within the normal range for soil, i.e. between 6 and 8. Table 7 presents a comparison of the inorganic results from surface soil at the Site to typical background ranges in soil in California and the western US This comparison shows that the concentrations of inorganics detected at the Site are within the typical background range for California/Western US.

Table 7 also presents background ranges for metals in soil in northern Santa Clara County and in the Bay Area These background ranges were compiled in a report by Christina Scott from various environmental investigations done within a 2-mile radius in northern Santa Clara County (Scott, 1991) and in a report by Lawrence Berkeley National Laboratory (LBNL) in the San Francisco Bay Area (LBNL, 2002) The BAREC Site is located in southern Santa Clara County between 5 and 10 miles south of where samples for northern Santa Clara County were collected in the Scott study As discussed in Section 3 3, the Site is underlain by Quaternary alluvium deposited by streams that merge near the center of the San Jose Alluvial Plain and flow north toward San Francisco Bay The alluvium is composed of unconsolidated interbedded gravel, sand silt and clay and becomes progressively finer-grained northward toward the Bay Based on this information, the alluvium in northern Santa Clara County may be finer-grained than in southern Santa Clara County suggesting that there may be some natural variations in the inorganic composition of soils between southern and northern Santa Clara County A qualitative comparison between Site data and the northern Santa Clara County data indicates that arsenic concentrations at the Site are just outside the range of the northern Santa Clara County background values and the average arsenic concentration at the Site is higher (11 mg/kg) than the northern Santa Clara County value (2 9 mg/kg) In addition, the average lead concentration at the Site (23 mg/kg) is slightly above the northern Santa Clara County value (11 4 mg/kg) Copper and zinc average concentrations at the Site are about the same as the northern Santa Clara County value while

the average concentrations of beryllium, chromium, nickel and vanadium at the Site are below the northern Santa Clara County study values

With respect to the LBNL study, a qualitative comparison between site data and the roughly 1400 samples analyzed in LBNL study indicates that arsenic concentrations range from 1 8 to 37 mg/kg at the site and up to 42 mg/kg in the LBNL study The average arsenic concentration at the site is higher (11 mg/kg) than the LBNL average (5 5 mg/kg). With respect to other metals, the average lead concentration at the site (23 mg/kg) is above the LBNL value (7 0 mg/kg) Barium and zinc average concentrations at the site are about the same as the LBNL average values while the average concentrations of beryllium, chromium, copper, nickel, and vanadium at the site are below the LBNL average values.

Table 7 also presents the results of the one background sample, BG-A, collected below pavement at 0 75 bgs As discussed in Section 2, this sample was taken outside of areas at the Site known to have pesticide use DTSC Guidance suggests that 4 samples should be collected, if possible, to determine background concentrations; however, only one small area of the Site, which was outside of buildings, was identified where there was no known pesticide/chemical use Since the area surrounding the Site is highly urbanized and previously used as agricultural land, there were also no offsite areas where representative background samples could be collected As a result, comparison of the results to only one background sample is of limited statistical value However, a qualitative comparison indicates that arsenic and lead were detected in many samples at concentrations above the concentrations detected at BG-A Barium, however, was detected at concentrations below the concentration in BG-A Except for arsenic, barium and lead, the other metals were detected at similar concentrations as BG-A

Tables 8 and 9 present the sample results for the inorganics and arsenic, respectively A comparison of the inorganic results with USEPA Region IX PRGs[8] showed that arsenic exceeded the PRG for all samples including BG-A. No other inorganic compound exceeded the PRGs As noted in the preamble to the PRG table, the PRG for arsenic in residential soils is 0 39 mg/kg This value is typically below background concentrations in a local area (especially in California), and as such, USEPA Region IX has at times used the non-cancer PRG for arsenic of 22 mg/kg (USEPA, 2002) Additional discussion of the arsenic results is presented below.

[8] USEPA Region IX PRGs were used for screening purposes only The PRGs used for comparison are for residential soil from: October 1, 2002, *USEPA Region 9 Preliminary Remediation Goals (PRGs)*

4.1.1 Arsenic Background

Figures 5 and 6 show the concentrations of arsenic in soil at 0.5 feet and 3 feet bgs, respectively Since arsenic is naturally-occurring in soil, an arsenic background concentration needs to be defined to determine areas at the Site, which may have been impacted by arsenical pesticides As discussed above, in the Scott study, the maximum arsenic concentration in background soil was 20 mg/kg; in the LBNL study, the proposed upper estimate of the background arsenic concentration was 42 mg/kg, and; USEPA Region IX has at times used the non-cancer PRG for arsenic of 22 mg/kg as a background value In addition, a plot of the cumulative frequency of the shallow arsenic soil concentrations at the Site presented in Figure 7 shows an inflection point at 20 mg/kg for the Site Based on these data, concentrations of arsenic above 20 mg/kg are considered to exceed background levels

In addition, the arsenic background concentration and removal action objectives that were approved by DTSC for the residential[9] portion of the Town and Country Village Shopping Center (T&CVSC) development at 360 Winchester Boulevard in San Jose, (which is in close proximity to the BAREC Site), were also considered in development of an arsenic background concentration for the BAREC Site The mean background concentration for arsenic at the T&CVSC was assumed to be 12 mg/kg As a result, the residential removal action objectives for arsenic at the T&CVSC used a site-wide average concentration of 12 mg/kg and a maximum arsenic concentration of 20 mg/kg

Table 10 presents summary statistics for arsenic in shallow and deeper soil at the Site Assuming the arsenic concentrations that are above 20 mg/kg are replaced with a concentration of 7 mg/kg, which is the average concentration in deep soils, the average, standard deviation and 95% UCL of the mean arsenic concentration in shallow soil becomes of similar magnitude to deeper soil. Furthermore, if the arsenic concentrations at/above 20 mg/kg are removed, then the average arsenic concentration at the BAREC Site is less than 12 mg/kg, which is the mean background concentration for arsenic that was used at the nearby T&CVSC site

4.1.2 Nature and Extent of Arsenic in Soil Above Background Levels

Elevated concentrations of arsenic above 20 mg/kg are located primarily in the eastern portion of Field 4, primarily at 0 5 feet bgs, in sample 1-GB collected from distressed vegetation next to the old screen house, and in sample F12-A in the dirt road between Fields 11 and 12 at 0 5 feet bgs. Sample F12-A, which has an arsenic concentration above 20

[9] Unrestricted residential land use

mg/kg, between Fields 11 and 12, however, appears to be of limited horizontal and vertical extent. Adjacent samples in Field 11 and 12 have arsenic concentrations of 10 and 5.3 mg/kg, respectively, and the sample at 3 feet bgs at F12-A has an arsenic concentration of 7.7 mg/kg. Sample 1-GB was collected from an obviously brown patch of grass in April 2003. The brown patch of grass was less than 2 feet in diameter surrounded by dark green grass.

With respect to the elevated concentrations of arsenic in Field 4, there are several samples in the southern half of Field 4 with arsenic above 20 mg/kg. At 0.5 feet depth, 6 samples exceeded 20 mg/kg at the following locations: F4-6, F4-A, F4-B, F4-C, F4-D, and F4-F; at 2 feet bgs, one sample exceeded 20 mg/kg at F4-7; and, at 3 feet bgs, two samples exceeded 20 mg/kg at the following locations: F4-7 and F4-C. Arsenic concentrations above 20 mg/kg are of limited vertical extent. All samples at 4 feet bgs collected from direct-push borings at F4-E/SB-1, F4-C/SB-2, and F4-F/SB-3 (near F4-7) had arsenic concentrations of 1.8, 7.7, and 2.6 mg/kg.

Table 10 provides a statistical summary of the arsenic results, and Figures 7 and 8 present histograms of arsenic concentrations in shallow (0.5 feet bgs) and deep soil (between 2 and 4 feet bgs). The table shows that the average and 95% UCL of the mean arsenic concentration is higher in shallow soil than in deeper soil. The histograms in Figures 7 and 8 also show a different distribution of arsenic concentrations between shallow and deep soil. Possible explanations for the different distribution are as follows:

- *Shallow soil may have been impacted by use of arsenical pesticides.* Pesticide use summary reports indicate that arsenical pesticides were used in 1979 through 1981 and 1983 through 1985; thus, it is possible that shallow soils in a portion of the Site, primarily the eastern half of Field 4, have been impacted by former use of arsenical pesticides at the BAREC;

- *Soil type/lithology likely changes with increasing depth at the Site and the concentrations of naturally-occurring constituents also change with depth.* As the soil type/lithology changes so does the concentrations of naturally-occurring constituents such as arsenic. For example, the sample, which was analyzed from 10 feet bgs[9] near the former sewer leach pit, had an arsenic concentration of 1.2 mg/kg, which is below the minimum value detected in shallow soil. Other metals also had different concentrations in this leach pit sample in comparison to those detected in shallow soils. (Leach pit sampling results are discussed in more detail below in

[9] The sample at 7 feet bgs was not considered because it was likely non-native material that was used to fill the leach pit when it was abandoned.

Section 4 2) Zinc, for example, had a higher concentration (120 mg/kg) in the leach pit sample than in shallow soil (between 44 and 99 mg/kg) while barium, cadmium, lead and nickel had concentrations that were higher in shallow soil compared to the leach pit sample concentration In addition, a histogram of arsenic concentrations in deeper soil presented in Figure 8 shows a different distribution of arsenic in deeper soil. This different distribution suggests that deeper soils have a different composition of inorganics than shallow soils even accounting for the fact that some shallow soils have been impacted by arsenic

4 2 Leach Pit Results

VOCs, SVOCs, organochlorine pesticides and TPH were not detected in soil samples collected from the bottom and 3 feet below the former sewer leach pit. Metals were detected at low concentrations in both samples In the sample collected from the bottom of the former leach pit (at 7 feet bgs), only barium, chrominm, copper, nickel, vanadium and zinc were detected and their detected concentrations were below the PRGs. This sample, however, was likely from non-native material (i e. sand) that was used to fill the leach pit when it was abandoned The same metals were also detected in the sample from 3 feet below the bottom of the former leach pit (or 10 feet bgs) along with arsenic, cadmium, cobalt, lead and mercury Except for arsenic, the detected concentrations of these metals were below the PRGs Arsenic was below the non-cancer PRG of 22 mg/kg but above the cancer PRG of 0 39 mg/kg for residential soils

The concentrations of metals detected from the leach pit samples were well within background ranges for California/Western U S soils Arsenic was the only metal detected above PRGs at a concentration of 1 2 mg/kg. As discussed, the metals results for the leach pit samples are different than the concentrations in samples from the fields likely because a different soil horizon was sampled. Table 11 summarizes the sample results. Based on the sampling results, there is no evidence that the former sewer leach pit impacted subsurface soil and/or ground water at the Site

4.3 Sediment Trap and Evaporation Pond Results

In the center of the former evaporation pond, the soil samples, which were collected from depths of 2, 3 5, 6 5 and 7 8 feet bgs had arsenic concentrations of 20, 9 7, 2 8, and 2 9 mg/kg respectively Soil samples collected at depths of 3 5 and 8 5 feet bgs from a soil boring adjacent to the sediment trap had arsenic concentrations of 3 5 and 3 2. Arsenic in these samples was below the non-cancer PRG of 22 mg/kg but above the cancer PRG of 0 39 mg/kg for residential soils. Sample results are presented in Table 9

Organochlorine pesticides were not detected in a sample of the liquid inside the sediment trap (Table 6) Metals were detected at low concentrations in a sample of the sediment trap liquid (Table 8).

Based on the sampling results and consistent with Dames and Moore's conclusion regarding closure of the evaporation pond, there is no evidence that the former evaporation pond and adjacent sediment trap impacted subsurface soil and/or ground water at the Site

5 0 RECOMMENDATIONS

There is evidence that shallow soils have been impacted by prior pesticide use Dieldrin exceeded PRGs in shallow soil in isolated locations of the Site Specifically, the mean dieldrin concentration in Field 1 exceeded the PRG primarily because of an isolated detection of dieldrin at a concentration of 240 ug/kg in surface soil. As a result, it is recommended that this "hot spot" of dieldrin be addressed such that the mean concentration in Field 1 will be below the PRG of 30 ug/kg

Arsenic also exceeded background concentrations in portions of the Site Surface soils in the eastern portion of Field 4 and at two isolated locations have arsenic concentrations above background It is recommended that a removal action workplan (RAW) be prepared to address the elevated arsenic and dieldrin concentrations in shallow soils at these locations

6.0 REFERENCES

Agency for Toxic Substances and Disease Registry (ATSDR) Toxicological profile for 1,3-Dichloropropene U S Department of Health and Human Services February 1991

Dames & Moore, Report of Closure: Former Evaporation Bed Deciduous Fruit Field Station, Santa Clara California, Job No 234-193-43, April 8, 1988

California Environmental Protection Agency – Department of Toxics Substances Control (DTSC), Interim Guidance for Sampling Agricultural Soils for School Sites (Second Revision), August 26, 2002

EXTOXNET (Extension Toxicology Network Pesticide information Profiles (http://ace.orst/edu/info/extoxnet/pips/ghindex.html

Lawrence Berkeley National Laboratory 2002 *Analysis of Background Distributions of Metals in Soil at Lawrence Berkeley National Laboratory* June

Scott, Christina. 1991 *Background Metal Concentrations in Soils in Northern Santa Clara County California*. University of San Francisco, Masters Thesis

University of California (UC), Letter from David Towle, September 30, 2002

UC, Interviews with Dr Zak Mousli, Superintendent for the Bay Area Research and Extension Center by ENVIRON, July/August 2002

USDA Agricultural Research Service Pesticide Properties Database: ARS (http://www.arsnsda.gov/rsml/ppdb1.html)

U S Department of Commerce, *National Climatic Atlas of the United States*, 1983.

U S Environmental Protection Agency (USEPA), *USEPA Region 9 Preliminary Remediation Goals (PRGs)* November 1, 2000

Other sources of information used in this report are:

- Documents and reports provided to ENVIRON by Dr. Mousli and David Towle of the Administrative Office for the Research & Extension Centers of the University of

California (UC) including: underground tank removal documents, an asbestos survey report, irrigation well documents, business plan documents, a chemical inventory, a pesticide list and restricted materials permit, septic system documents, a pesticide use summary monthly report from 1979 to 2002, and a business plan and chemical inventory

- A review of historical aerial photographs for the Site and surrounding area dated 1937, 1954, 1958, 1960, 1963, 1966, 1968, 1971, 1974, 1976, 1978, 1980, 1982, 1984, 1988, 1989, 1990, 1992, 1994, 1996, 1997 and 1999 conducted at Pacific Aerial Surveys, Oakland, California on July 26, 2002

- A review of regulatory agency databases for the Site and vicinity conducted by Environmental Data Resources, Inc (EDR) and reported to ENVIRON on July 18, 2002 EDR conducted searches of federal databases including United States Environmental Protection Agency (EPA) National Priorities List; EPA Comprehensive Environmental Response, Compensation, and Liability Information System; EPA Emergency Response Notification System; Corrective Action Report; and Resource Conservation and Recovery Information System; Flood Zone Data from the Federal Emergency Management Agency (FEMA). State databases included: Notify 65, which lists Proposition 65 records; California Environmental Protection Agency's Annual Workplan, which identifies known hazardous substance sites targeted for cleanup; Leaking Underground Storage Tank Information System; Underground Storage Tank Database; and Former Manufactured Gas (Coal Gas) Sites. In reviewing the environmental databases, it should be noted that such databases are not instantaneously updated by the specific regulatory agencies Depending on the database and the agency, update frequency may be as infrequent as annually

- A review of historic City Directory information for the Site and neighboring properties obtained from EDR

- A review of a 1966 historic Sanborn Fire Insurance Map for the Site and neighboring properties obtained from EDR Since the map showed only a small portion of the Site, ENVIRON requested but has not yet received a more complete map.

- A review of the United States Geological Survey (USGS) San Jose West, California 7.5-minute series topographical map, dated 1961, photorevised 1980.

- A review of historical United States Geological Survey (USGS) topographical maps, dating 1895, 1899, 1939, 1953, and 1961, with photo revisions from 1968 and 1978.

- A review of available Site files at the City of Santa Clara Fire Department on August 9, 2002.

- A review of available files for two properties in the vicinity of the Site (690 and 780 North Winchester Boulevard) at the City of San Jose Fire Department on August 9, 2002

- A review of available files for the Site and property located at 690 North Winchester Boulevard at the San Francisco Bay Area Regional Water Quality Control Board on September 3, 2002

TABLES

Table 1

Summary of Soil Chemical Test Results – July 1987 Soil Samples

	Detection Limit (mg/kg)	Bed Soil (0-1 ft) (mg/kg)
Toxaphene	1.6	*
Guthion	10	16
Baygon	0.01	0.028
Chloropropham	0.005	0.04
Fluometuron	0.001	1.6
2,4-D	0.025	1.2
Afugan	(1)	0.089
2-(Phenylazo)-Benzoic Acid	(1)	2.5
Zytron	(1)	0.17
Arsenic	40	78
Copper	3	27
Calcium	10	28,800

* Not detected

(1) Detection Limit not available - constituent concentration estimated from library search

Source: Dames & Moore Report (1988), Table D-4

Table 2

Summary of Soil Chemical Test Results – October 1987 Soil Samples

	Detection Limit (mg/kg)	Background		Beneath the Evaporation Bed			
		DFFS-1A (mg/kg)	DFFS-2A (mg/kg)	DFFS-3A (mg/kg)	DFFS-4A (mg/kg)	DFFS-5A (mg/kg)	DFFS-6A (mg/kg)
DDE	0 016	0 023	0.17	*	*	*	*
DDT	0.016	0.016	0.17	*	*	*	*
Organophosphate Pesticides	0 1-2.0	*	*	*	*	*	*
Chloropropham	0.5	*	*	2 8	*	*	*
Triazine Herbicides	0.1	*	*	*	*	*	*
Chlorinated Herbicides	0 025-0 13	*	*	*	*	*	*
Other Organic Compounds	-	*	*	*	*	*	*
Arsenic	40	*	*	*	*	*	*
Copper	3	24	29	22	22	18	20
Barium	10	120	120	110	120	110	110
Cadmium	0 5	0 66	0.59	0 52	0.54	*	0 63
Chromium	1	42	34	34	37	35	47
Cobalt	3	9.4	8.4	8	9.1	8 2	10
Lead	5	*	27	*	*	*	*
Nickel	5	52	49	48	51	43	49
Vanadium	5	31	28	27	29	29	31
Zinc	2	51	56	44	48	41	45

- Not available

* Not detected

Source: Dames & Moore Report (1988), Table D-6

Table 3
Chemicals of Potential Concern (COPCs) in Soil

Chemical Name	Years of Use at Site
Organochlorine Pesticides - EPA Method 8081	
Aldrin	No Record of Use
Dieldrin	No Record of Use
Endrin aldehyde	No Record of Use
Endrin	No Record of Use
Endrin ketone	No Record of Use
Heptachlor	No Record of Use
Heptachlor epoxide	No Record of Use
4,4'-DDD	No Record of Use
4,4'-DDE	No Record of Use
4,4'-DDT	No Record of Use
Endosulfan I	No Record of Use
Endosulfan II	No Record of Use
HCH (alpha) or alpha-BHC	No Record of Use
HCH (beta) or beta-BHC	No Record of Use
delta-BHC	No Record of Use
HCH (gamma), Lindane, or gamma-BHC	No Record of Use
Endosulfan sulfate	No Record of Use
4,4'-Methoxychlor	No Record of Use
Toxaphene	No Record of Use
Chlordane (Technical)	No Record of Use
alpha-Chlordane	No Record of Use
gamma-Chlordane	No Record of Use
Organophosphorus Pesticides - EPA Method 8140	
Acephate (Orthene) (By EPA 1657)	1980, 1984, 1989-1991, 1994
Atrazine	1986, 1988, 1990-2002
Azinphos methyl	No Record of Use
Carbophenothion	No Record of Use
Chlorpyrifos	1998
Diazinon	1984, 1985, 1987, 1990-1993, 1995
Dimethoate	No Record of Use
Disulfoton (Disyston)	No Record of Use
Ethion	No Record of Use
Fenthion	No Record of Use
Malathion	1988, 1990, 1991, 1993-1995
Mevinphos	No Record of Use
Ethyl parathion	No Record of Use
Methyl parathion	No Record of Use
Phorate	No Record of Use
Prometon	No Record of Use
Prometryn	No Record of Use
Propazine	No Record of Use
Simazine	No Record of Use

Table 3
Chemicals of Potential Concern (COPCs) in Soil

Chemical Name	Years of Use at Site
Carbamate and Urea Pesticides - EPA Method 632	
Bromacil	No Record of Use
Carbofuran (Furadan)	No Record of Use
Carbaryl (Sevin)	2002
Chlorpropham	No Record of Use
Diuron	No Record of Use
Fluometuron	No Record of Use
Linuron	1998
Methiocarb	No Record of Use
Methomyl	No Record of Use
Monuron	No Record of Use
Neburon	No Record of Use
Oxamyl	No Record of Use
Propham	No Record of Use
Propoxur	No Record of Use
Triazine Herbicides - EPA Method 8141	
Atraton	No Record of Use
Simazine	No Record of Use
Prometon	No Record of Use
Atrazine	No Record of Use
Propazine	No Record of Use
Simetryn	No Record of Use
Ametryn	No Record of Use
Prometryn	No Record of Use
Terbutryn	No Record of Use
Chlorinated Herbicides - EPA Method 8151	
2,4-Dichlorophenoxyacetic Acid (2,4-D)	1990, 1991, 1993-1999
2,4,5-Trichlorophenoxyacetic Acid (2,4,5-T)	No Record of Use
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	No Record of Use
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	No Record of Use
2-(2-Methyl-4-chlorophenoxy) propionic acid (MCPP)	1990, 1991, 1993-2000, 2002
Paraquat	1979-1981, 1999, 2000
Diquat	1984-1997

Table 3
Chemicals of Potential Concern (COPCs) in Soil

Chemical Name	Years of Use at Site
Inorganics/Metals - Various EPA Methods	
Arsenic	1979-1981, 1983-1985
Antimony	No Record of Use
Barium	No Record of Use
Beryllium	No Record of Use
Cadmium	No Record of Use
Total Chromium	No Record of Use
Cobalt	No Record of Use
Copper	1980, 1984-1987, 1998
Cyanide	No Record of Use
Lead	No Record of Use
Mercury	No Record of Use
Molybdenum	No Record of Use
Nickel	No Record of Use
Selenium	No Record of Use
Silver	No Record of Use
Thallium	No Record of Use
Vanadium	No Record of Use
Zinc	No Record of Use

Table 3a

Half-Lives and Mass Removed of Chemicals Used at the BAREC

CAS Number	Chemical Name	Brand Name	Half-Life (days)	Last year used	Mass Removed
2227170	Perchloro-1,1'-bicyclopenta-2,4-dienyl	Pentho-WP	84	1989	100.00%
13121705	Cyhexatin	Plictran	50	1984	100.00%
19044883	Oryzalin	Surflan	128	1997	100.00%
15299997	Napropamide	Devrinol	84	1999	100.00%
39300453	Dinitro (1-methyl heptyl)**phenyl crotomate	Doo Spray	6	1987	100.00%
1861321	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)	Dacthal W-75	100	1997	100.00%
23950585	Promanide	Kerb 50WP	60	1988	100.00%
102851069	Tau-Fluvalinate	Mavrik	8	1990	100.00%
2312358	Propargite	Omite 30W	64	1996	100.00%
35367385	Difluron	Dimilin 25W	4	1990	100.00%
86500	O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methylphosphorodithioate	Guthion	355	1990	99.99%
36734197	Iprodione	26019 Fungicide	60	1992	100.00%
1897456	Chloroathalonil	Daconil 2787 75WP	90	1992	100.00%
40487421	Pendimethalin	Pre M 60 WDG	40	2001	100.00%
1861401	Benefin	Team 2g	51	1993	100.00%
533744	Dazomet	Basamid	7	1993	100.00%
Not found	Sodium methyldithiocarbamate (anhydrous)	Vapam	7	1999	100.00%
71751412	Abamectin	Avid	1	2000	100.00%
88671890	Myclobutanil	Eagle	71	1996	100.00%
1702176	Clopylarid	Stinger	26	1999	100.00%
25057890	Sodium Bentazon	Basagran T/O	98	1997	100.00%
1689845	Bromoxynil	Buctril	14	2001	100.00%
77182822	Glufosinate - Ammonium	Liberty	10	1998	100.00%
52315078	Cypermethrin	Barricade	56	1998	100.00%
79241466	Fluazifop - P – Butyl	Fusilade II	7	2002	100.00%
74839	Methyl Bromide	Methyl Bromide	60	1999	100.00%
542756	1,3 - Dichloropropene	Telone C35 EC	69	1999	100.00%
76062	Chloropicrin	Telone C35 EC	1	1999	100.00%

Table 3b

Estimated Concentration of Chemicals Used at the BAREC

CAS Number	Chemical Name	Brand Name	Chemical Mass (kg)	Area (feet^2)	Soil Mass (kg)	Concentration (mg/kg)	PRG (mg/kg)	Half Life (days)
1071836	Glyphosate	Round Up	50,523	6,612,408	5.E+09	9.54	6.1E+03	47
19666309	Oxadiazon	Ronstar 50WP	233	255,843	2.E+08	1.14	3.1E+02	180
17804352	Benomyl	Benlate	0.07	4,320	3.E+06	0.02	3.1E+03	365
1582098	Trifluralin	Team 2g	0.2	600	5.E+05	0.41	6.3E+01	240
82558507	Isoxaben	Snapshot 2.5g	0.2	5,696	5.E+06	0.04	3.1E+03	180
51218452	Metolachlor	Pennant (L)	11.4	302,574	2.E+08	0.05	9.2E+03	70
42874033	Oxyfluorfen	Rout	10.05	454,905	4.E+08	0.03	1.8E+02	40
95636	1,2,4 - Trimethylbenzene	Buctril	1.6	71,653	6.E+07	0.03	5.2E+01	NA
1330207	Xylene	Buctril	1.6	71,453	6.E+07	0.03	2.1E+02	NA
100414	Ethylbenzene	Buctril	1.6	71,453	6.E+07	0.03	2.3E+02	NA
78587050	Hexythiazox	Hexythiazox	0.0003	218	2.E+05	0.002	1.5E+03	NA

PRGs – USEPA Region IX Preliminary Remediation Goals for residential soil. November 2000.

NA – Half Life Not available

Table 3c

Estimated Concentrations and Rationale for Not Analyzing Certain Chemicals

CAS Number	Chemical Name	Brand Name	Last Year of Use	Chemical Mass (kg)	Area (feet^2)	Estimated Concentration (mg/kg)	Rationale for Not Analyzing
13356086	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]	Vendex 50WP	1990	0.542	6,795	9.97E-02	Deminimus concentration
3478942	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate	Pipron	1980	2.410	500 plants	NA	Chemical applied directly to plant. Chemical is unlikely to be present at significant concentrations in soil.
7704349	Sulphur	Flowable Sulphur	1999	15.672	174,240	1.12E-01	Sulphur is present in the ambient environment and is of low toxicity
26644462	Triforine	Triforine	1994	0.415	500 plants	NA	Chemical applied directly to plant. Chemical is unlikely to be present at significant concentrations in soil.
Not found	Petroleum Oil	Heavy Dormant Oil	1986	4.883	103,455	5.89E-02	Low toxicity and deminimus concentration.
8061527	Calcium Lignosulfonate	Kerb 50WP	1988	0.118	653,400	2.26E-04	Low toxicity and deminimus concentration.
55335063	Triclopyr	Turflon Ester	1999	0.937	33,980	1.15E-03[a]	Low toxicity and deminimus concentration
8008206	Kerosene	Turflon Ester	1999	0.920	33,180	3.46E-02	Low toxicity and deminimus concentration.
Not found	Alkylarylpolyoxyethylene ether	Spreader X77	1999	26.355	504,860	6.52E-02	Low toxicity/surfactant aids spraying

Table 3c
Estimated Concentrations and Rationale for Not Analyzing Certain Chemicals

CAS Number	Chemical Name	Brand Name	Last Year of Use	Chemical Mass (kg)	Area (feet^2)	Estimated Concentration (mg/kg)	Rationale for Not Analyzing
Not found	Sethoxydim: 2-[1-(ethoxymino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one*	Poast	1991	0.551	43,560	1.58E-02	Deminimus concentration
Not found	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)	Herbimax	1994	0.880	43,960	2.50E-02	Low toxicity and deminimus concentration
Not found	cimectacarb 4-(cyclopropyl-alpha-hydroxy-methylene)-3,5-dioxo-cyclohexanecarboxylic acid ethyl ester	Primo/Experimental	1992	0.113	10,019	1.41E-02	Deminimus concentration
1332587	Kaolin	Daconil 2787 75WP	1997	0.062	2700	2.85E-02	Low toxicity and deminimus concentration
97886458	Dithiopyr	Dimension 1E	1999	0.239	3610	8.26E-02	Deminimus concentration
29091212	Prodiamine	Prodiamine 65 WDG	2000	0.007	150	5.76E-02	Deminimus concentration
741582	Bensulide	Betasan 4E	1999	0.162	1350	7.72E-04[b]	Deminimus concentration

Table 3c

Estimated Concentrations and Rationale for Not Analyzing Certain Chemicals

CAS Number	Chemical Name	Brand Name	Last Year of Use	Chemical Mass (kg)	Area (feet^2)	Estimated Concentration (mg/kg)	Rationale for Not Analyzing
71283802	Fenoxaprop-p-ethyl	Acclaim 1E	1993	0.008	200	4.99E-02	Deminimus concentration
2163806	Monosodium acid methanearsonate	Bueno 6	1997	0.155	1300	8.09E-02[c]	Deminimus concentration
872504	N-methylpirrolidone	Avid	2002	7.519	275,144	3.41E-02	Deminimus concentration
Not found	Potassium salts of fatty acids	Safer Soap	2000	0.990	4002	3.09E-01	Low toxicity
52508357	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)	Atrimmec PGR	1999	8.862	32,400	6.32E-02[d]	Deminimus concentration
57213691	Triclopyr as triethylamine salt	Confront	1999	0.048	1100	1.81E-03[a]	Deminimus concentration
1000784201	Halosulfuron-methyl	Manage	1997	0.001	500	2.50E-03	Deminimus concentration
112926008	Sillica, amorphous precipitated	Manage	1999	0.004	2150	2.27E-03	Low toxicity and deminimus concentration
117708602	Thiazopyr	Thiazopyr	1999	0.037	764	6.05E-02	Deminimus concentration
Not found	Maize Gluten Meal	A-Maizing Lawn	1998	5.443	400	1.70E+01	Low toxicity and deminimus concentration
64742945	Solvent Naphta, petroleum, heavy aromatic	Visor 2E	1998	0.016	264	7.55E-02	Low toxicity and deminimus concentration
87674688	Dimethanamid	Frontier 6	1999	0.045	1196	4.66E-02	Deminimus concentration

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 1	020731-F1-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 1	020731-F1-A-3.0	3.0	Soil	07/31/2002	X								
Field 1	020731-F1-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 1	020731-F1-B-3.0	3.0	Soil	07/31/2002	X								
Field 1	020731-F1-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 1	020731-F1-C-3.0	3.0	Soil	07/31/2002	X	X							
Field 1	020731-F1-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 1	020731-F1-D-3.0	3.0	Soil	07/31/2002	X								
Field 1	020923-F1-GB-0.5	0.5	Soil	09/23/2002							X		
Field 2	020731-F2-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 2	020731-F2-A-3.0	3.0	Soil	07/31/2002	X								
Field 2	020731-F2-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 2	020731-F2-B-3.0	3.0	Soil	07/31/2002	X								
Field 2	020731-F2-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 2	020731-F2-C-3.0	3.0	Soil	07/31/2002	X								
Field 2	020731-F2-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 2	020731-F2-D-3.0	3.0	Soil	07/31/2002	X								

Table 4

Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 2	020923-F2-GB-0.5	0.5	Soil	09/23/2002							X		
Field 3	020731-F3-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-A-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-B-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-C-3.0	3.0	Soil	07/31/2002	X								
Field 3	020731-F3-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-D-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-E-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-E-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020731-F3-F-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 3	020731-F3-F-3.0	3.0	Soil	07/31/2002	X	X							
Field 3	020923-F3-GB-0.5	0.5	Soil	09/23/2002							X		
Field 4	020731-F4-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 4	020731-F4-A-3.0	3.0	Soil	08/01/2002	X								
Field 4	020731-F4-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 4	020731-F4-B-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 4	020731-F4-C-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 4	020731-F4-D-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-E-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 4	020731-F4-E-3.0	3.0	Soil	08/01/2002	X								
Field 4	020731-F4-F-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 4	020731-F4-F-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-G-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 4	020731-F4-G-3.0	3.0	Soil	07/31/2002	X								
Field 4	020731-F4-H-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 4	020731-F4-H-3.0	3.0	Soil	07/31/2002	X								
Field 4	020923-F4-HA-1-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-2-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-2-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-2-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-3-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-4-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-4-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-4-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-5-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-5-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-5-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-6-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-6-2.0	2.0	Soil	09/23/2002	X								

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 4	020923-F4-HA-6-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-7-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-7-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-7-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-8-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-8-2.0	2.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-8-3.0	3.0	Soil	09/23/2002	X								
Field 4	020923-F4-HA-9-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-10-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-12-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-HA-13-0.5	0.5	Soil	09/23/2002	X	X							
Field 4	020923-F4-HA-15-0.5	0.5	Soil	09/23/2002	X	X							
Field 4	020923-F4-HA-17-0.5	0.5	Soil	09/23/2002	X	X							
Field 4	020923-F4-HA-19-0.5	0.5	Soil	09/23/2002	X								
Field 4	020923-F4-SB-1-4.0	4.0	Soil	09/23/2002	X								
Field 4	020923-F4-SB-2-4.0	4.0	Soil	09/23/2002	X								
Field 4	020923-F4-SB-3-4.0	4.0	Soil	09/23/2002	X								
Field 5	020731-F5-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 5	020731-F5-A-3.0	3.0	Soil	08/01/2002	X								
Field 5	020731-F5-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 5	020731-F5-B-3.0	3.0	Soil	08/01/2002	X								
Field 5	020731-F5-C-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 5	020731-F5-C-3.0	3.0	Soil	08/01/2002	X								
Field 5	020731-F5-D-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 5	020731-F5-D-3.0	3.0	Soil	08/01/2002	X								
Field 5	020923-F5-GB-0.5	0.5	Soil	09/23/2002							X		
Field 6	020731-F6-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 6	020731-F6-A-3.0	3.0	Soil	08/01/2002	X								
Field 6	020731-F6-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 6	020731-F6-B-3.0	3.0	Soil	08/01/2002	X								
Field 6	020731-F6-C-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 6	020731-F6-C-3.0	3.0	Soil	08/01/2002	X								
Field 6	020923-F6-GB-0.5	0.5	Soil	09/23/2002							X		
Field 7	020731-F7-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-A-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-B-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-C-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-D-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-E-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-E-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-F-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 7	020731-F7-F-3.0	3.0	Soil	07/31/2002	X								
Field 7	020731-F7-G-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-G-3.0	3.0	Soil	07/31/2002	X	X							
Field 7	020731-F7-H-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 7	020731-F7-H-3.0	3.0	Soil	07/31/2002	X								
Field 7	020923-F7-GB-0.5	0.5	Soil	09/23/2002							X		
Field 8	020731-F8-A-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-A-3.0	3.0	Soil	07/31/2002	X								
Field 8	020731-F8-B-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-B-3.0	3.0	Soil	07/31/2002	X								
Field 8	020731-F8-C-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-C-3.0	3.0	Soil	07/31/2002	X								
Field 8	020731-F8-D-0.5	0.5	Soil	07/31/2002		X	X	X	X	X		X	X
Field 8	020731-F8-D-3.0	3.0	Soil	07/31/2002	X								
Field 8	020923-F8-GB-0.5	0.5	Soil	09/23/2002							X		
Field 9	020731-F9-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 9	020731-F9-A-3.0	3.0	Soil	08/01/2002	X								
Field 9	020923-F9-GB-0.5	0.5	Soil	09/23/2002							X		

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Field 10	020731-F10-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 10	020731-F10-A-3.0	3.0	Soil	08/01/2002	X								
Field 10	020731-F10-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 10	020731-F10-B-3.0	3.0	Soil	08/01/2002	X								
Field 10	020923-F10-GB-0.5	0.5	Soil	09/23/2002							X		
Field 11	020731-F11-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 11	020731-F11-A-3.0	3.0	Soil	08/01/2002	X								
Field 11	020731-F11-B-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 11	020731-F11-B-3.0	3.0	Soil	08/01/2002	X								
Field 11	020923-F11-GB-0.5	0.5	Soil	09/23/2002							X		
Field 12	020731-F12-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Field 12	020731-F12-A-3.0	3.0	Soil	08/01/2002	X								
Field 12	020923-F12-HA-B-0.5	0.5	Soil	09/23/2002	X								
Greenhouse	020731-GH-A-0.5	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Greenhouse	020731-GH-A-3.0	3.0	Soil	08/01/2002	X								
Background	020731-BG-A-0.75	0.5	Soil	08/01/2002		X	X	X	X	X		X	X
Background	020731-BG-A-3.0	3.0	Soil	08/01/2002	X								
Sewer LeachPit	020923-ENV-1-7.0	5.5	Soil	09/23/2002		X						X	
Sewer LeachPit	020923-ENV-1-10.0	10.5	Soil	09/23/2002		X						X	
Decon Water	020801-DW-A	NA	Water	08/01/2002		X	X	X	X	X		X	X
Sediment Pit	030401-SEDPIT-1-W	NA	Water	04/01/2003		X						X	

ENVIRON

f:\santaclara\phase1\samplinginfo\Table4anal.xls-Table 4

Table 4
Samples and Analyses Performed

Boring Location	Sample Name	Soil Sample Depth (ft bgs)	Sample Type	Sample Date	Analysis Performed								
					Arsenic Only	Organo-chlorine Pesticides - EPA Method 8081	Organo-phosphorus Pesticides - EPA Method 8140	Carbamate Pesticides - EPA Method 632	Triazine Herbicides - EPA Method 8190 or 8141	Chlorinated Herbicides - EPA Method 8151	Paraquat and Diquat	CAM Metals - California Title 22 (Title 26) Protocol	Cyanide and pH
Sediment Pit	030401-ENV-2-3.5	3.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-2-8.5	8.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-2.0	2	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-3.5	3.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-6.5	6.5	Soil	04/01/2003	X								
Sediment Pit	030401-ENV-3-7.8	3.5	Soil	04/01/2003	X								
Grass	030401-GRASS-1-GB	3.5	Soil	04/01/2003		X						X	X (pH only)

Table 5

Statistical Summary of Detected Compounds in Soil Samples[1]

Analyte	Number of Detections	Number of Samples	Minimum	Maximum[2]	Average	Standard Deviation	95% Upper Confidence Level (UCL) of the Mean	Frequency of Detection	USEPA Region IX PRGs[3]
			Concentration (µg/kg)						Concentration (µg/kg)
Pesticides									
Dieldrin	15	60	ND	240	12	31	19	25%	30
Diquat	8	12	ND	7,500	3317	2,271	4,494	67%	130,000
Endrin	6	60	ND	50	8.9	11	11	10%	18,000
4,4'-DDT	40	60	ND	380	39	64	53	67%	1,700
4,4'-DDE	40	60	ND	1,500	110	269	168	67%	1,700
alpha-Chlordane	4	60	ND	50	8.3	10	11	7%	1,600
gamma-Chlordane	4	60	ND	50	8.3	10	10	7%	1,600
Heptachlor epoxide	1	60	ND	50	8	10	10	2%	53
gamma-BHC (Lindane)	1	60	ND	94	9.1	15	12	2%	440
			Concentration (mg/kg)						Concentration (mg/kg)
Metals									
Arsenic	136	136	ND	37	11.2	8.1	12	100%	0.39
Barium	50	50	95	440	123	47	134	100%	5,400
Beryllium	3	50	ND	0.52	0.27	0.062	0.28	6%	150
Cadmium	50	50	1.7	3.6	2.8	0.33	2.9	100%	37
Chromium	50	50	27	55	38	4.4	39	100%	210
Cobalt	50	50	7.2	12	9.0	1.1	9.2	100%	900
Copper	50	50	21	39	29	5.2	30	100%	3,100
Cyanide	2	50	ND	0.32	0.18	0.047	0.19	4%	11
Lead	50	50	1.2	63	22	12	26	100%	400
Mercury	38	50	ND	0.28	0.074	0.054	0.087	76%	23
Nickel	50	50	39	60	48	4.5	49	100%	150
Vanadium	50	50	24	44	31	3.9	32	100%	550
Zinc	50	50	44	99	63	12	66	100%	23,000

Notes:

[1] Includes all data except: 020923-ENV-1-7.0, 020923-ENV-1-10.0, Rinseate (020801-DW-A) and Sediment trap liquid (030401-SEDPIT-1-W)

[2] Maximum detected concentration.

[3] October 1, 2002, *USEPA Region IX Preliminary Remediation Goals (PRGs)* for residential soil

ND = not detected

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
1	020731-F1-A-0.5	0.5	Soil	7/31/2002	<10	12	46	120	<10	<10	NA
1	020731-F1-B-0.5	0.5	Soil	7/31/2002	<10	<10	27	50	<10	<10	NA
1	020731-F1-C-0.5	0.5	Soil	7/31/2002	240	11	54	34	<10	<10	NA
1	020731-F1-C-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
1	020731-F1-D-0.5	0.5	Soil	7/31/2002	11	12	62	190	<10	<10	NA
1	020923-F1-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,100
2	020731-F2-A-0.5	0.5	Soil	7/31/2002	<10	12	46	94	<10	<10	NA
2	020731-F2-B-0.5	0.5	Soil	7/31/2002	<10	<10	13	13	<10	<10	NA
2	020731-F2-C-0.5	0.5	Soil	7/31/2002	<10	<10	17	16	<10	<10	NA
2	020731-F2-D-0.5	0.5	Soil	7/31/2002	<10	<10	20	19	<10	<10	NA
2	020923-F2-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	7,500
3	020731-F3-A-0.5	0.5	Soil	7/31/2002	42	<10	24	21	<10	<10	NA
3	020731-F3-A-3.0	3.0	Soil	7/31/2002	12	<10	<10	<10	<10	<10	NA
3	020731-F3-B-0.5	0.5	Soil	7/31/2002	37	<10	17	15	<10	<10	NA
3	020731-F3-B-3.0	3.0	Soil	7/31/2002	25	<10	<10	<10	<10	<10	NA
3	020731-F3-C-0.5	0.5	Soil	7/31/2002	17	<10	24	29	<10	<10	NA
3	020731-F3-D-0.5	0.5	Soil	7/31/2002	14	<100	200	1,100	<100	<100	NA
3	020731-F3-D-3.0	3.0	Soil	7/31/2002	<10	<10	<10	15	<10	<10	NA
3	020731-F3-E-0.5	0.5	Soil	7/31/2002	22	<100	380	1,500	<100	<100	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
3	020731-F3-B-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
3	020731-F3-F-0.5	0.5	Soil	7/31/2002	**12**	<100	**130**	**730**	<100	<100	NA
3	020731-F3-F-3.0	3.0	Soil	7/31/2002	<10	<10	**20**	**85**	<10	<10	NA
3	020923-F3-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**2,300**
4	020801-F4-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-B-0.5	0.5	Soil	7/31/2002	**13**	<10	**17**	**13**	<10	<10	NA
4	020731-F4-C-0.5	0.5	Soil	7/31/2002	**13**	<10	**15**	**12**	**15**	**13**	NA
4	020731-F4-D-0.5	0.5	Soil	7/31/2002	<10	<10	**14**	**12**	**14**	**12**	NA
4	020801-F4-E-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-F-0.5	0.5	Soil	7/31/2002	<10	<10	**16**	**17**	**15**	**13**	NA
4	020731-F4-G-0.5	0.5	Soil	7/31/2002	<10	<10	**16**	**19**	<10	<10	NA
4	020731-F4-H-0.5	0.5	Soil	7/31/2002	<10	<10	**18**	**23**	<10	<10	NA
4	020923-F4-HA-13-0.5	0.5	Soil	9/23/2002	<10	<10	<10	**14**	<10	<10	NA
4	020923-F4-HA-15-0.5	0.5	Soil	9/23/2002	<10	<10	**11**	<10	<10	<10	NA
4	020923-F4-HA-17-0.5	0.5	Soil	9/23/2002	<10	<10	**13**	**35**	<10	<10	NA
4	020923-F4-HA-9-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**3,800**
5	020801-F5-A-0.5	0.5	Soil	8/1/2002	<10	<10	**65**	**120**	<10	<10	NA
5	020801-F5-B-0.5	0.5	Soil	8/1/2002	<10	<10	**42**	**76**	<10	<10	NA
5	020801-F5-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	**16**	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
5	020801-F5-D-0.5	0.5	Soil	8/1/2002	<10	<10	**18**	**51**	<10	<10	NA
5	020923-F5-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**4,200**
6	020801-F6-A-0.5	0.5	Soil	8/1/2002	<10	<10	**19**	**49**	<10	<10	NA
6	020801-F6-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020801-F6-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020923-F6-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**3,700**
7	020731-F7-A-0.5	0.5	Soil	7/31/2002	<10	<10	**13**	<10	**13**	<10	NA
7[3]	020731-F7-B-0.5	0.5	Soil	7/31/2002	<10	<10	**11**	<10	<10	**17**	NA
7	020731-F7-C-0.5	0.5	Soil	7/31/2002	<10	<10	**24**	**13**	<10	<10	NA
7	020731-F7-D-0.5	0.5	Soil	7/31/2002	<10	<10	**46**	**20**	<10	<10	NA
7	020731-F7-E-0.5	0.5	Soil	7/31/2002	<10	**30**	**150**	**280**	<10	<10	NA
7	020731-F7-F-0.5	0.5	Soil	7/31/2002	<10	<10	**110**	**100**	<10	<10	NA
7	020731-F7-G-0.5	0.5	Soil	7/31/2002	<10	<50	**130**	**650**	<50	<50	NA
7	020731-F7-G-3.0	3.0	Soil	7/31/2002	<10	<10	**13**	**73**	<10	<10	NA
7[5]	020731-F7-H-0.5	0.5	Soil	7/31/2002	<20	<20	**110**	**350**	<20	<20	NA
7	020923-F7-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
8	020731-F8-A-0.5	0.5	Soil	7/31/2002	<10	<10	**16**	**13**	<10	<10	NA
8	020731-F8-B-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020731-F8-C-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
8	020731-F8-D-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020923-F8-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**4,000**
9	020801-F9-A-0.5	0.5	Soil	8/1/2002	**12**	<10	**69**	**38**	<10	<10	NA
9	020923-F9-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
10	020801-F10-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020801-F10-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020923-F10-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**7,200**
11	020801-F11-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020801-F11-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020923-F11-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
12	020801-F12-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
12	020923-F12-HA-B-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2000
Greenhouse	020801-GH-A-0.5	0.5	Soil	8/1/2002	**17**	<10	**48**	**190**	<10	<10	NA
Background	020801-BG-A-0.75	0.75	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
Decon Water	020801-DW-A	NA	Water	8/1/2002	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	NA
Leach pit	020923-ENV-1-7.0	7.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Leach pit	020923-ENV-1-10.0	10.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Grass	030401-GRASS-1-GB	0.5	Soil	4/1/2003	**12**	**27**	**150**	**270**	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region IX PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
Sediment Trap	030401-SEDPIT-1-W	NA	Water	4/1/2003	<0.06	<0.06	<0.60	<0.60	<0.60	<0.60	NA

Notes:

[1] ft bgs = feet below ground surface

[2] Organochlorine Pesticide compounds were analyzed by EPA Method 8081. Only detected compounds are summarized in the table. Shading denotes exceedence of USEPA Region 9 PRGs. Detections are shown in **BOLD**.

[3] Heptachlor epoxide was detected at 14 µg/kg.

[4] Result is reported in µg/L.

[5] Gamma-BHC (Lindane) was detected at 94 µg/kg.

[6] USEPA Region 9 PRGs for residential soil. October 2002.

NA - Not Analyzed

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region 9 PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
1	020731-F1-A-0.5	0.5	Soil	7/31/2002	<10	12	46	120	<10	<10	NA
1	020731-F1-B-0.5	0.5	Soil	7/31/2002	<10	<10	27	50	<10	<10	NA
1	020731-F1-C-0.5	0.5	Soil	7/31/2002	240	11	54	34	<10	<10	NA
1	020731-F1-C-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
1	020731-F1-D-0.5	0.5	Soil	7/31/2002	11	12	62	190	<10	<10	NA
1	020923-F1-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	3,100
2	020731-F2-A-0.5	0.5	Soil	7/31/2002	<10	12	46	94	<10	<10	NA
2	020731-F2-B-0.5	0.5	Soil	7/31/2002	<10	<10	13	13	<10	<10	NA
2	020731-F2-C-0.5	0.5	Soil	7/31/2002	<10	<10	17	16	<10	<10	NA
2	020731-F2-D-0.5	0.5	Soil	7/31/2002	<10	<10	20	19	<10	<10	NA
2	020923-F2-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	7,500
3	020731-F3-A-0.5	0.5	Soil	7/31/2002	12	<10	24	21	<10	<10	NA
3	020731-F3-A-3.0	3.0	Soil	7/31/2002	12	<10	<10	<10	<10	<10	NA
3	020731-F3-B-0.5	0.5	Soil	7/31/2002	67	<10	17	15	<10	<10	NA
3	020731-F3-B-3.0	3.0	Soil	7/31/2002	25	<10	<10	<10	<10	<10	NA
3	020731-F3-C-0.5	0.5	Soil	7/31/2002	17	<10	24	29	<10	<10	NA
3	020731-F3-D-0.5	0.5	Soil	7/31/2002	14	<100	200	1,100	<100	<100	NA
3	020731-F3-D-3.0	3.0	Soil	7/31/2002	<10	<10	<10	15	<10	<10	NA
3	020731-F3-E-0.5	0.5	Soil	7/31/2002	22	<100	380	1,500	<100	<100	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region 9 PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
3	020731-F3-E-3.0	3.0	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
3	020731-F3-F-0.5	0.5	Soil	7/31/2002	**12**	<100	**130**	**730**	<100	<100	NA
3	020731-F3-F-3.0	3.0	Soil	7/31/2002	<10	<10	**20**	**85**	<10	<10	NA
3	020923-F3-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**2,300**
4	020801-F4-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-B-0.5	0.5	Soil	7/31/2002	**13**	<10	**17**	**13**	<10	<10	NA
4	020731-F4-C-0.5	0.5	Soil	7/31/2002	**13**	<10	**15**	**12**	**15**	**13**	NA
4	020731-F4-D-0.5	0.5	Soil	7/31/2002	<10	<10	**14**	**12**	**14**	**12**	NA
4	020801-F4-E-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
4	020731-F4-F-0.5	0.5	Soil	7/31/2002	<10	<10	**16**	**17**	**15**	**13**	NA
4	020731-F4-G-0.5	0.5	Soil	7/31/2002	<10	<10	**16**	**19**	<10	<10	NA
4	020731-F4-H-0.5	0.5	Soil	7/31/2002	<10	<10	**18**	**23**	<10	<10	NA
4	020923-F4-HA-13-0.5	0.5	Soil	9/23/2002	<10	<10	<10	**14**	<10	<10	NA
4	020923-F4-HA-15-0.5	0.5	Soil	9/23/2002	<10	<10	**11**	<10	<10	<10	NA
4	020923-F4-HA-17-0.5	0.5	Soil	9/23/2002	<10	<10	**13**	**35**	<10	<10	NA
4	020923-F4-HA-9-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**3,800**
5	020801-F5-A-0.5	0.5	Soil	8/1/2002	<10	<10	**65**	**120**	<10	<10	NA
5	020801-F5-B-0.5	0.5	Soil	8/1/2002	<10	<10	**42**	**76**	<10	<10	NA
5	020801-F5-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	**16**	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region 9 PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
5	020801-F5-D-0.5	0.5	Soil	8/1/2002	<10	<10	**18**	**51**	<10	<10	NA
5	020923-F5-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**4,200**
6	020801-F6-A-0.5	0.5	Soil	8/1/2002	<10	<10	**19**	**49**	<10	<10	NA
6	020801-F6-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020801-F6-C-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
6	020923-F6-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**3,700**
7	020731-F7-A-0.5	0.5	Soil	7/31/2002	<10	<10	**13**	<10	**13**	<10	NA
7[3]	020731-F7-B-0.5	0.5	Soil	7/31/2002	<10	<10	**11**	<10	<10	**17**	NA
7	020731-F7-C-0.5	0.5	Soil	7/31/2002	<10	<10	**24**	**13**	<10	<10	NA
7	020731-F7-D-0.5	0.5	Soil	7/31/2002	<10	<10	**46**	**20**	<10	<10	NA
7	020731-F7-E-0.5	0.5	Soil	7/31/2002	<10	**30**	**150**	**280**	<10	<10	NA
7	020731-F7-F-0.5	0.5	Soil	7/31/2002	<10	<10	**110**	**100**	<10	<10	NA
7	020731-F7-G-0.5	0.5	Soil	7/31/2002	<10	<50	**130**	**650**	<50	<50	NA
7	020731-F7-G-3.0	3.0	Soil	7/31/2002	<10	<10	**13**	**73**	<10	<10	NA
7[5]	020731-F7-H-0.5	0.5	Soil	7/31/2002	<20	<20	**110**	**350**	<20	<20	NA
7	020923-F7-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
8	020731-F8-A-0.5	0.5	Soil	7/31/2002	<10	<10	**16**	**13**	<10	<10	NA
8	020731-F8-B-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020731-F8-C-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region 9 PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
8	020731-F8-D-0.5	0.5	Soil	7/31/2002	<10	<10	<10	<10	<10	<10	NA
8	020923-F8-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**4,000**
9	020801-F9-A-0.5	0.5	Soil	8/1/2002	**12**	<10	**69**	**38**	<10	<10	NA
9	020923-F9-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
10	020801-F10-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020801-F10-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
10	020923-F10-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	**7,200**
11	020801-F11-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020801-F11-B-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
11	020923-F11-GB-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2,000
12	020801-F12-A-0.5	0.5	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
12	020923-F12-HA-B-0.5	0.5	Soil	9/23/2002	NA	NA	NA	NA	NA	NA	<2000
Greenhouse	020801-GH-A-0.5	0.5	Soil	8/1/2002	**17**	<10	**48**	**190**	<10	<10	NA
Background	020801-BG-A-0.75	0.75	Soil	8/1/2002	<10	<10	<10	<10	<10	<10	NA
Decon Water	020801-DW-A	NA	Water	8/1/2002	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	<0.16[4]	NA
Leach pit	020923-ENV-1-7.0	7.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Leach pit	020923-ENV-1-10.0	10.0	Soil	9/23/2002	<10	<10	<10	<10	<10	<10	NA
Grass	030401-GRASS-1-GB	0.5	Soil	4/1/2003	**12**	**27**	**150**	**270**	<10	<10	NA

Table 6
Summary of Investigation Results for Pesticides

Field	Sample Name	Soil Sample Depth (ft bgs) [1]	Sample Type	Sample Date	Soil Concentration (µg/kg) [2]						
					Organochlorine Pesticides						
					Dieldrin	Endrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane	Diquat
USEPA Region 9 PRGs [6]					*30*	*18,000*	*1,700*	*1,700*	*1,600*	*1,600*	*130,000*
Sediment Trap	030401-SEDPIT-1-W	NA	Water	4/1/2003	<0.06	<0.06	<0.60	<0.60	<0.60	<0.60	NA

Notes:

[1] ft bgs = feet below ground surface

[2] Organochlorine Pesticide compounds were analyzed by EPA Method 8081. Only detected compounds are summarized in the table. Shading denotes exceedence of USEPA Region 9 PRGs. Detections are shown in **BOLD**.

[3] Heptachlor epoxide was detected at 14 µg/kg.

[4] Result is reported in µg/L.

[5] Gamma-BHC (Lindane) was detected at 94 µg/kg.

[6] USEPA Region 9 PRGs for residential soil. October 2002.

NA - Not Analyzed

Table 7
Comparison of Background Concentrations of Inorganics in Soil

Inorganic Chemical	BAREC Concentration at 0.5 feet bgs: Number of Samples	Minimum (mg/kg)	Maximum (mg/kg)	Average (mg/kg)	BAREC Background Sample BG-A[1] (mg/kg)	Background Concentration: Number of Samples	Range (mg/kg)	Average (mg/kg)	Location/ Source
Arsenic	66	2.6	37	18	5.4	72	0.3 - 69	6.6	Western US/Dragun&Chiasson 1991
						50	0.6 - 11.0	2.5	California/Bradford et al. 1996
						108	ND - 20	2.9	Northern Santa Clara/Scott 1991
						1397	ND-42	5.5	Lawrence Berkeley National Laboratory/2002
Barium	50	95	440	123	440	75	150 - 1,500	687	Western US/Dragun&Chiasson 1991
						50	133 - 1,400	509	California/Bradford et al. 1996
						1397	ND-490	130	Lawrence Berkeley National Laboratory/2002
Beryllium	50	ND	0.52	0.27	ND	75	ND - 3.0	0.5	Western US/Dragun&Chiasson 1991
						50	0.25 - 2.70	1.3	California/Bradford et al. 1996
						158	ND - 3.2	0.9	Northern Santa Clara/Scott 1991
						1397	ND-1.2	0.42	Lawrence Berkeley National Laboratory/2002
Cadmium	50	1.7	3.6	2.8	2.4	24	0.01 - 22	3.5	Western US/Dragun&Chiasson 1991
						50	0.05 - 1.7	0.4	California/Bradford et al. 1996
						158	ND - 14	NC	Northern Santa Clara/Scott 1991
						1395	ND-7.5	NC	Lawrence Berkeley National Laboratory/2002
Chromium, total	50	27	55	38	55	75	10 - 1,500	118	Western US/Dragun&Chiasson 1991
						50	23 - 1,579	122	California/Bradford et al. 1996
						158	ND - 170	51	Northern Santa Clara/Scott 1991
						1403	ND-144	58	Lawrence Berkeley National Laboratory/2002
Cobalt	50	7.2	12	9	9.2	75	ND - 50	13	Western US/Dragun&Chiasson 1991
						50	2.7 - 46.9	15	California/Bradford et al. 1996
						1397	ND-29	14	Lawrence Berkeley National Laboratory/2002
Copper	50	21	39	29	31	75	5.0 - 300	49	Western US/Dragun&Chiasson 1991
						50	9.1 - 96.4	29	California/Bradford et al. 1996
						136	4.6 -67	36	Northern Santa Clara/Scott 1991
						1400	ND-69	32	Lawrence Berkeley National Laboratory/2002
Lead	50	1.2	63	23	1.2	75	ND - 330	29	Western US/Dragun&Chiasson 1991
						50	12.4 - 97.1	24	California/Bradford et al. 1996
						158	ND -54	11	Northern Santa Clara/Scott 1991
						1398	ND-84	7	Lawrence Berkeley National Laboratory/2002
Mercury	50	ND	0.28	0.07	0.15	73	0.01 - 1.5	0.15	Western US/Dragun&Chiasson 1991
						50	0.05 - 0.9	0.26	California/Bradford et al. 1996
						127	ND -1.3	NC	Northern Santa Clara/Scott 1991
						1406	ND-2.2	NC	Lawrence Berkeley National Laboratory/2002
Nickel	50	39	60	48	44	75	<5.0 - 200	38	Western US/Dragun&Chiasson 1991
						50	9 - 509	57	California/Bradford et al. 1996
						136	6 -145	74	Northern Santa Clara/Scott 1991
						1399	6 - 380	68	Lawrence Berkeley National Laboratory/2002
Vanadium	50	24	44	31	43	75	30 - 500	125	Western US/Dragun&Chiasson 1991
						50	39 - 288	112	California/Bradford et al. 1996
						1397	ND-120	46	Lawrence Berkeley National Laboratory/2002
Zinc	50	44	99	63	44	75	25 - 212	78	Western US/Dragun&Chiasson 1991
						50	88 - 236	149	California/Bradford et al. 1996
						136	7.8 -120	65	Northern Santa Clara/Scott 1991
						1396	3.8 - 190	64	Lawrence Berkeley National Laboratory/2002

Table 7
Comparison of Background Concentrations of Inorganics in Soil

Inorganic Chemical	BAREC Concentration at 0.5 feet bgs				BAREC Background Sample BG-A[1] (mg/kg)	Background Concentration			
	Number of Samples	Minimum (mg/kg)	Maximum (mg/kg)	Average (mg/kg)		Number of Samples	Range (mg/kg)	Average (mg/kg)	Location/ Source

Notes:

NC = Not Calculated. ND = Not Detected.

1 Collected at 0.75 feet below ground surface (bgs).

Sources:

Bradford, G.R., A.C. Chang, A.L. Page, D. Bakhtar, J.A. Frampton, and H. Wright. 1996. *Background Concentrations of Trace and Major Elements in California Soils.* Kearney Foundation Special Report. University of California, Division of Agriculture and Natural Resources, Kearney Foundation of Soil Science. March.

Dragun, J., and A. Chiasson. 1991. *Elements in North American Soils.* Greenbelt, MD: Hazardous Materials Control Resources Institute.

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LBNL. 2002. Alloway et al. *Background Distributions of Metals in Soil at the Lawrence Berkeley National Laboratory (LBNL).* University of California, Environmental Restoration Program. June.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F1-A	F1-B	F1-C	F1-D	F2-A	F2-B	F2-C
Sample Name	020731-F1-A-0.5	020731-F1-B-0.5	020731-F1-C-0.5	020731-F1-D-0.5	020731-F2-A-0.5	020731-F2-B-0.5	020731-F2-C-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	6.6	6.6	7.0	7.0	7.1	7.3	7.2
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	120	120	120	120	140	140
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50
Cadmium	3.0	2.8	2.8	2.5	2.9	3.2	3.6
Chromium	41	38	40	34	36	41	48
Cobalt	9.4	8.8	8.5	7.8	8.9	10	11
Copper	38	31	23	24	27	30	39
Cyanide	<0.35	<0.40	<0.34	<0.35	<0.47	<0.42	<0.36
Lead	22	17	17	19	17	24	26
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	51	48	47	43	49	52	58
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	34	31	30	28	30	36	44
Zinc	57	51	53	54	64	67	72
Mercury	0.061	<0.050	<0.050	0.064	0.065	0.070	0.057

Notes:

[1] ft bgs - feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F2-D	F3-A	F3-B	F3-C	F3-D	F3-E	F3-F
Sample Name	020731-F2-D-0.5	020731-F3-A-0.5	020731-F3-B-0.5	020731-F3-C-0.5	020731-F3-D-0.5	020731-F3-E-0.5	020731-F3-F-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	7.1	7.0	7.1	7.4	7.5	7.5	7.6
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	110	110	110	110	110	110
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	3.2	2.8	2.9	2.8	2.7	2.6	2.6
Chromium	42	37	37	36	38	34	35
Cobalt	9.7	8.8	9.0	8.6	8.7	8.7	8.4
Copper	27	31	27	24	26	26	23
Cyanide	<0.34	<0.35	<0.40	<0.31	<0.27	<0.45	<0.18
Lead	18	18	13	12	26	28	20
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	53	48	50	48	47	46	46
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	35	30	30	28	29	28	27
Zinc	66	56	55	53	51	52	49
Mercury	<0.050	0.052	0.056	0.055	0.061	0.063	0.088

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F4-A	F4-A	F4-B	F4-B	F4-C	F4-C	F4-D
Sample Name	020801-F4-A-0.5	020801-F4-A-3.0	020731-F4-B-0.5	020731-F4-B-3.0	020731-F4-C-0.5	020731-F4-C-3.0	020731-F4-D-0.5
Soil Sample Depth (ft bgs) [1]	0.5	3.0	0.5	3.0	0.5	3.0	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	8/1/2002	8/1/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	6.2	NA	6.7	NA	7.0	NA	6.8
	Concentration (mg/kg) [2]						
Antimony	<2.0	NA	<2.0	NA	<2.0	NA	<2.0
Barium	**110**	NA	**120**	NA	**130**	NA	**120**
Beryllium	<0.50	NA	<0.50	NA	<0.50	NA	<0.50
Cadmium	**2.6**	NA	**3.1**	NA	**3.2**	NA	**2.8**
Chromium	**35**	NA	**38**	NA	**40**	NA	**36**
Cobalt	**8.2**	NA	**9.6**	NA	**10**	NA	**8.4**
Copper	**33**	NA	**34**	NA	**36**	NA	**33**
Cyanide	<0.32	NA	<0.33	NA	<0.36	NA	<0.27
Lead	**48**	NA	**40**	NA	**34**	NA	**63**
Molybdenum	<1.0	NA	<1.0	NA	<1.0	NA	<1.0
Nickel	**44**	NA	**49**	NA	**52**	NA	**45**
Selenium	<2.0	NA	<2.0	NA	<2.0	NA	<2.0
Silver	<1.0	NA	<1.0	NA	<1.0	NA	<1.0
Thallium	<1.0	NA	<1.0	NA	<1.0	NA	<1.0
Vanadium	**29**	NA	**33**	NA	**34**	NA	**29**
Zinc	**90**	NA	**90**	NA	**81**	NA	**73**
Mercury	**0.052**	NA	**0.084**	NA	**0.056**	NA	<0.050

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F4-D	F4-E	F4-F	F4-F	F4-G	F4-H	F5-A
Sample Name	020731-F4-D-3.0	020801-F4-E-0.5	020731-F4-F-0.5	020731-F4-F-3.0	020731-F4-G-0.5	020731-F4-H-0.5	020801-F5-A-0.5
Soil Sample Depth (ft bgs) [1]	3.0	0.5	0.5	3.0	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	8/1/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	8/1/2002
pH	NA	6.9	7.2	NA	6.4	7.1	7.7
	Concentration (mg/kg) [2]						
Antimony	NA	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Barium	NA	120	110	NA	110	98	120
Beryllium	NA	<0.50	<0.50	NA	<0.50	<0.50	<0.50
Cadmium	NA	2.7	2.9	NA	2.7	2.7	2.6
Chromium	NA	36	36	NA	32	35	37
Cobalt	NA	8.3	9.1	NA	8.2	8.3	8.7
Copper	NA	36	37	NA	34	35	28
Cyanide	NA	<0.43	<0.34	NA	<0.077	<0.30	<0.41
Lead	NA	43	43	NA	30	25	27
Molybdenum	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Nickel	NA	46	46	NA	41	43	47
Selenium	NA	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Silver	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Thallium	NA	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Vanadium	NA	30	31	NA	28	29	29
Zinc	NA	99	85	NA	70	68	63
Mercury	NA	0.059	0.064	NA	0.050	0.25	0.097

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F5-B	F5-C	F5-D	F6-A	F6-B	F6-C	F7-A
Sample Name	020801-F5-B-0.5	020801-F5-C-0.5	020801-F5-D-0.5	020801-F6-A-0.5	020801-F6-B-0.5	020801-F6-C-0.5	020731-F7-A-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	7/31/2002
pH	7.0	7.2	5.9	6.8	7.0	7.0	7.0
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	110	110	120	130	110	110
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	2.7	2.7	2.7	2.6	2.8	2.4	2.7
Chromium	36	38	38	34	38	33	39
Cobalt	8.7	9.0	9.1	8.6	9.6	7.9	8.7
Copper	27	24	26	30	27	22	23
Cyanide	<0.31	<0.24	<0.43	<0.41	<0.26	<0.43	0.30
Lead	24	18	21	32	19	17	15
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	48	52	52	45	49	43	48
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	29	31	30	28	31	26	29
Zinc	65	54	54	62	64	57	54
Mercury	0.079	<0.050	<0.050	0.28	0.15	0.071	<0.050

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F7-B	F7-C	F7-D	F7-E	F7-F	F7-G	F7-H
Sample Name	020731-F7-B-0.5	020731-F7-C-0.5	020731-F7-D-0.5	020731-F7-E-0.5	020731-F7-F-0.5	020731-F7-G-0.5	020731-F7-H-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002	7/31/2002
pH	6.9	7.0	7.0	7.1	6.9	7.0	7.0
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	**100**	**110**	**110**	**130**	**120**	**140**	**140**
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	**0.50**	**0.52**
Cadmium	**2.7**	**2.7**	**2.7**	**3.3**	**3.0**	**3.5**	**3.5**
Chromium	**36**	**36**	**37**	**43**	**38**	**45**	**45**
Cobalt	**8.1**	**8.8**	**9.2**	**11**	**10**	**12**	**12**
Copper	**22**	**24**	**31**	**37**	**35**	**34**	**33**
Cyanide	<0.26	<0.28	<0.29	<0.37	<0.26	0.32	<0.42
Lead	**20**	**14**	**16**	**18**	**19**	**23**	**22**
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	**46**	**45**	**48**	**57**	**52**	**59**	**60**
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	**30**	**28**	**29**	**35**	**31**	**36**	**36**
Zinc	**53**	**56**	**68**	**67**	**79**	**69**	**72**
Mercury	<0.050	**0.070**	**0.087**	**0.072**	**0.11**	**0.089**	**0.099**

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F8-A	F8-B	F8-C	F8-D	F9-A	F10-A	F10-B
Sample Name	020731-F8-A-0.5	020731-F8-B-0.5	020731-F8-C-0.5	020731-F8-D-0.5	020801-F9-A-0.5	020801-F10-A-0.5	020801-F10-B-0.5
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	7/31/2002	7/31/2002	7/31/2002	7/31/2002	8/1/2002	8/1/2002	8/1/2002
pH	6.8	7.0	7.3	7.1	7.1	6.9	7.2
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Barium	120	120	100	110	130	99	95
Beryllium	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cadmium	2.8	3.0	2.8	2.7	3.1	2.5	2.3
Chromium	39	42	35	38	43	35	36
Cobalt	9.5	9.8	7.9	9.0	11	7.6	7.3
Copper	28	25	21	21	28	24	21
Cyanide	<0.26	<0.27	<0.34	<0.36	<0.44	<0.35	<0.44
Lead	22	15	15	11	22	17	15
Molybdenum	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel	47	51	43	47	51	47	43
Selenium	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium	32	35	32	31	36	29	26
Zinc	56	54	56	50	60	64	57
Mercury	0.10	0.063	0.065	<0.050	<0.050	<0.050	<0.050

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	F11-A	F11-B	F12-A	F12-A	GH-A	BG-A	1-GB
Sample Name	020801-F11-A-0.5	020801-F11-B-0.5	020801-F12-A-0.5	020801-F12-A-3.0	020801-GH-A-0.5	020801-BG-A-0.75	030401-GRASS-1-GB
Soil Sample Depth (ft bgs) [1]	0.5	0.5	0.5	3.0	0.5	0.75	0.5
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Sample Date	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	8/1/2002	4/1/2003
pH	7.2	7.0	7.2	NA	6.8	7.9	7.5
	Concentration (mg/kg) [2]						
Antimony	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Barium	**110**	**110**	**110**	NA	**120**	**440**	**110**
Beryllium	<0.50	<0.50	<0.50	NA	<0.50	<0.50	<0.50
Cadmium	**2.5**	**2.7**	**2.4**	NA	**2.6**	**2.4**	**1.7**
Chromium	**34**	**36**	**32**	NA	**36**	**55**	**27**
Cobalt	**8.2**	**8.4**	**7.9**	NA	**8.7**	**9.2**	**7.2**
Copper	**31**	**21**	**21**	NA	**30**	**31**	**29**
Cyanide	<0.33	<0.31	<0.25	NA	<0.38	<0.42	NA
Lead	**27**	**20**	**23**	NA	**17**	**1.2**	**59**
Molybdenum	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Nickel	**44**	**49**	**43**	NA	**42**	**44**	**39**
Selenium	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0
Silver	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Thallium	<1.0	<1.0	<1.0	NA	<1.0	<1.0	<1.0
Vanadium	**27**	**28**	**26**	NA	**28**	**43**	**24**
Zinc	**73**	**65**	**68**	NA	**59**	**44**	**63**
Mercury	**0.061**	**0.057**	**0.068**	NA	**0.13**	**0.15**	**0.21**

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

Table 8
Summary of Investigation Results for Inorganics and pH

Boring	NA	NA
Sample Name	020801-DW-A	030401-SEDPIT-1-W
Soil Sample Depth (ft bgs) [1]	NA	NA
Sample Type	Decon Water	Water
Sample Date	8/1/2002	4/1/2003
pH	8.9 [4]	NA
	Concentration (mg/kg) [2]	
Antimony	<0.0050	<0.0050
Barium	**1.4**	**0.015**
Beryllium	<0.0050	**0.17**
Cadmium	**0.020**	<0.0050
Chromium	**0.28**	**0.0036**
Cobalt	**4.7**	**0.016**
Copper	**0.38**	<0.0050
Cyanide	**0.012**	NA
Lead	**0.074**	**0.020**
Molybdenum	**0.013**	<0.0050
Nickel	**0.38**	**0.020**
Selenium	<0.0050	<0.0050
Silver	<0.0050	<0.0050
Thallium	<0.0050	<0.0050
Vanadium	**0.24**	**0.012**
Zinc	**0.47**	**0.31**
Mercury	**0.00044**	<0.0002

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A.

[3] Sample analyzed for metals by EPA Methods 6010B or 7470A.

[4] pH in decontamination water is elevated due to addition of liquinox

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs) [1]	Arsenic Concentration (mg/kg)
Field 1			
F1-A	020731-F1-A-0.5	0.5	**13**
F1-A	020731-F1-A-3.0	3.0	**3.5**
F1-B	020731-F1-B-0.5	0.5	**11**
F1-B	020731-F1-B-3.0	3.0	**2.8**
F1-C	020731-F1-C-0.5	0.5	**12**
F1-C	020731-F1-C-3.0	3.0	**2.7**
F1-D	020731-F1-D-0.5	0.5	**16**
F1-D	020731-F1-D-3.0	3.0	**3.6**
Field 2			
F2-A	020731-F2-A-0.5	0.5	**11**
F2-A	020731-F2-A-3.0	3.0	**4.7**
F2-B	020731-F2-B-0.5	0.5	**14**
F2-B	020731-F2-B-3.0	3.0	**5.7**
F2-C	020731-F2-C-0.5	0.5	**16**
F2-C	020731-F2-C-3.0	3.0	**2.3**
F2-D	020731-F2-D-0.5	0.5	**15**
F2-D	020731-F2-D-3.0	3.0	**5.1**
Field 3			
F3-A	020731-F3-A-0.5	0.5	**16**
F3-A	020731-F3-A-3.0	3.0	**6.6**
F3-B	020731-F3-B-0.5	0.5	**11**
F3-B	020731-F3-B-3.0	3.0	**3.8**
F3-C	020731-F3-C-0.5	0.5	**9.2**
F3-C	020731-F3-C-3.0	3.0	**2.4**
F3-D	020731-F3-D-0.5	0.5	**14**
F3-D	020731-F3-D-3.0	3.0	**3.0**
F3-E	020731-F3-E-0.5	0.5	**14**
F3-E	020731-F3-E-3.0	3.0	**2.8**
F3-F	020731-F3-F-0.5	0.5	**11**
F3-F	020731-F3-F-3.0	3.0	**4.8**
Field 4			
F4-A	020801-F4-A-0.5	0.5	**24**
F4-A	020801-F4-A-3.0	3.0	**8.6**
F4-B	020731-F4-B-0.5	0.5	**28**
F4-B	020731-F4-B-3.0	3.0	**6.2**
F4-C	020731-F4-C-0.5	0.5	**33**
F4-C	020731-F4-C-3.0	3.0	**29**
F4-D	020731-F4-D-0.5	0.5	**35**
F4-D	020731-F4-D-3.0	3.0	**5.3**
F4-E	020801-F4-E-0.5	0.5	**21**
F4-E	020801-F4-E-3.0	3.0	**19**
F4-F	020731-F4-F-0.5	0.5	**36**
F4-F	020731-F4-F-3.0	3.0	**18**

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs) [1]	Arsenic Concentration (mg/kg)
Field 4 continued			
F4-G	020731-F4-G-0.5	0.5	**14**
F4-G	020731-F4-G-3.0	3.0	**14**
F4-H	020731-F4-H-0.5	0.5	**17**
F4-H	020731-F4-H-3.0	3.0	**8.2**
F4-1	020923-F4-HA-1-0.5	0.5	**19**
F4-2	020923-F4-HA-2-0.5	0.5	**20**
F4-2	020923-F4-HA-2-2.0	2.0	**5.1**
F4-2	020923-F4-HA-2-3.0	3.0	**8.9**
F4-3	020923-F4-HA-3-0.5	0.5	**17**
F4-4	020923-F4-HA-4-0.5	0.5	**19**
F4-4	020923-F4-HA-4-2.0	2.0	**3.1**
F4-4	020923-F4-HA-4-3.0	3.0	**2.9**
F4-5	020923-F4-HA-5-0.5	0.5	**20**
F4-5	020923-F4-HA-5-2.0	2.0	**9.0**
F4-5	020923-F4-HA-5-3.0	3.0	**3.5**
F4-6	020923-F4-HA-6-0.5	0.5	**26**
F4-6	020923-F4-HA-6-2.0	2.0	**10**
F4-6	020923-F4-HA-6-3.0	3.0	**6.8**
F4-7	020923-F4-HA-7-0.5	0.5	**21**
F4-7	020923-F4-HA-7-2.0	2.0	**26**
F4-7	020923-F4-HA-7-3.0	3.0	**24**
F4-8	020923-F4-HA-8-0.5	0.5	**20**
F4-8	020923-F4-HA-8-2.0	2.0	**9.4**
F4-8	020923-F4-HA-8-3.0	3.0	**2.7**
F4-9	020923-F4-HA-9-0.5	0.5	**16**
F4-10	020923-F4-HA-10-0.5	0.5	**15**
F4-12	020923-F4-HA-12-0.5	0.5	**15**
F4-13	020923-F4-HA-13-0.5	0.5	**19**
F4-15	020923-F4-HA-15-0.5	0.5	**16**
F4-17	020923-F4-HA-17-0.5	0.5	**17**
F4-19	020923-F4-HA-19-0.5	0.5	**2.6**
SB-1	020923-F4-SB-1-4.0	4.0	**1.8**
SB-2	020923-F4-SB-2-4.0	4.0	**7.7**
SB-3	020923-F4-SB-3-4.0	4.0	**2.6**
Field 5			
F5-A	020801-F5-A-0.5	0.5	**18**
F5-A	020801-F5-A-3.0	3.0	**5.1**
F5-B	020801-F5-B-0.5	0.5	**18**
F5-B	020801-F5-B-3.0	3.0	**3**
F5-C	020801-F5-C-0.5	0.5	**17**
F5-C	020801-F5-C-3.0	3.0	**16**
F5-D	020801-F5-D-0.5	0.5	**18**
F5-D	020801-F5-D-3.0	3.0	**13**

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs) [1]	Arsenic Concentration (mg/kg)
Field 6			
F6-A	020801-F6-A-0.5	0.5	**19**
F6-A	020801-F6-A-3.0	3.0	**2.5**
F6-B	020801-F6-B-0.5	0.5	**15**
F6-B	020801-F6-B-3.0	3.0	**2.4**
F6-C	020801-F6-C-0.5	0.5	**19**
F6-C	020801-F6-C-3.0	3.0	**19**
Field 7			
F7-A	020731-F7-A-0.5	0.5	**10**
F7-A	020731-F7-A-3.0	3.0	**3.2**
F7-B	020731-F7-B-0.5	0.5	**7.8**
F7-B	020731-F7-B-3.0	3.0	**2.9**
F7-C	020731-F7-C-0.5	0.5	**12**
F7-C	020731-F7-C-3.0	3.0	**3.6**
F7-D	020731-F7-D-0.5	0.5	**18**
F7-D	020731-F7-D-3.0	3.0	**5.7**
F7-E	020731-F7-E-0.5	0.5	**15**
F7-E	020731-F7-E-3.0	3.0	**4.4**
F7-F	020731-F7-F-0.5	0.5	**20**
F7-F	020731-F7-F-3.0	3.0	**4.8**
F7-G	020731-F7-G-0.5	0.5	**17**
F7-G	020731-F7-G-3.0	3.0	**4.7**
F7-H	020731-F7-H-0.5	0.5	**17**
F7-H	020731-F7-H-3.0	3.0	**5.4**
Field 8			
F8-A	020731-F8-A-0.5	0.5	**12**
F8-A	020731-F8-A-3.0	3.0	**5.1**
F8-B	020731-F8-B-0.5	0.5	**12**
F8-B	020731-F8-B-3.0	3.0	**6.2**
F8-C	020731-F8-C-0.5	0.5	**7.4**
F8-C	020731-F8-C-3.0	3.0	**3.5**
F8-D	020731-F8-D-0.5	0.5	**6.5**
F8-D	020731-F8-D-3.0	3.0	**3.1**
Field 9			
F9-A	020801-F9-A-0.5	0.5	**15**
F9-C	020801-F9-C-3.0	3.0	**3.2**
Field 10			
F10-A	020801-F10-A-0.5	0.5	**9.2**
F10-A	020801-F10-A-3.0	3.0	**2.4**
F10-B	020801-F10-B-0.5	0.5	**7.6**
F10-B	020801-F10-B-3.0	3.0	**3.7**
Field 11			
F11-A	020801-F11-A-0.5	0.5	**10**
F11-A	020801-F11-A-3.0	3.0	**2.2**

Table 9
Results of Arsenic Analyses

Boring	Sample Name	Soil Sample Depth (ft bgs) [1]	Arsenic Concentration (mg/kg)
Field 11 continued			
F11-B	020801-F11-B-0.5	0.5	**8.2**
F11-B	020801-F11-B-3.0	3.0	**2.5**
Field 12			
F12-A	020801-F12-A-0.5	0.5	**27**
F12-A	020801-F12-A-3.0	3.0	**7.7**
F12-HA-B	020923-F12-HA-B-0.5	0.5	**5.3**
Greenhouse			
GH-A	020801-GH-A-0.5	0.5	**13**
GH-A	020801-GH-A-3.0	3.0	**2.8**
Background			
BG-A	020801-BG-A-0.75	0.75	**5.4**
BG-A	020801-BG-A-3.0	3.0	**5.5**
Leach pit			
ENV-1	020923-ENV-1-7.0	7.0	**ND**
ENV-1	020923-ENV-1-10.0	10.0	**1.2**
Grass Area			
1-GB	030401-GRASS-1-GB	0.5	**37**
Former Evaporation Pond			
ENV-3	030401-ENV-3-2.0	2.0	**20**
ENV-3	030401-ENV-3-3.5	3.5	**9.7**
ENV-3	030401-ENV-3-6.5	6.5	**2.8**
ENV-3	030401-ENV-3-7.8	7.8	**2.9**
Sediment Trap			
ENV-2	030401-ENV-2-3.5	3.5	**3.5**
ENV-2	030401-ENV-2-8.5	8.5	**3.2**

Notes:

[1] ft bgs = feet below ground surface

[2] Samples were analyzed for arsenic by EPA Method 6010B.

Table 10
Statistical Summary of Arsenic Results

	BAREC Arsenic Concentration (mg/kg)			
	All Data	**Shallow[1]**	**Deep[2]**	**Arsenic less than 20 mg/kg in Field 4[3]**
No. of Samples	*138*	*66*	*72*	*138*
Minimum Concentration	*0.5*	*2.6*	*0.5*	*0.5*
Maximum Concentration	*37.0*	*37*	*29*	*19*
Average Concentration	*11*	*16*	*7*	*9*
Standard Deviation	*8.1*	*7.1*	*6.0*	*5.4*
t-value	*1.7*	*1.7*	*1.7*	*1.7*
95% UCL of the Mean	*12*	*18*	*8*	*9*

Notes:
Calculations exclude decon water sample (020801-DW-A), and
Sediment trap liquid sample (030401-SEDPIT-1-W).

1 Shallow - samples at 0.5 feet below ground surface

2 Deep - samples from greater than 2 feet below ground surface.

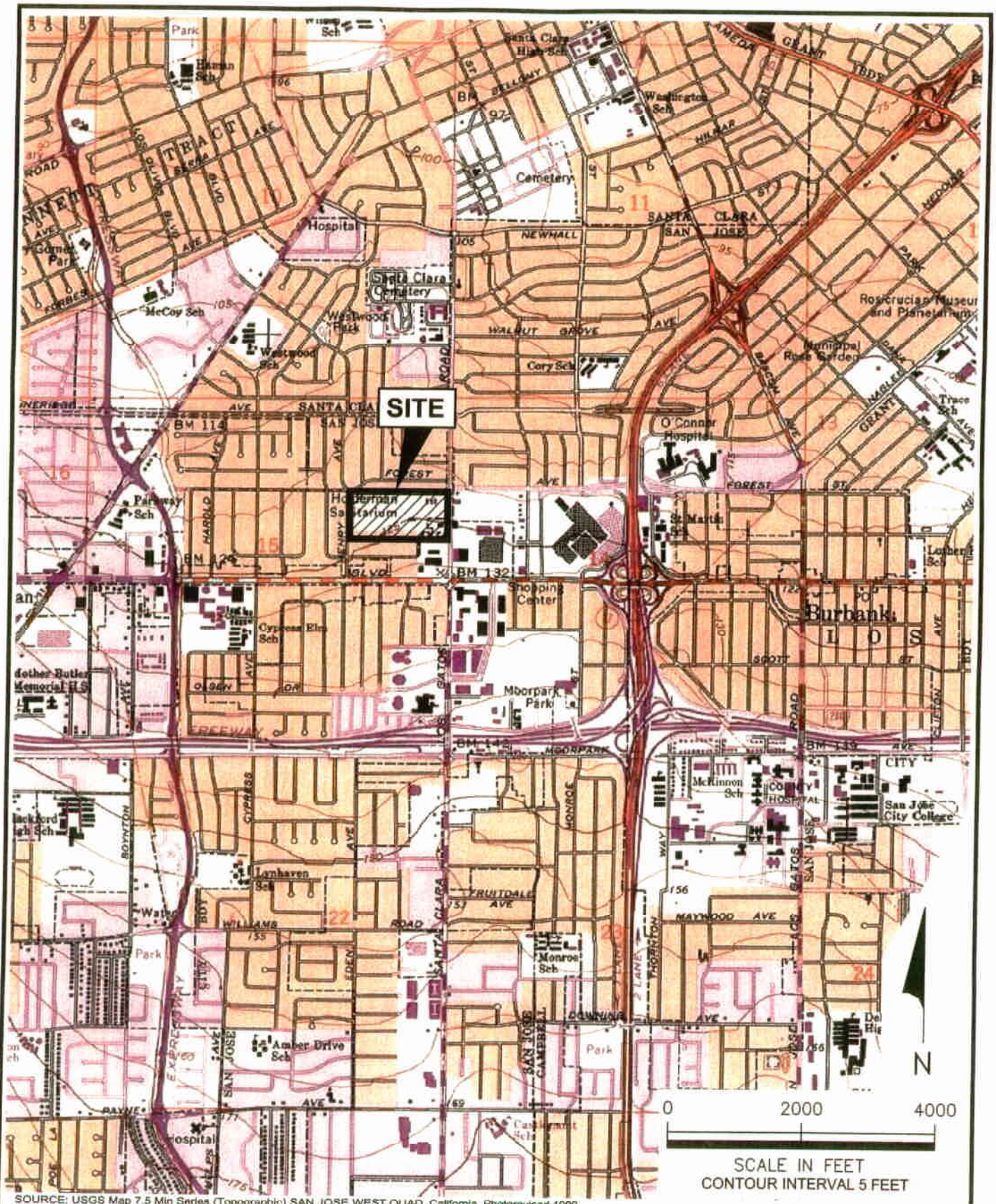
3 These statistics are for shallow and deep soil,
and it is assumed that arsenic concentrations greater than 20 mg/kg are replaced with arsenic concentrations of 7 mg/kg

Table 11
Summary of Investigation Results for the Former Leach Pit

Boring	ENV-1	ENV-1
Sample Name	020923-ENV-1-7.0	020923-ENV-1-10.0
Soil Sample Depth (ft bgs) [1]	7.0	10.0
Sample Type	Soil	Soil
Sample Date	09/23/2002	09/23/2002
pH	NA	NA
VOCs by EPA Method 8260B	ND	ND
SVOCs by EPA Method 8270C	ND	ND
Organochlorine Pesticides by EPA Method 8081	ND	ND
Inorganic/Metals [2]		
Antimony	<2.0	<2.0
Arsenic	<1.0	**1.2**
Barium	**12**	**83**
Beryllium	<0.5	<0.5
Cadmium	<0.5	**2**
Chromium	**1.5**	**32**
Cobalt	<1.0	**6.6**
Copper	**2.2**	**20**
Cyanide	NA	NA
Lead	<1.0	**4.4**
Molybdenum	<1.0	<1.0
Nickel	**1.6**	**38**
Selenium	<2.0	<2.0
Silver	<1.0	<1.0
Thallium	<1.0	<1.0
Vanadium	**1.9**	**25**
Zinc	**5.3**	**120**
Mercury	<0.05	**0.11**

Notes:
[1] ft bgs = feet below ground surface
[2] Samples were analyzed for metals by EPA Methods 6010B or 7471A

FIGURES



SOURCE: USGS Map 7.5 Min Series (Topographic) SAN JOSE WEST QUAD, California, Photorevised 1980.

0310609A—VICMAP—TOPO.DWG

ENVIRON

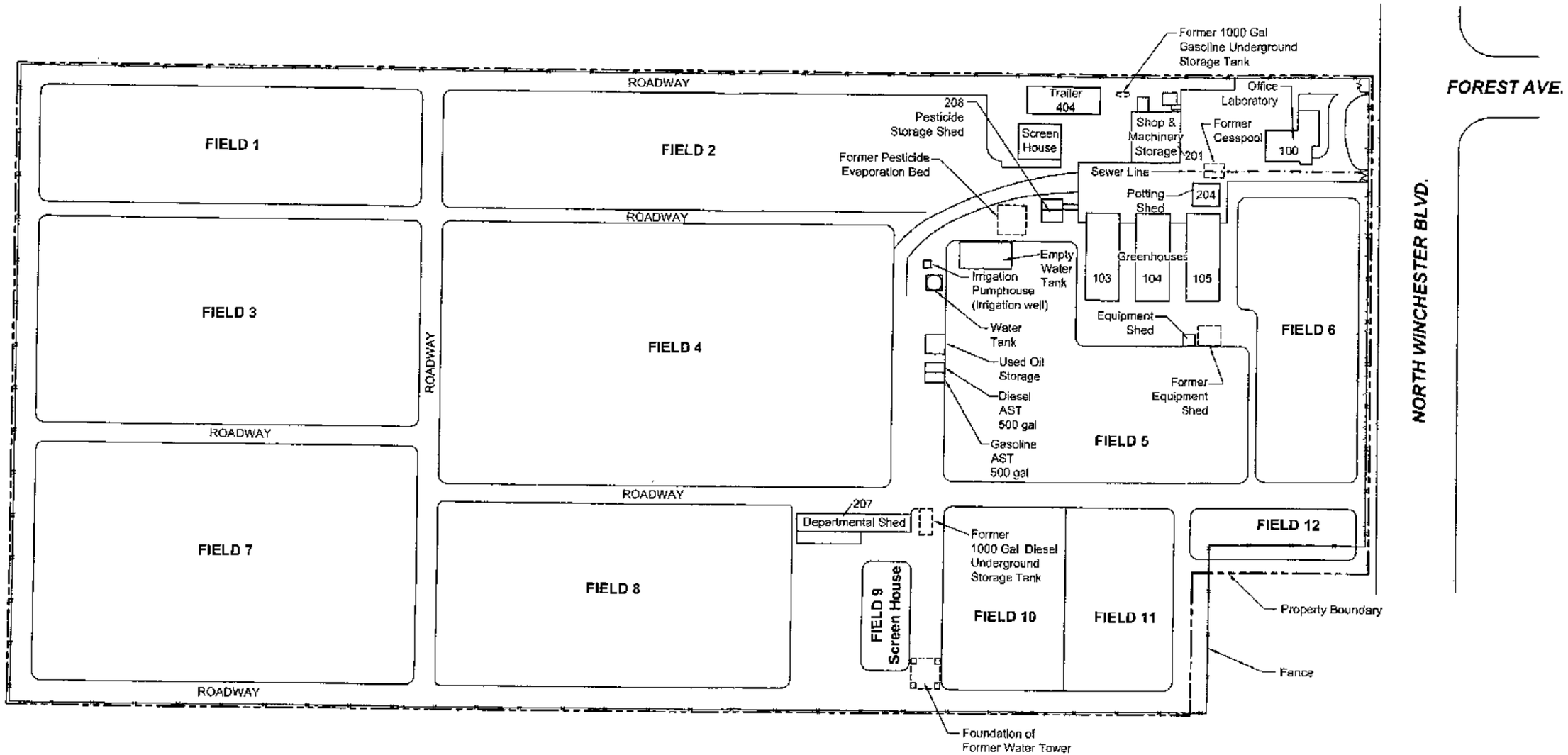
6001 Shellmound St., Suite 700, Emeryville, CA 94608

Site Location Map

BAREC University of California
90 N. Winchester Blvd.
Santa Clara, California

Figure 1

Drafter: RS | Date: 9/5/02 | Contract Number: 03-10609A | Approved: | Revised:



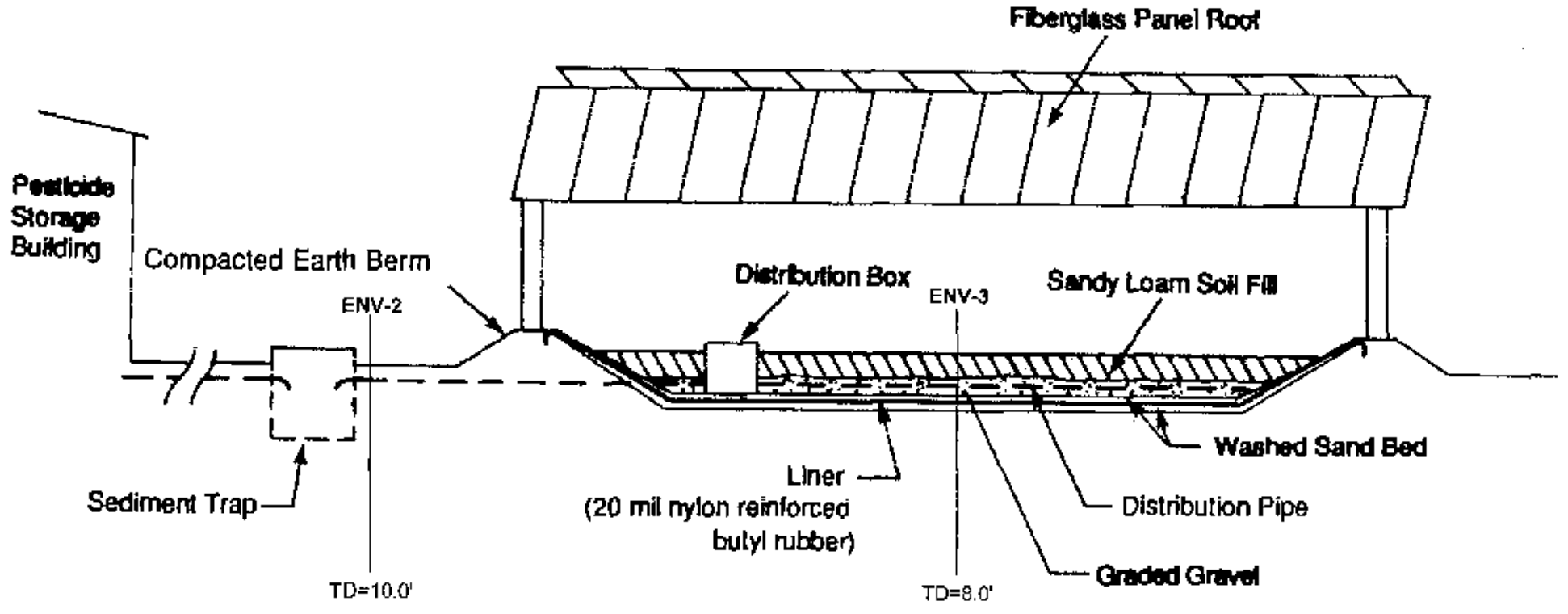
ENVIRON

6001 Shellmound Street, Suite 700, Emeryville, California 94608

Site Layout
BAREC University of California
90 N. Winchester Blvd
Santa Clara, California

DATE:	CONTRACT NUMBER:		FIGURE
9/5/02	03-10609A		2a
DRAFTER: RS	APPROVED:	REVISED:	

Q:\DRAWING\03\0609A-LAYOUT.DWG



SOURCE: Report of Closure, Former Evaporation Bed, Dames & Moore, April 8, 1998.

0310609a—crosssec.dwg

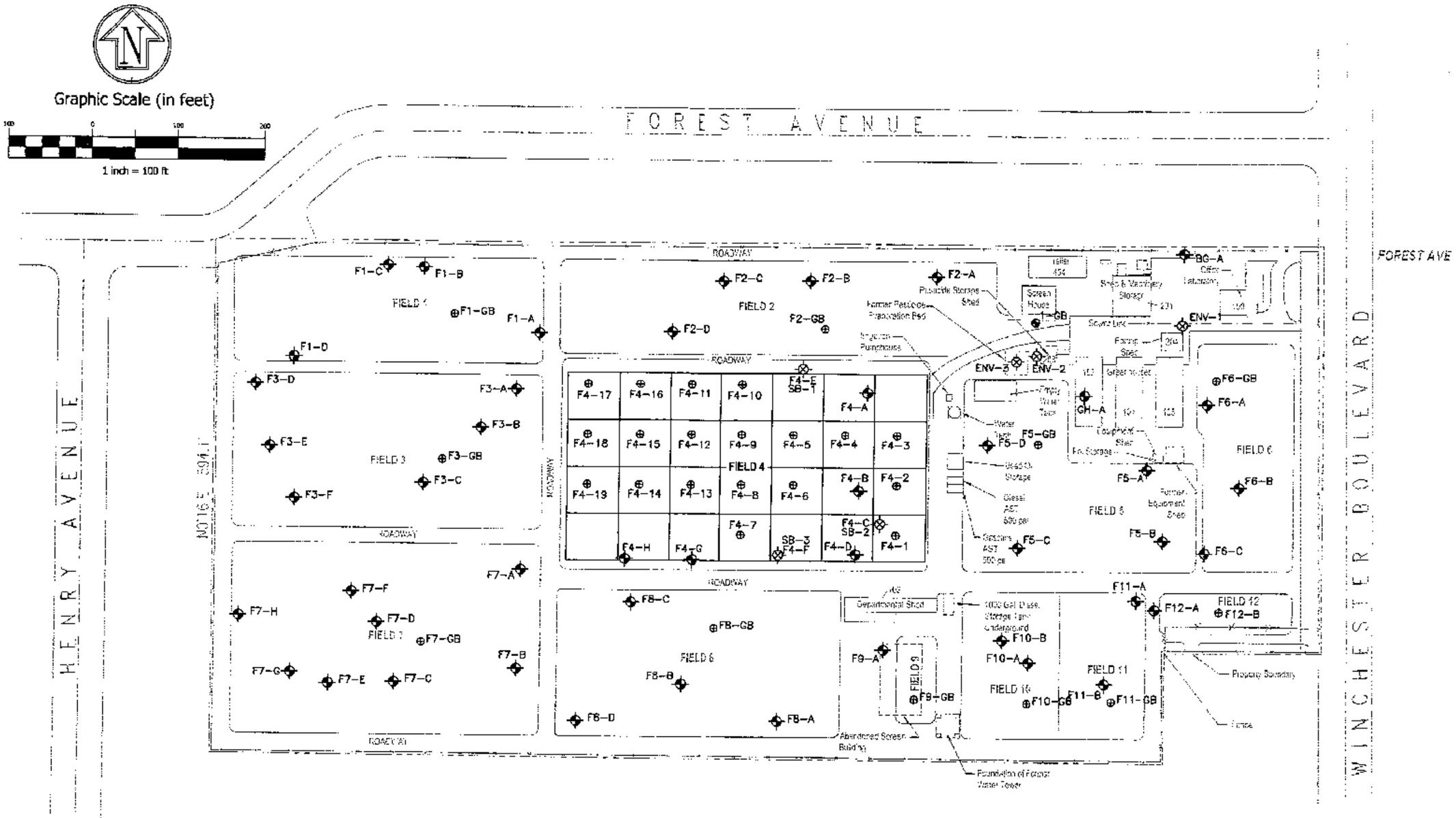
ENVIRON

5001 Shellmound St., Suite 700, Emeryville, CA 94608

Evaporation Bed Schematic Cross Section
BAREC
90 N. Winchester Blvd.
Santa Clara, California

Figure **2b**

Drafter: RS | Date: 5/1/03 | Contract Number: 03-10609A | Approved: | Revised:



EXPLANATION:

- SB-2 **Direct Push Soil Sample**
- F4-1 **Hand Auger Soil Sample 9/23/02**
- F4-3 **Hand Auger Soil Sample 7/31 - 8/1/02**
- **Hand Auger Soil Sample 4/1/03**

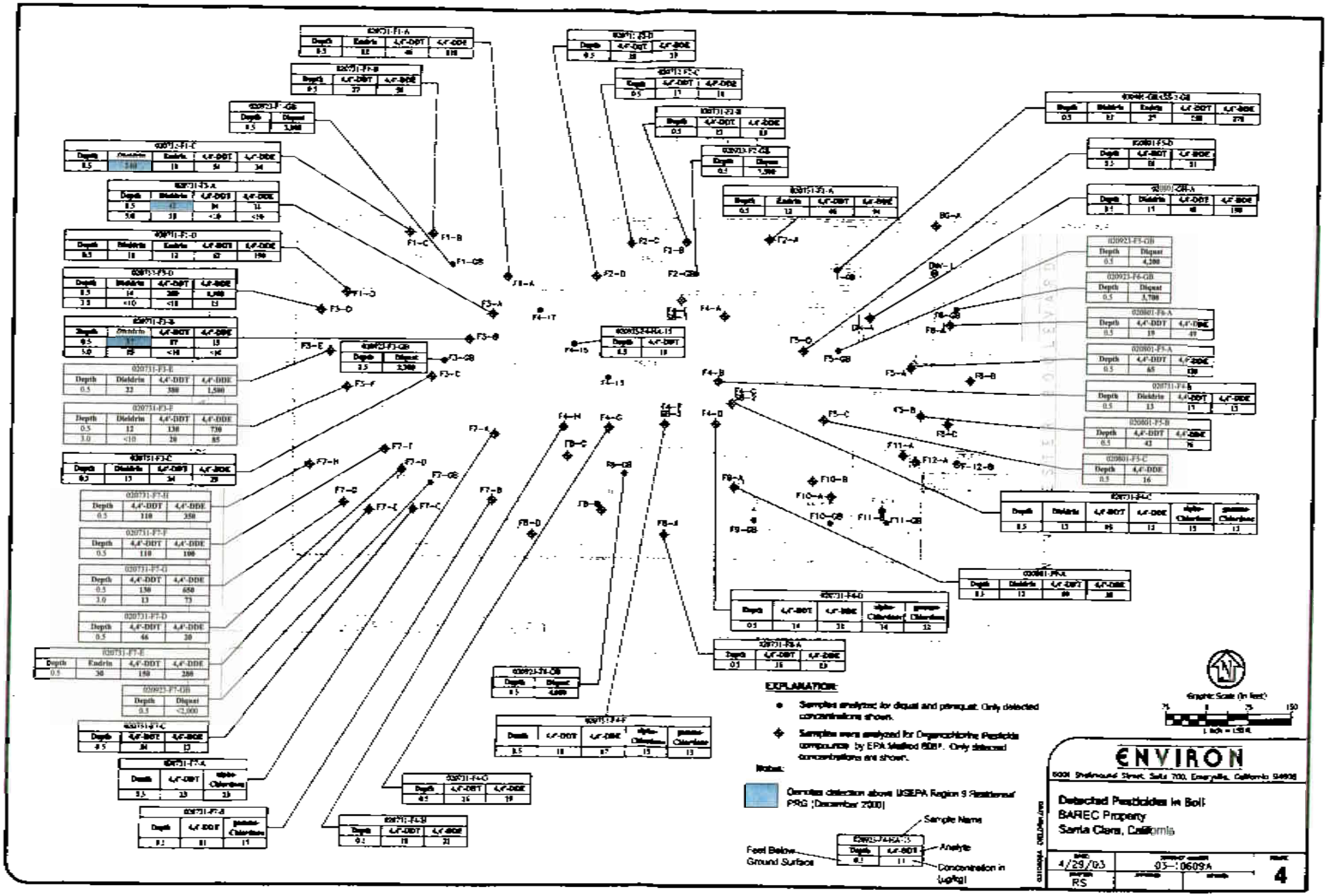
ENVIRON

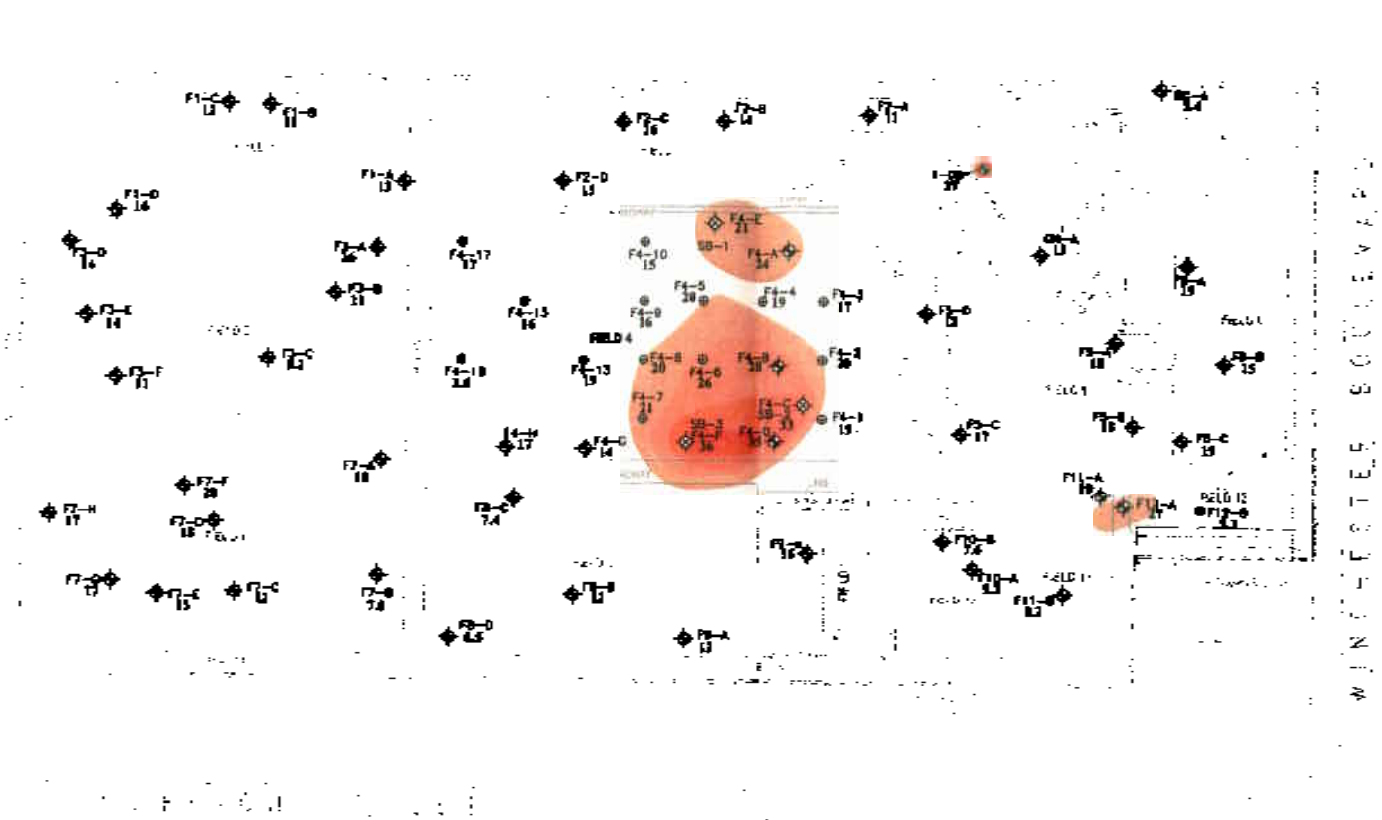
6001 Shellmound Street, Suite 700, Emeryville, California 94608

Soil Sampling Locations
BAREC Property
Santa Clara, California

DATE:	CONTRACT NUMBER:	FIGURE
4/29/03	03-10609A	3
DRAFTER: RS	APPROVED: / REVISED:	

03109609A-samploc.DWG


EXPLANATION:
Samples analyzed for diquat and paraquat. Only detected concentrations shown.
Samples were analyzed for Organochlorine Pesticide compounds by EPA Method 8081. Only detected concentrations are shown.
Notes:
Denotes detection above USEPA Region 9 Residential PRG (December 2000)
Sample Name
Analyte
Concentration in (µg/kg)
Feet Below Ground Surface
Graphic Scale (in feet)
1 inch = 150 ft.
ENVIRON
5000 Shellmound Street, Suite 700, Emeryville, California 94608
Detected Pesticides in Soil
BAREC Property
Santa Clara, California
4/29/03
RS
03-06094
4



Contour Ranges

- 20-25 mg/kg
- 25-50 mg/kg
- 50-75 mg/kg
- >75 mg/kg

Graphic Scale (in feet)

1 inch = 120 ft.

EXPLANATION:

- SB-2 Direct Push Soil Sample
- F4-1 Hand Auger Soil Sample 8/23/02
- F4-3 Hand Auger Soil Sample 7/31 - 8/1/02
- Hand Auger Soil Sample 4/1/03
- 15 Arsenic Concentration (mg/kg)

ENVIRON

6001 Shellmound Street, Suite 700, Emeryville, California 94608

Isoconcentration Map of Arsenic above 20 mg/kg at 8.0 ft bgs

BAREC Property

Santa Clara, California

Date	Project Number	Page
4/29/03	03-10609A	5
Drawn: RS	Approved:	Revision:

CONCENTRATION RANGES

- 20-25 mg/kg
- 25-30 mg/kg
- 30-35 mg/kg
- >35 mg/kg

1 inch = 120 ft.

EXPLANATION

- SB-2 Direct Push Soil Sample
- F4-1 Hand Auger Soil Sample 8/29/02
- F4-3 Hand Auger Soil Sample 7/31 - 8/1/02
- 9 Hand Auger Soil Sample 4/1/03
- 15 Arsenic Concentration (mg/kg)

ENVIRON

2001 Shattuck Street, Suite 700, Emeryville, California 94608

Isoconcentration Map of Arsenic above 20 mg/kg at 3.0 to 3.5 ft bgs

BAREC Property

Santa Clara, California

4/29/03	03-10609A	6
RS		

Figure 7
Histogram of Arsenic Concentration in Shallow Soil (0.5 feet bgs)

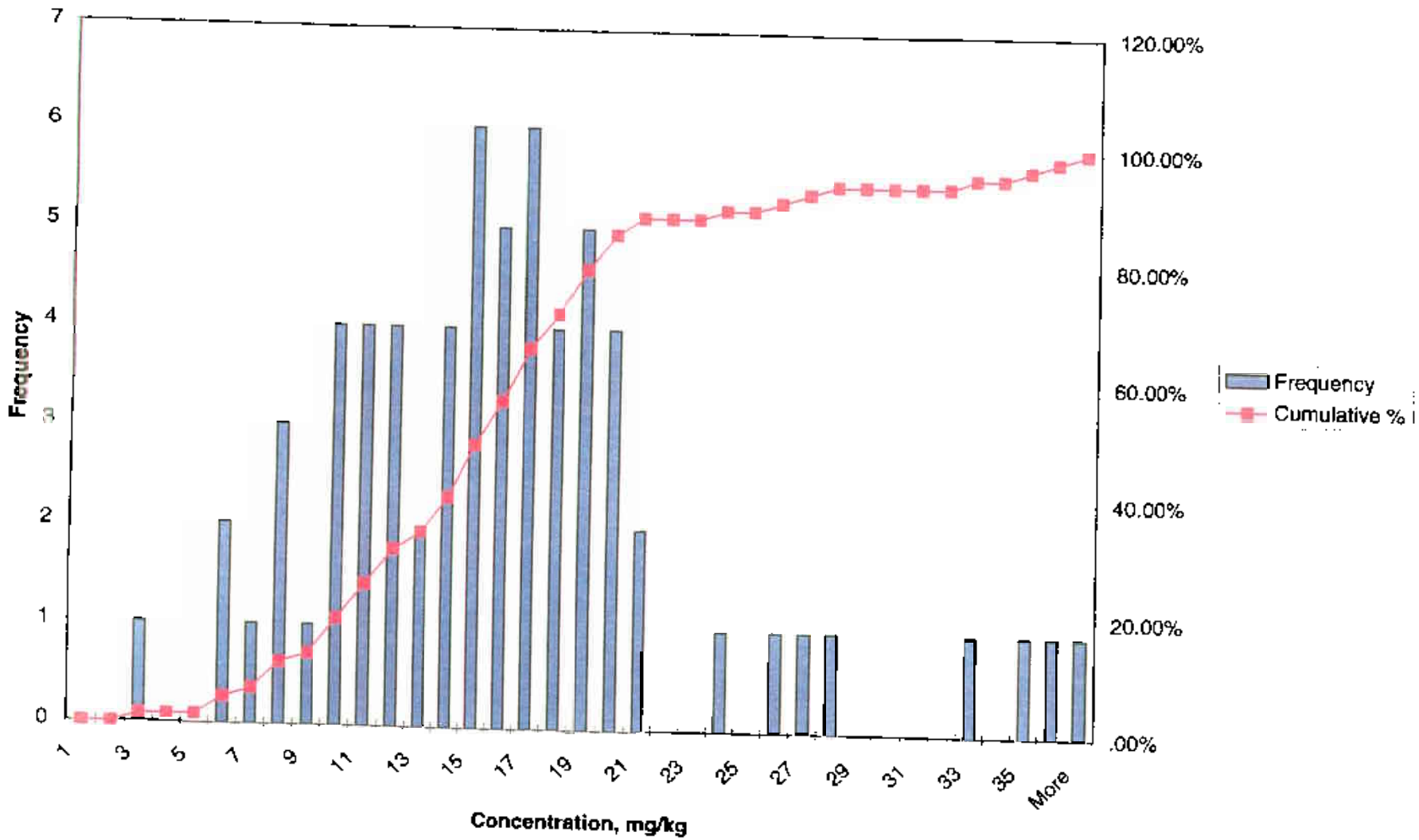
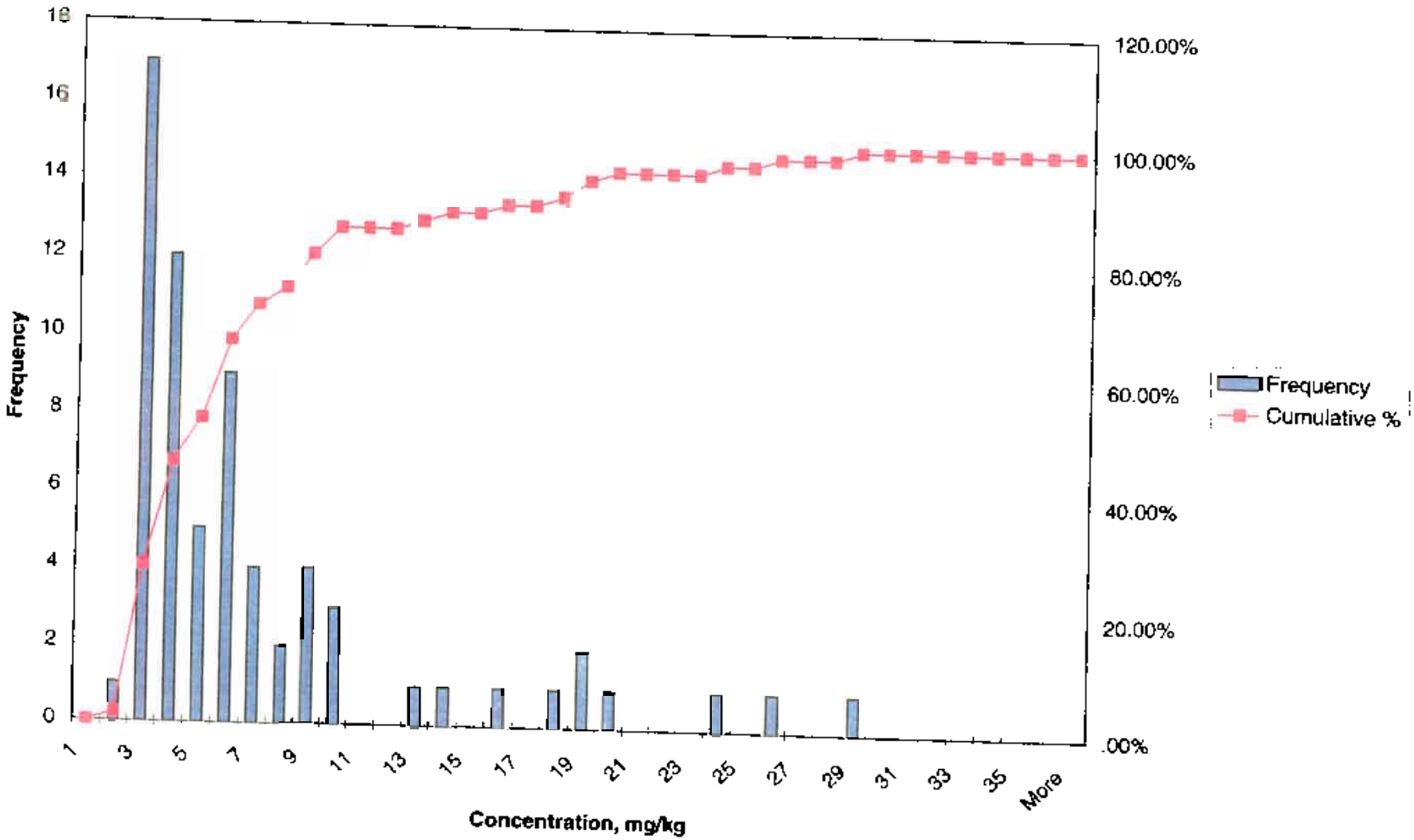


Figure 8
Histogram of Arsenic Concentrations in Deeper Soil (2 to 4 feet bgs)



APPENDIX A

PESTICIDE USE SUMMARY

Appendix A
Pesticide Use Summary

Year	Pesticide Name	Chemical Name
1979	Round Up	Isopropylamine Salt of glyphosate
	Chevron Ortho Paraquat	Paraquat Dichloride
	Phytar 560	Sodium Cacodylate
	Vendex 50WP	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]
	Pipron	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate
	Pentho-WP	Bis (Pentachloro – 2,4 – cyclopentadien,1,yl)
1980	Chevron Ortho Paraquat	Paraquat Dichloride
	Phytar 560	Sodium Cacodylate
	Orthene 755	Acephate
	Round up	Isopropylamine Salt of glyphosate
	Pipron	Piperalin: 3-(2-methylpiperidino)propyl-3,4-dichlorobenzoate
	Kocide 101	Copper Hydroxide
	Flowable Sulphur	Sulphur
1981	Phytar 560	Sodium Cacodylate
	Chevron Ortho Paraquat	Paraquat Dichloride
	Flowable Sulphur	Sulphur
	Round Up	Isopropylamine Salt of glyphosate
1983	Triforine	Triforine
	Round Up	Isopropylamine Salt of glyphosate
	Montar	Sodium Cacodylate/Cacodylic Acid
1984	Diquat	diquat dibromide
	Plictran	Cyhexatin
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Kocide 101 copper	Copper Hydroxide
	Montar	Sodium Cacodylate/Cacodylic Acid
	Pentac	Bis (Pentachloro – 2,4 – cyclopentadien,1,yl)
	Round Up	Isopropylamine Salt of glyphosate
	Orthene 755	Acephate
	Diquat	diquat dibromide
	Triforine	Triforine
	Heavy Dormant Oil	Petroleum Oil
1985	Surflan	Oryzalin
	Triforine	Triforine
	Heavy Dormant Oil	Petroleum Oil
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Kocide 101 Copper	Copper Hydroxide
	Devrinol	Napropamide
	Montar	Sodium Cacodylate/Cacodylic Acid
	Round Up	Isopropylamine Salt of glyphosate
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotomate
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1 4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Doo Spray	Dinitro (1-methyl heptyl)**phenyl crotomate
	Diquat	diquat dibromide
	Round Up	Isopropylamine Salt of glyphosate
	Kocide 101	Copper Hydroxide
1986	Aatrex Nine-O	Atrazine
	Devrinol 50WP	Napropamide
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl
	Triforine	Triforine
	Surflan AS	Oryzalin
	Doo Spray	Dinitro (1-metnyl heptyl)**phenyl crotomate
	Diquat	diquat dibromide
	Round Up	Isopropylamine Salt of glyphosate
	Kocide 101	Copper Hydroxide
1987	Funginex	Triforine
	Surflan AS	Oryzalin
	Diazinon 50W	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Diquat	diquat dibromide
	Kocide 101	Copper Hydroxide
	Round Up	Isopropylamine Salt of glyphosate
	Triforine	Triforine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
1998	Devrinol 50WP	Napropamide
	Round Up	Isopropylamine Salt of glyphosate
	Malathion 50	Malathion

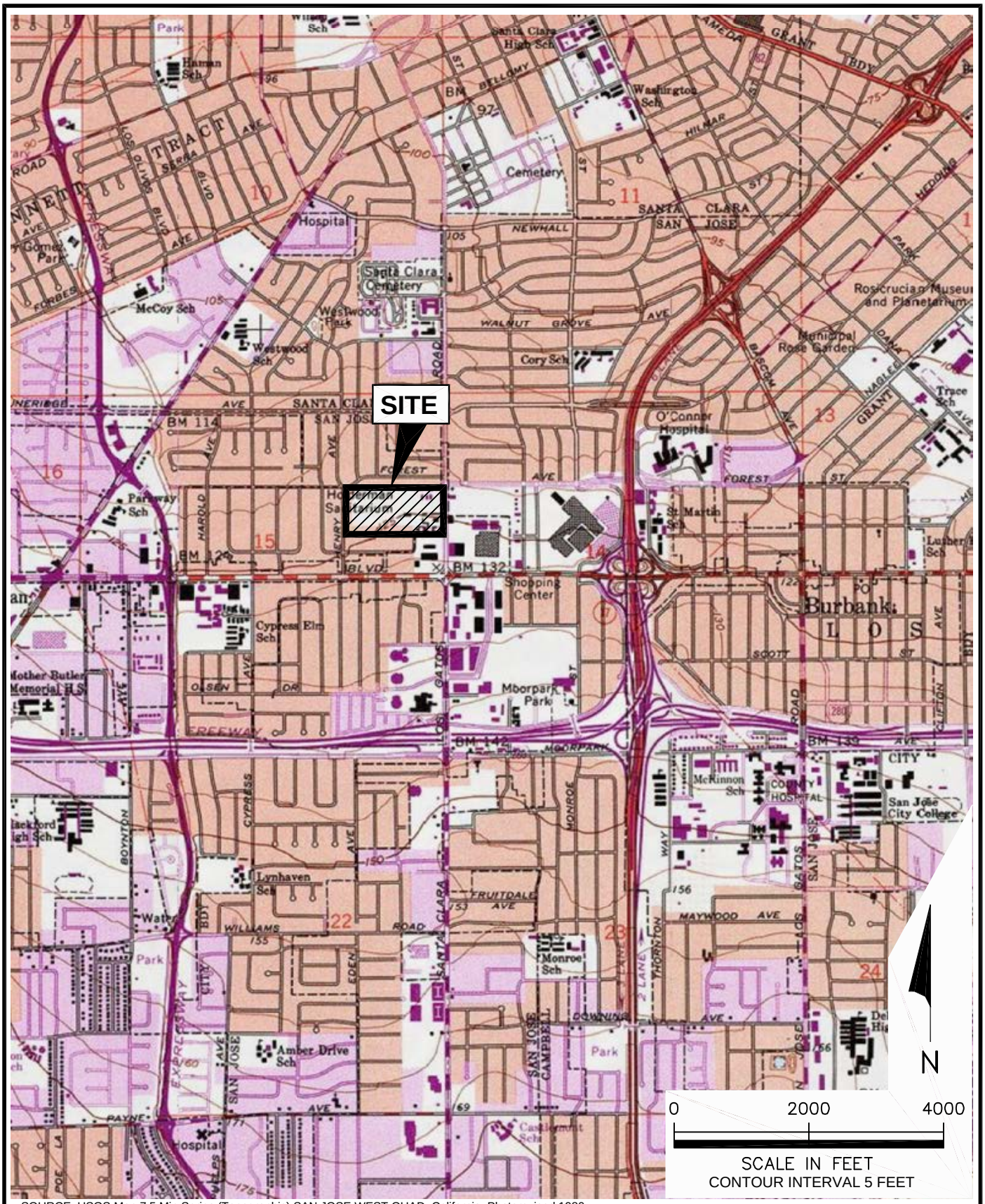
Year	Pesticide Name	Chemical Name
	Kerb 50WP	Promanide
		Calcium Lignosulfonate
	Pentac WP	Bis (Pentachloro – 2,4 – cyclopentadien,1,yl)
	Diquat	diquat dibromide
	Aatrex Nine-O	Atrazine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Mavrik	Tau-Fluvalinate
1989	Mavrik	Tau-Fluvalinate
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Diquat	diquat dibromide
	Vendex	Fenbutatin-Oxide [Hexakis (2-Methyl-2-Phenylpropyl) distannoxane]
	Round Up	Isopropylamine Salt of glyphosate
	Orthene	Acephate
	Funginex	Triforine
1990	Orthene	Acephate
	Mavrik Aquaflow	Tau-Fluvalinate
	Omite 30W	Propargite
	Funginex	Triforine
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Dimilin 25W	Diflubron
	Ronstar 50WP	Oxadiazon
	Ronstar G	Oxadiazon
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Malathion	Malathion
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Spreader X77	Alkylarylpolyoxyethylene ether
	Diquat	diquat dibromide
	Guthion	O,O-Dimethyl S-(4-oxo-1,2,3-benzotriazin-3(4H)-ylmethylphosphorodithioate
1991	Round Up	Isopropylamine Salt of glyphosate
	Orthene	Acephate
	Funginex	Triforine
	Aatrex Nine-O	Atrazine
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Ronstar-G	Oxadiazon
	Poast	Sethoxydim: 2-[1-(ethoxymino)butyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one"
	Herbimax	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Malathion	Malathion
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
1992	Ronstar-G	Oxadiazon
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Dacthal W-75	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl
	Ronstar 50 WP	Oxadiazon
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	26019 Fungicide	Iprodione
	Frimo/Experimental	dimeclacarb 4-(cyclopropyl-alpha-hydroxy-methylene)-3,5-dioxo-cyclohexanecarboxylic acid ethyl ester
	Citridal	Not found
	Daconil 2787 75WP	Chloroathalonil
		Kaolin
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
	Surflan	Oryzalin
	Pre M 60 WDG	Pendimethalin
	Dimension 1E	Dithiopyr
	Promisadine 65 WDG	Experimental (Not found)
	Team 2g	Benefin
		Trifluralin
	Snapshot 2.5g	Trifluralin
		Isoxaben

Year	Pesticide Name	Chemical Name
	Balan 60 WDG	Benefin
	Treflan	Trifluralin
	Gallery 75DF	Isoxaben
	Betasan 4E	Bensulide
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
1993	Round up	Isopropylamine Salt of glyphosate
	Omite 30W	Propargite
	XL 2G	Benefin
		Oryzalin
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Ronstar 50WP	Oxadiazon
	Pennant (L)	Metolachlor
	Surflan AS	Oryzalin
	Gallery 75F	Isoxaben
	Pendulum WDG	Pendimethalin
	Malathion	Malathion
	Treflan EC	Trifluralin
	Aatrex Nine-O	Atrazine
	Spreader X77	Alkylarylpolyoxyethylene ether
	Diquat	diquat dibromide
	Surflan	Oryzalin
	Ronstar G	Oxadiazon
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Basamid	Dazomet
	Vapam	Sodium methyldithiocarbamate (anhydrous)
	Weedar 64	2,4-d DMA Salt
	Acclaim 1E	Fenoxaprop-p-ethyl
	Turflon 4E	Triclopyr, butoxyethyl ester
	Bueno 6	Monosodium acid methanearsonate
	Benlate	Benomyl (methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate)
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
1994	Round Up	Isopropylamine Salt of glyphosate
	Malathion	Malathion
	Diquat	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Avid	Abamectin
		N-methylpirrolidone
	Orthene	Acephate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Herbimax	Petroleum Hydrocarbons (Light Paraffinic Distillate, odorless aliphatic petroleum solvent)
	Surflan	Oryzalin
	Aatrex Nine-O	Atrazine
	Eagle	Myclobutanil
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Safer Soap	Potassium salts of fatty acids
	Funginex	Triforine
	Ronstar G	Oxadiazon
1995	Round Up	Isopropylamine Salt of glyphosate
	Malathion	Malathion
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Reward	diquat dibromide
	Aatrex Nine-O	Atrazine
	Diazinon	O,O-Diethyl O-(2-isopropyl-6-methyl-4-pyrimidinyl) Phosphorothioate
	Diquat	diquat dibromide
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Atrimmec PGR	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Spreader X77	Alkylarylpolyoxyethylene ether
1996	Omite 30W	Propargite
	Reward	diquat dibromide
	Spreader X77	Alkylarylpolyoxyethylene ether
	Atrimmec PGR	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)

Year	Pesticide Name	Chemical Name
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Rally 40W	Myclobutanil
		Kaolin
	Stinger	Clopylarid, monoethanolamine salt
	Weedar 64	2,4-d DMA Salt
	Confront	Triclopyr as triethylamine salt
		Clopylarid, monoethanolamine salt
	Round up	Isopropylamine Salt of glyphosate
	Aatrex Nine-O	Atrazine
	Round Up Pro	Isopropylamine Salt of glyphosate
	Ace Lawn & Weedkiller	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Bueno-6	Monosodium acid methanearsonate
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Ronstar G	Oxadiazon
1997	Round Up Pro	Isopropylamine Salt of glyphosate
	Atrimmec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Reward	diquat dibromide
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Gallery	Isoxaben
	Dimension	Dithiopyr
	Pre M	Pendimethalin
	Dacthal	Dimethyl 2,3,5,6-tetrachloro-1,4-benzene-dicarboxylate; Chlorthal-dimethyl; DCPA; TCTP; Dimethyl tetrachloroterephthalate)
	Manage	Halosulfuron-methyl
		Silica, amorphous precipitated
		Kaolin
	Thiazopyr	Thiazopyr
	Dimension 1EC	Dithiopyr
	Rout	Oxyfluorfen
		Oryzalin
	Aatrex Nine-O	Atrazine
	Turflon Ester	Triclopyr, butoxyethyl ester
		Kerosene
	Basagran T/O	Sodium Bentazon
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Liberty	Glufosinate - Ammonium
	Weedar 64	2,4-d DMA Salt
	Confront	Clopylarid, monoethanolamine salt
		Triclopyr as triethylamine salt
	Daconate 6	Monosodium acid methanearsonate
	Transline	Clopylarid, monoethanolamine salt
	Barricade	Prodiamine
	Spreader X77	Alkylarylpolyoxyethylene ether
1998	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Round up Ultra	Isopropylamine Salt of glyphosate
	Ronstar G	Oxadiazon
	Lorox 50WP	Linuron
	Prowl 3.3 EC	Pendimethalin
	A-Maizing Lawn	Maize Gluten Meal
	Factor 65 WDG	Prodiamine
	Dimension IL	Dithiopyr
	Finale	Glufosinate - Ammonium
	Snapshot 2.5G	Trifluralin
		Isoxaben
	Visor 2E	Thiazopyr

Year	Pesticide Name	Chemical Name
		Solvent Naphta, petroleum, heavy aromatic
	Frontier 6	Dimethanamid
	Quinclorac	Quinclorac
	Gallery 75DF	Isoxaben
	RegalStar	Oxadiazon
		Prodiamine
	RegalKade	Prodiamine
	Thiolux	Sulphur
	Kocide DF	Copper Hydroxide
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Atrimmec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Devrinol 50 DF	Napropamide
	Quadris	Azoxystrobin Technical
	Aatrex Nine-O	Atrazine
	Dual 8E	Metolachlor
	Prefar 4E	Bensulide
	Home Defense #2	Chlorpyrifos
	Round up Pro	Isopropylamine Salt of glyphosate
1999	Round Up Pro	Isopropylamine Salt of glyphosate
	Round Up	Isopropylamine Salt of glyphosate
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Ronstar G	Oxadiazon
	Trimec	Dimthylamine salt of (MCPP) 2-(2-methyl-4-chlorophenoxy propionic acid
		Dimethylamine salt of 2,4-dichlorophenoxy acetic acid
		Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Aatrex Nine-O	Atrazine
	Dual 8E	Metolachlor
	Atrimmec	Dikegulac-sodium (Sodium salt of 2,3:4,6-bis-O-(1-methylethylidene)-a-L-xylo-2-hexulofuranosonic acid)
	Turflon Ester	Triclopyr, buloxyethyl ester
		Kerosene
	Goal 1.6 E	Oxyfluorfen
	Devrinol 50DF	Napropamide
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Subdue Max	Metalaxyl
	Methyl Bromide	Methyl Bromide
	Telone C35 EC	1,3 - Dichloropropene
		Chloropicrin
	Chloropicrin	Chloropicrin
	Vapam HL	Sodium methyldithiocarbamate (anhydrous)
	Carfentrazone	Carfentrazone-ehtyl
		Silica, amorphous precipitated
		Lignosulfate acid, sodium salt
	Sulfentrazone	Sulfentrazone
	Isoxaben	Isoxaben
	Confront	Clopylarid, monoethanolamine salt
		Triclopyr as trethylamine salt
	Turflon	Triclopyr, buloxyethyl ester
	Stinger	Clopylarid, monoethanolamine salt
	Fusilade II	Fluazifop - P - Butyl Technidal
		Naphtalene
		1,2,4 - Trimethylbenzene
	Azafenidin	Experimental (Not found)
	Flumioxazin	Experimental (Not found)
	Pendimethalin	Pendimethalin
	Isoxaben	Isoxaben
	Dithiopyr	Dithiopyr
	Dimethanamid	Dimethanamid
	Oxadiazon	Oxadiazon
	Trifluralin	Trifluralin
	Pendulum 2G	Pendimethalin
	Prowl	Pendimethalin
	Gramaxone	Paraquat Dichloride
	Spreader X77	Alkylarylpolyoxyethylene ether
2000	Round Up Ultra	Isopropylamine Salt of glyphosate
	Zeneca Paraquat	Paraquat Dichloride
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene

Year	Pesticide Name	Chemical Name
		Xylene
		Ethylbenzene
	Abamectin	Abamectin
	Terpinoid cmpds (kairomones)	Experimental (Not found)
	Cinnamaldehyde	Beauveria Bassiana Strain GHA
	Hydrazine carboxylic acid	Experimental (Not found)
	Fenpropathrin	Fenpropathrin
		Naphtalene
	Oxazole	Experimental (Not found)
	Experimental	Experimental (Not found)
	Milbemectin	Experimental (Not found)
	Chloropyridazin	Pyridaben
	Hexythiazox	Hexythiazox
	Potassium Salts of fatty Acids	Potassium salts of fatty acids
	Round Up Pro	Isopropylamine Salt of glyphosate
	Round Up	Isopropylamine Salt of glyphosate
	Naphtalenedione	Experimental (Not found)
	Agrimek	Abamectin
		N-methylpirrolidone
	Aatrex 90	Atrazine
	Dual 8E	Metolachlor
	Dual Magnum	S-Metolachlor
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Ronstar G	Oxadiazon
	Pendulum 2G	Pendimethalin
	Prowl	Pendimethalin
2001	Round Up Pro	Isopropylamine Salt of glyphosate
	Goal	Oxyfluorfen
	Buctril	Bromoxynil octanoate
		1,2,4 - Trimethylbenzene
		Xylene
		Ethylbenzene
	Aatrex Nine-O	Atrazine
	Prowl 3.3 EC	Pendimethalin
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Up John Emide 50W	Not found
	Ronstar G	Oxadiazon
2002	Round Up Pro	Isopropylamine Salt of glyphosate
	Goal 2XL	Oxyfluorfen
		N-methylpirrolidone
		Naphtalene
	Round Up Ultra	Isopropylamine Salt of glyphosate
	Banvel	Dimethylamine salt of dicamba (3,6-dichloro-O-anisic acid)
	Aatrex 4L	Atrazine
	Dual Magnum	S-Metolachlor
	Sevin 5 Bait	Carbaryl



SOURCE: USGS Map 7.5 Min Series (Topographic) SAN JOSE WEST QUAD, California, Photorevised 1980.

0310609A-VICMAP-TOPO.DWG

ENVIRON

6001 Shellmound St., Suite 700, Emeryville, CA 94608

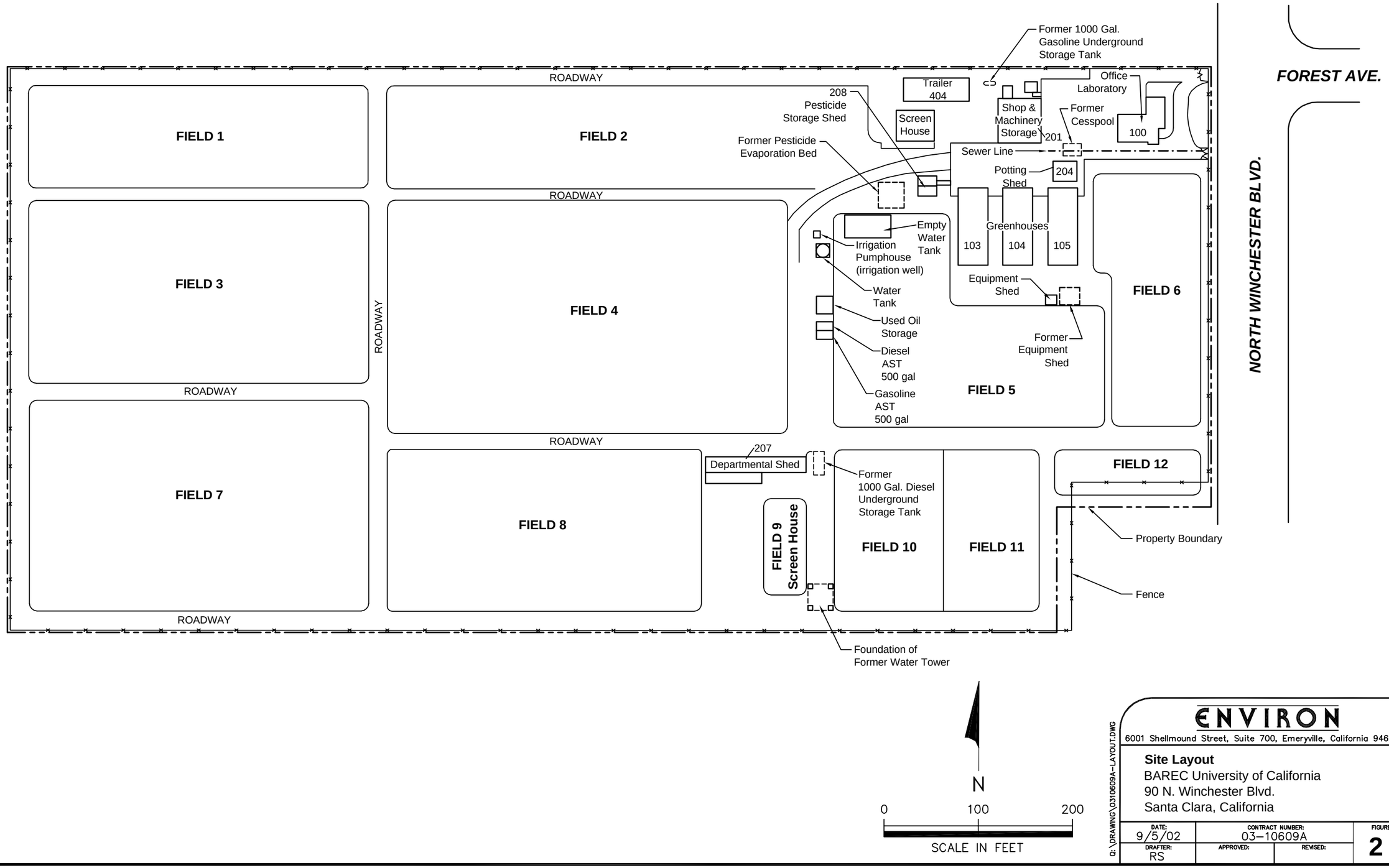
Site Location Map

BAREC University of California
90 N. Winchester Blvd.
Santa Clara, California

Figure

1

Drafter: RS | Date: 9/5/02 | Contract Number: 03-10609A | Approved: | Revised:



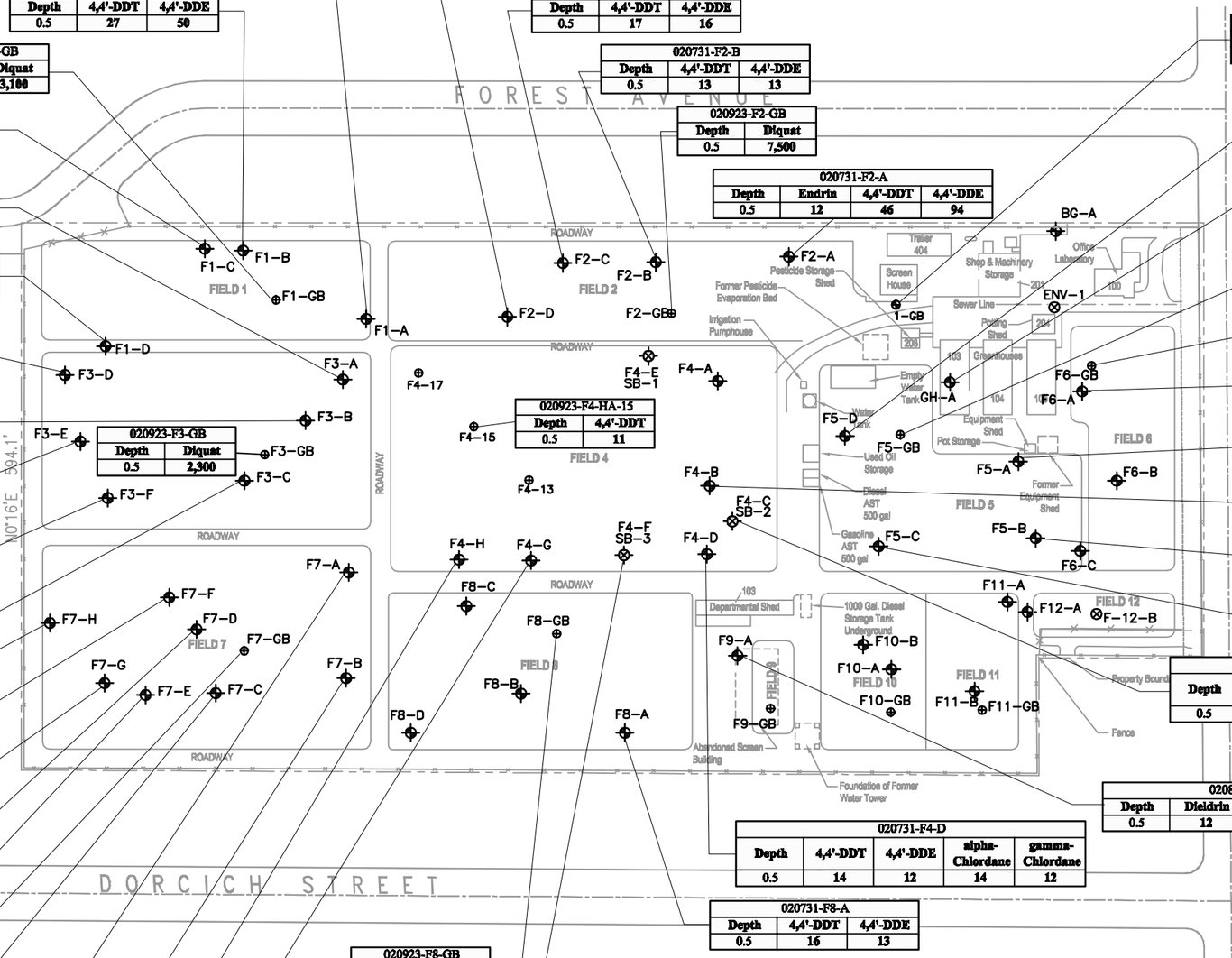
ENVIRON

6001 Shellmound Street, Suite 700, Emeryville, California 94608

Site Layout
BAREC University of California
90 N. Winchester Blvd.
Santa Clara, California

DATE:	CONTRACT NUMBER:		FIGURE
9/5/02	03–10609A		2
DRAFTER: RS	APPROVED:	REVISED:	

Q:\DRAWING\03106 09A–LAYOUT.DWG



020731-F1-A			
Depth	Endrin	4,4'-DDT	4,4'-DDE
0.5	12	46	120

020731-F1-B		
Depth	4,4'-DDT	4,4'-DDE
0.5	27	50

020923-F1-GB	
Depth	Diquat
0.5	3,100

020731-F1-C				
Depth	Dieldrin	Endrin	4,4'-DDT	4,4'-DDE
0.5	240	11	54	34

020731-F3-A			
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	42	24	21
3.0	12	<10	<10

020731-F1-D				
Depth	Dieldrin	Endrin	4,4'-DDT	4,4'-DDE
0.5	11	12	62	190

020731-F3-D			
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	14	200	1,100
3.0	<10	<10	15

020731-F3-B			
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	37	17	15
3.0	25	<10	<10

020923-F3-GB	
Depth	Diquat
0.5	2,300

020731-F3-E			
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	22	380	1,500

020731-F3-F			
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	12	130	730
3.0	<10	20	85

020731-F3-C			
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	17	24	29

020731-F7-H		
Depth	4,4'-DDT	4,4'-DDE
0.5	110	350

020731-F7-F		
Depth	4,4'-DDT	4,4'-DDE
0.5	110	100

020731-F7-G		
Depth	4,4'-DDT	4,4'-DDE
0.5	130	650
3.0	13	73

020731-F7-D		
Depth	4,4'-DDT	4,4'-DDE
0.5	46	20

020731-F7-E			
Depth	Endrin	4,4'-DDT	4,4'-DDE
0.5	30	150	280

020923-F7-GB	
Depth	Diquat
0.5	<2,000

020731-F7-C		
Depth	4,4'-DDT	4,4'-DDE
0.5	24	13

020731-F7-A		
Depth	4,4'-DDT	alpha-Chlordane
0.5	13	13

020731-F7-B		
Depth	4,4'-DDT	gamma-Chlordane
0.5	11	17

020731-F2-D		
Depth	4,4'-DDT	4,4'-DDE
0.5	20	19

020731-F2-C		
Depth	4,4'-DDT	4,4'-DDE
0.5	17	16

020731-F2-B		
Depth	4,4'-DDT	4,4'-DDE
0.5	13	13

020923-F2-GB	
Depth	Diquat
0.5	7,500

020731-F2-A			
Depth	Endrin	4,4'-DDT	4,4'-DDE
0.5	12	46	94

020923-F4-HA-15	
Depth	4,4'-DDT
0.5	11

020923-F8-GB	
Depth	Diquat
0.5	4,000

020731-F4-F				
Depth	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane
0.5	16	17	15	13

020731-F4-G		
Depth	4,4'-DDT	4,4'-DDE
0.5	16	19

020731-F4-H		
Depth	4,4'-DDT	4,4'-DDE
0.5	18	23

020731-F4-D				
Depth	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane
0.5	14	12	14	12

020731-F8-A		
Depth	4,4'-DDT	4,4'-DDE
0.5	16	13

030401-GRASS-1-GB				
Depth	Dieldrin	Endrin	4,4'-DDT	4,4'-DDE
0.5	12	27	150	270

020801-F5-D		
Depth	4,4'-DDT	4,4'-DDE
0.5	18	51

020801-GH-A				
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	17	48	190

020923-F5-GB	
Depth	Diquat
0.5	4,200

020923-F6-GB	
Depth	Diquat
0.5	3,700

020801-F6-A		
Depth	4,4'-DDT	4,4'-DDE
0.5	19	49

020801-F5-A		
Depth	4,4'-DDT	4,4'-DDE
0.5	65	120

020731-F4-B				
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	13	17	13

020801-F5-B		
Depth	4,4'-DDT	4,4'-DDE
0.5	42	76

020801-F5-C	
Depth	4,4'-DDE
0.5	16

020731-F4-C					
Depth	Dieldrin	4,4'-DDT	4,4'-DDE	alpha-Chlordane	gamma-Chlordane
0.5	13	15	12	15	13

020801-F9-A			
Depth	Dieldrin	4,4'-DDT	4,4'-DDE
0.5	12	69	38

EXPLANATION:

⊕ Samples analyzed for diquat and paraquat. Only detected concentrations shown.

⌖ Samples were analyzed for Organochlorine Pesticide compounds by EPA Method 8081. Only detected concentrations are shown.

Notes:

Denotes detection above USEPA Region 9 Residential PRG (December 2000)

020923-F4-HA-15	
Depth	4,4'-DDT
0.5	11

Sample Name
Analyte
Feet Below Ground Surface
Concentration in (µg/kg)

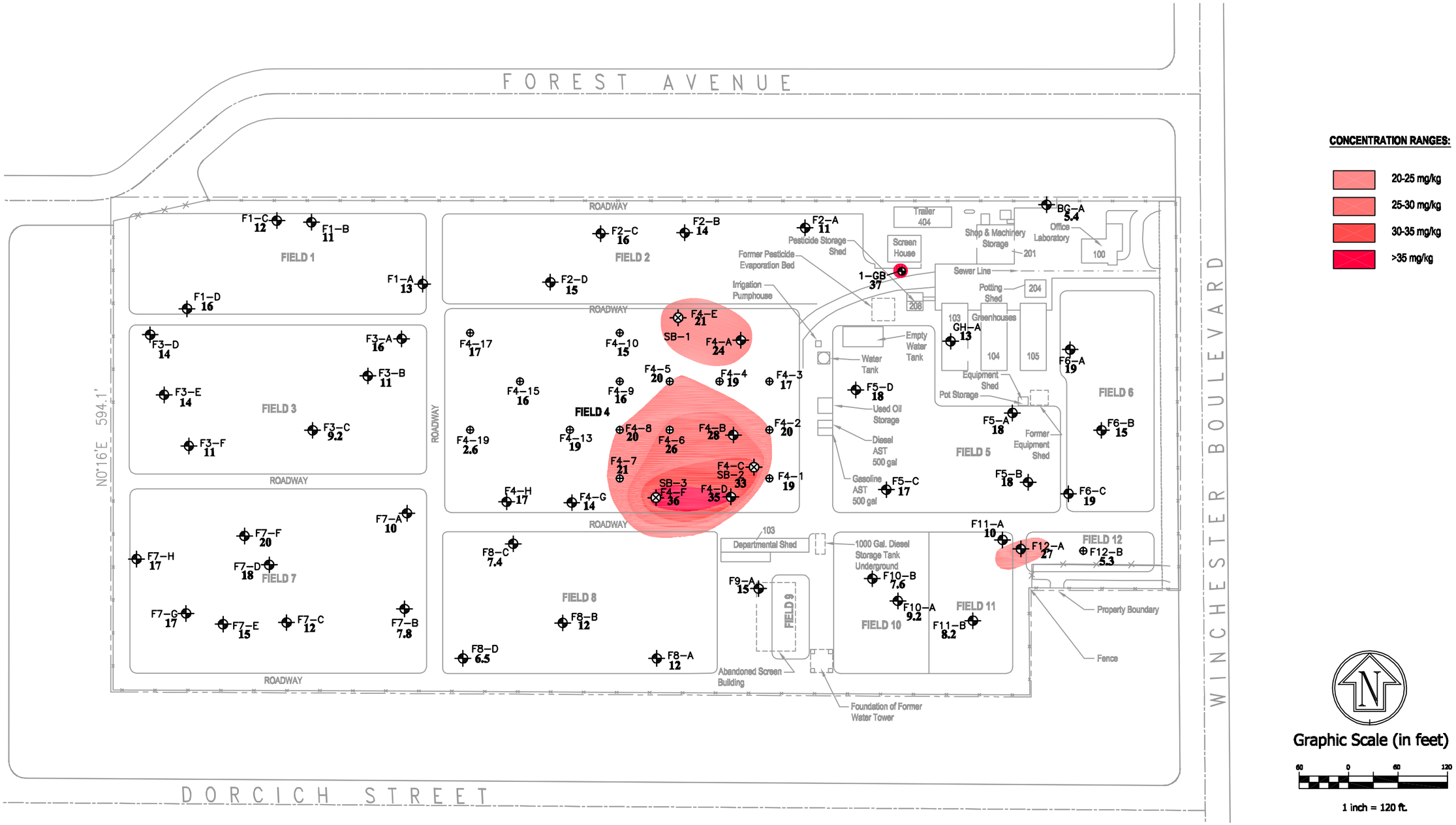
Graphic Scale (in feet)
75 0 75 150
1 inch = 150 ft.

ENVIRON
6001 Shellmound Street, Suite 700, Emeryville, California 94608

Detected Pesticides in Soil
BAREC Property
Santa Clara, California

DATE:	CONTRACT NUMBER:		FIGURE
4/29/03	03–10609A		3
DRAFTER: RS	APPROVED:	REVISED:	

0310609A–DIELDRIN.DWG



CONCENTRATION RANGES:

- 20-25 mg/kg
- 25-30 mg/kg
- 30-35 mg/kg
- >35 mg/kg

Graphic Scale (in feet)

60 0 60 120

1 inch = 120 ft.

EXPLANATION:

SB-2	Direct Push Soil Sample
F4-1	Hand Auger Soil Sample 9/23/02
F4-3	Hand Auger Soil Sample 7/31 - 8/1/02
	Hand Auger Soil Sample 4/1/03
15	Arsenic Concentration (mg/kg)

0310609A-ARCSENIC-05FT-2.DWG

ENVIRON

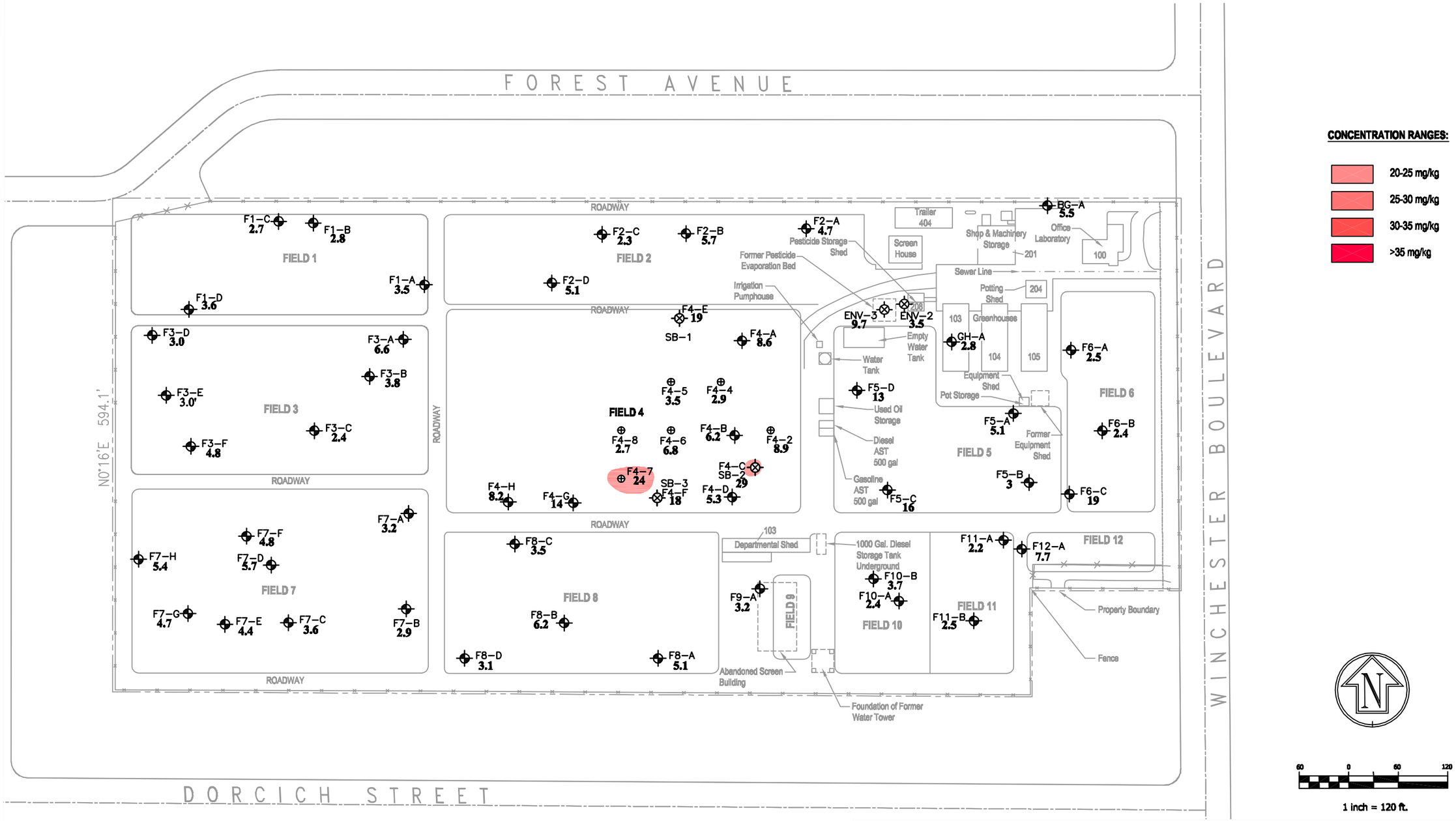
6001 Shellmound Street, Suite 700, Emeryville, California 94608

Isoconcentration Map of Arsenic above 20 mg/kg at 0.5 ft bgs

BAREC Property

Santa Clara, California

DATE:	CONTRACT NUMBER:		FIGURE
4/29/03	03-10609A		4
DRAFTER: RS	APPROVED:	REVISED:	



EXPLANATION:

SB-2	Direct Push Soil Sample
F4-1	Hand Auger Soil Sample 9/23/02
F4-3	Hand Auger Soil Sample 7/31 - 8/1/02
	Hand Auger Soil Sample 4/1/03
15	Arsenic Concentration (mg/kg)

ENVIRON

6001 Shellmound Street, Suite 700, Emeryville, California 94608

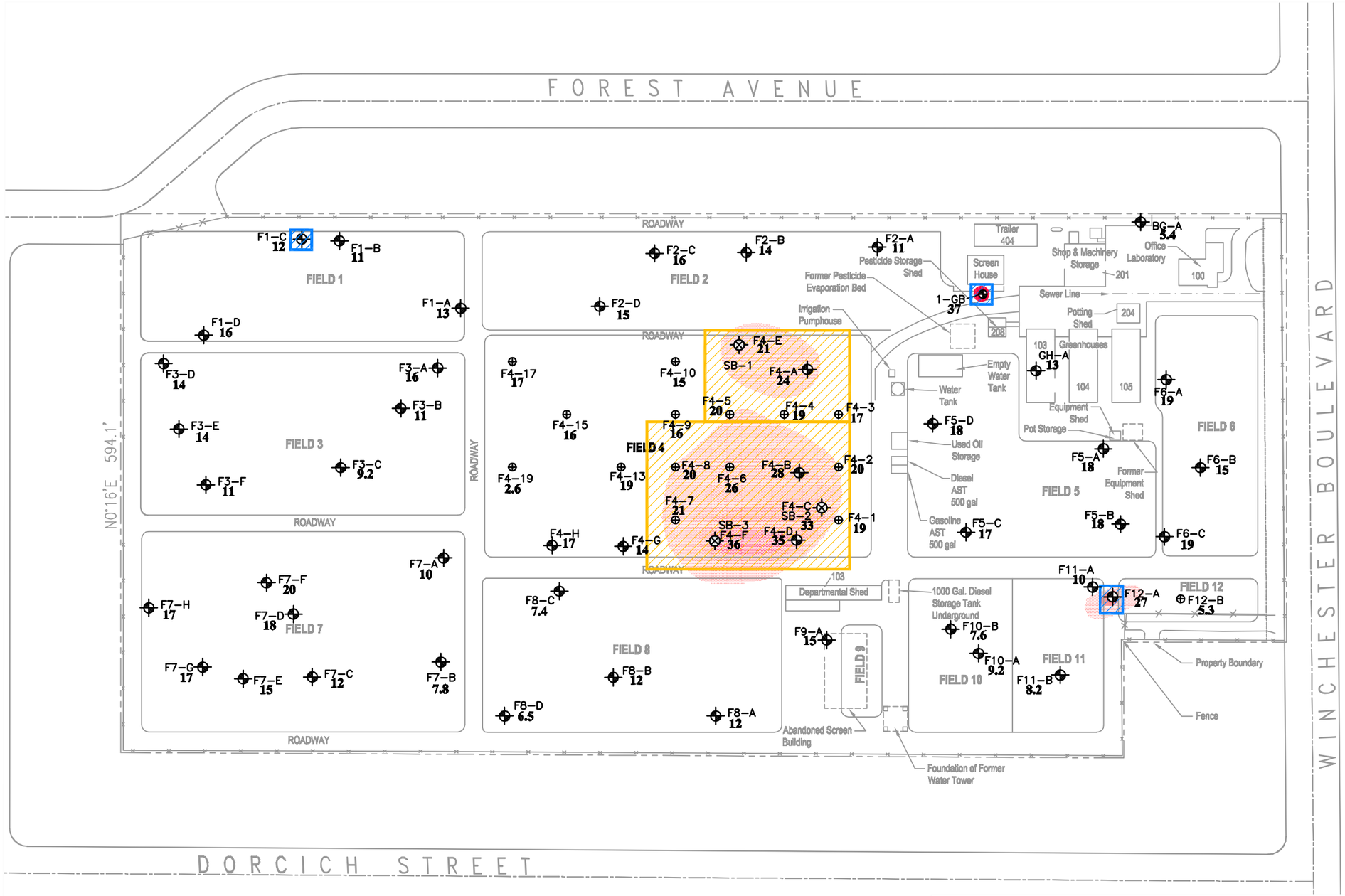
Isoconcentration Map of Arsenic above 20 mg/kg at 3.0 to 3.5 ft bgs

BAREC Property

Santa Clara, California

DATE:	CONTRACT NUMBER:		FIGURE
4/29/03	03-10609A		5
DRAFTER: RS	APPROVED:	REVISED:	

0310609A-ARCSENIC-3FT-2.DWG



CONCENTRATION RANGES:

- 20-25 mg/kg
- 25-30 mg/kg
- 30-35 mg/kg
- >35 mg/kg
- APPROXIMATE EXTENT OF AREA TO BE CAPPED
- APPROXIMATE EXTENT OF AREA TO BE EXCAVATED

Graphic Scale (in feet)

60 0 60 120

1 inch = 120 ft.

EXPLANATION:

SB-2	Direct Push Soil Sample
F4-1	Hand Auger Soil Sample 9/23/02
F4-3	Hand Auger Soil Sample 7/31 - 8/1/02
	Hand Auger Soil Sample 4/1/03
15	Arsenic Concentration (mg/kg)

0310609A-ARCSENIC-05FT-EXCAV.DWG

ENVIRON

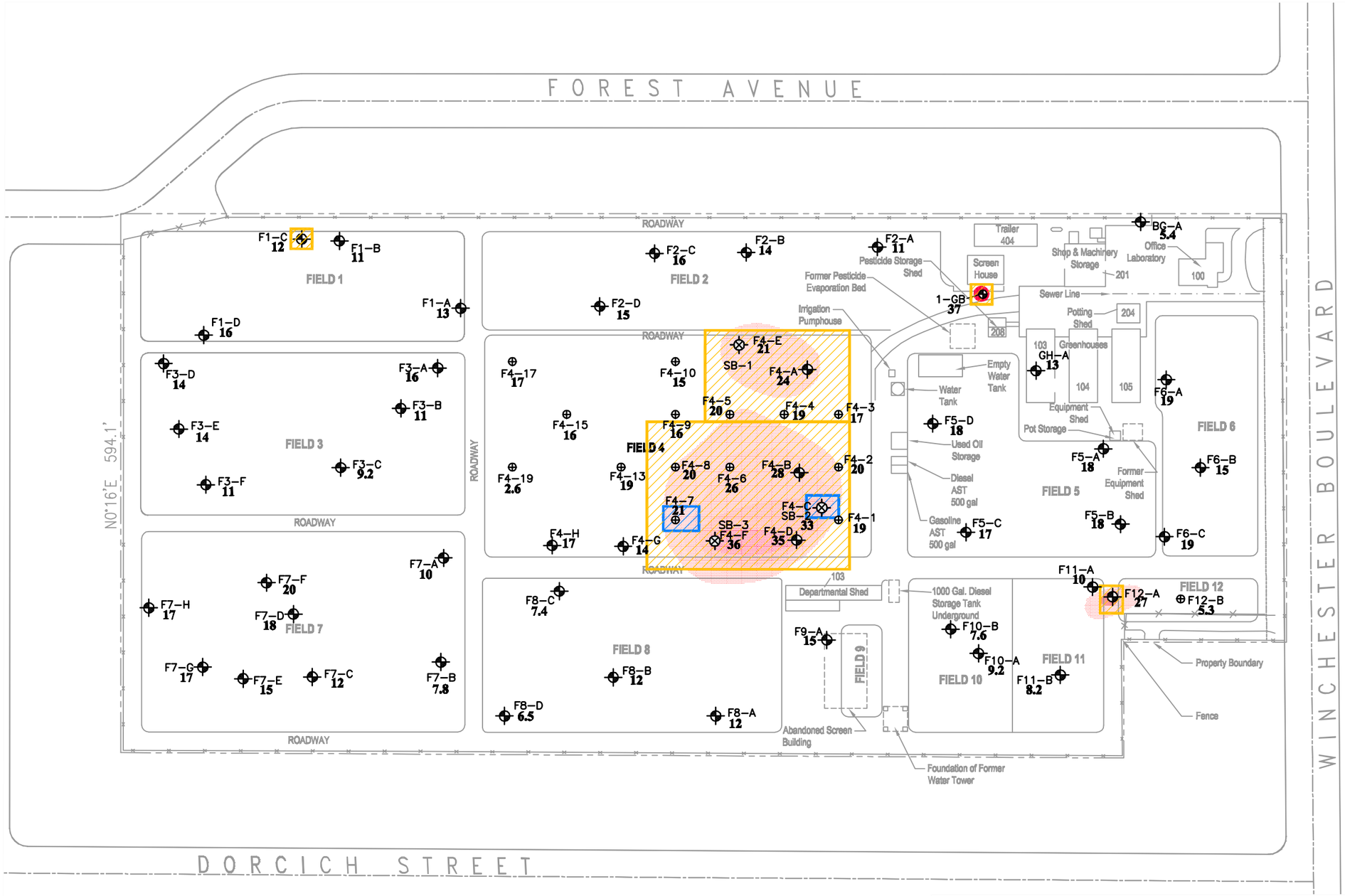
6001 Shellmound Street, Suite 700, Emeryville, California 94608

Alternative 2 - Capping and Excavation Areas

BAREC Property

Santa Clara, California

DATE:	CONTRACT NUMBER:		FIGURE
7/15/03	03-10609A		6
DRAFTER: RS	APPROVED:	REVISED:	



CONCENTRATION RANGES:

- 20-25 mg/kg
- 25-30 mg/kg
- 30-35 mg/kg
- >35 mg/kg
- APPROXIMATE EXTENT OF AREA TO BE EXCAVATED TO 3 FEET BGS
- APPROXIMATE EXTENT OF AREA TO BE EXCAVATED FROM 3 TO 4 FEET BGS

Graphic Scale (in feet)

60 0 60 120

1 inch = 120 ft.

EXPLANATION:

SB-2	Direct Push Soil Sample
F4-1	Hand Auger Soil Sample 9/23/02
F4-3	Hand Auger Soil Sample 7/31 - 8/1/02
	Hand Auger Soil Sample 4/1/03
15	Arsenic Concentration (mg/kg)

ENVIRON

6001 Shellmound Street, Suite 700, Emeryville, California 94608

Alternative 3: Excavation Extent

BAREC Property

Santa Clara, California

DATE:	CONTRACT NUMBER:		FIGURE
7/24/03	03-10609A		7
DRAFTER: RS	APPROVED:	REVISED:	

0310609A-ARCSENIC-05FT-EXCAV-alt-3.DWG

STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of:	)	Docket No HSA-A 02/03-176
	)	
University of California	)	
Bay Area Research and	)	Voluntary Cleanup
Extension Center (BAREC)	)	Agreement
90 North Winchester Blvd	)	
Santa Clara, California	)	
	)	
Project Proponent:	)	Health and Safety Code
	)	
California Department	)	Section 25355 5(a)(1)(C)
Of General Services	)	
707 Third Street, Suite 6-130	)	
Sacramento, CA 95605	)	
	)	
	)	

I INTRODUCTION

1 1 Parties The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) enters into this Voluntary Cleanup Agreement (Agreement) with the California Department of General Services (Proponent) .

1 2 Site. The property that is the subject of this Agreement (Site) is located in Santa Clara, California.. The Site property consists of approximately 17 acres and is identified by Santa Clara County Assessor's Parcel Numbers (APN) 303-17-048 and 303-17-049. 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 Remedial Action under the oversight of DTSC The goal of the Proponent is to investigate and clean up the Site so that it is suitable for unrestricted residential development.

II BACKGROUND

2 1 Ownership. The Site is owned by the State of California

2 2 Substances Found at the Site Reports containing the results of environmental media sampling conducted at the Site indicate that various portions of the property are or may be contaminated with hazardous substances, including the following pesticides: arsenic, dieldrin, endrin, heptachlor epoxide, 4,4'- DDT and 4,4'– DDE

2 3 Physical Description The Site is agricultural land. The topography of the entire area is relatively flat. The site is surrounded on three sides by single-family residential housing and by North Winchester Boulevard on the east.

2 4 Site History The site has been used for testing agricultural chemicals on fruit trees and other row crops since 1928.

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; and 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. Upon submission of satisfactory reports by Proponent, DTSC shall approve the risk assessment, community relations plan, and final Removal Action Workplan (RAW) for the Site and shall provide certification of closure upon completion of the project, or if implementation is phased, completion of each phase of the project 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 estimete of the additional oversight cost to the Proponent.

3 3 Agreement Managers Barbara J. Cook is designated by DTSC as its Manager for this Agreement J Frank Davidson of the Department of Genral Services, Real Estate Services Division 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:

Barbara Cook, Regional Branch Chief
Attn: Virginia Lasky
Department of Toxic Substances Control
Site Mitigation Program
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2737

3 4 2 To the Proponent:

J Frank Davidson
State of California
Department of General Services
Real Estate Services Division
Asset Planning and Enhancement Branch
707 Third Street, Suite 6-130
West Sacramento, CA 95605

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 written comments to the Proponent with recommended changes; or (b) Provide written comments and conditionally approve the document as long as Proponent makes requested changes

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 shall notify the Proponent in advance if its costs will exceed the estimate provided in Exhibit D and DTSC and the Proponent shall agree on a supplement to that estimate before further DTSC costs are incurred 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 **$24,000** 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 check made payable to the "Department of Toxic Substances Control", and bearing on its face the project code for the Site (**Calstars #201464-11**) and the docket number of this Agreement. Payments shall be sent to:

Department of Toxic Substances Control
Accounting/Cashier
1001 I Street, 21st Floor
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 inspact 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 résumé 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 necassary 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 and 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, final 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 either comply 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 and DTSC shall be responsible for reimbursing any advance money paid by Proponent but not yet spent on oversight activities

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 ralease 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. DTSC shall not be liable for any injuries or damages to persons or property caused during performance of investigative or remedial activities pursuant to this Agreement, either resulting from acts or omissions by the Proponent or by related parties in carrying out activities pursuant to this Agreement, nor shall the DTSC 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 Proponant is a party to any suit or claim for damagas 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 and Proponent reserve their rights 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 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 to DTSC 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 exacuted.

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

Barbara J. Cook Date: 5/12/2003

Barbara Cook
Northern California - Coastal Cleanup Operations Branch
Statewide Cleanup Operations Division
Site Mitigation Program
Department of Toxic Substances Control

Date: 5-8-03

J. Frank Davidson, Assistant Chief
Asset Planning and Enhancement Branch
Real Estate Services Division
State of Caliornia
Department of General Services

EXHIBITS

A - SITE DIAGRAM

B - SITE LOCATION MAP

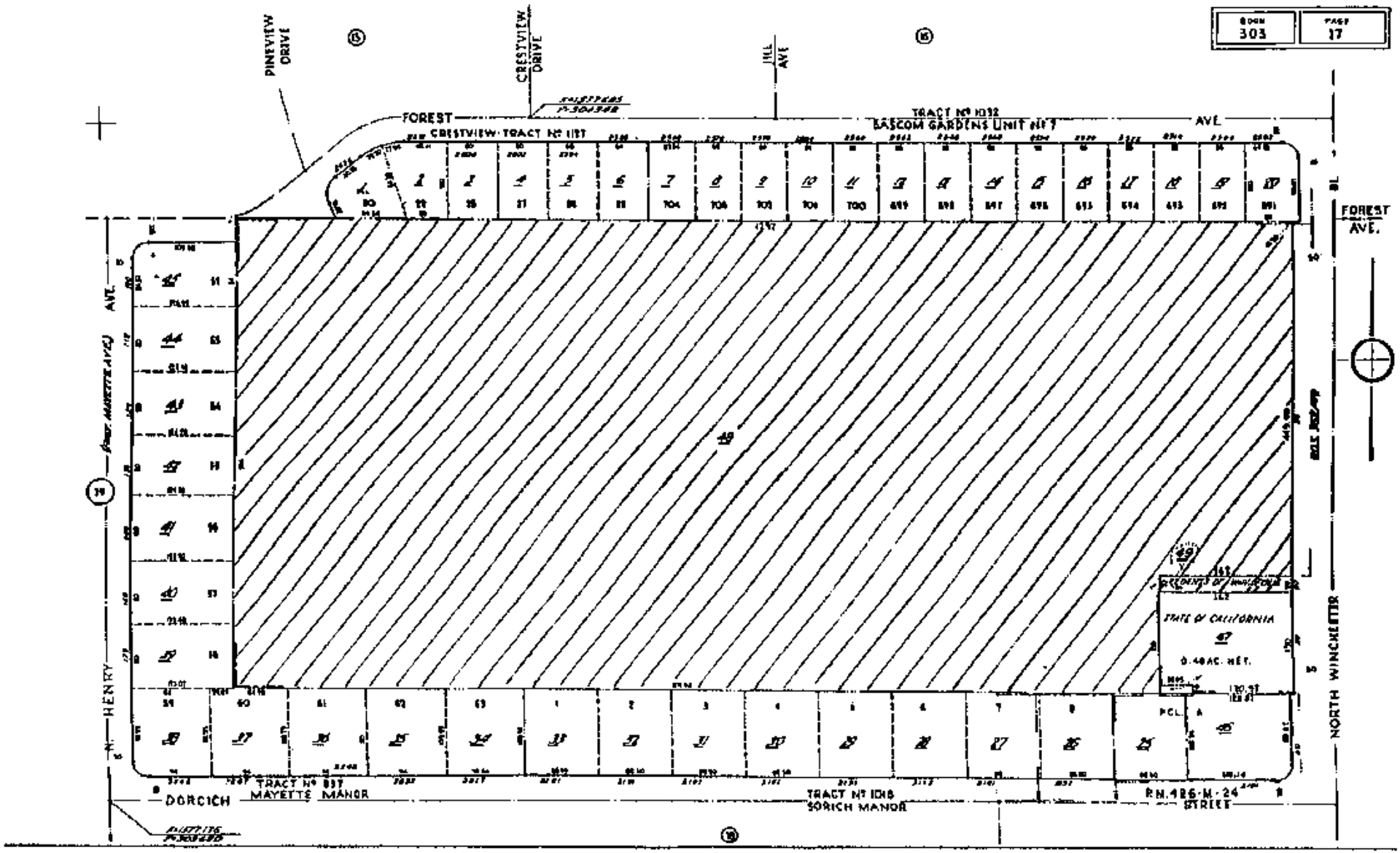
C - SCOPE OF WORK

D - COST ESTIMATE

E - SCHEDULE

F - CLOSURE CERTIFICATION

EXHIBIT "A"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HENRY
AVE.
NORTH WINCHESTER
STATE OF CALIFORNIA
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PCL. A
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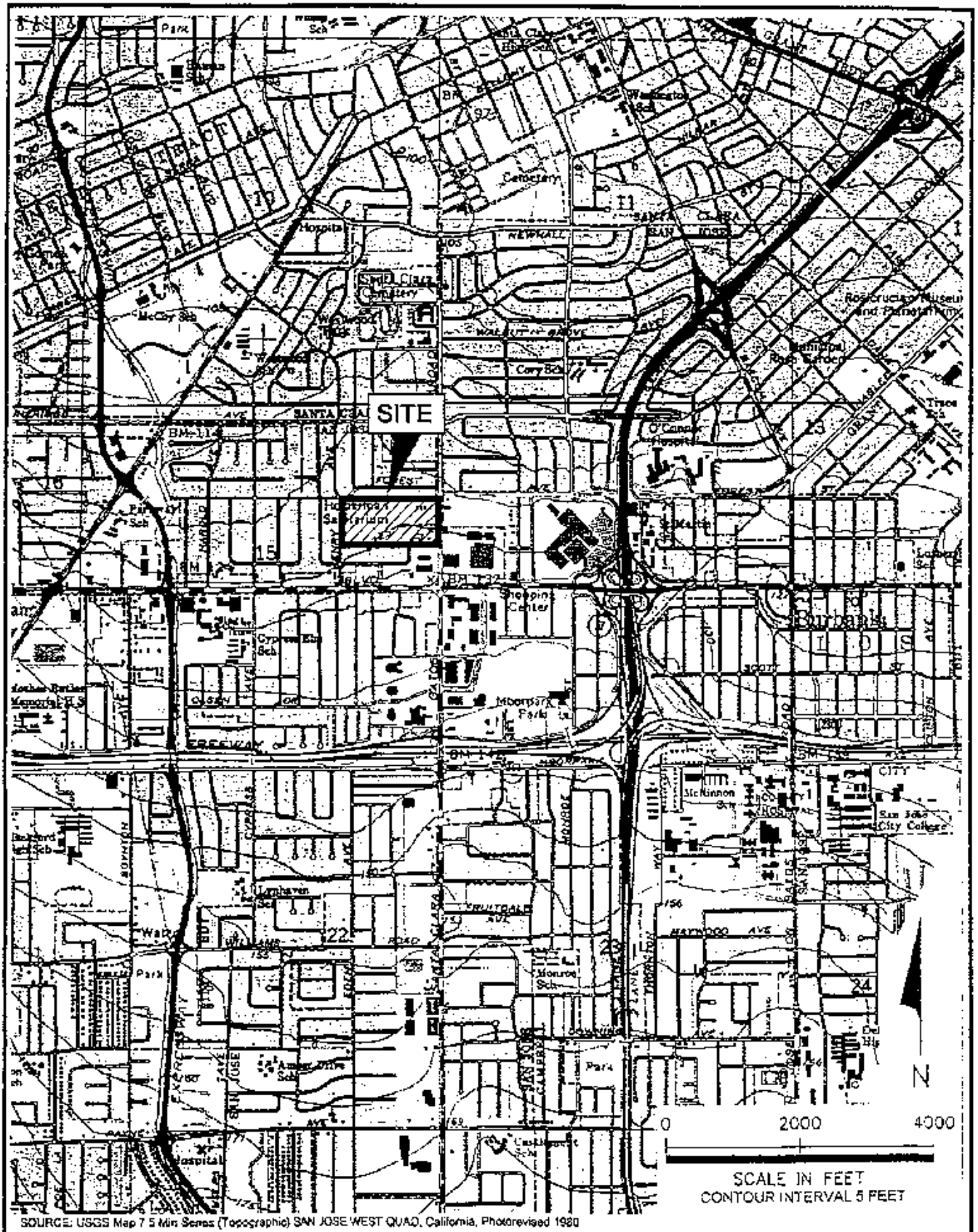
DORCICH
TRACT Nº 1018
SORICH MANOR
R.N. 486-M-24
STREET

EXHIBIT B



ENVIRON

6001 Shellmound St., Suite 700, Emeryville, CA 94608

Site Location Map
BAREC
90 N. Winchester Blvd.
Santa Clara, California

Drafter: RS | Date: 8/19/02 | Contract Number: 03-10609A | Approved: | Revised:

EXHIBIT C

SCOPE OF WORK

The following Tasks will be completed as part of this Agreement:

TASK 1 Submittal of Existing Data

The Proponent will submit to DTSC all background information, sample enalysis results, environmental assessment reports, and any other information pertinent to the hazardous substance management and/or release, characterization and cleanup of the Site. DTSC will review the information, identify areas and media of concern, and determine the additional work, if any, required to complete the investigation/remediation of the Site.

TASK 2 Removal Action Workplan. If DTSC determines a removal action is appropriate, the Proponent will prepare a Removal Action Workplan (RAW) in accordance with Health and Safety Code sections 25323 1 and 25356.1 The Removal Action Workplan will include:

(a) a description of the onsite contamination
(b) the goals to be achieved by the removal action
(c) an analysis of the alternative options considered and rejected and the basis for that rejection. This should include a discussion for each alternative which covers its effectiveness, implementability and cost
(d) administrative record list

If the proposed removal action does not meet the requirements of Health and Safety Code section 25356.1(h), the Proponent will prepare a Remedial Action Plan (RAP) in accordance with Health and Safety Code section 25356.1(c) for DTSC review and approval

TASK 3 California Environmental Quality Act (CEQA)

The City of Santa Clara is preparing a CEQA environmental review document in connection with Proponent's planned development of the Site. As a responsible agency, DTSC will prepare the necessary CEQA documents. If required, the Proponent shall submit the information necessary for DTSC to prepare these documents.

TASK 4. Implementation of Final RAW

Upon DTSC approval, Proponent shall implement the final RAW as approved in accordance with the approved schedule

TASK 5 Changes During Implementation of the Final RAW

During implementation of the final RAW, DTSC may specify such additions, modifications and revisions as deemed necessary to protect human health and safety or the environment or to implement the RAW

TASK 6 Public Participation

6 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 and 25356.1(e), the DTSC Public Participation Policy and Procedures Manual, and with DTSC's review and approval.

6 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

6 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.

6 4 The Proponent shall publish, in a major local newspaper(s), a public notice announcing the availability of the RAW for public review and comment. The public comment period shall last a minimum of thirty (30) days.

6.5 DTSC may require that the Proponent hold at least one public meeting to inform the public of the proposed activities and to receive public comments on the RAW.

6 6 Within two (2) weeks of the close of the public comment period, the Proponent shall prepare and submit to DTSC a draft response to the public comments received

6 7 If appropriate, the Proponent will revise the RAW on the basis of comments received from the public, and submit the revised RAW to DTSC for review and approval The Proponent will also notify the public of any significant changes from the action proposed in the RAW

TASK 7 <u>Discontinuation of Remedial Technology</u>

Any remedial technology employed in implementation of the final RAW shall be left in place and operated by the Proponent until and except to the extent that DTSC authorizes the Proponent in writing to discontinue, move or modify some or all of the remedial tachnology because the Proponent has met the criteria specified in the final RAW for its discontinuance, or because the modifications would better achieve the goals of the final RAW.

TASK 8 <u>Quality Assurance/Quality Control (QA/QC) Plan</u>

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 9. 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.

Task 10. Completion/Implementation Report

Proponent shall submit a report describing the remedial actions taken at the Site and identifying how remedial action objectives have been achieved.

Task 11. Closure Certification

Based upon the approved Completion/Implementation Report, DTSC shall prepare documents to certify closure of the Site

EXHIBIT D

VOLUNTARY CLEANUP Cost Es ates - Project Manager Worksheet

Title	Project Manager	Legal	Toxicology	HQ-CEQA	Industrial Hygiene	Public Participation	Tech. SR / Supervisor
Classification	HSS/HSE	Senior Staff Counsel	Staff Toxicologist	EP	AIH	PPS	SHSE/SHSS
Task: Agreement Preparation/Negotiation	0	2					6
Review Existing Documments	24						6
Public Participation	16					40	4
CEQA	32			40			8
RAP/RAW	40	6	16		10	10	20
Response to Comments	20	6				10	6
Oversight	20						
Completion/ Implementation Report	16						4
Project Management	12						6
Certification	8						2
Total No Hours/Class	188	14	16	40	10	60	62
Total No Hours	390						
Hourly Rate/Class	120	150	154	128	129	101	132
Cost/Class	22560	2100	2464	5120	1290	6060	8184
Total Costs	47778						

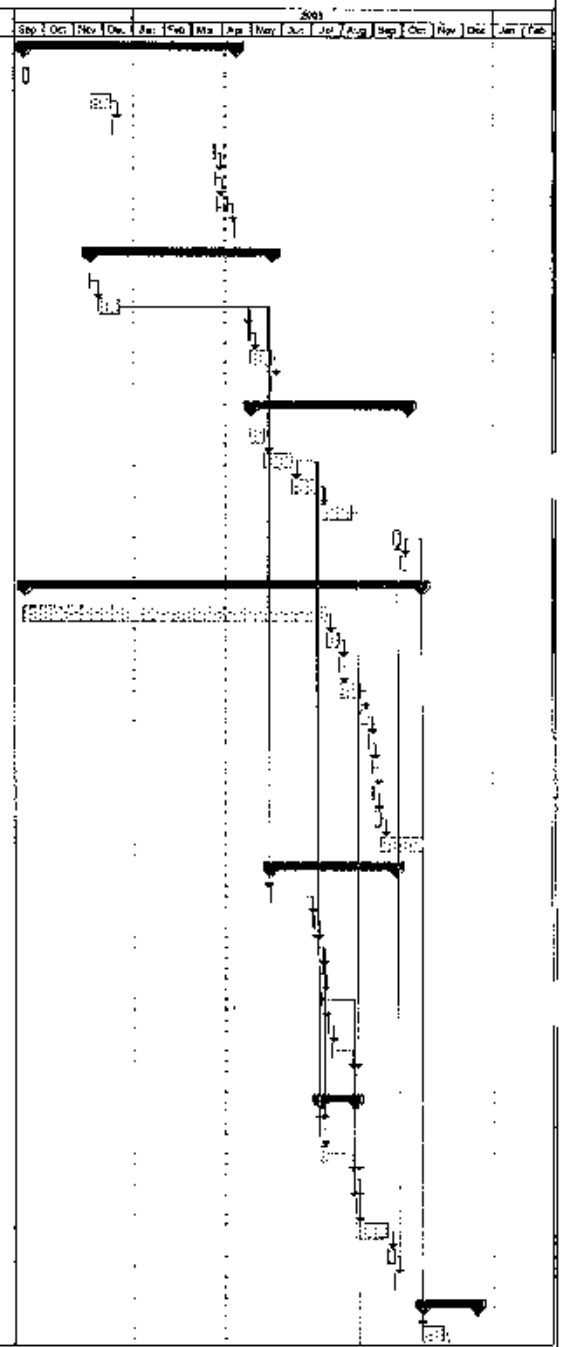
Hourly Rate include direct costs and indirect costs at a rate of 188 43%

EXHIBIT E

TENTATIVE PROJECT SCHEDULE

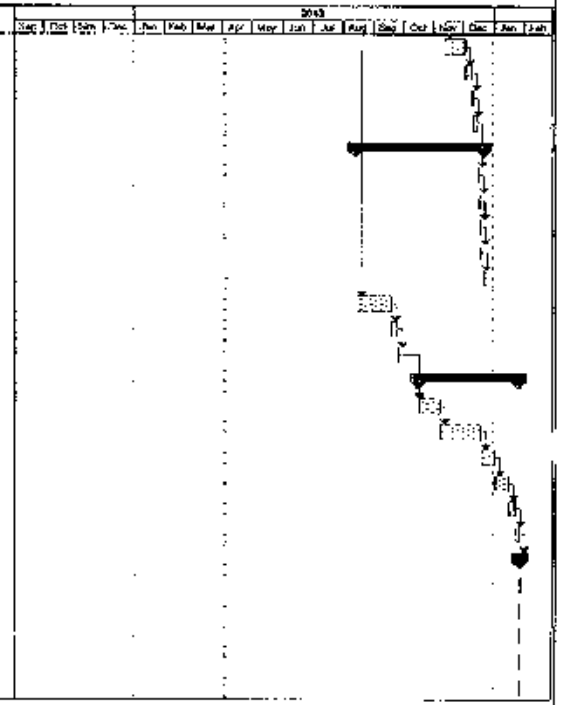
DGS - BARIEC Project
Virginia Lasky
Karen Toth

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1	**Voluntary Cleanup Agreement(VCA)**	**154 days**	**Thu 09/12/02**	**Tue 04/15/03**		
2	DTSC Drafts VCA	4 days	Thu 09/12/02	Tue 09/17/02		
3	DGS reviews VCA	18 days	Wed 11/20/02	Wed 12/11/02		
4	DTSC revises VCA	2 days	Thu 12/12/02	Fri 12/13/02	3	
5	DGS comments on the VCA	3 days	Mon 03/24/03	Wed 03/26/03		
6	DTSC revises VCA	1 day	Thu 03/27/03	Thu 03/27/03	5	
7	DGS Signs VCA	6 days	Fri 03/28/03	Tue 04/08/03	6	
8	DTSC signs VCA	2 days	Mon 04/14/03	Tue 04/15/03	7FS+3 days	
9	**Existing Data**	**134 days**	**Mon 11/18/02**	**Thu 05/22/03**		
10	RP submits existing data	1 day	Mon 11/18/02	Mon 11/18/02		
11	DTSC reviews existing data	15 days	Thu 11/28/02	Wed 12/18/02	10	
12	RP submits revised Report	1 day	Wed 04/30/03	Wed 04/30/03	11	
13	DTSC reviews Report	15 days	Thu 05/01/03	Wed 05/21/03	12	
14	DTSC approves Report	1 day	Thu 05/22/03	Thu 05/22/03	13	
15	**DRAFT REMOVAL ACTION WORKPLAN (RAW)**	**113 days**	**Thu 05/01/03**	**Mon 10/06/03**		
16	RP Prepares draft RAW	10 days	Thu 05/01/03	Wed 05/14/03		Responsible Party
17	DTSC reviews and comments on draft RAW	20 days	Thu 05/15/03	Wed 06/11/03	16	Project Manager,Attorney,Supervisor,Geologist,Engineering Support
18	RP Revises draft RAW	20 days	Thu 06/12/03	Wed 07/09/03	17	Responsible Party
19	DTSC reviews and approves final draft RAW	24 days	Thu 07/10/03	Tue 08/12/03	18	Project Manager,Supervisor,Branch Chief
20	DTSC approves final RAW	6 days	Tue 09/23/03	Tue 09/30/03	48	Responsible Party,Supervisor,Branch Chief,Project Manager
21	RP Distributes final RAW	4 days	Wed 10/01/03	Mon 10/06/03	20	Responsible Party Project Manager
22	**CEQA**	**289 days**	**Thu 09/12/02**	**Tue 10/21/03**		
23	RP prepares Draft EIR	220 days	Thu 09/12/02	Wed 07/16/03		Project Manager
24	DTSC Prepares responsible agency checklist	9 days	Thu 07/17/03	Tue 07/29/03	23	Project Manager
25	Transmit checklist to PEAS	1 day	Wed 07/30/03	Wed 07/30/03	24	Supervisor,Project Manager
26	PEAS reviews checklist	15 days	Thu 07/31/03	Wed 08/20/03	25	PEAS Reviewer
27	Incorporate comments from PEAS	5 days	Thu 08/21/03	Wed 08/27/03	26	Project Manager
28	Complete Notice of Determination (NOD) package	2 days	Thu 08/28/03	Fri 08/29/03	27	Project Manager,Supervisor,Branch Chief
29	Approve NOD package	1 day	Mon 09/01/03	Mon 09/01/03	28	Project Manager,Branch Chief,Supervisor
30	Transmit NOD package to PEAS	1 day	Tue 09/02/03	Tue 09/02/03	29	Project Manager,Supervisor
31	PEAS processes NOD package and files with OPR	5 days	Wed 09/03/03	Tue 09/09/03	30	PEAS Reviewer
32	30-day NOD challenge period	30 days	Wed 09/10/03	Tue 10/21/03	31	
33	**PUBLIC PARTICIPATION ACTIVITIES**	**91 days**	**Tue 05/20/03**	**Tue 09/23/03**		
34	RP Updates mailing list and CRP/PEF	2 days	Tue 05/20/03	Wed 05/21/03	11	Public Participation Specialist,Project Manager
35	RP Prepares draft Fact Sheet	2 days	Thu 07/03/03	Fri 07/04/03	34FS+30 days	Project Manager,Public Participation Specialist,Responsible Party
36	DTSC reviews draft Fact Sheet	2 days	Mon 07/07/03	Tue 07/08/03	17,35	Project Manager,Public Participation Specialist,Supervisor
37	RP Revises draft Fact Sheet	2 days	Wed 07/09/03	Thu 07/10/03	36	Responsible Party
38	DTSC approves Fact Sheet	1 day	Fri 07/11/03	Fri 07/11/03	37	Project Manager,Supervisor,Public Participation Specialist
39	RP Prints Fact Sheet	5 days	Mon 07/14/03	Fri 07/18/03	38	Responsible Party
40	RP mails Fact Sheet	2 days	Mon 07/21/03	Tue 07/22/03	39	
41	RP Mails Fact Sheet	2 days	Wed 08/13/03	Thu 08/14/03	18,40	Newspaper AD,Responsible Party,Project Manager,Public Participation Specialist
42	Public Notice	25 days	Wed 07/09/03	Wed 08/13/03		
43	RP Prepares draft Public Notice	1 day	Wed 07/09/03	Wed 07/09/03	17,36	Responsible Party
44	DTSC reviews draft Public Notice	5 days	Thu 07/10/03	Wed 07/16/03	43	Public Participation Specialist,Project Manager,Supervisor
45	RP Publishes Public Notice	1 day	Wed 08/13/03	Wed 08/13/03	44FS+2 days,19	Responsible Party
46	RP Updates information repositories	1 day	Thu 08/14/03	Thu 08/14/03	38,45	Responsible Party
47	Public Comment Period	23 days	Thu 08/14/03	Mon 09/15/03	45	
48	DTSC Prepares Responsiveness Summary	5 wks	Tue 09/16/03	Mon 09/22/03	47	Project Manager,Supervisor
49	DTSC Transmits Responsiveness Summary to commentors	1 day	Tue 09/23/03	Tue 09/23/03	48	Project Manager,Supervisor
50	**Implementation**	**39 days**	**Wed 10/22/03**	**Mon 12/15/03**		
51	RP Implements RAW	15 days	Wed 10/22/03	Tue 11/11/03	20FS+15 days	Project Manager,Geologist



DGS - BARCC Project
Virginia Lasky
Karen Toth

ID	Task Name	Duration	Start	Finish	Predecessors	Resource Names
50	RP Prepares Report	15 days	Wed 11/12/03	Tue 12/02/03	51	Responsible Party
51	DTSC Reviews Report	5 days	Wed 12/03/03	Tue 12/09/03	52	Project Manager,Supervisor,Geologist
52	DTSC Approves Report	2 days	Wed 12/10/03	Thu 12/11/03	53	Project Manager,Supervisor
53	DTSC Prepares Report of Completion Form for RA	2 days	Fri 12/12/03	Mon 12/15/03	54	Project Manager,Supervisor,Branch Chief
54	**CERTIFICATION**	**93 days**	**Fri 09/19/03**	**Mon 12/22/03**		
55	DTSC prepares draft Cert. Package	1 day	Tue 12/16/03	Tue 12/16/03	55	
56	DTSC prepares draft press release	1 day	Wed 12/17/03	Wed 12/17/03	57	
57	DTSC internal review of draft Cert. Package	1 day	Thu 12/18/03	Thu 12/18/03	58	
58	DTSC finalizes Cert. Package	1 day	Fri 12/19/03	Fri 12/19/03	59	
59	Press Release	1 day	Mon 12/22/03	Mon 12/22/03	60	
60	Public Comment Period	24 days	Fri 08/15/03	Wed 09/17/03	46	
61	DTSC Prepares Responsiveness Summary	5 days	Thu 09/18/03	Wed 09/24/03	62	
62	DTSC Transmits Responsiveness Sum. To Commenters	1 day	Thu 09/25/03	Thu 09/25/03	63	
63	**Implementation**	**72 days**	**Fri 10/17/03**	**Mon 01/26/04**		
64	RP Implements RAW	15 days	Fri 10/17/03	Thu 11/06/03	64FS+15 days	
65	RP prepares report	30 days	Fri 11/07/03	Thu 12/18/03	66	
66	DTSC reviews and comments on the Report	15 days	Fri 12/19/03	Thu 01/01/04	67	
67	RP revises Report	10 days	Fri 01/02/04	Thu 01/15/04	68	
68	DTSC reviews and approves Report	5 days	Fri 01/16/04	Thu 01/22/04	69	
69	DTSC prepares Report of Completion Form for RA	2 days	Fri 01/23/04	Mon 01/26/04	70	
70	**Certification**	**2 days**	**Tue 01/27/04**	**Wed 01/28/04**	**71**	
71	DTSC prepares draft Cert. Package	2 days	Tue 01/27/04	Wed 01/28/04		
72	DTSC prepares draft press release	1 day	Tue 01/27/04	Tue 01/27/04		
73	DTSC internal review of draft Cert. Package	1 day	Tue 01/27/04	Tue 01/27/04		
74	DTSC finalizes Cert. Package	1 day	Tue 01/27/04	Tue 01/27/04		
75	Press Release	1 day	Tue 01/27/04	Tue 01/27/04		



F I N A L

REMOVAL ACTION WORKPLAN (RAW)

Former University of California
Bay Area Research and Extension Center (BAREC)
90 North Winchester Boulevard
Santa Clara, California

Prepared for:
DVP and Associates

Prepared by:
ENVIRON International Corporation
Emeryville, California

October 2007
Project No. 03-10609A

F I N A L

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I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Anne W Gates

_____

Anne Wooster Gates, P.E.
Senior Manager
ENVIRON International Corporation

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LIST OF ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements
BAREC	Bay Area Research and Extension Center
bgs	below ground surface
Cal/EPA	California Environmental Protection Agency
CalTrans	California Department of Transportation
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
cm^2	Square centimeter
COPC	Chemical of Potential Concern
DEH	City of Santa Clara Department of Environmental Health
4,4'-DDD	4,4'-Dichorodiphenyldichloroethane
4,4'-DDE	4,4'-Dichorodiphenyldichloroethene
4,4'-DDT	4,4'-Dichorodiphenyltrichloroethane
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
kg	Kilogram
LBNL	Lawrence Berkeley National Laboratory
m^3/day	cubic meters per day
mg/cm^2	milligrams per square centimeter
mg/day	milligrams per day
mg/kg	milligrams per kilogram
mg/m^3	milligrams per cubic meter
mm of Hg	millimeters of mercury
MRL	Method Reporting Limit
MSL	Mean Sea Level
NA	Not Applicable
NCP	National Contingency Plan
ND	Not Detected
NR	Not Reported
PEA	Preliminary Endangerment Assessment
PRG	Preliminary Remediation Goal
RA	Removal Action
RAL	Recommended Action Level
RAOs	Removal Action Objectives
R&D	Research and Development
TBCs	To Be Considered
T&CVSC	Town and Country Village Shopping Center
UC	University of California
UCL	Upper Confidence Limit
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

An environmental investigation was conducted at the former University of California (UC) Bay Area Research and Extension Center (BAREC) in Santa Clara, California (the site) to determine whether prior agricultural research operations had impacted soil. Residential development is planned for the site in the future. The State of California has closed the BAREC and plans to sell the property for development of single-family homes, open space and senior housing.

The results of the environmental investigation recommended that a removal action be performed to address elevated concentrations of arsenic in the eastern sector of Field 4, and the three "hot spots" in surface soil. A Removal Action Workplan ("RAW") was prepared to identify, evaluate, and recommend remediation alternatives for contaminated soils at the site. The primary objective of this RAW is to ensure the protection of human health and the environment.

Background

Since the 1920s, the BAREC was used as an agricultural research station. The primary research efforts at the BAREC have focused on improving crop production methods, irrigation systems, nutrition and variety characteristics of crops, and crop disease control. Part of this research has involved demonstrating the efficacy of a variety of research and development (R&D) pesticides. Monthly records of pesticide use were available from 1979 until the July 2002. These records indicated that small quantities of 90 different chemicals had been tested on crops at the site. Fourteen of these 90 chemicals were considered of potential concern because of their toxicity and persistence in the environment. The remaining chemicals were not of potential concern because of their lack of persistence and/or low toxicity.

Environmental Investigation

As a result of the application of pesticides to soil and the handling of pesticides on-site, over 50 samples of surface soil were collected to determine if surface soil in field plots and the greenhouses contained pesticide residues. These samples were analyzed for chemicals/pesticides that may persist in soil for many years following application. The chemicals analyzed included the 14 chemicals of potential concern, known to have been used at the site, and 60 pesticides that were commonly used prior to 1979. Subsurface soil samples were also collected and analyzed from a former sewer leach pit, the former

evaporation pond, and former sediment trap to determine if deeper subsurface soil and potentially ground water beneath the site contained pesticide residues.

Investigation Results

Arsenic and dieldrin were the chemicals of potential concern that were found at concentrations above USEPA Region 9 Preliminary Remediation Goals (PRGs) in surface soil. Elevated concentrations of dieldrin were isolated and of limited horizontal and vertical extent. However, the dieldrin concentration in surface soil in Field 1 exceeded the PRG. As a result, it is recommended that this "hot spot" of dieldrin be addressed.

An area in the eastern portion of Field 4 had elevated concentrations of arsenic in surface soil relative to background levels and other areas at the site. These results suggest that the elevated concentrations of arsenic in Field 4 may be a result of prior use of arsenical pesticides. There were also two additional areas that had isolated, elevated concentrations of arsenic: 1) adjacent to the road in front of the former screen house, a less than five square foot area of distressed vegetation had an elevated concentration (37 mg/kg) of arsenic in surface soil; and 2) between Field 11 and 12, there is an elevated concentration (27 mg/kg) of arsenic in surface soil. Based on these results, a removal action was recommended to address the elevated concentrations of arsenic in the eastern sector of Field 4, and the three "hot" spots in surface soil.

Removal Action Alternatives

The removal action objectives (RAOs) for the site are:

- Minimize exposure of future site residents to surface soil containing arsenic above the 20 mg/kg level,
- Ensure the mean concentration of dieldrin in an individual field is below 30 ug/kg; and
- Leave the site in a physical condition that is compatible with single-family residential use.

Three removal action alternatives were evaluated based on their ability to meet RAOs, effectiveness, implementablility and cost. The three alternatives included: 1) No Action; 2) Capping and Implementation of Institutional Controls; and, 3) Excavation with Offsite Disposal..

The recommended alternative was excavation and offsite disposal of soil. Soil above cleanup goals would be excavated from the site and disposed of at a nearby nonhazardous, municipal landfill. The overall average arsenic concentration in shallow soil would be 12 mg/kg and the average dieldrin concentration in Field 1 less than 30 ug/kg following implementation of the recommended removal action alternative. Up to roughly 6000 cubic yards of soil are anticipated to be excavated over an approximately 2-week period from Field 4 and the three hot spots. Confirmation samples will be collected from the excavation areas prior to backfilling with clean import fill. Air monitoring and dust control measures will be implemented during removal action activities. The estimated cost of implementation of the removal action alternative is approximately $800,000. The anticipated time to implement the removal action at the site is 6 weeks.

1.0 INTRODUCTION

This Removal Action Workplan (RAW) was prepared by ENVIRON International Corporation (ENVIRON), an environmental consulting firm, on behalf of the State of California Department of General Services (DGS) to address the presence of contaminated soil at the former University of California (UC) Bay Area Research and Extension Center (BAREC) site ("the site"). The RAW has been prepared in a manner consistent with the National Contingency Plan (NCP) and in accordance with California Health and Safety Code, Section 25356.1. The RAW is also being prepared under a Voluntary Cleanup Agreement between the DGS and the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) dated May 12, 2003. An Environmental Impact Report (EIR) is being prepared by the City of Santa Clara for the proposed development project and site clean-up to comply with the requirements of the California Environmental Quality Act (CEQA)

The purpose of this RAW is to identify, evaluate, and recommend remediation alternatives for contaminated soils at the site. Selection of one alternative is based upon an analysis of the effectiveness, implementability and cost of each alternative. The primary objective of this RAW is to ensure the protection of human health and the environment. Residential development is planned for the site in the future.

2.0 SITE CHARACTERIZATION

2.1. SITE DESCRIPTION AND BACKGROUND

The site is located at 90 North Winchester Boulevard in the City of Santa Clara, California. The location of the site is presented on Figure 1. The site is an approximately 17-acre, roughly rectangular-shaped property. As shown in Figure 2, 12 small buildings are located on the eastern portion of the site. The remainder of the property consists of agricultural fields, unpaved roadways and a paved parking area. The fields are identified by a number from one through twelve and cover a total of approximately eleven acres. Field 9 is enclosed by screens, which form a covered building over the field. Unpaved roadways provide access to the fields. The only paved area at the site is the northwest corner of the property, where buildings 100, 103, 104, 105, 201 and 204 are located. This paved area is used for parking.

2.1.1. Site History

According to facility personnel, the site was originally occupied by a veterans' widows home. Agricultural experimental field station operations at the site began in 1928. The home remained in operation until the 1960s, when it was demolished and replaced with more agricultural fields. According to historical topographical maps, the name of the facility used to be Holderman Sanitarium. Based on a review of historical titles and deeds, obtained from the DGS, four lots owned by Margaret Osborne were deeded to the State of California in 1921 and 1924. The four lots were incorporated into three lots, two of which were deeded by the State of California to the UC in 1952 and 1963. The third lot, located directly southwest of the site, remained property of the State of California, and is currently occupied by an office building, which is occupied by the Department of Veterans' Affairs.

The field station's initial purpose was to assist farmers in the surrounding area. Until 1990, deciduous fruit trees (such as apples, citrus, cherries, almonds and ornamental) were planted to conduct research on fertilizers, irrigation, variety characteristics of crops, and crop disease control. Part of this research has involved demonstrating the efficacy of a variety of research and development (R&D) pesticides. Monthly records of pesticide use were available from 1979 until July 2002. These records indicated that small quantities of 90 different chemicals had been tested on crops at the site. As the surrounding area changed and became urban, the trees were replaced with various crops, such as strawberries, corn, tomatoes, beans and flowers. Since about 1995, eighty

percent of the research at BAREC has focused on crop improvement, whereas only twenty percent has involved pesticide use (UC, 2002). In early 2003, UC closed the BAREC. As part of closure, UC personnel removed all hazardous materials (i.e. fertilizers, pesticides, fuels, oils, cleaning solutions), portable tanks and trailers from the site. The buildings and related utilities remain in place at the site.

2.1.2. Geology

The site is located near the center of the South Bay hydrologic sub-basin of the San Francisco Bay hydrologic basin, which is located in the Coast Ranges geomorphic province. The Coast Ranges geomorphic unit is characterized by predominantly northwest trending mountains, valleys and faults. The South Bay unit is a broad alluvial valley sloping north toward San Francisco Bay. The site is underlain by Quaternary alluvium deposited by streams that merge near the center of the San Jose Alluvial Plain and flow north toward San Francisco Bay. The alluvium is composed of unconsolidated interbedded gravel, sand silt and clay. The alluvium becomes progressively finer-grained northward toward the Bay and contains a series of laterally extensive marine clay layers (Dames and Moore 1988).

The site is likely within or on the margin of the area underlain by extensive clay layers (Dames and Moore 1988). According to documentation provided by the UC for the irrigation well at the site, interbedded gravel, sand and clay was observed at the site to a depth of 39 feet. The gravel was underlain by layers of clay, sandy clay, gravelly clay and gravel to a depth of 360 feet. Blue clay was reported at depths of 70 to 75 feet, 105 to 119 feet, 239 to 244 feet, and 261 to 272 feet, which is consistent with the interpretation that the site is on the margin of the area underlain by extensive clay layers.

2.1.3. Hydrogeology

The alluvial deposits of the Santa Clara Valley basin are generally regarded as a complex series of coalescing alluvial fans. Sediments deposited by meandering stream channels on the fans resulted in a complex stratigraphic sequence, which trends northeast from the Santa Cruz Mountains toward San Francisco Bay and its estuarine areas. The alluvial deposits make up the primary water-yielding aquifers of the Santa Clara Valley, which are grouped into a shallow unconfined to semi-confined aquifer, and a deeper confined aquifer. The deeper confined aquifer is encountered beneath an extensive aquitard, at depths greater than 300 feet below ground surface (bgs) and is considered a viable drinking water source for this area. Recharge to the aquifers is from infiltration of

surface waters to the deeper zones (IT Corporation, 1999). Most water wells in the Santa Clara Valley basin withdraw ground water from the Quaternary alluvium (Dames and Moore 1988). Four correlatable regional aquifers have been identified in the alluvial plain; the 60-foot, 250-foot, 350-foot, and 450-foot aquifers. Most major producing wells in the Santa Clara area withdraw water from a zone 150 to 250 feet below ground surface under confined or semi-confined conditions.

Former BAREC personnel indicate that one groundwater well is located on-site. It is located inside the pump house and was used for irrigation of the fields. The well at the site is screened from a depth of 200 to 250 feet bgs; the depth to groundwater in this well is 140 feet and approximately 3.7-million gallons were pumped annually when the BAREC was operating. A report by Environmental Data Resources, Inc. (EDR) identified nine additional active wells within a one-mile radius of the site. The wells are operated by O'Connor Hospital, the San Jose Water Company, the City of San Jose, and the City of Santa Clara. No additional information about these wells was found.

There is no site-specific information on shallow ground water at the site. ENVIRON reviewed a Soil and Ground Water Report prepared by McCulley, Frick & Gilman, Inc. for the Dunn-Edwards Corporation Facility located at 690 Winchester Boulevard, approximately 1/8 mile north of the site. The report indicated that shallow ground water was encountered between 20 and 30 feet bgs and that shallow ground water flowed towards the Bay to the east.

2.2. SOURCE, NATURE AND EXTENT OF IMPACTS

A series of environmental investigations have been conducted at the site. In 1993 and 1987, UC conducted two environmental investigations at the site. These investigations were related to removal of two underground fuel storage tanks and closure of an evaporation bed. In addition, as part of closure and redevelopment of the site, DGS conducted several environmental investigations between July 2002 and April 2003. The overall purpose of the DGS investigations was to determine whether current or past chemical use at the site had resulted in soil concentrations that might pose a threat to public health and the environment. A summary of the results of these investigations is presented below.

2.2.1. Underground Storage Tanks

Two 1,000-gallon fuel tanks were formerly located on-site. The date of installation of the tanks is unknown. A 1000-gallon gasoline UST was located next to Building 201, and a 1000-gallon diesel UST was located next to Building 207 (see Figure 2).

In 1993, UC personnel removed the USTs. The USTs were reportedly in good condition with no evidence of damage or leaks at the time of the removal. As part of removal activities, two samples were taken from approximately two feet below the bottom of the gasoline UST excavation, and one sample was taken from approximately two feet below the bottom of the diesel UST excavation. The soil samples were analyzed for gasoline, diesel, lead, benzene, toluene, ethylbenzene and xylenes. None of these constituents were detected. A letter dated October 7, 1993, from the City of Santa Clara Fire Department confirms that there was no sign of contamination, and that no further work was required.

2.2.2. Former Evaporation Bed

An evaporation bed was constructed in 1973 to dispose of diluted pesticide wastes. Rinsate from the washing of pesticide containers and application equipment was applied to the evaporation bed from 1973 to 1985. Use of the evaporation bed was discontinued in 1985 and inlets to the basin were sealed. In 1987, UC initiated an investigation to close the bed. Prior to its removal, the evaporation bed was sampled in July 1987 by UC staff. Details of the investigation can be found in the *Phase II – Site Characterization Report* (ENVIRON, 2003).

The UC, with the assistance of Dames & Moore, removed the evaporation bed in October 1987. All materials were excavated from inside of the liner and the liner was checked for integrity. After the liner was removed, the underlying two inches of soil were excavated from the bed to minimize possible residual contamination. Additional soil samples were collected by Dames & Moore. Based on the results of the sampling, Dames & Moore concluded that there was no indication that the operation of the former evaporation bed had a significant impact on the environment.

Additional samples were collected from the former pond by ENVIRON on behalf of DGS in April 1, 2003. In the center of the former evaporation pond, the soil samples, which were collected from depths of 2, 3.5, 6.5 and 7.8 feet bgs had arsenic concentrations of 20, 9.7, 2.8, and 2.9 mg/kg respectively. Soil samples collected at depths of 3.5 and 8.5 feet bgs from a soil boring adjacent to the sediment trap had arsenic

concentrations of 3.5 and 3.2. Organochlorine pesticides were not detected in a sample of the liquid inside the sediment trap. Metals were detected at low concentrations in a sample of the sediment trap liquid. The results of this additional sampling confirmed Dames & Moore's conclusion that the operation of the former evaporation bed did not have a significant impact on the environment.

2.2.3. DGS Site Characterization Investigations 2002/2003

ENVIRON conducted a series of site characterization investigations on behalf of DGS in August and September 2002 and in April 2003. The primary focus of these investigations was to determine whether current or past pesticide use at the site had resulted in soil concentrations that might pose a threat to public health and the environment. Initially, over 50 samples of surface soil were collected to determine if surface soil in field plots and the greenhouses contained pesticide residues. These samples were analyzed for chemicals/pesticides that may persist in soil for many years following application. The chemicals analyzed included 14 chemicals of potential concern, known to have been used at the site, and 60 pesticides that were commonly used prior to 1979. In addition, subsurface soil samples were also collected and analyzed from a former sewer leach pit, the former evaporation pond and sediment trap to determine if deeper subsurface soil and potentially ground water beneath the site contained pesticide residues.

2.2.3.1. Surface Soil Results

Surface soil sampling results are discussed in detail in the *Phase II – Site Characterization Report* (ENVIRON, 2003). The results of analyses of soil samples from the field plots and greenhouses at the site indicate that only seven organochlorine pesticides, diquat and thirteen inorganic compounds were detected. Triazine pesticides, organophosphorous pesticides, chlorinated herbicides, paraquat, carbamate pesticides and urea pesticides were not detected in any of the samples analyzed. A statistical summary of the compounds detected is provided in Table 1.

Of the pesticides, 4,4'-DDT, 4-4'DDE and diquat were detected the most frequently at a rate of about 66 percent in the samples analyzed. Dieldrin was detected the next most frequently at a rate of about 25 percent while chlordane and endrin were detected at a frequency of less than 10 percent. Only one detection of heptachlor epoxide was reported in the 59 samples analyzed.

A comparison of the pesticide results with USEPA Region 9 PRGs[1] showed that only dieldrin exceeded the PRG for samples collected at 0.5 feet bgs. Exceedences of the PRGs occurred in one sample from Field 1 and two samples from Field 3. As a result, samples collected at 3 feet bgs from these locations (in addition to 3 more locations in Field 3 and one location in Field 7[2]) were analyzed for organochlorine pesticides. For samples from 3 feet bgs, dieldrin was detected in two of the samples from Field 3 at concentrations below the PRG. Dieldrin was not detected at 3 feet bgs in the other locations analyzed in Field 3 or, in Field 1 and Field 7. 4,4'-DDT and 4-4'-DDE were also detected in samples from Fields 3 and 7 at 3 feet bgs, but at concentrations well below the PRG. Diquat was detected in 8 of the 12 fields at concentrations well below the PRG. A summary of the results is shown on Figure 3.

Although dieldrin exceeded the PRG in three localized areas in shallow soil, the 95% upper confidence level (UCL) of the mean dieldrin concentration in shallow soil for the site was below the PRG of 30 ug/kg (Table 1). With the exception of Field 1, the mean concentration of dieldrin in shallow soil in each individual field is also below the PRG. However, the mean concentration of dieldrin in Field 1, which is where the maximum dieldrin concentration (240 ug/kg) is located, exceeds the PRG. There were three other samples collected from shallow soil in Field 1 and analyzed for dieldrin. Dieldrin was not detected in two of these samples and was detected at 11 ug/kg in the third sample. However, because the dieldrin concentration in the sample collected at F1-C is well above the PRG, the mean dieldrin concentration in Field 1 exceeds the PRG.

For the inorganic compounds, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, cyanide, lead, mercury, nickel, vanadium, and zinc were detected in samples from 0.5 feet bgs. Except for beryllium, cyanide and mercury, these inorganics were detected in all samples. This is expected since these compounds are naturally-occurring constituents of soil. Soil pH was also within the normal range for soil, i.e. between 6 and 8. Table 2 presents a comparison of the inorganic results from surface soil at the site to typical background ranges in soil in California and the western US. This comparison shows that the concentrations of inorganics detected at the site are within the typical background range for California/Western US.

Table 2 also presents background ranges for metals in soil in northern Santa Clara County and in the Bay Area. These background ranges were compiled in a report by Christina

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1 USEPA Region 9 PRGs were used for screening purposes only. The PRGs used for comparison are for residential soil from: October 1, 2002, *USEPA Region 9 Preliminary Remediation Goals (PRGs).*
2 These samples were analyzed because preliminary laboratory showed detection limits above the PRGs.

Scott from various environmental investigations done within a 2-mile radius in northern Santa Clara County (Scott, 1991) and in a report by Lawrence Berkeley National Laboratory (LBNL) in the San Francisco Bay Area (LBNL, 2002). The former BAREC site is located in southern Santa Clara County between 5 and 10 miles south of where samples for northern Santa Clara County were collected in the Scott study. As discussed in Section 2, the site is underlain by Quaternary alluvium deposited by streams that merge near the center of the San Jose Alluvial Plain and flow north toward San Francisco Bay. The alluvium is composed of unconsolidated interbedded gravel, sand silt and clay and becomes progressively finer-grained northward toward the Bay. Based on this information, the alluvium in northern Santa Clara County may be finer-grained than in southern Santa Clara County suggesting that there may be some natural variations in the inorganic composition of soils between southern and northern Santa Clara County. A qualitative comparison between site data and the northern Santa Clara County data indicates that arsenic concentrations at the site are just outside the range of the northern Santa Clara County background values and the average arsenic concentration at the site is higher (11 mg/kg) than the northern Santa Clara County value (2.9 mg/kg). In addition, the average lead concentration at the site (23 mg/kg) is slightly above the northern Santa Clara County value (11.4 mg/kg). Copper and zinc average concentrations at the site are about the same as the northern Santa Clara County value while the average concentrations of beryllium, chromium, nickel and vanadium at the site are below the northern Santa Clara County study values.

With respect to the LBNL study, a qualitative comparison between site data and the roughly 1400 samples analyzed in LBNL study indicates that arsenic concentrations range from 1.8 to 37 mg/kg at the site and up to 42 mg/kg in the LBNL study. The average arsenic concentration at the site is higher (11 mg/kg) than the LBNL average (5.5 mg/kg). With respect to other metals, the average lead concentration at the site (23 mg/kg) is above the LBNL value (7.0 mg/kg). Barium and zinc average concentrations at the site are about the same as the LBNL average values while the average concentrations of beryllium, chromium, copper, nickel, and vanadium at the site are below the LBNL average values.

Table 2 also presents the results of the one background sample, BG-A, collected below pavement at 0.75 bgs at the site. This sample was taken outside of areas at the site known to have pesticide use. Typically, a minimum of 4 samples should be collected, if possible, to determine background concentrations; however, only one small area of the site, which was outside of buildings, was identified where there was no known pesticide/chemical use. Since the area surrounding the site is highly urbanized and

previously used as agricultural land, there were also no offsite areas where representative background samples could be collected. As a result, comparison of the results to only one background sample is of limited statistical value. A qualitative comparison indicates that arsenic and lead were detected in many samples at concentrations above the concentrations detected at BG-A. Barium, however, was detected at concentrations below the concentration in BG-A. Except for arsenic, barium and lead, the other metals were detected at similar concentrations as BG-A.

A comparison of the inorganic results with USEPA Region 9 PRGs showed that arsenic exceeded the PRG for all samples including the background sample, BG-A. No other inorganic compound exceeded the PRGs. As noted in the preamble to the PRG table, the PRG for arsenic in residential soils is 0.39 mg/kg. This value is typically below background concentrations in a local area (especially in California), and as such, USEPA Region 9 has at times used the non-cancer PRG for arsenic of 22 mg/kg (USEPA, 2000).

Based on the above, an arsenic background concentration needs to be defined to determine areas at the site, which may have been impacted by arsenical pesticides. A discussion of the rationale for determining an arsenic background is presented below.

2.2.3.1.1. Arsenic Background

As discussed above, in the Scott study, the maximum arsenic concentration in background soil was 20 mg/kg. In the LBNL study, the proposed upper estimate of the background arsenic concentration was 42 mg/kg. In addition, a plot of the cumulative frequency of the shallow arsenic soil concentrations at the site, which is presented in Figure 7 of the *Phase II – Site Characterization Report* (ENVIRON, 2003), shows an inflection point at 20 mg/kg for the site. Based on these data, concentrations of arsenic above 20 mg/kg are considered to exceed background levels.

Furthermore, the arsenic background concentration and removal action objectives that were approved by DTSC for the residential portion of the Town and Country Village Shopping Center (T&CVSC) development at 360 Winchester Boulevard in San Jose, (which is in close proximity to the site), were also considered in determining an arsenic background concentration for the site. The mean background concentration for arsenic at the T&CVSC was 12 mg/kg. The residential removal action objectives for arsenic at the T&CVSC used a site-wide average concentration of 12 mg/kg and a maximum arsenic concentration of 20 mg/kg.

Table 3 presents summary statistics for arsenic in shallow and deeper soil at the site. Assuming the arsenic concentrations that are above 20 mg/kg are replaced with a concentration of 7 mg/kg, which is the average concentration in deep soils, the average, standard deviation and 95% UCL of the mean arsenic concentration in shallow soil becomes of similar magnitude to deeper soil. Furthermore, if the arsenic concentrations above 20 mg/kg are removed and the eastern portion of Field 4 is removed and replaced with soil with arsenic concentrations less than 7 mg/kg, then the average arsenic concentration in shallow soil at the former BAREC site is less than 12 mg/kg, which is the mean background concentration for arsenic that was used at the nearby T&CVSC site.

2.2.3.1.2. Nature and Extent of Arsenic above Natural Background Levels

Figures 4 and 5 illustrate the horizontal and vertical extent of arsenic in soil at the site. Elevated concentrations of arsenic above 20 mg/kg are located primarily in the eastern portion of Field 4, primarily at 0.5 feet bgs, in sample 1-GB collected from distressed vegetation next to the old screen house, and in sample F12-A in the dirt road between Fields 11 and 12 at 0.5 feet bgs. Sample F12-A, which has an arsenic concentration above 20 mg/kg, between Fields 11 and 12, however, appears to be of limited horizontal and vertical extent. Adjacent samples in Field 11 and 12 have arsenic concentrations of 10 and 5.3 mg/kg, respectively, and the sample at 3 feet bgs at F12-A has an arsenic concentration of 7.7 mg/kg. Sample 1-GB was collected from an obviously brown patch of grass in April 2003. The brown patch of grass was less than 2 feet in diameter surrounded by dark green grass.

With respect to the elevated concentrations of arsenic in Field 4, there are several samples in the southern half of Field 4 with arsenic above 20 mg/kg. At 0.5 feet depth, 6 samples exceeded 20 mg/kg at the following locations: F4-6, F4-A, F4-B, F4-C, F4-D, and F4-F; at 2 feet bgs, one sample exceeded 20 mg/kg at F4-7; and, at 3 feet bgs, two samples exceeded 20 mg/kg at the following locations: F4-7 and F4-C. Arsenic concentrations above 20 mg/kg are of limited vertical extent. All samples at 4 feet bgs collected from direct-push borings at F4-E/SB-1, F4-C/SB-2, and F4-F/SB-3 (near F4-7) had arsenic concentrations of 1.8, 7.7, and 2.6 mg/kg.

2.2.3.2. Subsurface Soil Sampling Results

With respect to samples collected from the former sanitary sewer leach pit, VOCs, SVOCs, organochlorine pesticides and TPH were not detected in soil samples collected

from the bottom and 3 feet below the former sewer leach pit. Metals were detected at low concentrations in both samples.

With respect to the sampling results from the former evaporation pond, the soil samples, which were collected from depths of 2, 3.5, 6.5 and 7.8 feet bgs had arsenic concentrations of 20, 9.7, 2.8, and 2.9 mg/kg respectively. Soil samples collected at depths of 3.5 and 8.5 feet bgs from a soil boring adjacent to the sediment trap had arsenic concentrations of 3.5 and 3.2. Organochlorine pesticides were not detected in a sample of the liquid inside the sediment trap. Metals were detected at low concentrations in a sample of the sediment trap liquid.

These results show no evidence that subsurface soil and/or ground water had been adversely impacted as a result of operation of the former sewer leach pit, evaporation pond and/or sediment trap. No further investigation of subsurface soil and/or ground water was judged to be warranted based on these sampling results. The subsurface sampling results are detailed in the *Phase II – Site Characterization Report* (ENVIRON, 2003).

2.2.3.3. Comparison to Waste Classification Criteria

A comparison of the pesticide and inorganic results from the site with hazardous waste identification criteria in the California Code of Regulations (CCR) Title 22 Section 66261 showed that the average and 95% UCL concentrations were below the Total Threshold Limit Concentrations (TTLC) and 10 times the Soluble Threshold Limit Concentrations (STLC) for the relevant pesticides and inorganics. For the inorganics, no sample concentrations from the site exceeded the TTLC or 10 times the STLC. For the pesticides, there were only two samples, F3-D and F3-E, that exceeded the TTLC for DDT and DDE, but these samples are in areas where concentrations are below PRGs for pesticides and where arsenic concentrations are less than 20 mg/kg. Based on these results, soil in this area will remain in this location.

3.0 IDENTIFICATION OF REMEDIAL ACTION GOALS, OBJECTIVES, AND SCOPE

The results of the previous investigations have indicated the presence of arsenic in soil at levels above background in portions of the site and dieldrin above PRGs in an isolated location in surface soil. In addition, no sensitive fauna or flora have been identified at the site location and as a result, there are no apparent ecological or ground water risks associated with proposed remediation activities.

The purpose of this section is to identify the type and appropriateness of a remedial action, if warranted, and to identify the goals, objectives, and scope for such action to address the risks posed by arsenic and dieldrin in soil at the site. In addition, regulatory requirements are identified so that the remediation goals can be compared against the relevant regulatory standards.

3.1. CHEMICALS OF POTENTIAL CONCERN

As stated in Section 2, arsenic and dieldrin were the chemicals of potential concern that were found at concentrations above PRGs in surface soils. Only three out of 60 sample had concentrations of dieldrin above its PRG. The dieldrin concentrations were of limited horizontal and vertical extent, and the 95% UCL of the mean diedrin concentration for the entire site was below the PRG of 30 ug/kg. However, the mean dieldrin concentration in Field 1 exceeded the PRG primarily because of an isolated detection of dieldrin at a concentration of 240 ug/kg in surface soil. Two other samples, F3-A and F3-B, detected dieldrin at 42 and 37 ppm, respectively, which is just above the PRG. However, the average concentration of these two samples plus the other four samples from Field 3 are below PRG. As a result, it is recommended that only the “hot spot” of dieldrin in Field 1 be addressed such that the mean concentration in Field 1 will be below the PRG of 30 ug/kg.

Arsenic, a naturally occurring inorganic chemical found in soil as well as in certain pesticides, was detected at concentrations above natural, background levels for Santa Clara in a portion of the site. Figures 4 and 5 illustrate the horizontal and vertical extent of arsenic in soil at the site. Elevated concentrations of arsenic above 20 mg/kg are located primarily in the eastern portion of Field 4, primarily at 0.5 feet bgs, in sample 1-GB collected from distressed vegetation next to the old screen house, and in sample F12-A in the dirt road between Fields 11 and 12 at 0.5 feet bgs.

3.2. REMOVAL ACTION OBJECTIVES

To assist in development and evaluation of remedial alternatives for addressing chemicals of potential concern that have been detected in site soils, remedial action objectives (RAOs) have been developed for the site. The RAOs for the site are as follows:

- Minimize exposure of future site residents to surface soil containing arsenic above the 20 mg/kg level,
- Ensure the mean concentration of dieldrin in an individual field is below 30 ug/kg; and
- Leave the site in a physical condition that is compatible with single-family residential use.

Since it is not feasible to remediate arsenic to levels below natural background, the removal action objectives are based on the natural background concentration range for arsenic in soils in this area of Santa Clara. The proposed cleanup goal of 20 mg/kg is within the acceptable health risk range.

3.3. STATUTORY LIMITS ON REMOVAL ACTION

Sections 25323.1 and 25356.1(h) of the California Health and Safety Code (H&SC) state that a site is exempted from the requirement for a remedial action plan if DTSC approves a non-emergency removal action at a site and the estimated cost of the removal action is less than $1,000,000. The removal action alternatives for the former BAREC site are estimated to cost less than this limit and therefore, this removal action workplan (RAW) has been prepared.

3.4. POTENTIAL APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Remedial actions under the CERCLA (as amended by the Superfund Amendments and Reauthorization Act) must comply with the substantive provisions of federal and state Applicable or Relevant and Appropriate requirements (ARARs) [CERCLA Section 121(d)]**.** Applicable requirements are those federal and state cleanup standards, standards of control and other environmental protection requirements, criteria, or limitations promulgated under federal or state environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site. If a requirement is not applicable, it still may be

relevant and appropriate. A relevant and appropriate requirement addresses problems or situations that are substantially similar to those encountered at the CERCLA site. Under USEPA ARAR guidance[3], a requirement must be both relevant and appropriate to be an ARAR.

It is not unusual that multiple federal and/or state requirements are initially identified as being relevant, even though the requirements address similar issues or circumstances. USEPA ARAR guidance provides for further screening of the "relevant" requirements to determine which requirements are "appropriate" and hence, an ARAR. "Relevant" requirements would not be considered "appropriate" when:

> *"...another requirement is available that more fully matches the circumstances at the site"*, or
>
> *"...another requirement is available that has been designed to apply to that specific situation, reflecting an explicit decision about the requirements appropriate to that situation."*

For a state requirement to qualify as an ARAR, it must be promulgated, legally enforceable, more stringent than any corresponding federal requirements, consistently applied, and identified in a timely manner.

ARARs fall into one of three identified categories: chemical-specific, location-specific, and action-specific. Chemical-specific ARARs are health or risk-based numerical limitations or standards that apply to site-specific conditions. Location-specific ARARs are restraints placed on activities conducted in a specific location. Action-specific ARARs are technology- or activity-based requirements or limitations on actions taken with respect to hazardous waste or site remediation activities. Table 4 provides a summary of federal, state and local ARARs and TBCs for the arsenic-contaminated soil at the site.

With respect to chemical-specific ARARs, there are no promulgated State or Federal standards for arsenic-contaminated soil. There are also no location-specific ARARs for arsenic contaminated soil at the site. A potential action-specific ARAR for arsenic-contaminated soil relates to regulations promulgated under the Federal Resource Conservation and Recovery Act (RCRA) and State Hazardous Waste Regulations, which govern characterization, disposal, storage, treatment and transportation of waste.

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3 See CERCLA Compliance with Other Laws Manual: Interim Final, August, 1988.

Compliance with RCRA regulations would apply to the site if arsenic-contaminated soil is excavated and disposed of offsite. Other potential action-specific ARARs are the Clean Air Act and California Ambient Air Standards, which regulate emissions of chemical vapors and dust, and the City of Santa Clara Ordinance related to soil movement or grading. Compliance with these regulations would apply if soil were excavated. Other action-specific standards are the Federal and State Occupational Safety and Health Administration Regulations (OSHA), which establish standards for workers.

In addition to chemical-, location-, and action-specific ARARs, advisories, criteria, and guidance developed by USEPA or other federal or state agencies may, as appropriate, be considered in developing the CERCLA remedy. These criteria are referred to as "to-be-considered" (TBC) criteria.

With respect to TBCs, the USEPA has developed Risk Assessment Guidance for contaminated sites (Risk Assessment Guidance for Superfund, 1989) and Soil Screening Guidance (Soil Screening Guidance: Technical Background Document, EPA/540/R-95/128, July 1996) as a tool to evaluate and cleanup sites on the National Priorities List. These guidances provide methodology for developing risk-based, site-specific screening levels (SSLs) for contaminants in soil. For example, the SSL presented in the guidance for arsenic is 0.4 mg/kg for residential land use. According to USEPA, SSLs are not cleanup levels and on their own do not trigger the need for a response action. If chemicals equal or exceed their SSL, further study or investigation, but not necessarily clean up, is warranted.

Similar to the SSLs, USEPA Region 9 has developed Preliminary Remediation Goals (PRGs) as risk-based tools for evaluating cleanup of contaminated sites. As previously stated in Section 2, the PRG for arsenic is 0.39 mg/kg and 30 ug/kg for dieldrin for a residential site. For arsenic, this value is typically below background concentrations in a local area (especially in California), and as such, USEPA Region 9 has at times used the non-cancer PRG for arsenic of 22 mg/kg (USEPA, 2000). Further evaluation may include additional sampling, considering background or ambient levels, and re-evaluating exposure and toxicity assumptions.

These guidances are considered TBCs, which are non-promulgated advisories or guidances that are generally not enforceable. Where no specific potential ARARs exist for a chemical or situation, or where such potential ARARs are not sufficient to be protective, guidance documents or advisories may be considered in determining the necessary level of cleanup for the protection of human health or the environment.

There are no chemical-specific ARARs for arsenic and dieldrin in soil. As previously stated, PRGs, which are considered TBCs, exist for arsenic and dieldrin. For dieldrin, the threshold cleanup level at the site for unrestricted residential land use is the PRG of 30 ug/kg. For arsenic, since TBCs do not consider relatively high naturally occurring background levels in California soil, remedial actions and alternatives are evaluated considering the estimated background concentration range for arsenic. A discussion of arsenic background concentrations was presented in Section 2.2.3.1. The cleanup levels for arsenic and dieldrin for unrestricted residential land use at the site are as follows:

- The maximum concentration of arsenic may not exceed 20 mg/kg;
- The average concentration of arsenic in soil shall not exceed 12 mg/kg; and,
- The mean concentration of dieldrin in each individual field shall not exceed 30 ug/kg.

The cleanup levels for arsenic are the same as the residential removal action objectives for arsenic for unrestricted land use at the T&CVSC development at 360 Winchester Boulevard. Although these cleanup goals are protective of health, additional precaution may be employed to further reduce any potential exposure to contaminated soil. Based on these factors, the TBCs for the site and subsequent evaluation of remedial alternatives will focus, not only on numerical cleanup standards for soils but also on different strategies for preventing exposure to contaminated soil.

4.0 IDENTIFICATION AND EVALUATION OF REMOVAL ACTION ALTERNATIVES

The remedial alternative evaluation, as presented below, consists of development of three remedial alternatives, evaluation of the alternatives against NCP and USEPA guidelines, and the selection of an appropriate remedial alternative for the site.

4.1. REMOVAL ACTION ALTERNATIVES

The response actions for soil at the site include excavation and off-site disposal, capping, and institutional controls. These response actions have been assembled into candidate remedial alternatives for the site.

The three alternatives that have been developed for the site are:

Alternative 1 No Action

Alternative 2 Capping and Institutional Controls;

Alternative 3 Excavation with Off-Site Disposal;

A description and details regarding implementation of each alternative are presented below.

4.1.1. Alternative 1 – No Action

Alternative 1 is the No Action Alternative. In this alternative, it is assumed that no removal action occurs. This alternative also forms the basis of comparison for all other alternatives. If no action were taken at the site, maintenance of a fence and land use restrictions would be required.

4.1.2. Alternative 2 – Capping and Implementation of Institutional Controls

Alternative 2 consists of placing a soil cap over the eastern portion of Field 4, excavating the three small hot spots at F1-C, 1-GB and F12-A, and establishing institutional controls for the site. Figure 6 shows the excavation and capping areas. The two hots spots at 1-GB and F-12A would be excavated until confirmation samples collected from the excavation perimeter showed arsenic concentrations below 20 mg/kg. For the hot spot at F1-C, soil would be excavated until the mean concentration of dieldrin in Field 1 was less

than 30 ug/kg. It is estimated up to a total of 500 cubic yards would be excavated from these three hot spots. Excavated soil would be transported offsite for disposal or re-use. Analytical data collected to date indicates that excavated soil from the site will likely be nonhazardous. Additional waste characterization samples will be collected from the excavated soils prior to offsite disposal as part of implementation of Alternative 2. Assuming these samples confirm that the soil is indeed nonhazardous, then the soil will be transported offsite to a municipal landfill for disposal.[4]

With regards to capping, a minimum thickness of 24 inches of soil will be placed over the eastern portion of Field 4 to prevent direct contact with native soil that has arsenic concentrations greater than 20 mg/kg. Appropriate compaction of capped soil would be conducted. Drainage netting would be placed underneath the capping. After completion of the capping, the drainage netting would serve as a "marker" for assistance in maintaining adequate cover over the potentially arsenic-impacted soil. If netting were observed in the future, either during excavation activities or as a result of erosion, remedial activities or placement of additional soil would be implemented to prevent exposure to the soils below the "marker" netting.

Institutional controls would be placed to reduce or eliminate exposure to potentially arsenic-impacted soils at the site. Institutional controls would consist of development and implementation of a site management plan and deed restrictions. The site management plan would, at minimum, outline the procedures for inspection and maintenance of the site to ensure that ground covering such as pavement, grass, landscaping or mulch is maintained in all soil areas; risk management measures to be implemented during subsurface work; limitations on residents activities that potentially disturb the landscape cover over the site; and, actions to be taken were the site redeveloped. The deed restrictions would prevent development of single-family homes, schools, day care facilities, etc. over the capped area of the site. All institutional controls would require approval by the City of Santa Clara Department of Environmental Health (DEH) and DTSC. Annual inspections would be performed to ensure compliance with the site management plan and deed restrictions.

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[4] It is possible that the soil could be re-used by the California Department of Transportation (CalTrans) in a future, nearby roadway project depending on the timing of implementation of the removal action and the roadway project. If a CalTrans project were identified, specific approval would need to be obtained from DTSC and as such, DTSC would be contacted.

4.1.3. Alternative 3 – Excavation with Off-Site Disposal

Alternative 3 consists of excavating and removal of soil from the three hot spots and from the eastern half of Field 4. Soil would be excavated from 1-GB, F12-A and the eastern half of Field 4 until arsenic concentrations are below the cleanup goals (i.e., below 20 mg/kg and site average of 12 mg/kg). For the hot spot at F1-C, soil would be excavated until the mean concentration of dieldrin in Field 1 was less than 30 ug/kg. All excavated soil would be disposed of offsite. Figure 7 shows the estimated extent of the excavation areas under Alternative 3. It is estimated that up to 6000 cubic yards of soil would be excavated and disposed of offsite. During excavation, appropriate dust suppression would be applied at all times to ensure atmospheric dust levels would not exceed the acceptable levels. Dust levels would be monitored during implementation of this alternative.

After excavation, samples of soil at the edges and base of each excavation would be collected and analyzed for chemicals of potential concern to demonstrate that in-place concentrations are below the cleanup goals. If needed, additional soil excavation and confirmatory sampling would continue until in-place concentrations are below the remedial goals. The excavations would be backfilled with clean soil imported from off-site and appropriate compaction of backfilled soil would be conducted.

As with Alternative 2, excavated soil would be transported offsite for disposal[5]. It is anticipated that excavated soil will be nonhazardous, and as such, it is assumed for cost estimating purposes that the excavated soil will be transported to and disposed of at a municipal landfill.

4.2. EVALUATION CRITERIA

The three alternatives described above are subjected to detailed evaluation in Section 4.3. Each alternative is evaluated on the basis of three criteria: effectiveness, implementability and cost.

4.2.1. Effectiveness

In the effectiveness evaluation, the following factors are considered:

[5] It is possible that the soil could be re-used by the California Department of Transportation (CalTrans) in a future, nearby roadway project depending on the timing of implementation of the removal action and the roadway project. If a CalTrans project were identified, specific approval would need to be obtained from DTSC and as such, DTSC would be contacted.

- *Overall Protection of Human Health and the Environment*. For the site, this factor considers the ability of each alternative to meet RAO's. As discussed in Section 3.3, the RAO's for the site are: 1) minimize exposure of future site residents to surface soil containing arsenic above the 20 mg/kg level, 2) ensure the mean concentration of dieldrin in an individual field is below 30 ug/kg; and 3) leave the site in a physical condition that is compatible with single-family residential use;

- *Compliance with ARARs/TBCs.* As discussed in Section 3.5, the cleanup goals for soil at the site are: 1) the mean concentration of dieldrin in an individual field is below 30 ug/kg; 2) the maximum concentration of arsenic may not exceed 20 mg/kg; and 3) the average concentration of arsenic in shallow soil shall not exceed 12 mg/kg;

- *Reduction of Mobility, Toxicity, or Volume.* For the site, this factor evaluates whether the mobility and/or volume of arsenic[6] in soil is reduced as a result of implementation of the alternative. A reduction in toxicity of arsenic/dieldrin is not considered since none of the removal action alternatives consider treatment of arsenic/dieldrin-impacted soil;

- *Long-Term Effectiveness and Permanence.* For the site, this factor considers whether the RAOs and cleanup goals will continue to be met in the future under each alternative; and

- *Short-Term Effectiveness*. This factor evaluates the protection of public health during implementation of each alternative for the site.

4.2.2. Implementability

This criterion examines the technical and administrative feasibility of implementing the alternative. Evaluation includes the availability of various services and materials required during implementation of the action, institutional or social concerns that could preclude the action, and State concerns that could impact implementation. In the implementability evaluation, the following factors are considered:

[6] Reduction in mobility or volume of dieldrin is not considered under this criterion because the volume of dieldrin-impacted soil is small relative to the volume of arsenic-impacted soil.

- Technical feasibility: the ease or difficulty of implementing the alternatives and the reliability of the technology.
- Administrative feasibility: those activities needed to coordinate with other offices and agencies, such as waivers or permits.
- State Acceptance; and
- Community Acceptance.

4.2.3. Cost

This criterion evaluates the estimated capital cost, and, if appropriate, the estimated operation and maintenance (O&M) costs assuming a 7% interest rate.

4.3. ALTERNATIVES EVALUATION

This section presents the detailed evaluation of the three alternatives.

4.3.1. Alternative 1 – No Action

Effectiveness

Because no removal action would be implemented as part of Alternative 1, RAOs and cleanup goals would not be met, arsenic mobility and volume would not be reduced, and therefore, this alternative would not be effective at protecting human health in the short- or long-term.

Implementability

Since there is no action under this alternative, the technical and administrative feasibility of this alternative is easy. However, state and community acceptance of this alternative is unlikely.

Cost

There are no costs associated with implementation of this alternative.

4.3.2. Alternative 2 – Capping and Implementation of Institutional Controls

Effectiveness

Through capping and hot spot excavation, Alternative 2 minimizes exposure of future site residents to arsenic above 20 mg/kg and leaves the site in a physical condition that is compatible with single-family residential use. However, Alternative 2 does leave arsenic in soil in Field 4 above 20 mg/kg and does not lower the site-wide average arsenic concentration to below 12 mg/kg, and as such, Alternative 2 does not comply with cleanup goals. Alternative 2 does reduce the mobility of arsenic/dieldrin at the site as a result of capping and excavation, and the volume of arsenic/dieldrin at the site is reduced somewhat as a result of the hot spot excavation. The long-term effectiveness of Alternative 2 is uncertain because it is dependent on the ability of the cap to be maintained through implementation of a site management plan and enforcement of deed restrictions over the capped area. Since implementation of Alternative 2 involves only excavation of roughly 500 cubic yards of soil with elevated arsenic/dieldrin and the time to implement Alternative 2 is only a few weeks, exposure of construction workers and nearby residents to contaminants during implementation of Alternative 2 is minimal. As a result, the short-term effectiveness of Alternative 2 is acceptable.

Implementability

The techniques used to excavate and cap the impacted soil are well-established and the equipment, materials, and labor are readily available. There would be no technical restrictions to implementation.

Permits would be required for excavation and grading, and deed restrictions (i.e. institutional controls) would also be required, but there are no known administrative restraints to the implementation of this alternative. However, there may be difficulties in enforcing the site management plan and deed restrictions for development over the capped area. As a result, community and state acceptance of this alternative is uncertain.

Cost

An estimate of the costs of implementing Alternative 2 is presented in Table 5. The estimated capital cost to implement Alternative 2 is $ 406,000. The O&M costs associated with this alternative include maintenance of the cap. It is assumed that O&M of the cap would be the responsibility of a property owner's association in the capped area. Annual O&M costs are estimated to be $7,000. The present value of O&M costs

over a 30-year period assuming a 7% interest rate is $ 74,500. The total estimated cost for Alternative 2 is, therefore, estimated to be $480,500.

4.3.3. Alternative 3 – Excavation with Offsite Disposal

Effectiveness

Through excavation, Alternative 3 minimizes exposure of future site residents to arsenic above 20 mg/kg and leaves the site in a physical condition that is compatible with single-family residential use. Alternative 3 removes arsenic in soil in Field 4 above 20 mg/kg and lowers the site-wide average arsenic concentration to below 12 mg/kg, and as such, Alternative 3 complies with cleanup goals. Alternative 3 also reduces the mobility and volume of arsenic/dieldrin at the site as a result of excavation and offsite disposal. The long-term effectiveness of Alternative 3 is acceptable because soil with chemicals of potential concern above the cleanup goals will be removed from the site. Since implementation of Alternative 3 involves excavation of roughly 6000 cubic yards of soil, exposure of construction workers and nearby residents to contaminants during implementation of Alternative 3 may occur. However, the time to implement Alternative 3 is only a few weeks and dust control measures would be implemented during excavation activities, thus minimizing nearby residents overall exposure to site contaminants. As a result, the short-term effectiveness of Alternative 3 is acceptable.

Implementability

The techniques used to excavate the impacted soil are well-established and the equipment, materials, and labor are readily available. There would be no technical restrictions to implementation.

Permits would be required for excavation and grading, but there are no known administrative restraints to the implementation of this alternative. Alternative 3 should be acceptable to the community and state.

Cost

An estimate of the costs of implementing Alternative 3 is presented in Table 6. The estimated capital cost to implement Alternative 3 is $874,000.

4.4. COMPARATIVE ANALYSIS OF REMOVAL ACTION ALTERNATIVES

The three remedial alternatives described above are subjected to comparative evaluation below. As part of the comparative analysis, each alternative is also rated relative to each other. Rating points are then assigned based on each alternative's ability to meet the evaluation criteria. Table 7 summarizes the results of the comparative analysis.

4.4.1. Effectiveness

Alternative 1 - No Action: This alternative, rated the lowest in effectiveness, is presented as a baseline case. No points are assigned under this criterion because Alternative 1 does not satisfy any of the five factors under the effectiveness criterion.

Alternative 2 – Capping and Implementation of Institutional Controls: Alternative 2 is rated higher in effectiveness than Alternative 1, but not as effective as Alternative 3. Alternative 2 addresses RAOs, but does not meet site cleanup goals. Alternative 2 reduces the mobility and volume of arsenic/dieldrin in site soils through capping and limited excavation, but does not reduce the mobility or volume nearly to the extent as Alternative 3. Because of the uncertainty regarding future maintenance of the cap, the long-term effectiveness and permanence of Alternative 2 is uncertain. The short-term effectiveness of Alternative 2, however, is acceptable. Alternative 2 was assigned a total of 2.5 points under the effectiveness criterion.

Alternative 3 - Excavation with Offsite Disposal: Alternative 3 is rated higher in effectiveness than Alternative 1 or Alternative 2. Alternative 3 addresses RAOs and will meet cleanup goals through excavation and offsite disposal. Alternative 3 also reduces the mobility and volume of arsenic/dieldrin in soil in comparison to the other two alternatives. Alternative 3 is a permanent solution so there are no risks of human exposure to elevated concentrations of chemicals of potential concern in soil in the future. As with Alternative 2, the short-term effectiveness of Alternative 3 is acceptable. Alternative 3 is assigned 5 points because it satisfies all of the sub-criteria under effectiveness.

4.4.2. Implementability

With exception of Alternative 2, there are no technical feasibility concerns with the implementation of the alternatives. A site management plan and deed restrictions, which would be prepared as part of Alternative 2, would require approval from the regulatory agencies and long-term enforcement of the site management plan and deed restrictions is

uncertain. The technical/administrative feasibility of Alternatives 1 and 3 is easier than Alternative 2.

Alternatives 2 and 3 involve excavation, which can easily be conducted at the site. Alternatives 2 and 3 involve importing materials, which are readily available in the site vicinity. Alternatives 2 and 3 are also easy to construct, and the goods and service are easily available.

Because of uncertainties regarding long-term enforcement of institutional controls, Alternative 2 may have difficulty with regards to state and community acceptance. However, Alternative 1, which does nothing to prevent/minimize contact with arsenic/dieldrin impacted soil, is the least likely alternative to be accepted by the state and community. Alternative 3 is likely the most acceptable alternative to the state and community.

4.4.3. Cost

In Table 7, 5 points are assigned if the cost is less than $100,000 to implement the alternative; three points are assigned if the cost to implement the alternative is between $100,000 and $500,000; one point is assigned if the cost to implement the alternative is between $500,000 and $1,000,000; and, no points are assigned if the cost to implement the alternative exceeds $1,000,000.

There are no costs associated with Alternative 1 since no action is proposed. Alternative 2 is less expensive than Alternative 3 and less than $500,000. Alternative 3 was the most expensive at roughly $800,000.

4.4.4. Rating Summary

As shown in Table 7, the sum of the ratings, shows that Alternative 3, Excavation with Offsite Disposal, as the highest rated alternative. Although the most expensive alternative, Alternative 3 is the most protective of human health, removes all contamination above cleanup goals and is relatively easy to implement. As a result, Alternative 3 is the recommended alternative for the former BAREC site.

5.0 REMOVAL ACTION IMPLEMENTATION

This Section details the steps that will be taken to implement Alternative 3 at the former BAREC site. Removal activities will be performed by a California certified contractor (the "Contractor") including supervision by a California registered geologist or professional civil engineer (the "Engineer"). All removal, transportation and disposal will be performed in accordance with all applicable federal, state, and local laws, regulations, and ordinances.

5.1. SITE PREPARATION

Prior to equipment mobilization for the proposed removal action, the preparation activities detailed in the following sections will be implemented.

5.1.1. Building Demolition

Prior to implementation of RAW activities, the site buildings/structures and their foundations that are not planned for reuse will be demolished. Demolition activities will be conducted in accordance with all applicable regulations especially regulations pertaining to the handling, management and disposal of asbestos containing materials and lead-based paint. All building debris, which is not to be reused during future re-development, will be removed from the site. The irrigation well located at Building 203 will be closed and abandoned according to the Santa Clara Valley Water District requirements prior to site redevelopment.

A minimum of one sample shall be collected from soil up to 6 inches beneath each of the building foundations following building/foundation removal. No samples will be collected from the greenhouses, which were already sampled in prior environmental investigations. Samples will be analyzed for asbestos, lead, arsenic, organochlorine pesticides and petroleum hydrocarbons. Additional samples may be collected and additional analyses performed if the Engineer observes evidence of possible releases of contaminants to soils beneath the former building/structure.

5.1.2. Site Stripping

Following building demolition, the site will be stripped of all vegetation and loose soils in preparation for redevelopment. It is important that prior to stripping/rough grading, the locations of Field 4, the hot spots at F1-C, 1-GB and F12-A be marked and their coordinates recorded.

5.1.3. Utility Clearance

No invasive activities will begin without notification of local "Underground Services Alert (USA)" and identification of utilities in and around the excavation area at least 48 hours prior to beginning of work. In addition, a private utility locator will be retained to conduct a utility survey prior to beginning of the excavation, to ensure that all underground utilities in the proposed work areas have been identified.

5.1.4. Delineation of Excavation Areas

Following stripping/rough grading, the locations of the hot spots (F1-C, 1-GB, and F12-A) and excavation area in Field 4 will be marked. An excavation grid will be established at Field 4 to facilitate pre-and post excavation sampling. At Field 4, the grid will be 50 feet by 50 feet. The boundary of the excavation area will be the north, south, and eastern boundaries of Field 4 and the western extent of the excavation will extend 250 feet west of the eastern boundary of Field 4. At the hot spots, the excavation boundary will extend from the hot spot to 5 feet in all directions.

5.1.5. Security Measures

Appropriate barriers and/or privacy fencing will be installed prior to beginning the excavation process to ensure that all work areas are secure and safe. To ensure trespassers or unauthorized personnel are not allowed near work areas, security measures may include, but are not limited to:

- Posting notices directing visitors to the Site Manager and limiting access to work areas. The Site Manager will be the person in charge of supervising all activities at the site.

- Maintaining a visitor and personnel's log. Visitors must have prior approval from the Site Manager to enter the site. Visitors shall not be permitted to enter the site without first receiving site-specific health and safety training from the Site Health and Safety Officer(s). The Site Health and Safety Officer(s) will be in charge of ensuring compliance with the health and safety plan (HASP), and of providing a point of contact for employees working at the site who have questions regarding the HASP.

- Installing chain-link barrier fencing around the perimeter of the work area, which will be locked during non-work hours to restrict access to the excavation and nearby areas.

- Requiring that all personnel, before leaving the site, sign out in the visitor and personnel's log.
- Maintaining a safe and secure work area, including areas where equipment is stored or placed, at the close of each workday.

Persons requesting site access will be required to demonstrate a valid purpose for access and provide appropriate documentation to demonstrate they have received proper training required by the site-specific HASP (discussed below).

5.1.6. Permits

It is anticipated that a grading permit from the City of Santa Clara will be necessary to complete the removal action.

5.1.7. Waste Management

Based on the results of prior site investigations, it is anticipated that soil excavated from the site will be nonhazardous. Analytical results were compared to the California hazardous waste identification criteria in the California Code of Regulations (CCR) Title 22 § 66261. These results indicate that the waste is classified as a nonhazardous waste and could be disposed of at local municipal landfill.

5.1.8. Bay Area Air Quality Management District (BAAQMD)

Potentially applicable BAAQMD regulations include those addressing particulate matter emissions (Regulation 6). BAAQMD Regulation 6 addresses particulate matter and visible emissions mostly pertaining to discrete point sources. However, Regulation 6-305 states:

> **"Visible Particles:** A person shall not emit particles from any operation in sufficient number to cause annoyance to any other person, which particles are large enough to be visible as individual particles at the emission point or of such size and nature as to be visible individually as incandescent particles. This Section 6-305 shall only apply if such particles fall on real property other than that of the person responsible for the emission."

The air monitoring network described below and the dust control measures will be implemented such that the project remains in compliance with this regulation.

5.1.9. Health And Safety Plan (HASP)

All contractors will be responsible for operating in accordance with the most current Occupational Safety and Health Administration (OSHA) regulations including 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and 29 CFR 1926, Construction Industry Standards, as well as other applicable federal, state and local laws and regulations. A HASP will be prepared and submitted to DTSC prior to implementation of the RAW.

5.1.10. Soil Sampling and Analysis Plan

Appendix B contains soil sampling and quality assurance guidelines for the sampling that is to be performed following building demolition, site stripping and excavation activities.

5.2. FIELD DOCUMENTATION

The Engineer will be responsible for maintaining a field logbook during the removal action activities. The field logbook will serve to document observations, personnel on-site, equipment arrival and departure times, and other vital project information.

5.2.1. Field Logbooks

Field logbooks will document where, when, how, and from whom any vital project information was obtained. Logbook entries will be complete and accurate enough to permit reconstruction of field activities. Logbooks will be bound with consecutively numbered pages. Each page will be dated and the time of entry noted in military time. All entries will be legible, written in black ink, and signed by the individual making the entries. Language will be factual, objective, and free of personal opinions or other terminology, which might prove inappropriate. If an error is made, corrections will be made by crossing a line through the error and entering the correct information. Corrections will be dated and initialed. No entries will be obliterated or rendered unreadable.

Entries in the field logbook will include at a minimum the following for each fieldwork date:

- Site name and address
- Recorder’s name

- Team members and their responsibilities
- Time of site arrival/entry on-site and time of site departure
- Other personnel on-site
- A summary of any on-site meetings
- Field observations of soil (e.g., heavy rains, odors, colors, etc.)
- Quantity of soil excavated
- Quantity of soil temporarily stored on-site
- Quantity of excavated soil in truckloads transported off-site
- Names of waste transporters and proposed disposal facilities
- Copies or numbers of manifests or other shipping documents (such as bill of landing) for waste shipments
- Quantity of import fill material in truckloads
- Deviations from this RAW and/or HASP
- Changes in personnel and responsibilities as well as reasons for the changes
- Levels of safety protection
- Calibration readings for any equipment used and equipment model and serial number

5.2.2. Photographs

Photographs will be taken at every excavation area, and in other areas of interest on-site. Photographs will also be taken prior to the commencement of site re-development and construction activities. They will serve to verify information entered in the field logbook. When a photograph is taken, the following information will be written in the logbook or will be recorded in a separate field photography log:

- Time, date, location, and, if appropriate, weather conditions
- Description of the subject photographed

- Name of person taking the photograph

5.3. EXCAVATION

5.3.1. Excavation Plan

The estimated extent of the excavation area is shown in Figure 7 (although the actual lateral extent of removal would be determined based on sample results during implementation of the alternative). The estimated volume of soil to be excavated is approximately 6000 cubic yards. Depending on weight of the soil, between 300 and 350 truckloads of soil will be transported offsite over roughly a 2-week period. The excavation will be conducted in phases.

Field 4 Excavation

For Field 4, the excavation will be conducted in one-foot lifts. Prior to excavating each one-foot lift, samples of surface soil will be collected in each of the grid nodes and analyzed for arsenic on a 24-hour turnaround time (TAT). Samples will be collected prior to excavation because stripping the site may result in as much as 8 inches of soil being removed from portions of the site. The samples collected during DGS site characterization activities were from approximately 6 inches bgs. Since samples at 3 feet bgs were above the cleanup goals except at F4-7 and F4-C, re-sampling is necessary to determine if arsenic concentrations after stripping remain above the cleanup goals. The excavation area will be determined based on the results of the samples. The Engineer will delineate the grid areas that require excavation to a one-foot depth considering the cleanup goals for the site, i.e. no arsenic concentrations above 20 mg/kg and a site-wide arsenic concentration of 12 mg/kg. Soil in the delineated areas will be excavated to a one-foot depth and then samples collected from the grid nodes in the delineated areas to determine if the cleanup goals have been met. The excavation will continue in one-foot depth increments until the Engineer determines the cleanup goals have been met or specific site conditions require the Engineer to revise the excavation plan or sampling sequence. Confirmation samples will be collected at the grid nodes at the base of the excavation, i.e., approximately every fifty feet.

Hot Spot Excavation

After stripping and prior to excavation, a sample will be collected from each of the three hot spots. Samples will be collected prior to excavation because stripping the site may result in as much as 8 inches of soil being removed from portions of the site. The hot

spot samples collected during DGS site characterization activities were from approximately 6 inches bgs. Since samples at 3 feet bgs at the hot spots were below the cleanup goals, re-sampling will be performed to confirm that arsenic/dieldrin concentrations after stripping remain below the cleanup goals.

The sample from hot spot F1-C will be analyzed for dieldrin, and the hot spots from 1-GB and F12-A will be analyzed for arsenic. Excavation activities will be initiated at F1-C if the dieldrin concentration is greater than 30 ug/kg, and at 1-GB and F12-A if the arsenic concentration is greater than 20 mg/kg. If excavation is required, a five-foot radius around the hot spot will be excavated to a depth of two feet. A sample will be collected and analyzed for arsenic (at 1-GB or F12-A) or dieldrin (at F1-C) from the bottom of each excavated area. If the results indicate that arsenic is less than 20 mg/kg at 1-GB or F12-A or that dieldrin is less than 30 ug/kg at F1-C, the excavation will cease and be prepared for backfilling. For 1-GB and F12-A, if the results indicate that arsenic exceeds 20 mg/kg, the excavation will continue at one-foot depth increments and five-foot step-outs until the arsenic concentration is less than 20 mg/kg. For F1-A, if the results indicate that dieldrin exceeds 30 ug/kg, the excavation will continue at one-foot depth increments and five- foot step-outs until the mean dieldrin concentration in Field 1 is less than 30 ug/kg. Additional bottom samples shall be collected once the excavation area exceeds 2500 square feet.

Properly equipped workers, required to be trained according to 29 CFR 1910.120, will complete all fieldwork. Soil containing elevated concentrations of arsenic will be excavated using a hydraulic backhoe or other types of earth moving equipment, as necessary. Excavation areas will be controlled to avoid dust generation with physical barriers (such as perimeter fencing with tarps) and wetting. The site will be controlled and no excavation will be conducted in times of high wind conditions. Storm water drains will be covered with plastic sheeting during all excavation activities, to prevent sediment or excavation runoff from entering the drains.

5.3.2. Temporary Storage Operations

As soil is excavated, it may be temporarily stored at staging areas on-site before off-site transportation and disposal. At the staging areas, excavated soil will be placed on an impermeable barrier and covered with tarps to prevent any run-on and/or dust generation, and bermed to contain any run-off. Stockpiles shall be no higher than 6 feet. Each excavation area will be secured and water will be used to control any fugitive dust from blowing onto other properties.

Direct loading may take place concurrently with excavation operations, in which case, stockpiles may be uncovered while loading. To minimize fugitive dust emissions during loading, drop heights should be minimized and water should be used. It is anticipated that soil to be disposed of offsite will be temporarily stockpiled at Field 1 (excavation from dieldrin hot spot), Fields 8, 9, 10 and 11. Soil that is to be used for backfilling the excavation (i.e., import soil) will be temporarily stockpiled on Field 2. Stockpiles of soil, either import soil or soil to be exported, shall remain no longer than 30 days.

5.3.3. Decontamination Procedures

Entry to the excavation areas should be limited to avoid unnecessary exposure and related transfer of arsenic-impacted soil. In unavoidable circumstances, equipment or trucks should be decontaminated in a designated decontamination area before leaving the site. Decontamination will occur prior to and after the removal activity has been completed using dry brush, hand washing, or steam cleaning methods. Equipment will be decontaminated in a pre-designated area on pallets or plastic sheeting. Clean bulky equipment will be stored on plastic sheeting. Cleaned small equipment will be stored in plastic bags.

5.4. AIR AND METEOROLOGICAL MONITORING

This section details the air and meteorological monitoring strategy and methodologies that will be used during the removal action. The strategy and methodologies are designed to achieve several goals:

- Measure the particulate matter generated during the excavation and decontamination activities to assign the appropriate personal protective equipment (PPE) for on-site workers;
- Measure particulate matter and meteorological variables to assist the Contractor for the implementation of dust control measures;
- Measure particulate matter to determine potential off-site impacts during excavation and decontamination activities.

Air and meteorological monitoring will be conducted during excavation activities. The monitoring network will consist of two separate networks to monitor for dust or particulate matter with an aerodynamic diameter less than 10 micrometers (PM_{10}). One network will consist of real time dust monitors to be used by on-site health and safety

personnel and the Contractor. The second network will consist of real-time PM_{10} monitors to be used for fenceline measurements.

5.4.1. On-site Monitoring Network

Monitor locations for the on-site dust monitors will be based on the on-site health and safety officer's and the Contractor's needs. The locations will be representative of worker exposure and general site conditions. This dust monitoring network will consist of monitors such as the Personal DataRam or PDM-3 Miniram particulate monitor manufactured by MIE, or equivalent. Implementation of PPE will be based on the interpretation of the collected data in comparison to action levels established by the on-site health and safety officer.

5.4.2. Regulatory Standards and Recommended Action Levels

In Section 5.1.8, potentially applicable BAAQMD regulations included those addressing particulate matter emissions (Regulation 6). The fenceline air monitoring network described below and the dust control measures will be implemented to help insure that the project remains in compliance with this regulation.

Federal and state air regulations limit the concentration of PM_{10} in the ambient air through the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (California AAQS). The NAAQS specify that the concentration of PM_{10} must not exceed 150 $\mu g/m^3$ for a 24-hour period and an annual arithmetic mean of 50 $\mu g/m^3$. California AAQS specify that the concentration of PM_{10} must not exceed 50 $\mu g/m^3$ for a 24-hour period and an annual arithmetic mean of 20 $\mu g/m^3$. The more stringent state limits were used to determine the Recommended Action Level (RAL) for this monitoring program for shorter averaging periods, which are more relevant to the removal activities. Action levels for eight hour averaging periods were developed using averaging time conversion factors of 1.75.[7] The RAL for PM_{10} for this air-monitoring program is an eight-hour average concentration of 87.5 $\mu g/m^3$.

5.4.3. Fenceline Monitoring Network

Monitor locations for the fenceline PM_{10} monitors will consist of one location, upwind of the site based on the primary wind direction, and multiple locations along the fenceline in

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7 United States Environmental Protection Agency (USEPA). 1992. *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised.* EPA-454/R-92-019. October.

the direction of sensitive off-site locations. The monitors will be real-time PM_{10} monitors. The on-site meteorological station will be located in an area representative of wind patterns for the site, as described in published guidance.[8, 9] On-site meteorological data collected will include wind speed and direction, temperature, and relative humidity. During excavation, fenceline monitoring and meteorological data will be collected on a hourly basis. If during excavation PM_{10} levels exceed 50 ug/m^3 between upwind and downwind monitors, then additional dust control measures will be implemented.

5.5. DUST CONTROL PLAN

This section details potential dust control measures that the Contractor will implement, if required, to minimize dust emissions during the removal action. Dust emissions may result from activities during removal action and from wind erosion. These sources are most effectively controlled using wet suppression. A high wind threshold will also be established to minimize wind erosion during extreme meteorological conditions and low visibility/permeability wind fencing will be installed around the excavation area(s). Stockpiles will be covered unless being loaded, water will be sprayed on areas which have already been excavated and are subject to wind erosion.

5.5.1. Wet Suppression

The main mechanism for the control of fugitive dust emissions from construction activities and wind erosion is by watering, which leads to the formation of a surface crust to reduce the available reservoir of dust. In addition to water, a wide variety of chemical dust suppressants are available to enhance the formation of a surface crust.

The effectiveness of wet suppression is dependent on the type of activities occurring, the frequency of watering, and the meteorological conditions. The watering schedule will be determined by an evaluation of the air monitoring and meteorological data, site conditions, and site activities.

5.5.2. High Wind Warnings

High wind conditions can lead to higher dust emissions. Thus, based on the information collected by the on-site meteorological station, work will be stopped during high wind

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8 Bay Area Air Quality Management District (BAAQMD). 1996. "Meteorological Monitoring Guidance." *Manual of Procedures*. Volume IV. Appendix A. May 8.
9 United States Environmental Protection Agency (USEPA). 2000. *Meteorological Monitoring Guidance for Regulatory Modeling Applications.* EPA-454/R-99-005. February.

conditions. There are no wind speed restrictions stated in local or federal regulations. However, an initial self imposed action level for work stoppage will be set at a sustained wind speed of 25 mph. This action level is subject to revision based on actual site conditions.

5.5.3. Wind Fences

Wind fences will be used as a dust control measure in conjunction with other dust control measures discussed above. The fence reduces the wind speed at a specific location. The fence dimensions necessary to achieve optimum effectiveness will vary depending on the geography of the dust source. Typically, a fence material with 50% porosity is generally considered optimum for most applications. Low visibility/permeability windscreens will be installed around the perimeters of the excavation area(s) during the removal activities.

5.6. TRANSPORTATION PLAN FOR OFF-SITE DISPOSAL

The waste material will be profiled and approval will be received before any excavation activities commence. Final determination of the disposal site will be based on approval from the disposal site. Once the disposal facility is selected, copies of waste profile reports used to secure disposal permission from the landfill will be provided to DTSC. A Transportation Plan is included in Appendix A.

5.7. SITE RESTORATION

Clean import fill will be brought to the site to backfill all excavated areas. The imported soil be placed in 6-inch lifts and compacted to the standards specified in the City-approved construction plans for site re-development.

5.7.1. Borrow Source Evaluation

Evaluation of the imported fill soil for the presence of contaminants must be concluded prior to their consideration for use as replacement fill at the site. Only fill materials that meet DTSC criteria will be transported to the site. A reasonable approach to confirming the absence of chemical contaminants for any potential fill sources is to follow DTSC's Information Advisory on Clean Imported Fill Material. Following this guideline, it is anticipated that four samples for every 1,000 cubic yards plus one sample per each additional 500 cubic yards of imported soil will be taken. The samples will be analyzed for heavy metals (by USEPA methods 6010B and 7471A), asbestos (by polarized light

microscopy), total petroleum hydrocarbons (by USEPA Method 3550) and pH (by USEPA Method 9040/9045).

5.7.2. Load Checking

All loads of imported fill will be checked by Organic Vapor Analyzer for each truckload entering the site and by visual screening for fuel/hydraulic oil leaks (or other staining) in soil placed for filling the site excavation.

5.7.3. Diversion of Unacceptable Borrow

Imported base material will be visually checked for unacceptable materials at the working face. If loads containing unacceptable materials (exhibit staining or detectable VOCs) are dumped, transporters of the unacceptable loads will be stopped before leaving the site.

Equipment operators will watch for evidence of contaminated imported fill in loads being dumped at the working face. If contaminated materials are found or suspected, the imported material is to be isolated. The hauler of the prohibited materials will be identified and the Engineer will be contacted to determine what appropriate actions will be taken.

Segregated, improper materials will be removed from the working face immediately. These materials will be reloaded to the transporter's vehicle when possible or stockpiled in an appropriate area for later removal by a properly licensed waste hauler.

5.7.4. Documentation of Rejected Loads

All loads, which enter the site and are subsequently rejected, will be recorded. Data compiled will include when the incident occurred, who the hauler was, why the load was rejected, whether the load was dumped prior to rejection, and what steps were taken to remove the rejected material. Additional data may be recorded as deemed necessary for the particular situation.

A separate area will always be maintained for the storage of unacceptable materials, pending removal by the original transporter or a properly licensed waste hauler.

5.8. PROJECT SCHEDULE AND REPORT OF COMPLETION

Implementation of removal activities will begin after receiving approval of the RAW. The removal activities will be performed in conjunction with site redevelopment activities and will occur during the dry season (between April and October 2004). Table 8 summarizes the anticipated number of days for removal action implementation tasks.

A Report of Completion, documenting all activities conducted pursuant to an approved RAW and certifying that all activities have been conducted consistent with this RAW, will be prepared as expeditiously as possible upon completion of the removal action and submitted to DTSC for review and approval.

6.0 REFERENCES

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TABLES

Table 1
Statistical Summary of Detected Compounds in Soil Samples[1]

Analyte	Number of Detections	Number of Samples	Minimum	Maximum[2]	Average	Standard Deviation	95% Upper Confidence Level (UCL) of the Mean	Frequency of Detection	USEPA Region IX PRGs[3]
			Concentration (µg/kg)						Concentration (µg/kg)
Pesticides									
Dieldrin	15	60	ND	240	12	31	19	25%	30
Diquat	8	12	ND	7,500	3317	2,271	4,494	67%	130,000
Endrin	6	60	ND	50	8.9	11	11	10%	18,000
4,4'-DDT	40	60	ND	380	39	64	53	67%	1,700
4,4'-DDE	40	60	ND	1,500	110	269	168	67%	1,700
alpha-Chlordane	4	60	ND	50	8.3	10	11	7%	1,600
gamma-Chlordane	4	60	ND	50	8.3	10	10	7%	1,600
Heptachlor epoxide	1	60	ND	50	8	10	10	2%	53
gamma-BHC (Lindane)	1	60	ND	94	9.1	15	12	2%	440
			Concentration (mg/kg)						Concentration (mg/kg)
Metals									
Arsenic	136	136	ND	37	11.2	8.1	12	100%	0.39
Barium	50	50	95	440	123	47	134	100%	5,400
Beryllium	3	50	ND	0.52	0.27	0.062	0.28	6%	150
Cadmium	50	50	1.7	3.6	2.8	0.33	2.9	100%	37
Chromium	50	50	27	55	38	4.4	39	100%	210
Cobalt	50	50	7.2	12	9.0	1.1	9.2	100%	900
Copper	50	50	21	39	29	5.2	30	100%	3,100
Cyanide	2	50	ND	0.32	0.18	0.047	0.19	4%	11
Lead	50	50	1.2	63	22	12	26	100%	400
Mercury	38	50	ND	0.28	0.074	0.054	0.087	76%	23
Nickel	50	50	39	60	48	4.5	49	100%	150
Vanadium	50	50	24	44	31	3.9	32	100%	550
Zinc	50	50	44	99	63	12	66	100%	23,000

Notes:

[1] Includes all data except: 020923-ENV-1-7.0, 020923-ENV-1-10.0, Rinseate (020801-DW-A) and Sediment trap liquid (030401-SEDPIT-1-W)

[2] Maximum detected concentration.

[3] October 1, 2002, *USEPA Region IX Prelimary Remediation Goals (PRGs)* for residential soil

ND = not detected

Table 2
Comparison of Background Concentrations of Inorganics in Soil

Inorganic Chemical	BAREC Concentration at 0.5 feet bgs: Number of Samples	Minimum (mg/kg)	Maximum (mg/kg)	Average (mg/kg)	BAREC Background Sample BG-A[1] (mg/kg)	Background Concentration: Number of Samples	Range (mg/kg)	Average (mg/kg)	Location/ Source
Arsenic	66	2.6	37	18	5.4	72	0.3 - 69	6.6	Western US/Dragun&Chiasson 1991
						50	0.6 - 11.0	3.5	California/Bradford et al. 1996
						108	ND - 20	2.9	Northern Santa Clara/Scott 1991
						1397	ND-42	5.5	Lawrence Berkeley National Laboratory/2002
Barium	50	95	440	123	440	75	150 - 1,500	687	Western US/Dragun&Chiasson 1991
						50	133 - 1,400	509	California/Bradford et al. 1996
						1397	ND-490	130	Lawrence Berkeley National Laboratory/2002
Beryllium	50	ND	0.52	0.27	ND	75	ND - 3.0	0.5	Western US/Dragun&Chiasson 1991
						50	0.25 - 2.70	1.3	California/Bradford et al. 1996
						158	ND - 3.2	0.9	Northern Santa Clara/Scott 1991
						1397	ND-1.2	0.42	Lawrence Berkeley National Laboratory/2002
Cadmium	50	1.7	3.6	2.8	2.4	24	0.01 - 22	3.5	Western US/Dragun&Chiasson 1991
						50	0.05 - 1.7	0.4	California/Bradford et al. 1996
						158	ND - 14	NC	Northern Santa Clara/Scott 1991
						1395	ND-7.5	NC	Lawrence Berkeley National Laboratory/2002
Chromium, total	50	27	55	38	55	75	10 - 1,500	118	Western US/Dragun&Chiasson 1991
						50	23 - 1,579	122	California/Bradford et al. 1996
						158	ND - 170	51	Northern Santa Clara/Scott 1991
						1403	ND-144	58	Lawrence Berkeley National Laboratory/2002
Cobalt	50	7.2	12	9	9.2	75	ND - 50	13	Western US/Dragun&Chiasson 1991
						50	2.7 - 46.9	15	California/Bradford et al. 1996
						1397	ND-29	14	Lawrence Berkeley National Laboratory/2002
Copper	50	21	39	29	31	75	5.0 - 300	49	Western US/Dragun&Chiasson 1991
						50	9.1 - 96.4	29	California/Bradford et al. 1996
						136	4.6 -67	36	Northern Santa Clara/Scott 1991
						1400	ND-69	32	Lawrence Berkeley National Laboratory/2002
Lead	50	1.2	63	23	1.2	75	ND - 300	29	Western US/Dragun&Chiasson 1991
						50	12.4 - 97.1	24	California/Bradford et al. 1996
						158	ND -54	11	Northern Santa Clara/Scott 1991
						1398	ND-84	7	Lawrence Berkeley National Laboratory/2002
Mercury	50	ND	0.28	0.07	0.15	73	0.01 - 1.5	0.15	Western US/Dragun&Chiasson 1991
						50	0.05 - 0.9	0.26	California/Bradford et al. 1996
						127	ND -1.3	NC	Northern Santa Clara/Scott 1991
						1406	ND-2.2	NC	Lawrence Berkeley National Laboratory/2002
Nickel	50	39	60	48	44	75	<5.0 - 200	38	Western US/Dragun&Chiasson 1991
						50	9 - 509	57	California/Bradford et al. 1996
						136	6 -145	74	Northern Santa Clara/Scott 1991
						1399	6 - 380	68	Lawrence Berkeley National Laboratory/2002
Vanadium	50	24	44	31	43	75	30 - 500	125	Western US/Dragun&Chiasson 1991
						50	39 - 288	112	California/Bradford et al. 1996
						1397	ND-120	46	Lawrence Berkeley National Laboratory/2002
Zinc	50	44	99	63	44	75	25 - 212	78	Western US/Dragun&Chiasson 1991
						50	88 - 236	149	California/Bradford et al. 1996
						136	7.8 -120	65	Northern Santa Clara/Scott 1991
						1396	3.8 - 190	64	Lawrence Berkeley National Laboratory/2002

Table 2
Comparison of Background Concentrations of Inorganics in Soil

	BAREC Concentration at 0.5 feet bgs				BAREC	Background Concentration			
Inorganic Chemical	Number of Samples	Minimum (mg/kg)	Maximum (mg/kg)	Average (mg/kg)	Background Sample BG-A[1] (mg/kg)	Number of Samples	Range (mg/kg)	Average (mg/kg)	Location/ Source

Notes:

NC = Not Calculated. ND - Not Detected

1 Collected at 0.75 feet below ground surface (bgs).

Sources:

Bradford, G.R., A.C. Chang, A.L. Page, D. Bakhtar, J.A. Frampton, and H. Wright. 1996. *Background Concentrations of Trace and Major Elements in California Soils.* Kearney Foundation Special Report. University of California, Division of Agriculture and Natural Resources, Kearney Foundation of Soil Science. March

Dragun, J., and A. Chiasson. 1991. *Elements in North American Soils.* Greenbelt, MD: Hazardous Materials Control Resources Institute.

Scott, Christina. 1991. *Background Metal Concentrations in Soils in Northern Santa Clara County California* . University of San Francisco, Masters Thesis

LBNL. 2002. Analysis of *Background Distributions of Metals in Soil at the Lawrence Berkeley National Laboratory (LBNL)* . University of California, Environmental Restoration Program. June

Table 3
Statistical Summary of Arsenic Results

	BAREC Arsenic Concentration (mg/kg)			
	All Data	**Shallow[1]**	**Deep[2]**	**Arsenic less than 20 mg/kg in Field 4[3]**
No. of Samples	*136*	*66*	*72*	*138*
Minimum Concentration	*0.5*	*2.6*	*0.5*	*0.5*
Maximum Concentration	*37.0*	*37*	*29*	*20*
Average Concentration	*11*	*16*	*7*	*9*
Standard Deviation	*8.1*	*7.1*	*6.0*	*5.4*
t-value	*1.7*	*1.7*	*1.7*	*1.7*
95% UCL of the Mean	*12*	*18*	*8*	*9*

Notes:
Calculations exclude decon water sample (020801-DW-A), and
Sediment trap liquid sample (030401-SEDPIT-1-W).

[1] Shallow - samples at 0.5 feet below ground surface.

[2] Deep - samples from greater than 2 feet below ground surface.

[3] These statistics are for shallow and deep soil,
and it is assumed that arsenic concentrations greater than 20 mg/kg are
replaced with arsenic concentrations of 7 mg/kg.

Table 4
Potentially Applicable or Relevant and Appropriate Requirements (ARARs) and To Be Considered (TBCs)

Federal			
Standard, Requirement, Criteria, Limitation	**Citation**	**Description**	**Type of ARARs (Chemical, Location or Action; or a TBC)**
Classification and regulation of hazardous waste	42 USC 7401-7642	Establishes criteria for the determination of hazardous waste and its regulation	Chemical/Action
Hazardous Waste Identification	40 CFR 261.24	Establishes criteria to determine whether solid waste exhibits hazard characteristics of toxicity	Chemical/Action
Transport of Hazardous Waste	40 CFR 263	Standards applicable to transporters of hazardous waste	Action
Clean Air Act	42 USC 7401-7642	Emission Standards from stationary and mobile sources	Action
Occupational Health and Safety	29 CFR 1910.120	Establishes requirements for health and safety training.	Action
Health Risk Assessment	US EPA, Risk Assessment Guidance for Superfund, 1989	Guidance and framework to assess health risk	TBCs (Action)
Soil Screening Guidance	USEPA, Soil Screening Guidance, July 1996	Methodology for developing site-specific screening levels	TBCs (Chemical)
Preliminary Remediation Goals	US EPA, Region IX	Establishes screening numbers based on health risk assessment	TBCs (Chemical)

CFR - Code of Federal Regulation
USC - United States Code

Table 4
Potentially Applicable or Relevant and Appropriate Requirements (ARARs) and To Be Considered (TBCs)
(Continued)

State and Local			
Standard, Requirement, Criteria, Limitation	**Citation**	**Description**	**Type of ARARs (Chemical, Location or Action; or a TBC)**
Determination of Hazardous Waste	22 CCR 66260.1 et seq.	Establishes criteria for determining waste classification for the purposes of transportation and disposal of wastes	Chemical
Hazardous Waste Generator Requirements	22 CCR 66262.1 et seq.	Establishes standards applicable to generators of hazardous waste	Action
Ambient Air Quality Standards	H&S Sec. 39000-44071	Establishes standards for emissions of chemical vapors and dust	Chemical
Transportation of Hazardous Waste	22 CCR Chapter 13	Governs transportation of hazardous materials.	Action
Environmental Impact Review	Public Resources Code Sections 21000-21177	Mandates environmental impact review of projects approved by governmental agencies.	Action
Emission Standard	Regulation 6, Rule 40 Regulation 8	Establishes emission standard for particulate matter; and notification requirement.	Chemical
Grading permit	City of Santa Clara Ordinance	Permit required for site excavation and grading activities	Action
Stockpiling Requirements of Contaminated Soil	H&S Sec. 25123.3(a)(2)	Establishes standards for stockpiling of non-RCRA contaminated soil	Action
Occupational Health and Safety	8 CCR Sect. 1500, 2300, and 3200 et seq.	Establishes standards for working conditions and employees	Action

CCR - Code of California Regulation H&S - Health and Safety Code

Table 5
Estimated Cost of Alternative 2

Alternative 2 - Capping and Implementation of Institutional Controls				
Task Item	*Estimated No. of Units*	*Units*	*Unit Cost*	
Capital Costs				
Excavation and Capping Costs:				
Lab Sampling	50	ea.	$ 50.00	$ 2,500
Excavation and Load (Backhoe-loader, hydraulic, wheel mounted, 1-1/4 C.Y. cap.)	500	cy	$ 18.00	$ 9,000
Transportation and Disposal of Excavated Soil (18 cy dump truck)	500	cy	$ 45.00	$ 22,500
Dust Control (water truck rental, with operator)	5	day	$ 875.00	$ 4,375
Import & Hauling of Clean Fill Material (12 cy dump truck, 10 mile round trip, 0.60 load/hr) for cap and excavated areas	4337	cy	$ 25.00	$ 108,426
Placement of Clean Fill Material (dozer, no compaction)	4337	cy	$ 2.00	$ 8,674
Mobilization of Dozer for placement (up to 50 miles)	1	LS	$ 279.26	$ 279
Demobilization of Dozer for placement (up to 50 miles)	1	LS	$ 279.26	$ 279
Compaction of Fill Material (walk behind, vibrating plate 18" wide, 6" lifts, 4 passes)	4337	cy	$ 2.50	$ 10,843
Access/Egress Adjustments (Gate for 6' high fence, galv. Steel)	2	LS	$ 330.03	$ 660
Air Monitoring	1	LS	$ 20,000.00	$ 20,000
Preparation of Site Management Plan	1	LS	$ 50,000.00	$ 50,000
Institutional Controls	1	LS	$ 50,000.00	$ 50,000
Preparation of Remedial Activities Documentation Report	1	LS	$ 25,000.00	$ 25,000
Engineering and Design (15%)				**$ 46,880**
Contingency (15%)				**$ 46,880**
Total Estimated Capital Costs				**$ 406,297**
Annual Operation and Maintenance				
Cap Maintenance (includes periodic patching and inspection)	1	LS	$ 5,000.00	$ 5,000
Contingency (20%)				$ 1,000
Subtotal Annual O&M Costs				**$ 6,000**
Present Value	30	years	7%	$ 74,454
Total Estimated Capital and O&M Costs				$ 480,751

Table 6
Estimated Cost of Alternative 3

Alternative-3 - Excavation with Off-site Disposal				
Task Item	*Estimated No. of Units*	*Units*	*Unit Cost*	
Excavation (Arsenic Cleanup Goal of 20 ppm) Costs:				
Lab Sampling	150	ea.	$ 50.00	$ 7,500
Excavation and Load (Backhoe-loader, hydraulic, wheel mounted, 1-1/4 C.Y. cap.)	6000	cy	$ 18.00	$ 108,000
Transportation and Disposal of Excavated Soil (18 cy dump truck)	6000	cy	$ 45.00	$ 270,000
Dust Control (water truck rental, with operator)	10	day	$ 875.00	$ 8,750
Import & Hauling of Clean Fill Material (12 cy dump truck, 10 mile round trip, 0.60 load/hr)	6000	cy	$ 25.00	$ 150,000
Placement of Clean Fill Material (dozer, no compaction)	6000	cy	$ 2.00	$ 12,000
Mobilization of Dozer for placement (up to 50 miles)	1	LS	$ 279.26	$ 279
Demobilization of Dozer for placement (up to 50 miles)	1	LS	$ 279.26	$ 279
Compaction of Fill Material (walk behind, vibrating plate 18" wide, 6" lifts, 4 passes)	6000	cy	$ 2.50	$ 15,000
Access/Egress Adjustments (Gate for 6' high fence, galv. Steel)	2	LS	$ 330.03	$ 660
Air Monitoring	1	LS	$ 75,000.00	$ 75,000
Preparation of Remedial Activities Documentation Report	1	LS	$ 25,000.00	$ 25,000
Engineering and Design (15%)				**$ 100,870**
Contingency (15%)				**$ 100,870**
Total Estimated Cost				**$ 874,209**

Table 7
Comparative Analysis of Alternatives

	Removal Action Alternative - Rating Points		
Criterion	Alternative 1: No Action	Alternative 2: Capping and Implementation of Institutional Controls	Alternative 3: Excavation with Offsite Disposal
Effectiveness			
Ability to Meet RAOs	0	1	1
Compliance with Cleanup Goals	0	0	1
Reduction of Mobility and/or Volume	0	0.5	1
Long-Term Effectiveness and Permanence	0	0	1
Short-Term Effectiveness	0	1	1
Implementability			
Technical/Administrative Feasibility	1	0	1
Availability of Goods & Services	1	1	1
Ease of Construction	1	1	1
State and Community Acceptance	0	1	2
Cost	5	3	1
TOTAL	8	8.5	11

Table 8
Anticipated Number of Days for Project Implementation and Reporting

Schedule of Tasks			
Task	**Days[10] to Complete**	**Cumulative Days**	**Notes**
Building Demolition	14	14	Not part of RAW, but must be completed prior to RAW implementation
Site Preparation	7	21	
Excavation Activities	14	35	Assumes minimal weather delays
Site Restoration	7	42	
Reporting	28	70	

10 Calendar days

FIGURES

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1.0 INTRODUCTION

The former University of California (UC) Bay Area Research and Extension Center (BAREC) is located on 90 North Winchester Boulevard in Santa Clara, California (the site), as shown in Figure 1 of the Removal Action Workplan (RAW). The area surrounding the site consists primarily of residential and commercial land. Immediately surrounding the site to the north, west and south are residential homes. To the south of the site along Winchester Boulevard, there is a commercial building, a veterinary clinic and a parking lot. To the east, northeast and southeast beyond Winchester Boulevard are areas used for commercial purposes.

An environmental investigation was conducted at the former UC BAREC to determine whether current or past chemical use at the site has resulted in soil concentrations that might pose a threat to public health and the environment. The BAREC was used as an agricultural research station since the 1920s. Part of the research at the BAREC involved demonstrating the efficacy of a variety of research and development (R&D) pesticides. Fourteen of the 90 chemicals used on crops at the research station were considered of potential concern because of their toxicity and persistence in the environment. Arsenic and dieldrin were the chemicals of potential concern that were found at concentrations above USEPA Preliminary Remediation Goals in surface soils.

Based on the additional soil sampling results, a Removal Action Workplan (RAW) has been prepared to address the elevated concentrations of pesticides-related chemicals in the eastern sector of Field 4 and three hot spots. Excavation and offsite disposal of soils with elevated arsenic and dieldrin levels was recommended based on effectiveness, implementablility and cost. Soil with concentrations above clean-up goals are planned to be excavated from the site and disposed of at a nearby non-hazardous, municipal landfill. This Transportation Plan is prepared as a key component of the RAW. All removal, transportation and disposal activities will be performed in accordance with all applicable federal, state, and local laws, regulations, and ordinances.

2.0 WASTE TRANSPORTATION, HANDLING AND MANAGEMENT

The volume of excavated soil is estimated to be approximately 6,000 cubic yards. The chemicals of potential concern in the excavated soil driving the removal effort are arsenic and dieldrin.

2.1. WASTE PROFILE

The waste material will be profiled for acceptance by the disposal facility and approval from the disposal facility will be obtained before any excavation activities commence. Additional documentation will be provided to DTSC pertaining to waste disposal profiles and waste disposal acceptance prior to any off-site shipments of waste.

2.2. REQUIREMENT OF TRANSPORTERS

Only qualified transporters will be hired for hauling the excavated soil off-site. The selected transporters will be fully licensed and insured to transport the excavated soil.

2.3. TRAFFIC CONTROL PROCEDURES

Impacted soil for off-site disposal will be transported in end-dump trailers/trucks to the designated disposal facility. Prior to loading, all dump trucks will be staged on site to avoid impacts on the local streets. Dump trucks to be loaded will not be allowed to cross removal or staging areas. Traffic will be coordinated in such a manner that, at any given time, no more than three dump trucks will be on the site, to reduce truck traffic on surrounding surface streets and reduce dust generation during on-site transportation. While on the site, all vehicles will be required to maintain slow speeds (i.e., less than five miles per hour) for safety purposes and for dust control measures. A traffic flag person will be used to control truck traffic entering and leaving the site.

2.4. TRUCK LOADING OPERATIONS

Trucks will be loaded on the designated portion of the staging area. A hydraulic backhoe (or similar equipment) will load the soil from the stockpile into dump trucks for transportation to the designated disposal facility. All vehicles will be decontaminated prior to leaving the work area. All stray waste material on vehicles, tires, etc., will be brushed off and sprayed off with water, if necessary. Then the dump truck will be covered with a tarp to prevent the excavated soil and/or dust from spilling out of the truck during transport to the disposal facility. Prior to leaving the load-out area, each truck will

be inspected by the site manager to ensure that the payloads are adequately covered, the trucks are cleaned of contaminated soil, and the shipment is properly documented. Each truck will receive the proper placarding and paper work. Water spray or mist, as appropriate, will be applied during loading operations for dust control purposes.

2.5. SHIPMENT DOCUMENTATION

Non-hazardous Waste Shipment

Assuming the excavated soil is profiled as non-hazardous waste, a proper shipping document (such as bill of landing or invoice or non-hazardous waste manifest) will be used to document and accompany each truck shipment. At a minimum, the shipping document will include the following information:

- Name and Address of Waste Generator
- Name and Address of Waste Transporter
- Name and Address of Disposal Facility
- Description of the Waste
- Quantity of Waste Shipped

The site manager will maintain a copy of the shipping document for each truckload on-site until completion of the removal action.

2.6. OFF-SITE LAND DISPOSAL FACILITIES

For the purposes of this Transportation Plan, the soil is assumed to be non-hazardous waste. The material is planned to be transported to a Class 3 landfill. Specified below are two nearby landfills appropriate for the disposal of the excavated soil:

BFI Newby Island Landfill
1601 Dixon Landing Road
Milpitas, California 95035
Phone: (408) 262-8100

or

Kirby Canyon Landfill
910 Coyote Creek Golf Drive
Morgan Hill, California 95037

Phone: (408) 779-2206

Final determination of the landfill selected for disposal will be based on approval from the landfill. Once the landfill is determined, DTSC will be notified by email and/or telephone.

2.7. TRANSPORTATION ROUTES

Transportation of the excavated soil will be on arterial streets and/or freeways approved for truck traffic to minimize any potential impact on the local neighborhood. If the soil is accepted by the BFI Newby Island Landfill, the transport trucks will exit the site on North Winchester Boulevard and turn right to travel south for approximately 0.3 miles to Stevens Creek Boulevard; turn left on Stevens Creek Boulevard; and take the ramp for northbound Interstate 880 Freeway and travel for approximately 9.3 miles, take the Dixon Landing Road West exit. By turning right off the freeway ramp, the trucks will arrive at the BFI Newby Island Landfill, located at 1601 Dixon Landing Road. Figure 1 shows the proposed transportation route.

If the soil is accepted by the Kirby Canyon Landfill, the transport trucks will exit the site on North Winchester Boulevard and turn right to travel south for approximately 0.3 miles to Stevens Creek Boulevard; turn left on Stevens Creek Boulevard; and then take the on-ramp for the southbound California Highway 17 and travel for approximately 0.7 miles. The trucks will merge onto the southbound Interstate 280 Freeway and travel for approximately 2.6 miles; exit at the Guadalupe Parkway and continue on the southbound California Highway 87 for 4.9 miles, take the southbound California Highway 85 exit and continue for 5.2 miles, then take the Bernal Road exit; turn right on Bernal Road to Monterey Highway. Turn left on Monterey Highway and travel for 5.4 miles, and then turn left on Kirby Avenue to reach the landfill. Figure 2 shows the proposed route to the Kirby Canyon Landfill.

Approximately 30 to 35 truckloads of soil will be transported off-site per day. Transportation will be timed to avoid peak traffic hours.

2.8. RECORDKEEPING

The excavation contractor will be responsible for maintaining a field logbook during the removal action activities. The field logbook will serve to document observations, personnel on-site, truck arrival and departure times, and other vital project information.

2.9. HEALTH AND SAFETY

A health and safety plan (HASP) for the site has been prepared and included as Appendix B of the RAW. The selected contractor will prepare a site-specific HASP prior to initiation of site work. Everyone working at the site will be required to be familiar with the site-specific HASP.

2.10. CONTINGENCY PLAN

Each waste hauler is required to have a contingency plan prepared for emergency situations (vehicle breakdown, accident, spill or leak of materials, fire, explosion, etc.) during transportation of excavated soil from the Site to the designated disposal facility. Once the waste hauler is selected, a copy of its contingency plan will be attached to this Transportation Plan.

Figure 1. Proposed Route of Transportation to the BFI Newby Island Landfill

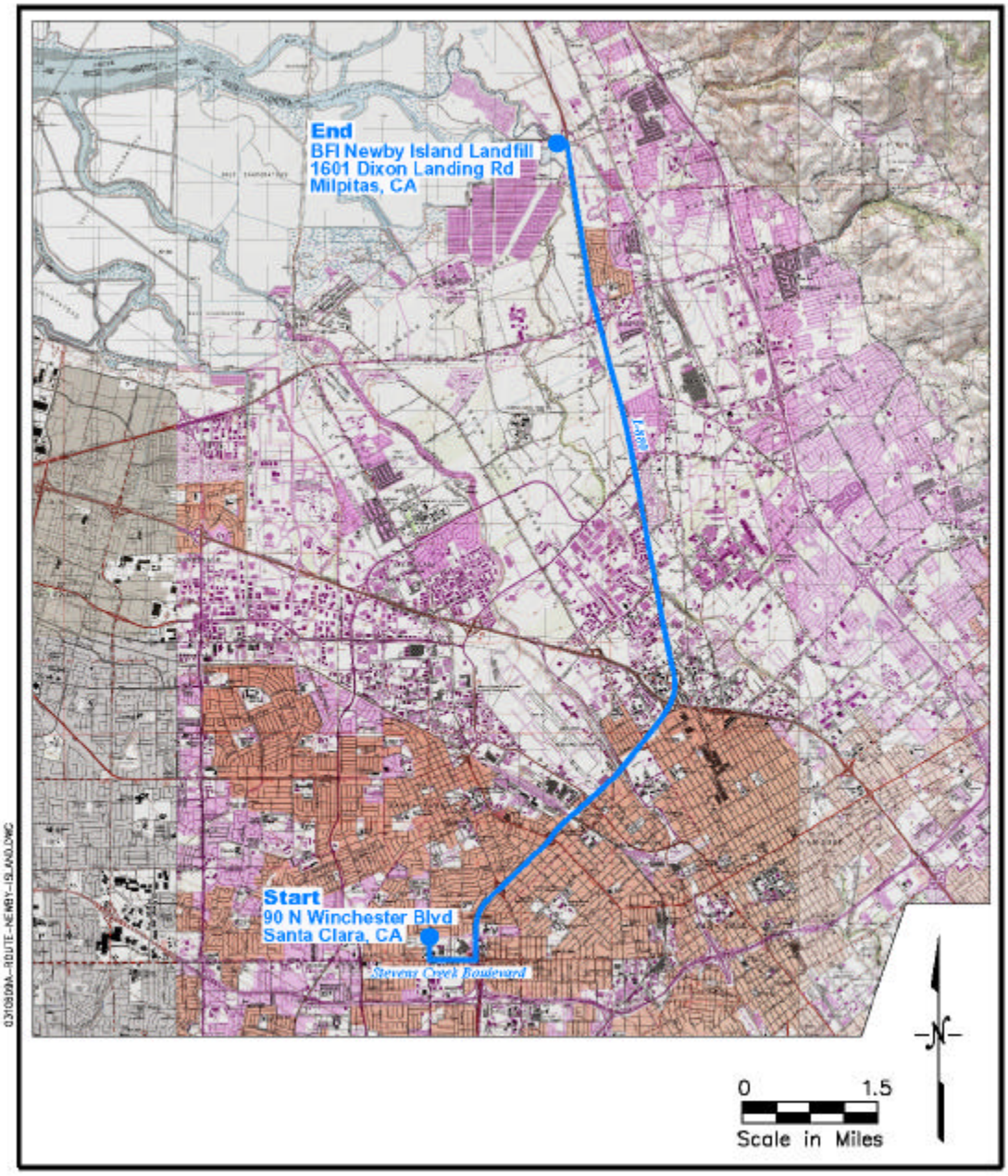
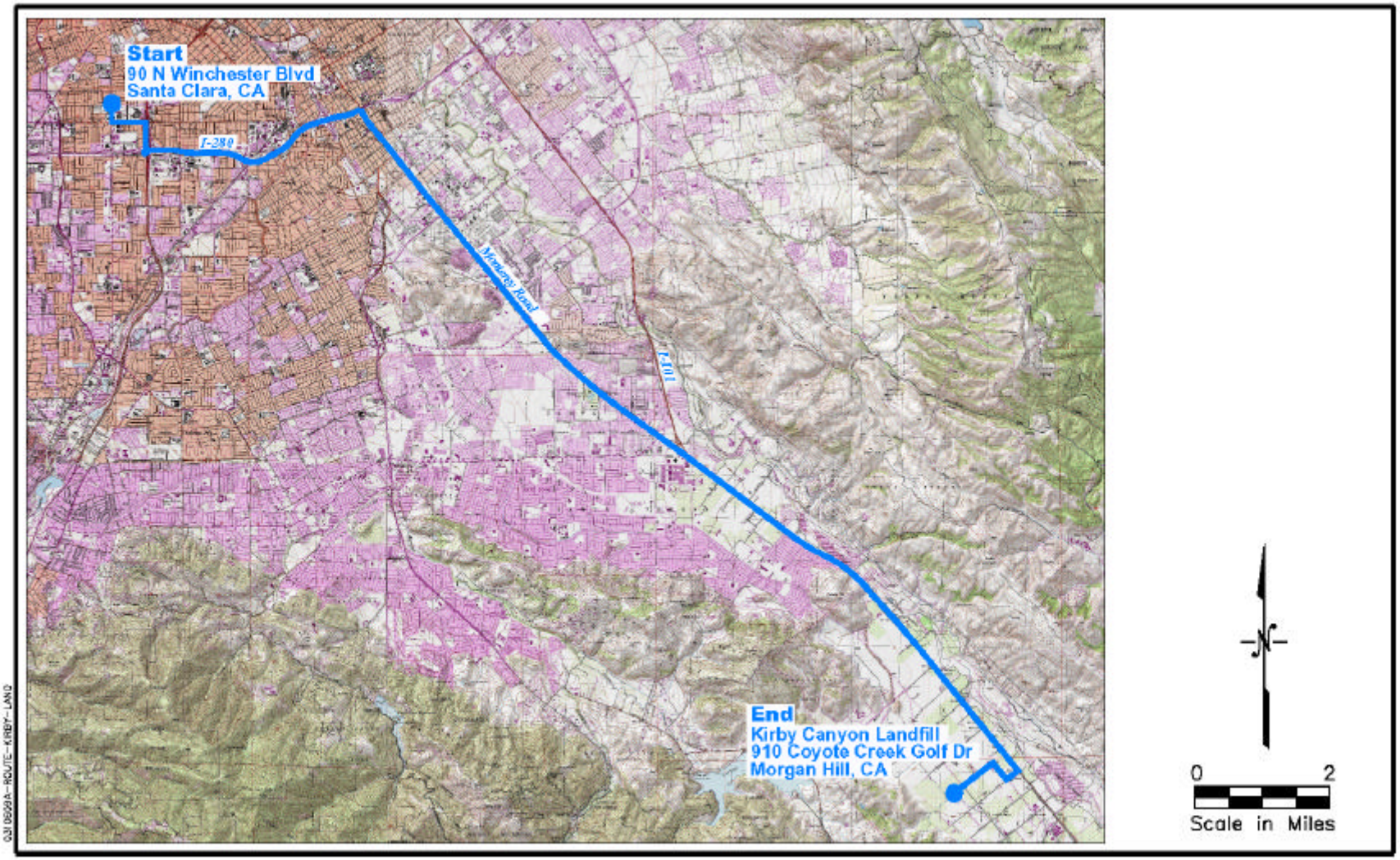


Figure 2. Proposed Route of Transportation to Kirby Canyon Landfill



APPENDIX B
SOIL SAMPLING AND ANALYSIS PLAN

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ATTACHMENT A Quality Assurance Manual STL San Francisco

1.0 INTRODUCTION

This Soil Sampling and Analysis and Quality Assurance Project Plan (SAP/QAPP) has been prepared on behalf of the California State Department of General Services by ENVIRON International Corporation (ENVIRON). The purpose of this SAP/QAPP is to:

(1) describe the scope of work for soil sampling and laboratory analysis;
(2) describe the quality assurance/quality control (QA/QC) procedures the project team will follow during analysis of samples collected at the Former BAREC property; and,
(3) assure reporting of data that are representative of field conditions, and are legally defensible.

The SAP/QAPP is based on guidelines issued by the United States Environmental Protection Agency (USEPA) (USEPA, 1988, 1989, 1994, 1998, 2001), and reflects the selection of STL San Francisco laboratory for analysis of samples.

2.0 SCOPE OF SOIL SAMPLING

2.1 Problem Definition and Background

The problem definition and background details for this project are discussed in Sections 2.1 and 2.2 of the Removal Action Workplan (RAW).

2.2 Sampling Project/Task Description

A summary of work to be performed for this project is provided in detail in Section 5.0 of the RAW. The soil sampling work consists of the following main elements:

- Collection of soil samples below former building foundations to confirm that soil below former buildings have not been adversely affected from prior operations at the BAREC property. The scope of this sampling is described in Section 5.1.1 of the RAW;
- Collection of soil samples to determine the extent of excavation of impacted soils ("Pre-Excavation Sampling"). The scope of this sampling is described in Section 5.1.4 and 5.3.1 of the RAW; and
- Collection of soil samples to verify that impacted soils have been removed ("Post-Excavation Sampling"). The scope of this sampling is described in Section 5.1.4 and 5.3.1 of the RAW

A map showing proposed locations of field tasks is included in the RAW as Figure 7. The schedule for implementation of project tasks is described in Section 5.8 and Table 8 of the RAW.

2.3 Sampling Methods

The samples will be collected in-situ using a standard core sampler attached to a slide hammer. In cases where the excavation depth prevents safe entry, soil will be taken from the selected location using the backhoe. The sample will be collected from the backhoe bucket using the standard core sampler. Soil samples will be collected in factory pre-cleaned brass or stainless steel liners.

2.4 Sample Handling and Custody

Standard EPA procedures to identify, track, monitor and maintain chain-of-custody for all samples will be implemented. Soil samples will be handled using the following procedures:

1. The sampler will don clean gloves appropriate for the chemicals of concern before touching any sample containers, and care will be taken to avoid direct contact with the sample.

2. The sample will be quickly observed for color, appearance, and composition and

recorded in the field soil boring log. The ends of the liners will be immediately covered with Teflon® sheeting, capped with plastic end caps, and sealed with Silicone tape.

3. The sample container will be labeled before or immediately after sampling with a self-adhesive label having the following information written in waterproof ink:

   - Company name
   - Project name
   - Project number
   - Sample ID number
   - Date and time sample was collected
   - Initials of sample collector

4. The sample will be placed in an ice chest kept at 4 °C for transport to the laboratory within 24 hours of collection.

2.5 Analytical Methods

Soil Samples Below Building Foundations

Soil samples collected from beneath the former building foundations will be analyzed for asbestos by EPA Method 600/R-93-116, lead and arsenic by EPA Method 6010B, organochlorine pesticides by EPA Method 8081A, and petroleum hydrocarbons by EPA Method 8015 Modified.

Pre- and Post-Excavation Samples

Soil samples from excavation areas will be analyzed for arsenic by EPA Method 6010B or dieldrin by EPA Method 8081A. Table B-1 lists the chemical analytical methods anticipated for this project and the proposed reporting limits for target analytes.

2.6 Equipment Decontamination

The soil sampler will be washed with a laboratory-grade alconox detergent and water solution to remove residual soil and rinsed with deionized water between sampling.

Construction equipment and transportation vehicles will be decontaminated as described in Section 5.3.3 in the RAW.

2.7 Quality Control

The requirements and procedures for maintaining laboratory quality control for project data are described in Section 4.3 below.

3.0 PROJECT/TASK ORGANIZATION

Personnel assigned to the project will be required to familiarize themselves with pertinent protocols and procedures presented in the SAP/QAPP. The following paragraphs identify and describe the responsibilities of key project positions related to project management, chemical data quality management and subcontractor relationships.

3.1 Key Project Positions

Project Director and Assistant Project Director - The Project Director is responsible for reviewing technical and policy decisions regarding the project, including interaction and coordination with California State Department of General Services, the regulatory agencies, ENVIRON, and subcontractor personnel.

Technical Peer Reviewer - The Technical Peer Reviewer is responsible for reviewing technical aspects of the work including QA/QC, strategies, methods to be used, and key reports.

Project Manager - The Project Manager is responsible for the scope, cost, and technical considerations related to the project; staff and project coordination; and implementation of review of overall project quality to the collection, completeness, and presentation of data.

Project Quality Assurance Officer - The Project Quality Assurance (QA) Officer is responsible for reviewing the project QA program as it relates to the collection and completeness of data from field and laboratory operations, including the training of personnel to follow established protocols and procedures. This individual is also responsible for maintaining the official, approved SAP/QAPP.

Task Leaders - Task Leaders are responsible for formulating a work plan and executing work elements related to an assigned task. Each Task Leader will issue specific instructions for performing assigned work elements and will ensure that work is conducted in compliance with project-specific objectives and applicable QA procedures. Task Leaders will coordinate with the Project Manager and QA Officer to review general work plans and specific work elements.

3.2 Quality Objectives and Criteria for Measurement Data

Measurement performance criteria are outlined in Sections 4.6 through 4.8 in Severn Trent Laboratories (STL) San Francisco Quality Assurance Manual, Revision 10, January 2002 (STL QA Manual). A copy of the STL QA Manual is included as Attachment A to the SAP/QAPP.

3.3 Special Training and Certification

No specialized training of field personnel is required for this project. All personnel involved in field

sampling shall have completed the emergency response and hazardous waste operations training requirements defined in Title 29 Code of Federal Regulations Part 1910.120. Furthermore, fieldwork personnel for this project are appropriately trained for the sampling activities that will be conducted.

The training programs implemented by the laboratory for its personnel are described in Section 8.0 of the STL QA Manual in Attachment A.

3.4 Documentation and Records

The most current, approved version of the SAP/QAPP will be provided to the appropriate project personnel prior to the initiation of field activities.

Documents related to field activities conducted will be submitted with the Report of Sampling Results, which will be completed following field activities. These documents include field investigation daily logs, daily calibration logs, chain-of-custody records and corrective action reports. Laboratory-specific records will be compiled by STL in a "Level III Report" (USEPA report, "Guidance for Data Useability in Risk Assessment (Part A) Final" (DURA)), which is discussed in Section 4.3.3 of the STL Quality Assurance Manual (Attachment A) and includes the following elements:

- Sample data such as sampling date, submission date, extraction and analytical dates, method used, sample results, dilution factors, reporting limits, and GC fingerprint chromatograms
- Sample management records such as cooler receipt forms, chain-of-custody records, and a sample receipt check list
- Test method records such as method summaries, sample preparation logs, run sequences and injection time logs
- QA/QC documents such as calibration summaries, laboratory control sample results, surrogate recoveries, matrix spike results, method blank results, preparation and instrument analysis logs, and QC reports

According to the STL QA Manual Section 12.4, laboratory-specific records will be kept in storage for a period of at least five years. Project-related documents will be retained by ENVIRON in the Emeryville office for a period of five years.

4.0 DATA GENERATION AND ACQUISITION

4.1 Sample Handling and Custody

Standard EPA procedures to identify, track, monitor and maintain chain-of-custody for all samples will be implemented as discussed in Section 2.4.

Laboratory sample handling and custody procedures are described in Section 4.1 of the STL QA Manual (Attachment A).

4.2 Analytical Methods

As discussed above, soil samples collected from beneath the former building foundations will be analyzed for asbestos by EPA Method 600/R-93-116, lead and arsenic by EPA Method 6010B, organochlorine pesticides by EPA Method 8081A, and petroleum hydrocarbons by EPA Method 8015 Modified. Soil samples from excavation areas will be analyzed for arsenic by EPA Method 6010B or dieldrin by EPA Method 8081A. Table B-1 list the chemical analytical methods anticipated for this project and the proposed reporting limits for target analytes. In general, samples will be processed as a batch. Samples will be processed sequentially, and samples to be analyzed by a given method will be generally processed on the same apparatus. Samples will be processed without interruption of samples from other projects. At a minimum, the laboratory will perform matrix spikes on one of each ten project samples, or one per sample delivery batch, per matrix type, whichever is more frequent, and independent of the number of analytical instruments used. Samples will be analyzed so that each detected analyte will be quantified within its respective linear range of calibration of the analytical instrument; if analytes are detected outside the linear range of calibration, the sample will be re-analyzed with an appropriate dilution and within holding times so that the analyte can be properly quantified. Additional information on laboratory analytical procedures is included in Section 3.2 of the STL QA Manual (see Attachment A).

Corrective actions for any failures in the analytical system will be handled by STL San Francisco. Section 6.0 of the STL QA manual identifies the personnel responsible for corrective actions as well as related procedures and documentation.

4.3 Quality Control

The requirements and procedures for maintaining laboratory quality control for project data are described below. More details on QC procedures conducted by the laboratory are provided in Section 4.5 of the STL QA Manual (see Attachment A).

4.3.1 Quality Control Samples

To evaluate the precision and accuracy of analytical data, laboratory quality control samples will be analyzed periodically for this project. The minimum project requirements for collection and analysis of these samples are listed in the subsections below.

4.3.1.1 Matrix Spikes and Matrix-Spike Duplicates

A matrix spike is an aliquot of a project sample, either soil or water, to which the laboratory adds a known quantity of a compound prior to sample extraction/digestion and analysis. The reported percent recovery of the known compound in the sample indicates the presence or absence of any effects of the matrix on the sample analyses. A matrix-spike duplicate is an aliquot of the matrix-spike sample that is analyzed separately; the results indicate the precision of the analytical method. A matrix-spike and matrix-spike duplicate analysis will be performed on at least one of each ten project samples, or one per sample delivery batch, per matrix type, whichever is more frequent, and independent of the number of analytical instruments used.

4.3.1.2 Method Blanks

A method blank consists of a laboratory-prepared sample that is carried through the entire analytical procedure. Method blanks for soil and water analyses consist of deionized and/or organic-free water, while method blanks for soil gas analyses consist of ambient air. The purpose of method blanks is to check for laboratory contamination during preparation and analysis of soil, water or soil gas samples. Method blanks will be prepared and analyzed at least once with each analytical batch, with a minimum of one for every 20 samples.

4.3.1.3 Laboratory Control Sample

A laboratory control sample (LCS), or check sample, is a sample prepared by the laboratory or a reliable source that contains known concentrations of the analytes of concern. It is subjected to the same preparation/extraction procedures as a soil, soil gas or water sample, and is prepared independently of calibration standards. The LCS recovery checks the accuracy of the analytical methods and equipment, and will be prepared and analyzed at least once with each analytical batch, with a minimum of one for every 20 samples. LCS recoveries should fall within the limits set by the laboratory.

4.3.1.4 Laboratory Surrogate Compounds

A surrogate spike is an addition to the soil, soil gas or water sample of a known concentration of an organic compound that is not expected to be a compound of concern in

the sample. Every blank, QC sample, and project sample will be spiked with surrogate compounds if specified in the particular analytical method (they are not required for metals analyses). Surrogate recovery should fall within the limits set by the laboratory in accordance with procedures specified by the method.

4.3.2 Calculation of QC Statistics

The validity of chemical data will be measured in terms of precision, accuracy, completeness, and representativeness. The ways in which these four parameters will be evaluated for project data are described below. These calculations are also discussed in Sections 4.6 and 4.7 of the STL QA Manual in Attachment A.

4.3.2.1 Precision

For chemical data generated by the laboratory, data precision will be estimated by comparing analytical results from duplicate samples and from matrix spikes and matrix-spike duplicates. The comparison will be made by calculating the relative percent difference (RPD) given by the following equation:

$$RPD = \frac{2(S_1 - S_2)}{S_1 + S_2} \; x \; 100$$

Where S_1 = sample
S_2 = duplicate

This information will be calculated and reviewed periodically by the Project Manager and/or Project QA Officer. The goals for data precision are summarized in Table B-2. RPD goals are applicable only for samples with detected concentrations greater than five times the reporting limit.

4.3.2.2 Accuracy

Data accuracy will be assessed for laboratory data only and is based on recoveries (R), expressed as the percentage of the true (known) concentration, from laboratory-spiked samples (i.e., matrix spikes, matrix spike duplicates, and laboratory control samples) generated by the analytical laboratory. The equation for calculating recoveries is:

$$R = \frac{(A - B)}{T} \; x \; 100$$

Where A = measured concentration after spiking

B = background concentration
T = known true value of spike

This information will be reviewed periodically by the Project Manager and/or Project QA Officer. The goals for the recovery of selected target analytes in laboratory-spiked samples are presented in Table B-2. These goals may need to be modified depending upon potential matrix interferences associated with the site samples. Alteration or failure to meet these preliminary goals should not be construed to indicate that the data is unsuitable for site characterization and risk assessment as long as the uncertainty associated with the data is adequately characterized (USEPA, 1992).

4.3.2.3 Completeness

Data generated during the investigation will be evaluated for completeness, that is, the amount of data meeting project precision and accuracy goals presented in Table B-2. If data generated via analytical procedures appear to deviate significantly from observed trends, the Project Manager and/or Project QA Officer will review field or laboratory procedures with the appropriate personnel to evaluate the cause of such deviations. Where data anomalies cannot be explained, resampling may be necessary.

4.3.2.4 Representativeness

The representativeness of the data is the degree to which data represent a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Analytical data should represent the sample analyzed regardless of the heterogeneity of the original sample matrix. Field duplicate samples will be collected as a means to assess field representativeness, in addition to being used to assess precision as described in Section 4.3.2.1. Trip blanks will be included in each sample shipment and will contain water samples for volatile organic analysis to evaluate potential cross contamination during transport. Representativeness will also be ensured by use of proper collection protocols as specified in Section 2.3 and 2.4.

4.3.3 Data Review

The Project Manager, Project QA Officer, or appropriate Task Leader assigned by the Project Manager, will review laboratory data. Section 4.3.2 outlines the procedures for evaluating the precision and accuracy of data. If comparison of data to previous measurements or known conditions at the site indicates anomalies, the laboratory will be instructed to review the submitted data while the methods used to collect and handle the samples is reviewed. If anomalies remain, the laboratory may be asked to re-analyze selected samples; other possible

corrective actions are discussed below.

4.3.4 Corrective Actions

Corrective actions may be initiated if the precision or accuracy goals listed in Table B-2 are not achieved. The initial step in corrective action will be to instruct the analytical laboratory to examine its procedures to assess whether analytical or computational errors caused the anomalous results. At the same time, sample collection and handling procedures will be reviewed to assess whether they could have contributed to the anomalous results. Based on this evaluation, the Project Manager, with the Project QA Officer, will assess whether re-analysis or resampling is required or whether any protocol should be modified for future sampling events. Laboratory corrective actions are described in the laboratory quality assurance manuals. Any changes in laboratory methods, or quality assurance parameters or limits require written approval prior to implementation by the laboratory.

4.4 Instrument/Equipment Testing, Inspection and Maintenance

Information regarding testing, inspection and maintenance of laboratory equipment, including preventative maintenance schedules, is provided in Section 5.3 of the STL QA Manual in Attachment A.

4.5 Instrument/Equipment Calibration and Frequency

Details on calibration procedures for laboratory equipment, including frequency and techniques, are provided in Section 5.2 of the STL QA Manual in Attachment A.

4.6 Inspection/Acceptance of Supplies and Consumables

Project Managers have primary responsibility for identifying the types and quantities of supplies and consumables needed for environmental data collection projects. Supplies and consumables will be received in the field. When supplies are received, the Field Task Leader will inspect the supplies to ensure that they meet the inspection and acceptance requirements. All inspection and acceptance requirements for supplies and consumables (including reagents, standards, water and glassware) used by the laboratory are presented in Section 9 of the STL QA Manual in Attachment A.

4.7 Data Management

New analytical data for the project will be generated and reported by the lab. Information regarding data reduction, validation and reporting by the laboratory is provided in Section 4.3 of the STL QA Manual (see Attachment A). Details on the storage of data at the laboratory are presented in Section 12 of the STL QA Manual.

Analytical data will be provided by the laboratory in electronic format via email followed by a mailed hard copy report. The electronic data will be entered and maintained in a project database. Analytical results in the database will be checked against the hard copy report upon their receipt.

5.0 ASSESSMENT AND OVERSIGHT

5.1 Assessments and Response Actions

Assessments that will be performed for this project include laboratory audits, data reviews and peer reviews of data analysis reports. Section 11 of the STL QA Manual in Attachment A describes laboratory audit procedures and related response actions.

The Project Manager, Project QA Officer, or appropriate Task Leader assigned by the Project Manager, will review laboratory data. If comparison of data to previous measurements or known conditions at the site indicates anomalies, the laboratory will be instructed to review the submitted data while the methods used to collect and handle the samples are reviewed. If anomalies remain, the laboratory may be asked to re-analyze selected samples; other possible corrective actions are discussed in Section 4.3.4. Reports related to this project will be peer-reviewed by the Technical Peer Reviewer.

5.2 Reports to Management

The Project Manager will be provided with monthly status reports that will address any work assignment-specific QA issues. Identification of these issues will be facilitated by communication among all project participants.

6.0 DATA VALIDATION AND USABILITY

6.1 Data Review, Verification, and Validation

The criteria for reviewing and validating data are outlined in Sections 4.3, 4.7 and 4.8 of the STL QA Manual in Attachment A. Precision and accuracy goals for data are presented in Table B-2.

6.2 Verification and Validation Methods

The validity of chemical data will be measured in terms of precision, accuracy, completeness, and representativeness. Methods to determine these parameters are discussed in Section 4.3.2.

6.3 Reconciliation with User Requirements

Reconciliation of the sampling and analysis results with the requirements defined by the decisions makers will be discussed in the Report of Sampling Results, which will be prepared following completion of field activities and receipt of laboratory analytical data.

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TABLES

Table B-1
ESTIMATED REPORTING LIMITS AND PRELIMINARY REMEDIATION GOALS FOR SOIL

Analytical Parameters and Analytes	Method Reference and Number	RL[(a)] (mg/kg)	Residential PRGs (mg/kg)
Asbestos	600/R-93-116	1%	NA
Organochlorine Pesticides	8081		
4,4'-DDD		0.002	2.4
4,4'-DDE		0.002	1.7
4,4'4-DDT		0.002	1.7
4,4'-Methyoxychlor		0.002	310
Aldrin		0.002	0.029
alpha-BHC		0.002	0.09
alpha-Chlordane		0.002	NA
beta-BHC		0.002	0.32
Chlordane (Technical)		0.050	1.6
delta-BHC		0.002	NA
Dieldrin		0.002	0.03
Endosulfan I		0.002	370
Endosulfan II		0.002	370
Endosulfan sulfate		0.002	370
Endrin		0.002	18
Endrin aldehyde		0.002	NA
Endrin ketone		0.002	NA
gamma-BHC (Lindane)		0.002	0.44
gamma-Chlordane		0.002	NA
Heptachlor		0.002	0.11
Heptachlor epoxide		0.002	0.053
Toxaphene		0.10	0.44
Metals	6010B		
Arsenic		1	0.39
Lead		1	400
Petroleum Hydrocarbons	8015M		
Diesel		1	NA
Gasoline		1	NA
Kerosene		1	NA
Motor Oil		50	NA

Notes:
mg/kg = milligrams per kilogram
NA = not available
PRGs = EPA Region IX Preliminary Remediation Goals, October 2002
(a) Reporting limits (RLs) are highly matrix dependent and the values listed are provided for guidance and may not always be achievable. Sample RLs may be higher for samples that require dilution or if matrix interferences are present.

Table B-2
QUALITY ASSURANCE GOALS FOR FIELD AND LABORATORY ANALYSES

Tests	Compounds	Spike level µg/Kg	Soil Limits (%)	% RPD Limit
8081 Pesticides				
Surrogate	2,4,5,6-Tetrachloro-m-xylene	50	50-125	-
	Decachlorobiphenyl	50	46-242	-
MS/MSD	Aldrin	50	37-136	25
	y-BHC	50	37-137	35
	p,p'-DDT	50	55-132	35
	Dieldrin	50	58-135	35
	Endrin	50	58-134	35
	Heptachlor	50	40-136	20
LCS	Aldrin	50	37-136	25
	y-BHC	50	37-137	35
	p,p'-DDT			20
	Dieldrin	50	58-135	35
	Endrin	50	58-134	35
	Heptachlor	50	40-136	20
6010-Metals				
MS/MSD	Arsenic	100	80-120	20
	Lead	100	80-120	20
8015M - Petroluem Hydrocarbons				
Surrogate	o-Terphenyl	20	60-130	-
	4-Bromofluorobenzene	500	58-124	-
LCS	Diesel	250	60-130	25
	Gasoline	2.5	75-125	35

ATTACHMENT A

Quality Assurance Manual
STL San Francisco

STL San Francisco

1220 Quarry Lane
Pleasanton, California 94566

Quality Assurance Manual

Tenth Revision

January 2002

Prepared By:

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1.0 Introduction, Purpose, and Scope

1.1 Overview

STL San Francisco is a part of Severn Trent Laboratories, owned by Severn Trent Plc., a British water, waste, and utility services company. STL San Francisco is a full service environmental laboratory providing testing services for organic and inorganic analyses in a variety of matrices including soil, wastewater, ground water, hazardous wastes, drinking water and air. The laboratory is equipped with automated gas chromatographs using a variety of detectors, including photoionization, electron capture, flame ionization, and ELCD detectors. GC/MS analyses are performed on ten automated, computer-assisted spectrometers. Metals are analyzed using trace ICP, graphite furnace, AA and an automated mercury analyzer. PNAs and explosives are analyzed using a high performance liquid chromatograph. Laboratory functions are managed by ChromaLIMS, a unique Laboratory Information Management System. STL San Francisco specializes in providing the highest quality analytical testing and data deliverables with fast turn-around services.

STL San Francisco operates in compliance with the guidelines described under the STL Quality Management Plan, M-Q-001, Rev. 4, January 24, 2001.

1.2 Program Definition

Quality is defined as the degree to which a process or service meets or exceeds client requirements and expectations. Quality assurance constitutes those planned and systematic actions which, when carried out, provide adequate reliability of monitoring and measuring data. Quality control as a subset of quality assurance provides for the verification of implementation of the quality assurance system.

1.3 Quality Assurance Policy

The goal of STL San Francisco is to provide a positive environment in which there is a commitment to achieve an ever-improving standard of quality. This environment demands that processes and services including the methods employed to achieve quality be consistently improved.

STL San Francisco's policy is:

- To produce consistent and uniform quality analytical services that meet federal, state, and local regulatory requirements,
- To generate accurate, legally defensible data,

- To meet clients' requirements with the best professional services,
- To provide continuous evaluation and improvement of operational processes and procedures,
- To maintain a working environment that supports open communication with clients and staff.

1.4 Management Commitment to QA

Quality is a commitment, achieved by the desire for excellence and by continuous evaluation and improvement. Through this commitment, STL San Francisco follows a Quality Assurance program that involves every aspect of the laboratory and ensures highest quality sample analysis and highest quality data deliverables in the environmental testing industry.

STL San Francisco Mission Statement

STL San Francisco's mission is to provide the client with accurate, legally defensible test results at a reasonable cost.
We specialize in quick turnaround.

Severn Trent Laboratories' Mission Statement

We enable our customers to create safe and environmentally favorable policies and practices, by leading the market in scientific and consultancy services. We provide this support within a customer service framework that sets the standard to which others aspire. This is achieved by people whose professionalism and development is valued as the key to success and through continued investments in science and technology.

1.5 Purpose

The purpose of the Quality Assurance Plan is to provide a description of methods, responsibilities, and quality control systems associated with performing a variety of environmental analytical methods within STL San Francisco and to establish an effective quality management system which assures appropriate controls are implemented based on the complexity of analysis to be provided for each order submission. Roles and responsibilites of management and laboratory staff are also defined.

1.6 Scope

This Manual defines current quality principles and practices that apply to all aspects of the program and uses concepts and methods that have evolved through experience on

environmental analytical methods. STL San Francisco follows the requirements as specified by regulatory agencies. Policies and practices set forth provide a baseline level performance standard. Specific project or client requirements may be used if they do not conflict with regulatory requirements.

2.0 Laboratory Organization and Responsibilities

This section describes the responsibilities for the Quality Assurance System. Each person involved in the generation of analytical data affects STL San Francisco's QA/QC Program. Responsibility of the staff for upholding the standards is described in the quality assurance manual and for implementing procedures is described in the laboratory standard operating procedures (SOPs).

2.1 Responsibility for the Quality Assurance System -

Overall responsibility for quality assurance lies with the Laboratory Director. Within the laboratory, the Laboratory Director is responsible for the implementation of the quality and technical requirements of laboratory analyses and services. The Quality Assurance department is responsible for monitoring the implementation of the QA system, and reporting audit and surveillance findings to management. The Quality Assurance Department, although an independent unit, reports laboratory quality issues directly to the Laboratory Director.

Employees of STL San Francisco are responsible for identifying, reporting, and documenting quality issues and performing the approved corrective action on deviations of laboratory technical and quality requirements.

2.2 Laboratory Director -

The Laboratory Director ensures that the operational requirements of the QA Manual are met. Other responsibilities include the following:

- Reviews and approves the Quality Assurance Manual.
- Manages the on-going requirements of the Quality Assurance and Quality Control activities through the QA Department.
- Has overall responsibility for the development and approval of SOP's, QAP's, and QAPP's and assures that they are technically sound, correct, and meet regulatory requirements.
- Ensures appropriate corrective actions are taken to address non-conformance issues.
- Reviews and approves final data packages to clients.

2.3 Quality Assurance Department -

The Quality Assurance department reports directly to the Laboratory Director and is responsible for monitoring the quality assurance program in the laboratory. The effectiveness and objectivity of the QA/QC program depends on the Quality Assurance

Department being independent of the data-generating process. The primary responsibility of QA is to ensure that the laboratory is operating in compliance with the procedures defined by the EPA, other regulating agencies, and client organizations. This is accomplished through a process of internal audits, surveillances, corrective action, training, and in the development of procedures. The Quality Assurance Department has the authority to perform laboratory audits without notice, submit control samples (performance evaluation samples), and request access to data files and other information necessary to satisfy the goals of an audit. A QA/QC report to management is issued monthly which addresses ongoing QA/QC issues. Additionally, the Quality Assurance Department shall:

- Perform annual audits and periodic surveillances on laboratory activities.
- Coordinate the preparation of QC standards, inserting QC samples into the laboratory sample stream and analyzing resulting data.
- Perform statistical analyses utilizing results of QC sample results.
- Monitor the Quality Assurance program and assure its implementation.
- Provide QA support on quality related issues, including customer/regulatory audits, performance evaluation samples (PEs) and certification activities.
- Review and approve SOPs, QAPs, and QAPPs, to ensure they meet quality control requirements of this Quality Assurance Manual and other applicable quality requirements.
- Assure that a training program is in place and technical personnel have received training to perform their assigned tasks.
- Monitor implementation of laboratory certifications and contract requirements.
- Review 5% of the data produced per sample group for conformance.
- Perform QA training and orientation for laboratory personnel.

2.4 Laboratory Team Leaders -

Team Leaders have the responsibility for laboratory production. Team Leaders coordinate the Project Managers' and analysts' activities including data generation, project management and reporting results. In partnership with the Project Managers, they manage sample work flow to meet customer service objectives and assure that analysts carry out the Quality Assurance Program. Other responsibilities of Team Leaders are to:

- Routinely review and approve analytical reports.
- Identify training needs and recommend training programs for laboratory staff members.
- Train analysts to use methodologies described by approved SOPs.
- Maintain and distribute SOPs, QAP/QAPPs.

- Ensure compliance with approved SOPs, QAP/QAPPs, and quality control.
- Assist analysts in correcting non-conformance issues and reporting them to the Laboratory Director and QA.
- Implement laboratory QA/QC program and participate in determining corrective actions for out-of-control situations.
- Assure compliance with Company Health and Safety program and administer company personnel policies.
- Manage all administrative functions of the laboratory.
- Participate in management teams that plan and problem solve.

2.5 Project Manager -

A Project Manager oversees assigned projects and ensures that all performance requirements are met according to the agreed scope of work. A Project Manager is also responsible for the following:

- Reviewing and approving laboratory data reports and verifying compliance with project requirements.
- Acting as the primary point-of-contact for the client with the laboratory.
- Assuring prompt implementation of project requirements.
- Reviewing specific client requirements and relating these requirements to the laboratory personnel.
- Monitoring samples from receipt through analysis to verifying that proper handling, analysis, and turn-around-time requirements are being met. This includes assuring that hold times are met.
- Coordinating changes in requests.
- Reviewing log-in reports for accuracy and completeness and resolving discrepancies in samples received.
- Providing laboratory management with periodic status reports regarding assigned projects.
- In the final step of document generation, insures that all final data packages are issued to the client complete and on time.

2.6 Analyst -

An analyst produces laboratory test results while following analytical and QC protocol outlined in approved SOPs, QAP/QAPPs. Analysts are responsible for the following:

- Producing quality laboratory data on time. This includes meeting EPA recommended hold times.
- Reviewing of QC data for each batch of samples produced.
- Meeting project data objectives and production goals.
- Performing peer review of raw data.
- Maintaining instruments.
- Correcting non-conformance issues as approved by management.
- Suggesting improvements in methodologies.

2.7 Health & Safety Officer -

The Health & Safety Officer coordinates and oversees the Health & Safety (H&S) Program.

- Presides over H & S issues.
- Together with the Safety Committee, provides H & S training and orientation.
- Together with the Safety Committee, performs H & S inspection/audits of laboratory activities.
- Coordinates with consultant on developing and maintaining laboratory Chemical Hygiene Plan and provides training for the laboratory personnel on Chemical Hygiene.
- Chairs monthly H & S committee meetings.
- Documents all accidents, inspections, and training.
- Inspects all safety equipment and provides safety equipment, goggles, masks, and any other required equipment.

Figure 2-1

STL San Francisco Organization Chart

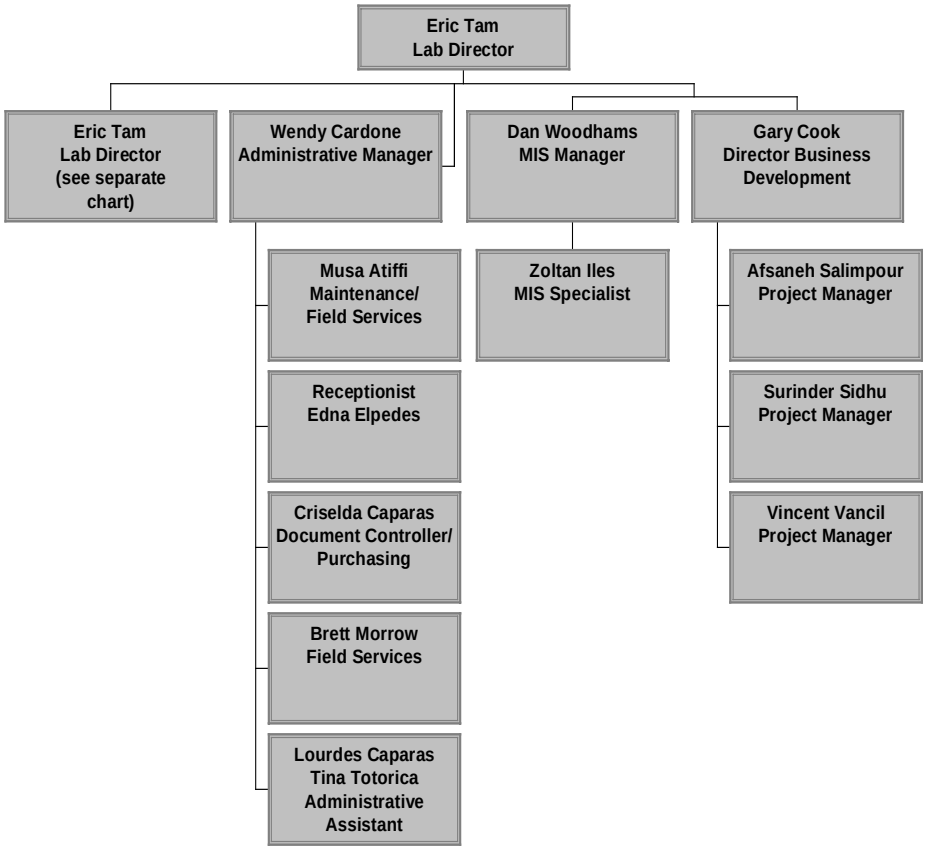
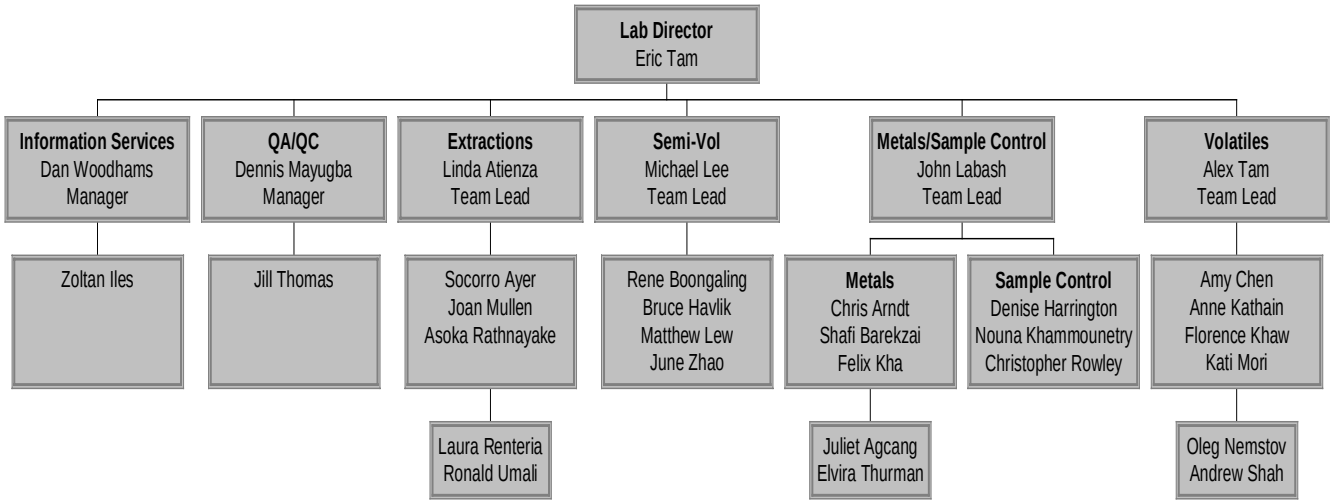


Figure 2-2

Organization Chart Cont.



3.0 Quality Management

3.1 Overview of the Quality Assurance Program -

STL San Francisco's Quality Objective is to provide technically sound and legally defensible data for its customers. To accomplish this objective, STL San Francisco has developed and implemented a comprehensive Quality Assurance program that provides the framework in which all analytical procedures in the laboratory are performed. STL San Francisco has dedicated both the financial and human resources it deems necessary to fully accomplish its Quality Assurance objective.

STL San Francisco's Quality Assurance program is built around three core elements:

1) A written **Quality Assurance Manual (QAM)** describing its capabilities, quality assurance objectives, the systems for meeting those objectives, and the mechanisms for continuously updating and improving those systems. In addition, Quality Assurance Project Plans (QAPP) are developed for specific project or client needs.

2) Written **Standard Operating Procedures (SOPs)** for all aspects of its operations, including instrumentation, analytical procedures, data management and administrative systems.

3) A consistent **Quality Control (QC)** program which includes analysis of blanks, spikes, duplicates, second-source calibration verification standards and other procedures, to assure that no data is reported without meeting all QC requirements mandated by regulatory agencies, clients and STL San Francisco's QC standards. An integral part of the QC program is routine participation in various Performance Evaluation (PE) sample programs, including the EPA mandated WS, WP, and hazardous waste programs.

3.1.1 Quality Assurance Plan

STL San Francisco's Quality Assurance Manual (QAM) was developed to be responsive to requirements and guidelines identified in EPA QA/R2, July, 1993 and SW 846, Chapter 1, Rev.1, July, 1992. The QAM is a controlled document distributed to assigned laboratory personnel in designated positions who perform analytical procedures, supervise those who do, or are responsible for implementing laboratory quality assurance requirements.

The QAM is revised periodically to maintain its relevancy and applicability. In addition, individual sections or pages are added or replaced throughout the year to maintain a current, complete working document. The methods of control are

discussed in Section 7.0, “Document Control & Distribution” and in STL San Francisco SOPs Section 12.13.

3.1.2 Standard Operating Procedures

Written Standard Operating Procedures (SOPs) are developed and used throughout the laboratory. They establish the specific requirements necessary to perform various quality affecting activities and to ensure the consistent performance and resulting data meet the established standard. SOPs are reviewed periodically for continued applicability and are revised as needed. Bench analysts have working copies of all SOPs relevant to their work assignments that serve as training and reference documents.

SOPs are written by the appropriate managers and follow a standard format. After initial drafting, SOPs go through several levels of review before final approval by the Laboratory Director and Quality Assurance. Newly developed SOPs and revisions of existing SOPs receive final approval by the Laboratory Director, Technical Reviewer and Quality Assurance as described in SOP #1.00.

STL San Francisco's SOPs direct the analytical procedures as performed at the bench. No modifications are allowed without complete documentation and approval of the Laboratory Director, Technical Reviewer and Quality Assurance. Should a method modification be necessary, an approval process is established that assures that technical acceptability and client needs are maintained. SOP #1.00 describes the process by which a standard operating procedure is initiated or revised.

3.1.3 Quality Control Program

STL San Francisco maintains a uniform, comprehensive Quality Control program to assure that all analytical data reported is a consistent, known quality that fully meet the requirements of regulatory agencies, clients and STL San Francisco's quality standards.

STL San Francisco's QC program was developed to diagnose and correct out-of-control situations and prevent their reoccurrence. Corrective action for out-of-control situations are identified in the SOPs.

The key elements of STL San Francisco's QC program include:

- **Method Blanks** - to monitor the level of contamination in the analytical process which could lead to reporting of false positives;

- **Laboratory Control Standards (LCS/LCSD)** - to monitor the accuracy (% recovery) and precision (LCSD) of the entire analytical procedure for analytes;
- **Surrogate Standards** - to monitor the recovery of organic compounds that are chemically similar to analyte compounds in order to assess the performance of the analytical system from sample to sample.
- **Matrix Spikes** - to monitor the recovery of known amounts of the analyte compounds to assess the effect of matrix interferences on the accuracy of the analysis;
- **Matrix Spike Duplicates** - to monitor the recovery of known amounts of analyte compounds from separate aliquots of the same sample to assess the effect of matrix interferences on the accuracy and precision of the analysis;
- **Duplicates** - to monitor the recovery of native levels of analyte compounds from separate aliquots of the same sample to monitor the precision of the analysis;
- **Standard Additions** - to correct for matrix effects on the accuracy of analysis by adding a series of known amounts of analytes to the sample (usually for metals or other inorganic compounds);
- **Trip and Field Blanks** - to provide additional QC procedures to monitor contamination introduced during sample collection, transport, or storage.

3.2 Analytical Procedures -

Analytical and other laboratory procedures used by STL San Francisco are described in its STANDARD OPERATING PROCEDURE (SOP) manual which details the proper handling and reporting of samples, performance of analytical and laboratory procedures, proper sample disposal, and safety practices. Reference is made to methods developed by EPA, Standard Methods, instrument manufacturers, and other agencies.

STL San Francisco derives its analytical methods from the following sources:

- "Test Procedures for Analysis of Organic Pollutants", **CODE OF FEDERAL REGULATIONS**, 40 CFR Section 136, Appendix A, B, C, July, 1996 edition: Organics in water EPA Methods 608, 624, 625, and 200.7.
- **METHODS OF CHEMICAL ANALYSIS OF WATER AND WASTE, EPA - 600/4-79-020, USEPA EMSL**, Cincinnati, OH, Revised, March 1983, including Method 300.0, EPA-600/4-84-017, March, 1984: Metals in water, inorganic parameters, oil and grease, and petroleum hydrocarbons.
- **TEST METHODS FOR EVALUATING SOLID WASTE**, SW-846, 3rd edition, USEPA OSW, Washington, D.C., November, 1986, including Update III, December 1996: Metals

and organics in soils and mobility extracts; metals and organics in groundwater for RCRA compliance; hazardous material characterization.

- **STANDARD METHODS FOR EXAMINATION OF WATER AND WASTEWATER**, 18th edition, American Public Health Association, 1992: Pesticides, wet chemistry, and petroleum hydrocarbons in waters, soils, and sludges.
- **METHODS FOR THE DETERMINATION OF ORGANIC COMPOUNDS IN FINISHED DRINKING WATER AND RAW SOURCE WATER,** USEPA EMSL, Cincinnati, OH, September, 1986: Organics in water (drinking water).
- **LEAKING UNDERGROUND FUEL TANK (LUFT) MANUAL**, State of California Water Resources Control Board, August, 1990: Organics, TPH by gas chromatography, and toxics in soil and groundwater.
- **HANDBOOK FOR ANALYTICAL QUALITY CONTROL IN WATER AND WASTEWATER LABORATORIES**, EPA-600/4-79-019, USEPA EMSL, Cincinnati, OH, March, 1979: Laboratory QA/QC practices.
- **CALIFORNIA CODE OF REGULATIONS,** Title 22, Div. 4: Environmental Health, Department of General Services, State of California.
- **FEDERAL REGISTER**, June 29, 1990, 40 CFR Part 261, Appendix II: TCLP.
- **Instruction and operating manuals** of various instrument manufacturers.

STL San Francisco has established Reporting Limits (RLs) for all analyses it performs. These RLs are identified in Section 4 of this document.

3.3 LIMS

STL San Francisco's **Laboratory Information Management System (LIMS)** is the heart of the QA management program, stores information about all samples and requested analysis. It provides the possibility of a nearly paperless system for the management of all sample data in the laboratory.

3.3.1 Samples are logged into ChromaLIMS on arrival (barcode sample tracking on the container level). ChromaLIMS creates an Internal Chain of Custody (ICOC), tracks work scheduling and deadlines, provides automated preparation and run logs, receives results directly from instruments, and prepares reports with full QC documentation. Reports are automatically validated by LIMS against established criteria. Electronic data reporting is routinely available in various custom and standard formats. Database information is under strict security.

3.3.2 ChromaLIMS is used continuously by bench and management personnel as their information base for assuring the quality, timeliness and defensibility of all

analytical data. ChromaLIMS meets all proposed Federal standards for auditability and accountability.

3.4 Quality Assurance Support Programs -

To assure the full performance of its quality assurance programs STL San Francisco maintains on-site technical and administrative support. These are managed by the Laboratory Director and monitored or implemented by the Quality Assurance Department.

3.4.1 STL San Francisco maintains a **Preventive Maintenance (PM)** program to assure timely, cost-effective care and maintenance of all instruments and equipment. The goal of the PM program is the maximization of the operating time for each instrument and the prevention of catastrophic instrument failures. Responsibility for the PM programs rests with department team members (Section 5.3).

3.4.2 Technical Review is conducted on data generated in the laboratory to assure that all requirements have been met. The review is conducted following the analyst's calculation and review of results, but before the data is presented for final review and approval. Reviewing analysts are trained in the data review process and must have demonstrated competency to perform that analysis before they perform data reviews. Following review of acceptable data the reviewer initials all reviewed data (Section 10.0).

3.4.3 Training and Development Programs are discussed in Section 8.0.

3.4.4 Health and Safety (H & S) programs are discussed in Section 3.0.

3.4.5 Audits are discussed in Section 11.0.

3.5 A written **Quality Assurance Report to Management** is issued monthly and includes the following:

1) Corrective actions implemented as a result of audit or performance evaluation sample deficiencies.

2) Completed and scheduled audits and the distribution of performance evaluation samples.

3) An account of the corrective action reports issued and the actions and resolutions taken.

4) LIMS status.

5) QA/QC training.

6) Systemic problems and action and resolution taken.

7) Quality achievements.

3.6 Quality Control Meetings -

Quality Control meetings will be held as needed or as required by clients. Orientation to new contracts, assessment of required personnel and equipment, methods, and training will be discussed. These meetings will include the QA Department, Laboratory Director, and Team Leaders. Others may attend these meetings when deemed necessary.

4.0 Laboratory Analytical Activities and Controls

4.1 Sample Custody -

When samples arrive at the laboratory they will be accompanied by **a Chain-of-Custody.** The Chain-of-Custody is a legal document that is rigorously maintained to provide traceability of the samples from their original source to their final disposal. When transferring the possession of samples, the individuals relinquishing and receiving the samples shall sign, date, and note the time on the Chain-of-Custody. The Chain-of-Custody documents all transfers of custody of samples.

The Chain-of-Custody will include date of sampling, sampler, date and time of arrival at the laboratory, who received it, sample ID, preservation, analyses required, matrix, client's project manager, project number, sample location and special requirements (such as turnaround time). It is important that the Chain-of-Custody is correct. Changes after sample receipt will require corrective action and the corrected Chain-of-Custody must be signed and dated by the client before analyses may begin.

Laboratory personnel will be responsible for the care and custody of samples upon receipt by the laboratory. This care and custody responsibility also extends to any samples submitted, but placed on analytical hold for possible future analysis.

4.1.1 Sample Reception.

The designated Sample Controller at the laboratory will accept custody of all samples. The Controller will inspect the sample containers for leakage, breakage or other damage, and verify that the sample identification numbers on the bottles match those on the Chain-of-Custody. The Chain-of-Custody will be signed and dated, an STL San Francisco reference number placed on the form, and a copy immediately returned to the client or other designated party. If samples are received without proper preservation or samples' temperatures are elevated or other discrepancies are noted, they will be documented on the Chain-of-Custody and sample receipt checklist. The project manager will also be immediately notified in order to contact clients who must schedule resampling or take other corrective action.

4.1.2 Sample Log-in.

ChromaLIMS is a unique data management system in which sample login is a significant component for the successful tracking and reporting of client projects. As a sample group is logged into LIMS, it will be assigned a unique STL San Francisco submission ID number, and each container will be assigned its own

tracking number. This tracking number is automatically printed on the container label in barcode format along with other pertinent data, such as client name, client sample ID, analysis required etc. This will initiate an electronic internal chain-of-custody (ICOC). LIMS will keep track of all due dates and holding times and will audit all changes that will be made to the sample records during the laboratory workflow. Project Managers and all lab personnel have access to this information on a view/read only form.

Upon login the samples will be refrigerated in the absence of light and analyzed within the hold times designated for the indicated analyses. A job jacket file will be prepared for each project/submission that includes the original Chain-of-Custody, sample shipping papers, and other project documentation. The job jacket will be given to the Project Manger for review and approval.

4.1.3 Sample Security.

Following log-in, all samples (except aqueous metals) will be stored while awaiting analyses in designated locked refrigerators. Aqueous samples requiring metals analyses (except hexavalent chrome and organo lead) will be stored in locked cabinets at room temperature. Access will be limited to the Sample Controller and designated analysts who record all sample movements on sample custody sheets (Refer to SOP #2.03).

4.1.4 Sample Tracking.

Samples, when taken from storage for analysis, are tracked by scanning the container barcode. This scan will relinquish custody of the sample to the chemist/department. Within each department, samples are logged into the appropriate instrument or procedure sample log books by identification number, due date, matrix and analysis requested. Following analysis, samples are again scanned when returned to sample control. Laboratory personnel will be responsible for the care and custody of samples from the time they are received until they are depleted during analyses, no longer suitable for analysis, or as otherwise directed by the Project Manager or by laboratory sample disposal policy.

4.2 Sample Preparation and Analysis

Once samples are received within a department, they will be logged as described under the section “Sample Tracking” and will be prepared according to the method SOP. A prep batch will be created in LIMS based on the ICOC.

When sample preparation is complete, the prep batch will be relinquished to the analyst who must sign for them either electronically or manually. The analyst will

create instrument sequences based on the prep batches by simply referring to the prep batch. For methods without a preparation (example, volatiles), the anlayst will select the samples to be analyzed from LIMS and the sequence file editor creates sequence records for each sample selected.

4.3 Data Reduction, Validation, and Reporting.

4.3.1 Data Reduction.

Data reduction is the process by which raw data is converted into reportable results. It may be either automated or manual.

- **Automated Data Reduction.** Most data produced at STL San Francisco is computer generated from the various analytical instruments and automatically acquired by the LIMS. The analyst is responsible for verifying the integrity of the raw results both before and after the data has been acquired by LIMS. Any editorial changes are documented in LIMS and stored in its "audit trail".

- **Manual Data Reduction.** For non-computerized analyses, particularly those used in many Wet chemistry tests, information is manually entered into LIMS. LIMS calculates results which are reviewed by the analyst. Any calculations made are shown in the analyst's bench workbook.

  Systems performance checks and audits will be performed periodically to verify that all automated instrument and LIMS software programs are performing properly.

4.3.2 Data Validation.

The analyst will be responsible for determining whether the analytical run is in control and will be expected to review all calibration standards, calibration verification standards, LCS, blanks, spikes and duplicates. To be in control both the LCS and RPD must fall within established control limits. If both fall outside the control limits, the entire batch must be re-prepared and rerun. If either the LCS or the RPD, but not both, fall outside control limits, but the MS/MSD are in control, the data may be reportable upon further review.

Quality control checks for specific analyses will be based on EPA performance criteria. If there is a method specified control limit, it is used unless actual laboratory performance supports a more rigorous limit.

Outliers. An outlier is a data point that is not representative of the data set and that

falls outside established control limits. If an outlier is suspected, data results are first checked for an assignable cause such as instrumental or computational errors, contamination, or misidentification. If such an error is found and corrective action brings the data point into control then, generally, the data will be reportable. The corrective action will be fully documented.

STL San Francisco SOPs 12.02.01 & 12.02.02 describe the procedures for determining outliers (out of control data points).

Reporting Limit Multipliers. Matrix interferences and/or high analyte concentrations may necessitate higher reported detection limits.

- If dilutions are made due to a high concentration level of one or more analytes, but the instrument can still see above the interferences at the regular reporting limit level, the reporting limit(s) will remain the same and will not be raised.

- When a dilution must be made due to matrix interferences and the instrument cannot detect the analyte(s) at the regular reporting limit level, then the reporting limit will be raised.

4.3.3 Data Reporting.

Reporting is the process of communicating approved test results to a client. STL San Francisco has established three levels of reporting which differ only in the level of QA/QC data included in the report package. The quality of analytical results is the same in all three reporting levels.

An automatic data validation process is performed for all reports generated by ChromaLIMS based on laboratory and regulatory criteria such as: meeting QC sample requirements, using appropriate qualifiers, reporting all requested compounds, checking consistency of QC batches etc… Results of this validation are presented in all levels of review for corrective action if necessary.

- **Standard STL San Francisco Report includes:**

  Cover letter

  Chain-of-Custody.

  General Project Information: Sample and client information, sampling date, submission date, extraction and analytical dates, method used, sample results in dry weight or wet weight, dilution factors, reporting limits.

  Detailed results of the method blank.

Matrix spike results and recoveries (accuracy) – if analyzed on client's sample.

Matrix spike duplicate results and recoveries (precision) – if analyzed on client's sample.

Precision and accuracy control limits.

Laboratory Control Sample (LCS) results.

Laboratory Control Sample Duplicate (LCSD), if applicable.

Surrogate recoveries (if applicable).

Statement page of conformance or non-conformance issues signed by the Project Manager or qualified representative.

- **Level III Report** includes all items in Standard Report, plus:

  Case Narrative.

  Table of Contents.

  Method Summary.

  Original copies of cooler receipt forms along with the chain-of-custody and sample receipt check list, if applicable.

  Copies of GC fingerprint chromatograms, preparation logs, run logs, and other analytical data as required.

  QC reports.

  Initial and continuing calibration summaries and chromatograms.

  Supporting Data – GC fingerprint chromatograms and inorganic chemistry raw Data. Inorganic chemistry raw data.

  Preparation & Instrument analysis logs.

  GC retention time table for PCBs & pesticides.

  Sample preparation logs and run sequences and logs with injection times. ICAL and CCV data is included.

- **Level IV Report** includes all items in Standard Report & Level III plus:

  Copies of all raw data sheets including reruns, dilutions, QA/QC results, confirmation runs, chromatograms and quantitation report, and tuning and mass calibration report for GC/MS.

  Initial and continuing calibration to include Response Factor, Retention Times, QA/QC.

  Retention time windows for GC, when applicable.

Injection records.

For metals - interference check sample, Method of Standard Additions, serial dilutions, linear ranges, interelement correction factors.

4.4 Laboratory Information Management System (LIMS)

STL San Francisco's Laboratory Information Management System maintains all sample and report-related information at STL San Francisco. Samples arriving will be logged into ChromaLIMS which:

1) Tracks work scheduling and due dates, holding times,
2) Generates instrument sequences, electronic prep and run logbooks with full QC eliminating typos.
3) Records weights directly from the analytical balance,
4) Receives results directly from instruments,
5) Audits bench review, second level approval,
6) Provides electronic validation for bench chemist and Project Management for final approval,
7) Prepares reports with full QC documentation.
8) Electronic data reporting is available in multiple custom and standard formats.
9) All Reports are created in Adobe Acrobat PDF file format and can be delivered from within LIMS by email or fax by a click of mouse…or can be printed.
10) STL San Francisco's LIMS meets all current Federal standards for audit ability and accountability.

4.5 Internal Quality Control Checks.

STL San Francisco maintains a comprehensive program of field and laboratory QC procedures.

Field QA/QC samples may be periodically prepared in the field and submitted for analysis with the regular samples upon client's request. These QA/QC samples will consist of field equipment blanks, travel blanks and replicate samples. QA/QC samples may be given fictitious sample designations. They shall be handled and transported in the same manner as regular samples.

Depending upon project objectives, field travel blanks may be prepared in the field for every organic sampling event using laboratory-grade organic free water. If prepared by

customer or field samplers, the field travel blank will be poured into a bottle at one of the sampling sites, and so noted on the field sampling form. The field travel blank will be analyzed for the complete set of organic parameters requested for the regular samples. Laboratory travel blanks will be prepared in the same way in the laboratory, and travel with containers to the field and back again for analysis. The laboratory travel blank will be analyzed for the complete set of volatile organic parameters requested for the regular samples.

Depending on project objectives, one replicate sample may be collected for every sampling event and submitted for analysis. The replicate will be analyzed for the complete set of parameters requested for the regular sample.

Laboratory Quality Control Tests. In addition to the field QA/QC samples described above, the laboratory will analyze, at a minimum, the following QA/QC samples:

Method Blanks at a frequency of one every 20 samples to monitor laboratory contamination.

Laboratory Control Sample (LCS) at a frequency of one every 20 samples to monitor accuracy of system and preparation. The DI water or clean sand will be spiked prior to extraction, and the results reported as percent recovery.

Laboratory Control Sample Duplicate (LCSD) at a frequency of one every 20 samples to monitor accuracy and precision. LCSD is optional if an MSD is analyzed for the same analytical batch to monitor precision.

Matrix Spikes at a frequency of one every 20 samples to monitor accuracy. The sample will be spiked prior to extraction and the results reported as percent recovery.

Matrix Spike Duplicate at a frequency of one every 20 samples to monitor accuracy and precision. The same sample that was used as a matrix spike will be spiked a second time prior to extraction. The results will be reported as percent recovery.

Sample Duplicates at a frequency of one every 20 samples to monitor precision. (A matrix duplicate is run only upon request by client.)

CCV & CCB, continuing calibration verifications (CCVs) are run at a minimum of one every 12 hours for organic analyses (GC and GC/MS). STL San Francisco follows the guidelines set forth in SW 846, Method 8000B. Continuing calibration blanks, CCBs, (requirement for metals analyses) and CCVs are run at a frequency of one every ten injections for metals analyses.

Surrogate Spikes are run on 100% of organic samples when required per STL San Francisco SOP.

An ICP Interference Check Sample is run at the beginning and end of each ICP analytical run.

The laboratory will maintain on file all laboratory QA/QC documentation, reviewed for completeness. The following administrative QA/QC will be performed:

The dates of sample extraction and analysis will be compared with sample collection dates to ensure that the samples were analyzed within EPA established holding times;

The respective sets of values from duplicate QC samples will be compared for agreement. Results from identified field blanks will be reviewed. Reanalysis will be performed as necessary;

All required quality control samples will be run daily to monitor system performance. If quality control samples indicate a problem with the system, the analyst will evaluate the procedure to determine the source of error. If a repetition of the QC sample does not fall within acceptable limits, the instructions for corrective action in out-of-control situations will be followed;

When required by the method, all positive organics results will be confirmed using a second column or by GC/MS;

Logbooks will be maintained for preparation of all organic and inorganic standards. Information on suppliers, lot numbers, weight/volume of standards used, date prepared, expiration date, and name of analyst will be recorded.

4.6 QA Objectives for Measurement Data -

STL San Francisco maintains a data quality program to ensure that it meets the requirements of its clients for data quality. STL San Francisco's data quality is expressed in terms of precision, accuracy, representativeness, completeness, and comparability.

Precision. The laboratory objective for precision is to equal or exceed the precision demonstrated for given analytical methods as published by the U.S. EPA. Precision is defined as the degree of reproducibility of the measurements under a given set of conditions. Precision will be documented on the basis of replicate analyses.

Accuracy. The laboratory objective for accuracy is to equal or exceed the accuracy demonstrated for given analytical methods and to perform better than the recovery data published by the U.S. EPA. Accuracy is defined as the bias in a measurement system. Accuracy will be documented on the basis of recovery of blank spikes. matrix spikes, and spiked reference materials introduced into selected samples of a particular matrix.

Representativeness. The laboratory objective for representativeness is to provide data which is representative of the sampled medium. Representativeness is defined as the degree to which data represent a characteristic of a set of samples. The representativeness of the analytical data is a function of the procedures and care used in processing the samples. The representativeness will be documented by the difference between separately procured, but otherwise identical samples or sample aliquots.

Completeness. The completeness objective for an analysis is to provide sufficient data of acceptable quality such that the goals of the analytical project can be achieved within the time frame required. The overall project completeness will be expressed as the percentage of qualified data for the entire project.

Comparability. The comparability objective is to provide analytical data for which the accuracy, precision, representativeness, completeness and detection limit are similar to these quality indicators for data generated by other laboratories for similar samples, and for data generated by STL San Francisco over time. The comparability objective will be documented by interlaboratory studies carried out by regulatory agencies or carried out for specific projects or contracts, and by comparison of periodically generated statements of accuracy, precision and detection limits.

4.7 Assessment Procedures for Data Acceptability -

Assessment of data acceptability will be performed primarily by establishing acceptance limits for precision and accuracy through the use of control charts. Reference is made to other sections of this document which discuss related topics, including Section 4.6 on quality assurance objectives, Sections 4.3.1 & 4.3.2 on data reduction, and Section 4.5 on internal quality control checks.

(1) Precision will be assessed at the bench based on the results of paired spiked samples or, where spikes are not feasible, duplicate samples. The analyst calculates the relative percent difference (RPD) according to the following formula:

$$RPD = \frac{D1 - D2}{(D1 + D2)/2} \times 100$$

where,
RPD equals the absolute difference between duplicates, D1 and D2, divided by the mean of the duplicate results.

The result of the calculation will then be compared to the method-specific control limits found in Table II of this document.

If the comparison reveals precision to be outside acceptance windows, the analyst will undertake corrective action as described in Section 6.0 of this document.

In some instances, insufficient sample is provided for use as duplicates or matrix spike duplicates. In this situation, in order to provide a precision assessment for such batches, two Laboratory Control Standards (LCSs) will be prepared and analyzed. The RPD will be calculated as for matrix spikes. While not as indicative as a matrix spike would be, this procedure still provides valuable QC information for the samples in the batch.

(2) **Accuracy.** Method accuracy assesses the short-term control status of the analytical process. LCSs are used to provide this assessment. Matrix spikes assess matrix accuracy. Percent recovery (R) will be calculated according to the following formula and compared with the method limits from the QC limits shown in Table II of this document. Results outside control limits will require corrective action as described in Section 6.

$$R = \left| \frac{SSR - SR}{SA} \right| \times 100$$

where,
R = % Recovery
SSR = Spiked Sample Result
SR = Sample Result
SA = Spike Amount/Conc.

Control Charts will be routinely plotted and instrumental performance, contamination, and analytical error trends will be monitored. The control limit for accuracy is $\pm$ three standard deviations from the mean percent recovery. The warning limit is $\pm$ two standard deviations.

Control limits will be recalculated at least annually. When acceptable control limits have been achieved and calculations completed, the QA Department will review and distribute control limit lists and control charts for use by the analysts. All revisions to control limits will be entered into LIMS and become the new quality control limits of the laboratory.

4.8 Reporting Limit Criteria -

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte. STL San Francisco SOP #12.03.01 describes the procedures for determining MDLs for various analytes. MDLs will be performed yearly per method per matrix per analyte. Any relevant change in methodology will require a satisfactory MDL study before it can be accepted. In the case that typical MDLs are listed in published methods (e.g. SW-846), they should be regarded as baseline values. STL San Francisco's experimentally determined MDLs will meet or be below the listed MDLs. If these typical MDLs cannot be achieved, it will be brought to the attention of the QA department immediately. All MDL files will be maintained within the QA department.

Instrument Detection Limit (IDL): The minimum concentration that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a known standard solution. STL San Francisco SOP #12.03.02 describes the procedures for determining IDLs for various analytes. As a minimum, IDLs will be performed before a new instrument is used for production work. Furthermore, any modification of the instrument that may affect its sensitivity (e.g. new detector) will also require an IDL study.

Practical or Estimated Quantitation Limit (PQL/EQL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. The EQL is generally 5 to 10 times the MDL. However, it may be nominally chosen within these guidelines to simplify data reporting. For many analytes, the EQL analyte concentration is selected as the lowest non-zero standard in the calibration curve (10X MDL).

Reporting Limit: The lowest concentration that can be reliably achieved for a specific analyte. taking into account of various variables such as dilution and matrix interference. The reporting limit will be the same as or higher than the experimentally determined MDL for the same matrix.

- In cases where samples are diluted, the dilution factor will be applied to the PQL/EQL, **not** the MDL.
- Individual SOPs will address instances where published limits are not practical to achieve.

4.9 Communication of Project Requirements -

Project-specific requirements will be communicated to laboratory personnel in one or more of four procedures, whichever are appropriate:

- One time: Requirements are described in comments in LIMS, and copies of the COC are distributed to affected laboratory personnel.
- Project-specific, short-term: Requirements are described in comments in LIMS, plus a memo written by the Project Manager is distributed to affected personnel.
- Project-specific, long-term: A special project description is created in LIMS, e.g. client specific methods, reporting requirements, test and analyte lists.
- Quality Assurance Project Plan (QAPP), long-term: This occurs when work is performed under different QAPP's. A project "kickoff" meeting is held during which new QA requirements are communicated to section leaders. A summary of QAPP requirements are written by the Project Manager in a form suitable for bench chemist' use. Each QAPP is referenced by site name. When work comes in, the Project Manager describes the data package requirements for each COC by level number (e.g. Standard Report, III, or IV). The "site" designation is assigned for each QAPP as specified by the client.

Table I

Sampling Guide and Holding Times for Solids, Water and Wastewater

Parameters	Hazardous Waste Method Soil & Water	Wastewater/ Water Method	Container Type Solids	Container Type Liquids	Preservative Liquid	Holding Time
CLASSIC CHEMISTRY						
ALKALINITY	***	310.1, SM 2320B	***	500 mL HDPE	None Required	14 Days
AMMONIA	***	350, SM 4500	***	500 mL HDPE	pH<2 H_2S0_4, 4°C	28 Days
BIOCHEMICAL, OXYGEN DEMAND (BOD)	***	SM 5210B	***	1 L HDPE	Cool 4°C	48 Hours
BROMIDE	***	300.0	***	500 mL HDPE	None Required	28 Days
CHLORIDE	***	300.0	***	500 mL HDPE	None Required	28 Days
CHEMICAL OXYGEN DEMAND (COD)	***	410, SM 5520	***	500 mL HDPE	pH<2 H_2S0_4, 4°C	28 Days
COLIFORM, HTP	9131, 9132	SM 9221	***	SPC	(1) 4°C	6 Hours
CYANIDE	9010	335, SM 4500	4 oz CWM	500 ml HDPE	(2) pH>12 NaOH, 4 °C	14 Days
FLUORIDE	***	300.0	***	500 mL HDPE	None Required	28 Days
KJELDAHL NITROGEN, TOTAL (TKN)	***	351, SM 4500	***	500 mL HDPE	pH<2 H_2S0_4, 4°C	28 Days
MBAS	***	425.1, SM 5540C	***	500 mL HDPE	Cool 4°C	48 Hours
NITRATE	***	300.0	***	500 mL HDPE	Cool 4°C	48 Hours
NITRITE	***	300.0	***	500 mL HDPE	Cool 4°C	48 Hours
OIL & GREASE	1664	SM 5520B, 413.1	4 oz CWM	1 L A.J.	pH<2 H_2S0_4 or HCl, 4°C	28 Days
pH	9040, 9045	150.1, SM 4500	4 oz CWM	500 mL HDPE	None Required	Anal. Immed.
PETROLEUM HYDROCARBONS (TRPH)	1664	418.1	4 oz CWM	1 L Glass	pH<2 HCl, 4°C	28 Days
PHOSPHORUS, ORTHO	***	300.0	***	500 mL HDPE	Cool 4°C	48 Hours
PHOSPHORUS, TOTAL	***	365, SM 4500	***	500 mL HDPE	pH<2 H_2S0_4, 4°C	28 Days
RESIDUE, TOTAL	***	160.3, SM 2540B	***	500 mL HDPE	Cool 4°C	7 Days
RESIDUE, FILTERABLE (TDS)	***	160.1, SM 2540C	***	500 mL HDPE	Cool 4°C	7 Days
RESIDUE, NON-FILTERABLE (TSS)	***	160.2, SM 2540D	***	500 mL HDPE	Cool 4°C	7 Days
RESIDUE, SETTLEABLE	***	160.5, SM 2540F	***	2 1/2 L A.J.	Cool 4°C	48 Hour
SPECIFIC CONDUCTANCE	9050A	120.1, SM 2510B	***	500 mL HDPE	Cool 4°C	28 Days
SULFATE	***	300.0	***	500 mL HDPE	Cool 4°C	28 Days
SULFIDE	9030	376, SM 4500	4 oz CWM	500 mL HDPE	(3) pH>9 NaOH, ZnOAc, 4 °C	7 Days
TOTALORGANIC CARBON (TOC)	9060	415.1, SM 5310	4 oz CWM	500 mL HDPE	pH<2 H_2S0_4, 4°C	28 Days
METALS						
CHROMIUM VI	7196	SM 3500-Cr D	4 oz CWM	500 mL HDPE	Cool 4°C	W-24 Hours
MERCURY	7470, 7471	245.2	4 oz CWM	250 mL HDPE	pH<2 HNO_3	28 Days
METALS (Except Cr^{+6} & Hg)	6010 / 7000 Series	200.7/200 Series	4 oz CWM	250 mL HDPE	pH<2 HNO_3	6 Months
VOLATILE ORGANICS						
METHANE, CO_2	3810M		***	x3 - 40 ml VOA	Cool 4°C	30 Days
PURGEABLE AROMATICS	8020, 8021	602	4 oz CWM	x3 - 40 ml VOA	(1) pH<2 HCl,4°C	14 Days
PURGEABLE HALOCARBONS	8021, 8260	601	4 oz CWM	x3 - 40 ml VOA	(1) pH<2 HCl,4°C	14 Days
VOLATILE ORGANICS, FUEL OXYGENATES	8260	624	4 oz CWM	x3 - 40 ml VOA	(1) pH<2 HCl,4°C	14 Days
SEMI-VOLATILE ORGANICS						
PCB'S	8082	608	8oz CWM	1 L A.J.	Cool 4°C	S-14 Days, W-7 Days (4)
PESTICIDES, CHLORINATED	8081	608	8oz CWM	1 L A.J.	(1) pH-5-9, 4°C	S-14 Days, W-7 Days (4)
PHENOLS	8270	625	8oz CWM	1 L A.J.	(1) 4°C	S-14 Days, W-7 Days (4)
POLYNUCLEAR AROMATIC HYDROCARBONS,	8310, 8270	610, 625	8oz CWM	1 L A.J.	(1) 4°C	S-14 Days, W-7 Days (4)
SEMI-VOLATILE ORGANICS	8270	625	8oz CWM	1 L.A.J	(1) 4°C	S-14 Days, W-7 Days (4)
EXPLOSIVES						
NITROAROMATICS & NITRAMINES BY HPLC	8330		8oz CWM	1 L.A.J	(1) 4°C	S-14 Days, W-7 Days (4)
VOLATILE & EXTRACTABLE HYDROCARBONS						
NONHALOGENATED VOLATILE ORGANICS	8015, 8260	8015, 624	4 oz CWM	40 ml Glass Vial	(1) pH<2 HCl,4°C	14 Days
TPH AS GASOLINE	Mod 8015	Mod 8015	4 oz CWM	40 ml Glass Vial	pH<2 HCL, 4°C,	14 Days
TPH AS DIESEL	Mod CA LUFT/8015	Mod CA LUFT/8015	Brass Tube	x2-1 L.A.J.	None Required	S, W-14 Days (4)
TEPH	Mod CA LUFT/8015	Mod CA LUFT/8015	Brass Tube	x2-1 L.A.J.	None Required	S, W-14 Days (4)
CHARACTERISTIC DETERMINATION						
TCLP EXTRACTION	1311	***	16 oz CWM	4 L.A.J.	None Required	
IGNITABILITY, FLASHPOINT	1010, CA Title 22	***	4 oz CWM	500 ml B.R.	None Required	

STL San Francisco
Chain of Custody

1220 Quarry Lane ● Pleasanton CA 94566-4756
Phone: (925) 484-1919 ● Fax: (925) 484-1096

Figure 4-1

Reference #: _____

Date _____ Page _____ of _____

Report To		Analysis Request																								
Attn:		TPH EPA - ☐ 8015/8021 ☐ 8260B ☐ Gas w/ ☐ BTEX ☐ MTBE	Purgeable Aromatics BTEX EPA - ☐ 8021 ☐ 8260B	TEPH EPA 8015M ☐ Silica Gel ☐ Diesel ☐ Motor Oil ☐ Other ___	Fuel Tests EPA 8260B: ☐ Gas ☐ BTEX ☐ Five Oxyenates ☐ DCA, EDB ☐ Ethanol	Purgeable Halocarbons (HVOCs) EPA 8021	Volatile Organics GC/MS (VOCs) ☐ EPA 8260B ☐ 624	Semivolatiles GC/MS ☐ EPA 8270 ☐ 625	Oil and Grease (EPA 1664) ☐ Petroleum ☐ Total	Pesticides PCBs ☐ EPA 8081 ☐ 608 ☐ EPA 8082 ☐ 608	PNAs by ☐ 8270 ☐ 8310	CAM17 Metals (EPA 6010/7470/7471)	Metals: ☐ Lead ☐ LUFT ☐ RCRA ☐ Other: _____	☐ W.E.T (STLC) ☐ TCLP	☐ Hexavalent Chromium ☐ pH (24h hold time for H_2O)	☐ Spec Cond. ☐ TSS	☐ Alkalinity ☐ TDS	Anions : ☐ Cl ☐ SO_4 ☐ NO_3 ☐ F ☐ Br ☐ NO_2 ☐ PO_4					Number of Containers
Company:																										
Address:																										
Phone:	Email:																									
Bill To:	Sampled By:																									
Attn:	Phone:																									
Sample ID	Date / Time / Matrix / Preserv.																									

Project Info.	Sample Receipt
Project Name:	# of Containers:
Project#:	Head Space:
PO#:	Temp:
Credit Card#:	Conforms to record:

TAT	Std 5 Day	72h	48h	24h	Other:

Report: ☐ Routine ☐ Level 3 ☐ Level 4 ☐ EDD ☐ State Tank Fund EDF ☐ Global ID _____
Special Instructions / Comments:

1) Relinquished by:	2) Relinquished by:	3) Relinquished by:
Signature Time	Signature Time	Signature Time
Printed Name Date	Printed Name Date	Printed Name Date
Company	Company	Company

1) Received by:	2) Received by:	3) Received by:
Signature Time	Signature Time	Signature Time
Printed Name Date	Printed Name Date	Printed Name Date
Company	Company	Company

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Figure 4-2
Sample Receipt Checklist

Client Name: _____ Date/Time Received: _____
Date / Time

Reference/Subm #: _____ Received by:_____

Checklist completed by: _____ Reviewed By:_____
Signature / Date Initial/Date

Matrix: ☐ Soil ☐ Water ☐ Other _____ Carrier name: Client – STL SF_____

Shipping container/cooler in good condition? Yes ____ No____ Not Present____

Custody seals intact on shipping container/cooler? Yes____ No____ Not Present____

Custody seals intact on sample bottles? Yes____ No____ Not Present____

Chain of custody present? Yes____ No_____

Chain of custody signed when relinquished and received? Yes____ No_____

Chain of custody agrees with sample labels? Yes____ No_____

Samples in proper container/bottle? Yes____ No_____

Sample containers intact? Yes_____No_____

Sufficient sample volume for indicated test? Yes_____No_____

All samples received within holding time? Yes_____No_____

Container/Temp Blank temperature in compliance? Temp:_____^{o}C Yes_____No_____

Water - VOA vials have zero headspace?

No VOA vials submitted_____ Yes_____ No_____

Water - **pH acceptable upon receipt?** ☐ Yes ☐ No ☐ Checked by Voa chemist

☐ **pH adjusted**– Preservative used:
☐ HNO_3 ☐ HCl ☐ H_2SO_4 ☐ NaOH ☐ ZnOAc **Lot#**(s)_____

Any No and/or NA (not applicable) response must be detailed in the comments section below.

==========

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

Table II

QA Objectives for Measurement Data

1. Liquid Matrices

METALS BY ICP (6010B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/L)
Aluminum	<20	80-120	75-125	0.20
Antimony	<20	80-120	75-125	0.005
Arsenic	<20	80-120	75-125	0.005
Barium	<20	80-120	75-125	0.005
Beryllium	<20	80-120	75-125	0.005
Cadmium	<20	80-120	75-125	0.002
Calcium	<20	80-120	75-125	0.20
Chromium	<20	80-120	75-125	0.005
Cobalt	<20	80-120	75-125	0.005
Copper	<20	80-120	75-125	0.005
Iron	<20	80-120	75-125	0.20
Lead	<20	80-120	75-125	0.005
Magnesium	<20	80-120	75-125	0.20
Manganese	<20	80-120	75-125	0.005
Molybdenum	<20	80-120	75-125	0.005
Nickel	<20	80-120	75-125	0.005
Potassium	<20	80-120	75-125	1.0
Selenium	<20	80-120	75-125	0.005
Silver	<20	80-120	75-125	0.005
Sodium	<20	80-120	75-125	1.0
Thallium	<20	80-120	75-125	0.005
Vanadium	<20	80-120	75-125	0.005
Zinc	<20	80-120	75-125	0.01

MERCURY BY COLD VAPOR (7470A)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/L)
Mercury	<20	85-115	85-115	0.0002

METALS BY GFAA (7000 Series)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/L)
Arsenic	<20	85-115	85-115	0.002
Lead	<20	85-115	85-115	0.002
Selenium	<20	85-115	85-115	0.002
Thallium	<20	85-115	85-115	0.002

QA Objectives for Measurement Data

HALOGENATED VOLATILE ORGANIC COMPOUNDS BY GC (8021B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and MS/MSD		Rep.Limit (ug/L)
Bromodichloromethane				0.5
Bromoform				2
Bromomethane				1
Carbon tetrachloride				0.5
Chlorobenzene	<20	70-130	70-130	0.5
Chloroethane				0.5
2-Chloroethylvinylether				0.5
Chloroform				0.5
Chloromethane				1
Dibromochloromethane				0.5
1,2-Dichlorobenzene				0.5
1,3-Dichlorobenzene				0.5
1,4-Dichlorobenzene				0.5
Dichlorodifluoromethane				1
1,1-Dichloroethane				0.5
1,2-Dichloroethane				0.5
1,1-Dichloroethene	<20	70-130	70-130	0.5
cis-1,2-Dichloroethene				0.5
trans-1,2-Dichloroethene				0.5
1,2-Dichloropropane				0.5
cis-1,3-Dichloropropene				0.5
trans-1,3-Dichloropropene				0.5
Methylene chloride				5
1,1,2,2-Tetrachloroethane				0.5
Tetrachloroethene				0.5
1,1,1-Trichloroethane				0.5
1,1,2-Trichloroethane				0.5
Trichloroethene	<20	70-130	70-130	0.5
Trichlorofluoromethane				0.5
Trichlorotrifluroethane				2
Vinyl chloride				0.5
1-Chloro-2-fluorobenzene (surr.)		70-130	70-130	

QA Objectives for Measurement Data

VOLATILE AROMATIC COMPOUNDS BY GC (8021B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
MTBE				5
Benzene	<20	77-123	65-135	0.5
Chlorobenzene				0.5
1,2-Dichlorobenzene				0.5
1,3-Dichlorobenzene				0.5
1,4-Dichlorobenzene				0.5
Ethylbenzene	<20	70-130	65-135	0.5
Toluene	<20	78-122	65-135	0.5
Xylenes, total	<20	75-125	65-135	0.5
4-Bromofluorobenzene (surr)		50-150	50-150	
Trifluorotoluene (surr)		58-124	58-124	

PETROLEUM HYDROCARBONS (8015 Modified)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Diesel	<25	60-130	60-130	50
o-Terphenyl (surr)		60-130	60-130	
Motor Oil				500
Kerosene				50
Gasoline	<20	75-125	65-135	50

GLYCOLS (8015 Modified)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/L)
Diethylene Glycol	<35	60-130	60-130	10
Ethylene Glycol	<35	60-130	60-130	10
Tetraethylene Glycol	<35	60-130	60-130	10
Triethylene Glycol	<35	60-130	60-130	10
2-(2-Butoxyethoxy) Ethanol (surr)		60-130	60-130	

QA Objectives for Measurement Data

VOLATILE ORGANIC COMPOUNDS BY GC/MS (624)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Benzene	<20	69-129	69-129	0.5
Bromodichloromethane				0.5
Bromoform				0.5
Bromomethane				1
Carbon tetrachloride				0.5
Chlorobenzene	<20	61-121	61-121	0.5
Chloroethane				0.5
2-Chloroethylvinyl ether				1
Chloroform				0.5
Chloromethane				0.5
Dibromochloromethane				0.5
1,2-Dichlorobenzene				0.5
1,3-Dichlorobenzene				0.5
1,4-Dichlorobenzene				0.5
1,1-Dichloroethane				0.5
1,2-Dichloroethane				0.5
1,1-Dichloroethene	<20	65-125	65-125	0.5
cis-1,2-Dichloroethene				1
trans-1,2-Dichloroethene				0.5
1,2-Dichloropropane				0.5
cis-1,3-Dichloropropene				0.5
trans-1,3-Dichloropropene				0.5
Ethylbenzene				0.5
Methylene chloride				0.5
MTBE				0.5
1,1,2,2-Tetrachloroethane				0.5
Tetrachloroethene				0.5
Toluene	<20	70-130	70-130	0.5
1,1,1-Trichloroethane				0.5
1,1,2-Trichloroethane				0.5
Trichloroethene	<20	74-134	74-134	0.5
Trichlorofluoromethane				1
Vinyl chloride				0.5
Total Xylenes				0.5
4-Bromofluorobenzene (surr)		86-115	86-115	
1,2-Dichloroethane-d4 (surr)		76-114	76-114	
Toluene-d8 (surr)		88-110	88-110	

QA Objectives for Measurement Data

VOLATILE ORGANIC COMPOUNDS BY GC/MS (8260B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Acetone				50
Benzene	<20	69-129	69-129	1
Bromobenzene				1
Bromochloromethane				1
Bromodichloromethane				1
Bromoform				1
Bromomethane				5
2 Butanone (MEK)				50
n-Butylbenzene				1
sec-Butylbenzene				1
tert-Butylbenzene				1
Carbon disulfide				5
Carbon tetrachloride				1
Chlorobenzene	<20	61-121	61-121	1
Chloroethane				1
2-Chloroethylvinyl ether				5 (1)
Chloroform				1
Chloromethane				1
2-Chlorotoluene				1
4-Chlorotoluene				1
Dibromochloromethane				1
1,2-Dibromo-3-chloropropane				1
1,2-Dibromoethane				1
Dibromomethane				1
1,2-Dichlorobenzene				1
1,3-Dichlorobenzene				1
1,4-Dichlorobenzene				1
Dichlorodifluormethane				1
1,1-Dichloroethane				1
1,2-Dichloroethane				1
1,1-Dichloroethene	<20	65-125	65-125	1
cis-1,2-Dichloroethene				1
trans-1,2-Dichloroethene				1
1,2-Dichloropropane				1
1,3-Dichloropropane				1
2,2-Dichloropropane				1
1,1-Dichloropropene				1
cis-1,3-Dichloropropene				1
trans-1,3-Dichloropropene				1

QA Objectives for Measurement Data

VOLATILE ORGANIC COMPOUNDS BY GC/MS (8260B) – Continued

Ethylbenzene				1
Hexachlorobutadiene				1
2-Hexanone				50
Isopropylbenzene				1
p-Isopropyltoluene				1
Methylene chloride				5
4-Methyl-2-pentanone (MIBK)				50
MTBE				5
Naphthalene				1
n-Propylbenzene				1
Styrene				1
1,1,1,2-Tetrachloroethane				1
1,1,2,2-Tetrachloroethane				1
Tetrachloroethene				1
Toluene	<20	70-130	70-130	1
1,2,3-Trichlorobenzene				1
1,2,4-Trichlorobenzene				1
1,1,1-Trichloroethane				1
1,1,2-Trichloroethane				1
Trichloroethene	<20	74-134	74-134	1
Trichlorofluoromethane				1
1,2,3-Trichloropropane				1
Trichlorotriflouroethane				5
1,2,4-Trimethylbenzene				1
1,3,5-Trimethylbenzene				1
Vinyl acetate				25
Vinyl chloride				1
Xylenes, total				1
4-Bromofluorobenzene (surr)		86-115	86-115	
1,2-Dichloroethane-d4 (surr)		76-114	76-114	
Toluene-d8 (surr)		88-110	88-110	

QA Objectives for Measurement Data

ORGANOCHLORINE PESTICIDES & PCBs BY GC (608)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Aldrin	<25	65-135	65-135	0.005
A-BHC				0.01
B-BHC				0.005
Γ-BHC	<20	65-135	65-135	0.02
Δ-BHC				0.005
Technical Chlordane				0.1
P,p'-DDD				0.05
P,p'-DDE				0.05
p.p'-DDT	<20	65-135	65-135	0.01
Dieldrin	<20	65-135	65-135	0.01
Endosulfan I				0.02
Endosulfan II				0.01
Endosulfan Sulfate				0.05
Endrin	<20	65-135	65-135	0.01
Endrin aldehyde				0.01
Heptachlor	<20	65-135	65-135	0.01
Heptachlor epoxide				0.01
Toxaphene				0.5
PCB-1016	<30	65-135	65-135	0.5
PCB-1221				0.5
PCB-1232				0.5
PCB-1242				0.5
PCB-1248				0.5
PCB-1254				0.5
PCB-1260	<30	65-135	65-135	0.5
2,4,5,6-Tetrachloroxylene (surr)		62-123	62-123	
Decachlorobiphenyl (surr)		56-136	56-136	

QA Objectives for Measurement Data

ORGANOCHLORINE PESTICIDES BY GC (8081A)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Aldrin	<25	65-135	65-135	0.06
α-BHC				0.06
β-BHC				0.06
γ-BHC	<20	65-135	65-135	0.06
δ-BHC				0.06
Alpha-Chlordane				0.06
Gamma-Chlordane				0.06
Technical Chlordane				1
p,p'-DDD				0.06
p,p'-DDE				0.08
p.p'-DDT	<20	65-135	65-135	0.06
Dieldrin	<20	65-135	65-135	0.06
Endosulfan I				0.06
Endosulfan II				0.06
Endosulfan Sulfate				0.06
Endrin	<20	65-135	65-135	0.06
Endrin aldehyde				0.06
Endrin Ketone				0.06
Heptachlor	<20	65-135	65-135	0.06
Heptachlor epoxide				0.06
p,p'-Methoxychlor				0.06
Toxaphene				1
2,4,5,6-Tetrachloro-m-xylene (surr)		62-123	62-123	
Decachlorobiphenyl (surr)		56-136	56-136	

PCBs BY GC (8082)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
PCB-1016	<30	65-135	65-135	0.5
PCB-1221				0.5
PCB-1232				0.5
PCB-1242				0.5
PCB-1248				0.5
PCB-1254				0.5
PCB-1260	<30	65-135	65-135	0.5
2,4,5,6-Tetrachloroxylene (surr)		62-123	62-123	
Decachlorobiphenyl (surr)		56-136	56-136	

QA Objectives for Measurement Data

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (625)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Acenaphthene	<30	56-118	56-118	1
Acenaphthylene				2
Azobenzene				1
Benzo(a)anthracene				2
Benzo(b)fluoranthene				2
Benzo(k)fluoranthene				2
Benzo(g,h,i)perylene				2
Benzo(a)pyrene				2
Bis(2-chloroethyl)ether				1
Bis(2-chloroethoxy)methane				5
Bis(2-chloroisopropyl)ether				2
Bis(2-ethylhexyl)phthalate				5
4-Bromophenyl phenyl ether				5
Butyl benzyl phthalate				5
4-Chloro-3-methylphenol	<31	22-147	22-147	5
2-Chloronaphthalene				2
2-Chlorophenol	<25	23-134	23-134	2
4-Chlorophenyl phenyl ether				2
Chrysene				2
Dibenzo(a,h)anthracene				2
1,2-Dichlorobenzene				2
1,3-Dichlorobenzene				2
1,4-Dichlorobenzene	<30	36-97	36-97	2
3,3-Dichlorobenzidine				5
2,4-Dichlorophenol				1
Diethyl phthalate				5
2,4-Dimethylphenol				1
Dimethyl phthalate				5
Di-n-butyl phthalate				5
4,6-Dinitro-2-methylphenol				10
2,4-Dinitrophenol				5
2,4-Dinitrotoluene	<35	39-139	39-139	2
2,6-Dinitrotoluene				5
Di-n-octyl phthalate				5
Fluoranthene				2
Fluorene				5
Hexachlorobenzene				2
Hexachlorobutadiene				2
Hexachlorocyclopentadiene				5

QA Objectives for Measurement Data

SEMIVOLATILES BY GC/MS (625) – Continued

Hexachloroethane				2
Indeno(1,2,3-cd)pyrene				2
Isophorone				2
Naphthalene				2
Nitrobenzene				2
2-Nitrophenol				10
4-Nitrophenol	<35	1-51	1-51	10
N-Nitroso-di-n-propylamine	<34	10-130	10-130	2
N-Nitrosodiphenylamine				1
Pentachlorophenol	<35	45-125	45-125	5
Phenanthrene				2
Phenol	<35	12-89	12-89	1
Pyrene	<35	52-115	52-115	2
1,2,4-Trichlorobenzene	<35	44-142	44-142	1
2,4,6-Trichlorophenol				2
Nitrobenzene - d5 (surr)		35-114	35-114	
2-Fluorobiphenyl (surr)		43-116	43-116	
p-Terphenyl-dl4 (surr)		33-141	33-141	
Phenol-d6 (surr)		10-110	10-110	
2-Fluorophenol (surr)		25-100	25-100	
2,4,6-Tribromophenol (surr)		10-123	10-123	

QA Objectives for Measurement Data

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (8270C)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Acenaphthene	<30	56-118	56-118	2
Acenaphthylene				2
Anthracene				2
Benzoic acid				10
Benzo(a)anthracene				2
Benzo(b)fluoranthene				2
Benzo(k)fluoranthene				2
Benzo(g,h,i)perylene				2
Benzo(a)pyrene				2
Benzyl alcohol				5
Bis(2-chloroethoxy)methane				5
Bis(2-chloroethyl)ether				2
Bis(2-chloroisopropyl)ether				2
Bis(2-ethylhexyl)phthalate				10
4-Bromophenyl phenyl ether				5
Butyl benzyl phthalate				5
4-Chloroaniline				2
4-Chloro-3-methylphenol	<31	22-147	22-147	5
2-Chloronaphthalene				2
2-Chlorophenol	<25	23-134	23-134	2
4-Chlorophenyl phenyl ether				5
Chrysene				2
Dibenzo(a,h)anthracene				2
Dibenzofuran				2
Di-n-butyl phthalate				5
1,2-Dichlorobenzene				2
1,3-Dichlorobenzene				2
1,4-Dichlorobenzene	<30	36-97	36-97	2
3,3'-Dichlorobenzidine				5
2,4-Dichlorophenol				2
Diethyl phthalate				5
2,4-Dimethylphenol				2
Dimethyl phthalate				5
4,6-Dinitro-2-methylphenol				10
2,4-Dinitrophenol				10
2,4-Dinitrotoluene	<35	39-139	39-139	2
2,6-Dinitrotoluene				5
Di-n-octyl phthalate				5
Fluoranthene				2

QA Objectives for Measurement Data

SEMIVOLATILES BY GC/MS (8270C) – Continued

Fluorene				2
Hexachlorobenzene				2
Hexachlorobutadiene				2
Hexachlorocyclopentadiene				5
Hexachloroethane				2
Indeno(1,2,3-cd)pyrene				2
Isophorone				2
2-Methylnaphthalene				2
2-Methylphenol				2
4-Methylphenol				2
Naphthalene				2
2-Nitroaniline				10
3-Nitroaniline				2
4-Nitroaniline				10
Nitrobenzene				2
2-Nitrophenol				2
4-Nitrophenol	<35	1-51	1-51	10
N-Nitroso-di-n-phenylamine				2
N-Nitroso-di-n-propylamine	<34	10-130	10-130	2
Pentachlorophenol	<35	45-125	45-125	10
Phenanthrene				2
Phenol	<35	12-89	12-89	2
Pyrene	<35	52-115	52-115	2
1,2,4-Trichlorobenzene	<35	44-142	44-142	2
2,4,5-Trichlorophenol				2
2,4,6-Trichlorophenol				2
Nitrobenzene - d5 (surr)		35-114	35-114	
2-Fluorobiphenyl (surr)		43-116	43-116	
p-Terphenyl-dl4 (surr)		33-141	33-141	
Phenol-d6 (surr)		10-110	10-110	
2-Fluorophenol (surr)		25-100	25-100	
2,4,6-Tribromophenol (surr)		10-123	10-123	

QA Objectives for Measurement Data

POLYNUCLEAR AROMATIC HYDROCARBONS BY GC/MS (8270C-SIM)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Acenaphthene	<30	50-150	50-150	0.1
Acenaphthylene				0.1
Anthracene				0.1
Benzo(a)anthracene				0.1
Benzo(b)fluoranthene				0.1
Benzo(k)fluoranthene				0.1
Benzo(a)pyrene	<30	50-150	50-150	0.1
Benzo(g,h,i)perylene				0.1
Chrysene	<30	50-150	50-150	0.1
Dibenzo(a,h)anthracene				0.1
Fluoranthene				0.1
Fluorene				0.1
Indeno(1,2,3-cd)pyrene				0.1
Naphthalene				0.1
Phenanthrene	<30	50-150	50-150	0.1
Pyrene	<30	50-150	50-150	0.1
2-Fluorobiphenyl (surr)		43-116	43-116	
p-Terphenyl-d14 (surr)		33-141	33-141	

QA Objectives for Measurement Data

POLYNUCLEAR AROMATIC HYDROCARBONS BY HPLC (8310)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
Acenaphthene				0.1
Acenaphthylene				0.1
Anthracene				0.05
Benzo(a)anthracene				0.1
Benzo(b)fluoranthene				0.1
Benzo(k)fluoranthene				0.05
Benzo(a)pyrene	<35	50-150	50-150	0.1
Benzo(g,h,i)perylene				0.1
Chrysene	<35	50-150	50-150	0.1
Dibenzo(a,h)anthracene				0.1
Fluoranthene				0.15
Fluorene				0.1
Indeno(1,2,3-cd)pyrene				0.1
Naphthalene	<35	50-150	50-150	0.15
Phenanthrene	<35	50-150	50-150	0.1
Pyrene	<35	50-150	50-150	0.15
1-Methylnaphthalene (surr)		50-150	50-150	

NITROAROMATICS and NITRAMINES BY HPLC (8330)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/L)
1,3,5-TNB	<25	70-130	70-130	0.25
1,3-DNB	<25	70-130	70-130	0.1
2,4,6-TNT	<25	70-130	70-130	0.17
2,4-DNT	<25	70-130	70-130	0.1
2,6-DNT	<25	70-130	70-130	0.3
2-Am-DNT	<25	70-130	70-130	1
2-NT	<25	70-130	70-130	1
3-NT	<25	70-130	70-130	1
4-Am-DNT	<25	70-130	70-130	1
4-NT	<25	70-130	70-130	1
HMX	<25	70-130	70-130	1
NB	<25	70-130	70-130	0.5
RDX	<25	70-130	70-130	0.5
TETRYL	<25	70-130	70-130	1
3,4-DNT (surr)		70-130	70-130	

QA Objectives for Measurement Data

GENERAL CHEMISTRY	Precision (% RPD)	Accuracy (%) LCS/LCSD and MS/MSD		Rep.Limit (mg/L)
Alkalinity, Total (310.1)	<20	80-120		5.0
Bromide (300.0)	<20	80-120	80-120	1.0
Chloride (300.0)	<20	80-120	80-120	1.0
Conductivity (9050A)				
Flash Point (1010)				
Fluoride (300.0)	<20	80-120	80-120	1.0
Hexavalent Chromium (7196A)	<20	80-120	80-120	0.01
Nitrate (300.0)	<20	80-120	80-120	1.0
Nitrite (300.0)	<20	80-120	80-120	1.0
Oil & Grease, gravimetric (SM 5520B/1664)	<18	79-114	79-114	1.0
Orthophosphate (300.0)	<20	80-120	80-120	1.0
pH (9040B)				
RCI (CA Title 22)				
Residue, Total (160.3)	<20	80-120		10
Settleable Solids (160.5)	<20	80-120		0.1 (ml/L)
Sulfate (300.0)	<20	80-120	80-120	1.0
Total Dissolved Solids (160.1)	<20	80-120		10
Total Suspended Solids (160.2)	<20	80-120		10
Total Suspended Solids, low level (160.2)	<20	80-120		1.0

QA Objectives for Measurement Data 2. Solid Matrices

METALS BY ICP (6010B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Aluminum	<20	80-120	75-125	5
Antimony	<20	80-120	75-125	2
Arsenic	<20	80-120	75-125	1
Barium	<20	80-120	75-125	1
Beryllium	<20	80-120	75-125	0.5
Cadmium	<20	80-120	75-125	0.5
Calcium	<20	80-120	75-125	5
Chromium	<20	80-120	75-125	1
Cobalt	<20	80-120	75-125	1
Copper	<20	80-120	75-125	1
Iron	<20	80-120	75-125	1
Lead	<20	80-120	75-125	1
Magnesium	<20	80-120	75-125	5
Manganese	<20	80-120	75-125	1
Molybdenum	<20	80-120	75-125	1
Nickel	<20	80-120	75-125	1
Potassium	<20	80-120	75-125	25
Selenium	<20	80-120	75-125	2
Silver	<20	80-120	75-125	1
Sodium	<20	80-120	75-125	25
Thallium	<20	80-120	75-125	1
Vanadium	<20	80-120	75-125	1
Zinc	<20	80-120	75-125	1

MERCURY BY COLD VAPOR (7471)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Mercury	<20	85-115	85-115	0.05

METALS BY GFAA (7000 Series)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Arsenic	<20	85-115	85-115	0.2
Lead	<20	85-115	85-115	0.2
Selenium	<20	85-115	85-115	0.2
Thallium	<20	85-115	85-115	0.2

METALS BY FLAME AA (7000 Series)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Lead	<20	85-115	85-115	5

QA Objectives for Measurement Data

HALOGENATED VOLATILE ORGANIC COMPOUNDS BY GC/MS (8260B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/Kg)
Bromodichloromethane				5
Bromoform				5
Bromomethane				10
Carbon tetrachloride				5
Chlorobenzene	<20	61-121	61-121	5
Chloroethane				10
2-Chloroethylvinylether				50
Chloroform				5
Chloromethane				10
Dibromochloromethane				5
1,2-Dichlorobenzene				5
1,3-Dichlorobenzene				5
1,4-Dichlorobenzene				5
Dichlorodifluoromethane				10
1,1-Dichloroethane				5
1,2-Dichloroethane				5
1,1-Dichloroethene	<20	65-125	65-125	5
cis-1,2-Dichloroethene				5
trans-1,2-Dichloroethene				5
1,2-Dichloropropane				5
cis-1,3-Dichloropropene				5
trans-1,3-Dichloropropene				5
Methylene chloride				5
1,1,2,2-Tetrachloroethane				5
Tetrachloroethene				5
1,1,1-Trichloroethane				5
1,1,2-Trichloroethane				5
Trichloroethene	<20	74-134	74-134	5
Trichlorofluoromethane				5
Trichlorotrifluroethane				5
Vinyl chloride				5
4-Bromofluorobenzene (surr)		74-121	74-121	
1,2-Dichloroethane-d4 (surr)		70-121	70-121	
Toluene-d8 (surr)		81-117	81-117	

QA Objectives for Measurement Data

VOLATILE AROMATIC COMPOUNDS BY GC (8021B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/Kg)
MTBE				5
Benzene	<35	77-123	65-135	5
Chlorobenzene				5
1,2-Dichlorobenzene				5
1,3-Dichlorobenzene				5
1,4-Dichlorobenzene				5
Ethylbenzene	<35	70-130	65-135	5
Toluene	<35	78-122	65-135	5
Xylenes, total	<35	75-125	65-135	5
4-Bromofluorobenzene (surr)		58-124	58-124	
Trifluorotoluene (surr)		53-125	53-125	

PETROLEUM HYDROCARBONS (8015 Modified)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Diesel	<25	60-130	60-130	1
o-Terphenyl (surr)		60-130	60-130	
Motor Oil				50
Kerosene				1
Gasoline	<35	75-125	65-135	1

GLYCOLS (8015 Modified)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Diethylene Glycol	<35	60-130	60-130	25
Ethylene Glycol	<35	60-130	60-130	25
Tetraethylene Glycol	<35	60-130	60-130	25
Triethylene Glycol	<35	60-130	60-130	25
2-(2-Butoxyethoxy) Ethanol (surr)		60-130	60-130	

QA Objectives for Measurement Data

VOLATILE ORGANIC COMPOUNDS BY GC/MS (8260B)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/Kg)
Acetone				50
Benzene	<20	69-129	69-129	5
Bromobenzene				5
Bromochloromethane				20
Bromodichloromethane				5
Bromoform				5
Bromomethane				10
2 Butanone (MEK)				50
n-Butylbenzene				5
sec-Butylbenzene				5
tert-Butylbenzene				5
Carbon disulfide				5
Carbon tetrachloride				5
Chlorobenzene	<20	61-121	61-121	5
Chloroethane				10
2-Chloroethylvinyl ether				50
Chloroform				5
Chloromethane				10
2-Chlorotoluene				5
4-Chlorotoluene				5
Dibromochloromethane				5
1,2-Dibromo-3-chloropropane				50
1,2-Dibromoethane				10
Dibromomethane				10
1,2-Dichlorobenzene				5
1,3-Dichlorobenzene				5
1,4-Dichlorobenzene				5
Dichlorodifluormethane				10
1,1-Dichloroethane				5
1,2-Dichloroethane				5
1,1-Dichloroethene	<20	65-125	65-125	5
cis-1,2-Dichloroethene				5
trans-1,2-Dichloroethene				5
1,2-Dichloropropane				5
1,3-Dichloropropane				5
2,2-Dichloropropane				5
1,1-Dichloropropene				5
cis-1,3-Dichloropropene				5
trans-1,3-Dichloropropene				5

QA Objectives for Measurement Data

VOLATILE ORGANICS BY GC/MS (8260B) – Continued

Ethylbenzene				5
Hexachlorobutadiene				5
2-Hexanone				50
Isopropylbenzene				5
p-Isopropyltoluene				5
Methylene chloride				5
4-Methyl-2-pentanone (MIBK)				50
MTBE				5
Naphthalene				10
n-Propylbenzene				5
Styrene				5
1,1,1,2-Tetrachloroethane				5
1,1,2,2-Tetrachloroethane				5
Tetrachloroethene				5
Toluene	<20	70-130	70-130	5
1,2,3-Trichlorobenzene				5
1,2,4- Trichlorobenzene				5
1,1,1-Trichloroethane				5
1,1,2-Trichloroethane				5
Trichloroethene	<20	74-134	74-134	5
Trichlorofluoromethane				5
1,2,3-Trichloropropane				5
Trichlorotriflouroethane				5
1,2,4-Trimethylbenzene				5
1,3,5-Trimethylbenzene				5
Vinyl acetate				50
Vinyl chloride				5
Xylenes, total				5
4-Bromofluorobenzene (surr)		74-121	74-121	
1,2-Dichloroethane-d4 (surr)		70-121	70-121	
Toluene-d8 (surr)		81-117	81-117	

QA Objectives for Measurement Data

ORGANOCHLORINE PESTICIDES BY GC (8081A)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/Kg)
Aldrin	<25	37-136	37-136	2
α-BHC				2
β-BHC				2
γ-BHC	<35	37-137	37-137	2
δ-BHC				2
alpha-Chlordane				2
gamma-Chlordane				2
Technical Chlordane				50
p,p'-DDD				2
p,p'-DDE				2
p,p'-DDT	<35	55-132	55-132	2
Dieldrin	<35	58-135	58-135	2
Endosulfan I				2
Endosulfan II				2
Endosulfan sulfate				2
Endrin	<35	58-134	58-134	2
Endrin aldehyde				2
Endrin ketone				2
Heptachlor	<20	40-136	40-136	2
Heptachlor epoxide				2
p,p'-Methoxychlor				2
Toxaphene				100
2,4,5,6-Tetrachloro-m-xylene (surr)		50-125	50-125	
Decachlorobiphenyl (surr)		46-142	46-142	

PCBs BY GC (8082)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/Kg)
PCB-1016	<30	65-135	65-135	50
PCB-1221				50
PCB-1232				50
PCB-1242				50
PCB-1248				50
PCB-1254				50
PCB-1260	<30	65-135	65-135	50
2,4,5,6-Tetrachloroxylene (surr)		50-125	50-125	
Decachlorobiphenyl		46-142	46-142	

QA Objectives for Measurement Data

SEMIVOLATILE ORGANIC COMPOUNDS BY GC/MS (8270C)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Acenaphthene	<30	49-102	49-102	0.067
Acenaphthylene				0.067
Anthracene				0.067
Benzoic acid				0.33
Benzo(a)anthracene				0.067
Benzo(b)fluoranthene				0.067
Benzo(k)fluoranthene				0.067
Benzo(g,h,i)perylene				0.067
Benzo(a)pyrene				0.067
Benzyl alcohol				0.17
Bis(2-chloroethoxy)methane				0.17
Bis(2-chloroethyl)ether				0.067
Bis(2-chloroisopropyl)ether				0.067
Bis(2-ethylhexyl)phthalate				0.33
4-Bromophenyl phenyl ether				0.17
Butyl benzyl phthalate				0.17
4-Chloroaniline				0.067
4-Chloro-3-methylphenol	<33	26-103	26-103	0.17
2-Chloronaphthalene				0.067
2-Chlorophenol	<35	27-123	27-123	0.067
4-Chlorophenyl phenyl ether				0.17
Chrysene				0.067
Dibenzo(a,h)anthracene				0.067
Dibenzofuran				0.067
Di-n-butyl phthalate				0.17
1,2-Dichlorobenzene				0.067
1,3-Dichlorobenzene				0.067
1,4-Dichlorobenzene	<30	28-104	28-104	0.067
3,3'-Dichlorobenzidine				0.17
2,4-Dichlorophenol				0.067
Diethyl phthalate				0.17
2,4-Dimethylphenol				0.067
Dimethyl phthalate				0.17
4,6-Dinitro-2-methylphenol				0.33
2,4-Dinitrophenol				0.33
2,4-Dinitrotoluene	<38	39-139	39-139	0.067
2,6-Dinitrotoluene				0.067
Di-n-octyl phthalate				0.17
Fluoranthene				0.067

QA Objectives for Measurement Data

SEMIVOLATILE ORGANICS BY GC/MS (8270C) – Continued

Fluorene				0.067
Hexachlorobenzene				0.067
Hexachlorobutadiene				0.067
Hexachlorocyclopentadiene				0.17
Hexachloroethane				0.067
Indeno(1,2,3-cd)pyrene				0.067
Isophorone				0.067
2-Methylnaphthalene				0.067
2-Methylphenol				0.067
4-Methylphenol				0.067
Naphthalene				0.067
2-Nitroaniline				0.33
3-Nitroaniline				0.067
4-Nitroaniline				0.33
Nitrobenzene				0.067
2-Nitrophenol				0.067
4-Nitrophenol	<35	17-109	17-109	0.33
N-Nitroso-di-n-phenylamine				0.067
N-Nitroso-di-n-propylamine	<39	25-114	25-114	0.067
Pentachlorophenol	<35	11-114	11-114	0.33
Phenanthrene				0.067
Phenol	<35	26-90	26-90	0.067
Pyrene	<35	25-117	25-117	0.067
1,2,4-Trichlorobenzene	<35	38-107	38-107	0.067
2,4,5-Trichlorophenol				0.067
2,4,6-Trichlorophenol				0.067
Nitrobenzene - d5 (surr)		23-120	23-120	
2-Fluorobiphenyl (surr)		30-115	30-115	
p-Terphenyl-dl4 (surr)		18-137	18-137	
Phenol-d6 (surr)		24-113	24-113	
2-Fluorophenol (surr)		25-121	25-121	
2,4,6-Tribromophenol (surr)		19-122	19-122	

QA Objectives for Measurement Data

POLYNULCLEAR AROMATIC HYDROCARBONS BY 8270C-SIM	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/Kg)
Acenaphthene	<30	50-150	50-150	5
Acenaphthylene				5
Anthracene				5
Benzo(a)anthracene				5
Benzo(b)fluoranthene				5
Benzo(k)fluoranthene				5
Benzo(a)pyrene	<30	50-150	50-150	5
Benzo(g,h,i)perylene				5
Chrysene	<30	50-150	50-150	5
Dibenzo(a,h)anthracene				5
Fluoranthene				5
Fluorene				5
Lndeno(1,2,3 cd)pyrene				5
Napthalene				5
Phenanthrene	<30	50-150	50-150	5
Pyrene	<30	50-150	50-150	5
2-Fluorobiphenyl (surr)		30-115	30-115	
p-Terphenyl-d14 (surr)		18-137	18-137	

POLYNULCLEAR AROMATIC HYDROCARBONS BY HPLC 8310	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (ug/Kg)
Acenaphthene				10
Acenaphthylene				10
Anthracene				5
Benzo(a)anthracene				5
Benzo(b)fluoranthene				5
Benzo(k)fluoranthene				5
Benzo(a)pyrene	<35	50-150	50-150	5
Benzo(g,h,i)perylene				10
Chrysene	<35	50-150	50-150	5
Dibenzo(a,h)anthracene				10
Fluoranthene				5
Fluorene				5
Lndeno(1,2,3 cd)pyrene				10
Napthalene	<35	50-150	50-150	15
Phenanthrene	<35	50-150	50-150	5
Pyrene	<35	50-150	50-150	5
1-Methylnaphthalene (surr)		50-150	50-150	

QA Objectives for Measurement Data

NITROAROMATICS and NITRAMINES BY HPLC (8330)	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
1,3,5-TNB	<35	65-135	65-135	0.25
1,3-DNB	<35	65-135	65-135	0.25
2,4,6-TNT	<35	65-135	65-135	0.25
2,4-DNT	<35	65-135	65-135	0.25
2,6-DNT	<35	65-135	65-135	0.25
2-Am-DNT	<35	65-135	65-135	0.25
2-NT	<35	65-135	65-135	0.25
3-NT	<35	65-135	65-135	0.25
4-Am-DNT	<35	65-135	65-135	0.25
4-NT	<35	65-135	65-135	0.25
HMX	<35	65-135	65-135	1
NB	<35	65-135	65-135	0.25
RDX	<35	65-135	65-135	1
TETRYL	<35	65-135	65-135	1
3,4-DNT (surr)		65-135	65-135	

GENERAL CHEMISTRY	Precision (% RPD)	Accuracy (%) LSC/LCSD and	MS/MSD	Rep.Limit (mg/Kg)
Alkalinity, Total (310.1)	<20	80-120		20
Bromide (300.0)	<20	80-120	80-120	10
Chloride (300.0)	<20	80-120	80-120	10
Conductivity (9050)				
Fluoride (300.0)	<20	80-120	80-120	10
Hexavalent Chromium (7196)	<20	80-120	80-120	0.2
Nitrate (300.0)	<20	80-120	80-120	10
Nitrite (300.0)	<20	80-120	80-120	10
Oil & Grease, gravimetric (SM 5520E/1664)	<20	80-120	80-120	50
Orthophosphate (300.0)	<20	80-120	80-120	10
pH (9045)				
Residue, Total	<20	80-120		10 (mg)
Sulfate (300.0)	<20	80-120	80-120	10

5.0 Calibration and Standardization Procedures and Equipment Maintenance

5.1 Standards Preparation -

STL San Francisco will prepare its analytical calibration standards using only chemicals that are ACS reagent grade or better or purchase commercially prepared standards from reputable sources, which furnish certificates of analyses with each standard. Whenever possible, only standards or reagents that are traceable to EPA, NIST or other federal standards will be used. If traceable standards are not available, the basis for calibration will be fully documented and approved by the Team Leader and the QA Department.

In each analytical run, all calibration standards will be verified against second-source control standards. A standards logbook will be maintained for all standards purchased or prepared by STL San Francisco. For purchased standards, date received, source, manufacturer's specifications, and date opened will be logged into the standards logbook. Dates received and opened will also be written on the standard container.

As in-house and/or working standards are prepared, preparation work sheets will be completed which contain the following information: analyst's name, date prepared, manufacturer and lot number, concentrations and dilutions, weights and volumes used, solvents used, storage instructions, expiration date and safety precautions.

Information sheets on new standards will be distributed with the standards. Expired standards will be immediately disposed.

5.1.1 Expiration Criteria of Standard Quality Control Materials and Reagents -

For standards, quality control materials, and reagents, all expiration dates as suggested by various manufacturers are honored by STL San Francisco's personnel. No expiration date for subsequent standards or reagents generated from these sources will extend beyond the original expiration date. Furthermore, organic and inorganic sections each have its expanded rules for these materials (Refer to SOPs 3.03.01 & 3.03.02).

1) For organic analysis

a) Neat material that does not have a recommended expiration date (e.g. diesel fuel, motor oil, other fuel hydrocarbons) will be assigned an expiration date of five years from the date it was acquired.

b) Intermediate stock solutions will be assigned an expiration date of one year or the actual expiration date stated by the manufacturer, if it is less than one year.

c) Laboratory prepared standards will be assigned an expiration date of six months from the date prepared. However, if the parent solution has a shorter expiration date, the shorter period must be honored.
2) For inorganic analysis

a) For standards that have concentration levels less than 0.1 mg/L, the expiration period is 24 hours.

b) For standards that have concentration levels higher than 0.1 mg/L, the expiration date is six months from the date it is prepared unless the parent solution has a shorter expiration date. In that case, the shorter period will be honored.

3) For volatile and /or unstable compounds, refer to specific SOPs for information on shelf-life (e.g. gaseous compounds in standard mixture).

5.2 Calibration -

Calibration procedures are method dependent. Each method SOP specifically describes calibration procedures that will be followed. The general procedures summarized below are guidelines only. The detailed procedures contained in the method-specific SOPs will take precedence. Project-specific quality requirements may necessitate greater or lesser rigor in calibration requirements.

5.2.1 Calibration Criteria for GC/MS:

- **Tuning.** Every 12 hours, before calibration and analyses, the GC/MS will meet the standard mass spectral abundance criteria with a 50 ng injection of a system performance check compound, DFTPP for acid/base/neutrals and BFB for volatiles.
- **Initial Calibration via Internal Standard.** A blank and a minimum of five levels of standards will be required. The RSD requirement of less than 15% for each target analyte and less than 30% for each individual CCC is required as evidence of sufficient linearity to employ an average response factor.
- **System Performance Check Compound (SPCC) Response.** SPCCs will be monitored run with the initial calibration and continuing calibration.
- **Calibration Check Compounds (CCC) Response Factor Variation with Concentration.** The %RSD of the response factors over the working range of concentrations of the initial calibration will not exceed 20% for either volatiles or semi-volatiles (EPA SW 846, Update III, December, 1996).

- **Continuing Calibration.** Analyses of continuing calibration standards containing all volatile or semi-volatile Hazardous Substance List analytes will be performed daily.
- **Internal Standard Response and Retention Time Monitoring** Retention times for internal standards will not vary over 30 seconds from the last calibration check. The total area of the extracted ion chromatographic profile for internal calibration standards will not change more than a factor of two (-50% to +100%) from the last daily calibration check. If the above criteria are not met, the system will be checked for malfunctions and corrected.

5.2.2 Calibration Criteria for Gas Chromatography:

GC/PID/FID, GC/ELCD, GC/FID. The calibration standards for the methods involved in these analyses will go through full sample preparation and extraction procedures. A minimum of five standards and a blank will be required.

- An initial 5-point calibration (6-point for non-linear) will be performed on an as needed basis - when the instrument is shut down, or maintenance is performed. A linearity criteria required for GC and HPLC methods (other than GC/MS) will be 20% RSD.
- A mid-point continuing calibration verification (CCV) will be run at a minimum of one every twelve hours.
- One calibration standard will be at or below the reporting limit.
- The blank will be below the reporting limit for all analytes.
- For analyses of volatiles in solids, soil, and sludge, the calibration standards will be prepared in the same manner as for water. The standards will not go through the extra sample extraction of high level soils.
- End calibration verifications (CCV) will be run at a minimum of one every twelve hours.

Gas Chromatograph/Electron Capture Detector. A minimum of five calibration standards and a blank will be required. A mid-range CCV or a check sample and solvent blank will be run after every 10 samples. Specific calibration procedures are contained in individual analytical SOPs.

5.2.3 Calibration Criteria for Metals:

Atomic Absorption/ICP. AA and ICP spectrometers will be calibrated daily or after each start up according to manufacturers' specifications, with a minimum of one blank and one calibration standard for ICP and a minimum of one blank and three calibration standards for AA.

- Calibration acceptance criteria for FAA and GFAA will be linear –correlation coefficient ≥0.995; CVAA ≥0.997.
- CCBs and CCVs will be run at a rate of 10%.

5.2.4 Calibration Criteria for Wet Chemistry Methods:

pH Meter. Daily calibration with a pH 7 buffer and one of pH 4 or 10 will be required. Acceptance criteria for pH calibration is ±0.05 pH units.

Conductivity Meter. Conductivity cells with platinum electrodes will be calibrated annually using a minimum of five concentrations of a KCl solution to establish the cell constant. Daily check with 0.01M KCl will be required. Statistical limits at 95% confidence level may be used.

Balances, Thermometers, and Conductivity Cells. Analytical balances will be checked daily with two Class S certified weights.

- Thermometers will be calibrated against an NIST certified thermometer once a year. The thermometer are checked at ice point and boiling point.

5.3 Equipment and Facility -

An integral part of STL San Francisco's quality assurance program is the internal support system which assures that equipment, facilities and supplies will be maintained and kept performing to specification at all times.

5.3.1 Equipment and Supplies.

Overall analytical system quality will begin with the timely acquisition of high quality equipment to assure efficient operation of the laboratory. STL San Francisco will purchase equipment and supplies that meet or exceed the specifications of the analytical methods. Glassware, reagents, gases and replacement parts for analytical instruments will be purchased from reputable suppliers with a history of quality customer service. All supplies will meet or exceed the specifications set forth in the method or of recognized professional groups such as the American Chemical Society (ACS), American Society for Testing and Materials (ASTM), and the Association of Official Analytical Chemists (AOAC).

5.3.2 Facilities, Safety, and Environmental Factors.

Factors in the environment of the laboratory affect the proper and safe functioning of equipment and the performance of analytical procedures. STL San Francisco's facility is designed and maintained such that the environmental specifications of the respective instrument manufacturers will be met. Safety and design features provide an environment conducive to efficient and effective work on the part of analysts.

5.3.3 Prevention of Cross-Contamination.

Design features which are intended to control cross contamination include the physical separation of extractable and volatile organics operations, the installation of hoods and air handling equipment in order to vent vapors out of solvent and sample handling areas, separate HV/AC systems for each operation, and segregated sample storage areas.

5.3.4 Sample and Reagent Storage Temperature Monitoring.

For storage of aqueous reagents and samples requiring refrigeration, all refrigerators will normally maintain an internal temperature of 1° to 4°C (34° to 40°F) throughout the compartment. For storage of organics dissolved in flammable materials, an explosion proof model will be used. Freezers used to store volatile organic standards will maintain an internal temperature of -10° to -20°C throughout their compartments. The temperature of each refrigeration unit will be recorded daily from in-place thermometers.

5.3.5 Reagent Water Quality.

Reagent, analyte-free or laboratory pure water means distilled or deionized water meeting the specifications of ASTM Type II reagent water and will have a conductivity of 100 µmho/cm or less. This water will be free of contaminants that may interfere with analytical test results.

5.3.6 Glassware Cleaning.

Glassware cleaning procedures will be posted in the glassware cleaning area. The glassware cleaning procedure will be documented in an SOP and meet EPA requirements. Only phosphate free, laboratory grade detergents will be used for the cleaning of glassware.

5.3.7 Cleaning of Sample Containers.

STL San Francisco normally purchases pre-cleaned sample containers for use by clients. These will be obtained from reputable container manufacturers. All sample

containers and sample container cleaning procedures will meet EPA criteria, as certified by analysis.

5.3.8 Instrumentation.

Instrumentation will be continually upgraded in order to provide state-of-the-art technology. Instruments will be monitored through the use of daily calibration, sensitivity, and background checks to determine when nonscheduled maintenance is required. Preventative maintenance will be performed regularly to reduce the occurrence of instrument failure. In the event that an instrument does fail, every effort will be made to meet obligations to clients concerning holding times and analysis due dates.

5.3.9 Maintenance Log Books.

Dedicated logbooks will be used to document all instrument repairs and maintenance. The preventive maintenance procedures recommended by individual instrument manufacturers will be strictly followed (See Preventative Maintenance Schedule Table III). Maintenance log books will be kept for major pieces of equipment in the laboratory. Routine (preventative maintenance) and non-routine maintenance will be documented in these logs for future reference and will be kept near the instrument in order to keep track of scheduled maintenance. The minimum entry includes the date, task performed, and the initials of the person who performed the task. If an inspection leads to some further action, that will also be included in the entry. In the case of non-routine maintenance, troubleshooting, or repairs, the entry will include the problem, action, and resolution. Service records will be kept for all repairs and maintenance performed by outside technicians.

Table III
PREVENTATIVE MAINTENANCE SCHEDULE
METALS

Instrument	Frequency	Activity	Whom	Downtime
AA	as needed	clean up spill (asap)	analyst	
	daily (startup)	clean burner	analyst	
	daily (startup)	clean nebulizer w/50ml DI	analyst	
	daily (startup)	check acetylene tank (>100 psi)	analyst	
	daily (startup)	check acetylene pressure (8psi)	analyst	
	daily (startup)	check air pressure (60 psi)	analyst	
	daily (startup)	check waste receptacle	analyst	
	weekly	inspect hoses, leak test connectors	analyst	
	weekly	check nebulizer rate (4-6 mi/min)	analyst	
	monthly	wipe AA case down w/damp cloth	analyst	
	monthly	clean all optical windows w/ lens tissue & MEOH	analyst	
	monthly	check and clean all intake filters	analyst	
	yearly	replace O-ring in nebuilzer & burner head	analyst	
	yearly	PM visit from PE	PE Service	
Hg Analyzer	as needed	clean up spill (asap)	analyst	
	as needed	replace spent drying tube	analyst	
	daily (startup)	install fresh drying tube	analyst	
	daily (startup)	check pump tubing for wear	analyst	
	daily (startup)	check waste receptacle	analyst	
	daily (finish)	use overnight macro after use	analyst	
	daily	maintain supply of spare drying tube in air-tight container	analyst	
	monthly	lubricate auto sampler	analyst	
	monthly	wipe case down w/damp cloth	analyst	
ICP	as needed	clean up spill (asap)	analyst	
	daily (startup)	check nebulizer transfer line	analyst	
	daily (startup)	check argon and nitrogen tanks	analyst	
	daily (startup)	check gas flows on ICP	analyst	
	daily (startup)	check nebulizer aerosol	analyst	
	daily (startup)	check nebu. operating temperature	analyst	
	daily (startup)	check nebulizer cooling fluid level	analyst	
	daily (startup)	check waste receptacle	analyst	
	weekly	monitor Cu intensity and clean lens	analyst	
	weekly	clean torch	analyst	
	weekly	check and/or set up torch w/Y bullet	analyst	
	weekly	check and/or replace pump tubing	analyst	
	weekly	check intake screen on nebulizer cooling fluid	analyst	
	monthly	flush nebulizer	analyst	
	monthly	leak test all connectors	analyst	
	monthly	check ICP cooling water level	analyst	
	semi-annually	PM visit from PE technician	PE Service	
	semi-annually	clean all intake vents on ICP	analyst	

Table III con't
PREVENTATIVE MAINTENANCE SCHEDULE
GENERAL CHEMISTRY

Instrument	Frequency	Activity	Whom	Downtime
Balances	daily	calibration	analyst	
	annually	certify performance	outside service	
refrigerator	daily	check & record air flow	analyst	
hoods	monthly	measure & record air flow	analyst	
pH probe	daily	check electrolyte level	analyst	
IR spectro.	daily	clean cell window	analyst	
	4-6 weeks	archive data	service dept.	no effect
LIMS	as needed	re-indexing	service dept.	no effect
	as needed	network maintenance	service dept.	no effect
network	bi-weekly	backup data and run speed-disk	analyst	no effect
PE Nelson	daily	check gas tank pressure	service dept.	none
gases	daily	check gas delivery pressure	service dept.	none
	bi-weekly	drain condensation	service dept.	none
compressor	monthly	visual inspection + leak check (roof)	service dept.	none
	daily	check indicator lights	service dept.	none
DI water	daily	monitor resistivity reading	analyst	none
Millpore				

Table III con't
PREVENTATIVE MAINTENANCE SCHEDULE
SEMI-VOLATILES

Instrument	Frequency	Activity	Whom	Downtime
Diesel	as needed	replace column	analyst	
	as needed	replace carrier gas filter	analyst	
	weekly	wipe down syringe	analyst	
	weekly	flush waste drain line	analyst	
	weekly	replace septum (injector + a/s)	analyst	
	weekly	monitor flow rate, adjust or update	analyst	
	monthly	replace injector insert	analyst	
Pest/ECD	as needed	replace column	analyst	
	as needed	replace carrier gas filter	analyst	
	as needed	clean ECD foil	outside service	
	weekly	monitor flow rate, adjust or update	analyst	
	weekly	check & record column pressure	analyst	
	weekly	check & record detector noise level	analyst	
	weekly	flush waste drain line	analyst	
	weekly	replace septum (injector + a/s)	analyst	
	monthly	replace guard column	analyst	
	tri-annually	wipe (leak) test of ECD	analyst	
GC/MS semi	as needed	replace column	analyst	
	weekly	check/replace carrier gas filter	analyst	
	weekly	check air/water ration	analyst	
	weekly	flush waste drain line	analyst	
	as needed	replace septum	analyst	
	monthly	replace insert, clean injector	analyst	
	semi-annually	clean source and ion trap	analyst	
	semi-annually	change pump oil	service dept.	
	semi-annually	lubricate turbo pump bearing	service dept.	
	semi-annually	clean/replace a/s sealing disc	service dept.	

Table III con't
PREVENTATIVE MAINTENANCE SCHEDULE
VOLATILES

Instrument	Frequency	Activity	Whom	Downtime
Gas/BTEX	as needed	replace column	analyst	
	as needed	clean/replace PID lamp	analyst	
	as needed	replace carrier gas filter	analyst	
	weekly	check & record column pressure	analyst	
	weekly	monitor flow rate, adjust or update	analyst	
	bi-weekly	purge system w/MeOH solution	analyst	1 weekend
	quarterly	replace Tekmar trap	analyst	
GC/MS vol.	as needed	replace column	analyst	
	weekly	check/replace carrier gas filters	analyst	
	weekly	monitor air/water ratio	analyst	
	bi-weekly	purge system w/MeOH solution	analyst	1 weekend
	as needed	check "septem"	analyst	
	quarterly	clean source and rods	analyst	
	quarterly	replace Tekmar trap	analyst	
	semi-annually	replace "septem"	analyst	
	semi-annually	change vacuum pump oil	service Dept.	

6.0 Corrective Action: Analytical /Systematic

STL San Francisco has established and implements systematic procedures when analytical performance does not meet defined standards and data quality objective is not achieved. These procedures are called Corrective actions that restore proper functioning to the analytical systems and are categorized as either **analytical** or **systematic**. An essential part of the corrective action process is communication and awareness of the problem, the cause, and the action taken to prevent future occurrences and/or rectify the immediate problem.

6.1 If the corrective action is **analytical**, the analyst will initiate the action and correct the error within the department. These are common everyday occurrences, such as instrument drift or QC outliers. The corrective action steps will be documented on a "Corrective Action" report (Figure 6-1) by the chemist who initiated the corrective action. Validation of the report is indicated when dated signatures of the chemist, the Team Leader and a member of the QA department are obtained. Signatures of Project Managers are required for Level III and IV data packages or when the Project Manager is directly involved in the corrective action process. The original corrective action report will be maintained within the QA Department and assessed for trend analysis and verification of a closed loop: corrective actions have been implemented, confirmed as effective and communicated. A copy of the corrective action report will be filed in each applicable project folder.

Corrective action for analytical deficiencies is supplemented by QC narration in LIMS during data entry and QA narration using the Laboratory's internal e-mail.

6.1.1 Corrective action involving analytical **QC sample outliers** is defined in individual method SOPs. Typically, the following procedures will be implemented whenever quality control samples fall outside limits:

- **Method Blank.** When an analyte is detected above the reporting limit in the method blank, each sample in that batch is reviewed for the particular analyte(s). If the sample analyte is less than the reporting limit or greater than ten times concentration of the method blank level, the sample result is reported. If the analyte is between the reporting limit and ten times the method blank level, the sample is re-prepared and reanalyzed. Corrective action is amendable for Project specific requirement (i.e., detectable levels of target compounds that warrant corrective action may vary).

  When contamination occurs, immediate measures are taken to locate, correct and eliminate the source of contamination. Additionally, samples that are known to have

high levels of target analytes as a result of analysis or profile are removed from the general population and placed in an auxiliary, controlled sample receptacle.

- **Laboratory Control Standard (LCS) and Matrix Spikes.** Corrective action for failure of LCS sample or matrix spike recoveries depends on the relationship between accuracy and precision. Failure of the LCS for accuracy will require re-preparation and reanalysis. Failure of duplicate samples for precision will be evaluated on a case by case basis in terms of prep batch verification of precision and data usability. For example, if a prep batch includes both an LCS/LCSD and MS/MSD, accuracy and precision can be verified by either set with the stipulation that the acceptance criteria (control limits) are identical for both.

  Accuracy and precision achieved by MS/MSD analysis will also be evaluated on a case by case basis in terms of difficult matrices, exceeded spike concentration, or sample heterogeneity. If analytical results indicate either of such conditions and provides reasonable explanation for QC failure, re-preparation is not warranted; however, corrective action documentation is required. Matrix spike analysis and criteria is amendable to project specific requirement.

- **Surrogates (Organic analysis).** Corrective action for surrogate recovery that does not meet acceptance criteria must be evaluated for effect indicated for field and QC samples. Recovery for surrogate spikes in matrix specific-samples that fail to meet stipulated acceptance criteria may indicate a potential matrix effect. It is the policy of the laboratory to confirm matrix effect by reprep and reanalysis of the sample(s) in question, especially for surrogate recovery that fails low. If the presence of significant non-target interference yields failed surrogate recovery, reprep may not be warranted (e.g., high surrogate recovery due to co-elution). Analytical corrective action for matrix interference may include additional clean up (e.g., copper clean up for the presence of sulfur in PCB extracts) or diluted analysis. Since surrogates are chosen and used to reflect the chemistries of the targeted compounds of the method, LIMS flagging conventions and corrective action documentation are required when reporting sample data with surrogate recovery outside of control limits. Client profile and sample history must also be taken in consideration.

  Failed surrogate recovery for any QC sample requires reprep and reanalysis of the samples associated with the prep batch. Additionally, reprep and reanalysis is required for those samples that fail surrogate recovery and matrix interference is not indicated.

6.1.2 Corrective action involving analytical continuing calibration verification (CCV) during the analysis of QC and field samples will be evaluated against current methodology established by the EPA guidance or Project specific requirement. All

CCVs that do not meet method requirement shall result in review of the calibration, rerun of the calibration standard, and, if necessary, reanalysis of all samples affected.

Data can be reported under the following conditions when CCV criterion has been exceeded:

- The closing CCV demonstrates increased sensitivity and bracketed samples are non detect.
- Limited sample volume or holding time has exceeded which prevents re-prep/reanalysis.

In both cases, corrective action documentation and narration is required. If reprep/reanalysis cannot be performed, it is imperative to contact the responsible Project Manager prior to data reporting; who must contact the client for data reporting options.

An analysis of an initial calibration may be necessary, and documentation of maintenance for restoring the instrument to optimal running condition is essential and required.

6.2 If the Corrective action is **systematic**, the nature of the errors or deficiencies is more complex and may require the immediate attention of the Lab Director. Examples of systematic errors or non-conformances are listed below:

- Deviation from Standard Operating Procedures or Method guidance as determined by technical or systematic audit conducted internally or externally
- Instrument or equipment issues
- Consecutive failure of Performance Evaluation samples.
- Repeated failure of QC samples and measurement quality objectives or undesirable trends are indicated by analytical corrective action trend analysis.

The corrective action objective of systematic discrepancy or non-conformance is resolution by identification of root cause and prevention of recurrence: successful implementation of corrective action steps and robust documentation. When the root cause of a persistent problem cannot be immediately identified, it is essential that the corrective action process embarked upon must be a collective, problem solving, constructive effort where all parameters are examined. Once the root cause of the problem is identified, pertinent staff and department(s) examine potential actions that will rectify the problem, and prevent recurrence of future or similar occurrences. Description of problem, identification of root cause, steps of corrective action and measures to prevent recurrence is documented on STL San Francisco's Non-Conformance report (figure 6-2).

The non-conformance report is dated and signed by the following personnel: the chemist who initiated the non-conformance, Team Leader(s), and Lab Director. QA will acknowledge the date when corrective action has been implemented. After implementation of corrective actions, QA will monitor their effect to determine if the actions taken have been effective in overcoming the non-conformance identified. Target audits and surveillance will accomplish monitoring. Verification of non-conformance closure will be acknowledged and dated by QA. Copies of the verified non-conformance report will be distributed to applicable personnel and project file. The original report will be retained in QA as a quality record.

6.3 Stop Work Authority -

The Quality Assurance Department has the authority to stop activities that in the opinion of the Quality Assurance Department are uncontrolled or nonconforming and could affect the quality of the overall project or jeopardize quality objectives if not corrected. Stop work actions will be coordinated through the Laboratory Director and the Team Leader. Stop work actions will be implemented when nonconformance issues cannot be resolved or when conditions become unsafe and dangerous.

Figure 6-1

STL-San Francisco Corrective Action Report

Initiator: _____

Date: _____/_____/_____

Parameter/Analysis: _____
Matrix: ☐ Soil ☐ Water ☐ Other: _____
Submission #(s): _____
Sample #(s)_____
_____
_____
Batch-#(s) _____
_____
_____

Category of discrepancy
☐ Sample Prep
☐ Sample analysis
☐ Data Reporting
☐ Identify Instrument if applicable:
_____
☐ Other (describe below):

Discrepancy Description:
Sample Prep: ☐ Hold Time Exceeded ☐ Wrong Sample pulled ☐ Wrong Spike ☐ Other (describe below)
Sample Analysis ☐ CCV failed- O Initial O Mid O End ___High/___Low
☐ Method blank- O Contamination greater than ___RL/___MDL
☐ Surrogate Recovery (Identify/narrate below if more than 1 surr.)-O High O Low O Missing
☐ LCS/LCSD Recovery- O High O Low O RPD out O Missing
☐ MS/ MSD Recovery - O High O Low O RPD out O Missing O Spk. Conc. exceeded
☐ MS/MSD not performed due to insufficient sample volume O LCS/LCSD verified P/A
☐ Other (describe): _____
_____
_____
_____
(use space on back if more text is needed and indicate with: → over)

Corrective Action taken:
☐ None- O Insufficient sample/extract volume O Out of hold O Co-elution indicated O Narrate below
☐ Reanalyzed extract/sample- O Similar results yielded / ___ Matrix effects indicated
☐ Re-extraction/Re-prep
☐ Other (describe): _____
_____
_____

Preventative Action/Recommendation: _____
_____
_____
(use space on back if more text is needed and indicate with: → over)

Approval and Distribution of Completed Corrective Action Report:

Initiator	_____	Date: _____/____/____
Team Leader	_____	Date: _____/____/__
Project Manager	_____	Date: ____/____/ ___
Quality Assurance (original)	_____	Date: ____/____/ ____

Figure 6-2
STL San Francisco
Nonconformance Report

Page 1 of 1

Submission # :	**Department:**	**Date:**	**NCR #:**
Nonconformance Description (include specific discrepancy and requirement reference) **Identified by:**			
Root Cause of Nonconforming Condition (included applicable trend or reference to drift)			
Corrective action to be taken (include applicable training and reference; dates of action and completion)			
Action or measures to be taken to preclude recurrence: **Department (Team):** _____ **Date:** _____ **Acknowledgement {** **Team Leader:** _____ **Date:** _____ **Laboratory Director:**_____ **Date:** _____ **Quality Assurance:** _____ **Date:** _____			

Corrective action Completed by/Date	**Verification Completed by/Date**

forms\ncr temp 2002.doc

7.0 Document Control and Distribution

Documents developed to direct, instruct, and/or guide technical or quality affecting activities will be maintained and controlled. Documents such as QAMs, QAPPs, and SOPs will be uniquely numbered and distributed to individuals or groups that have been identified as copy holders. The documents will be controlled and distributed in accordance with SOP #12.13.

7.1 Quality Assurance Manual and Standard Operating Procedures (SOPs) -

Distribution of these documents will be authorized by the Laboratory Director or Project Managers and coordinated through the Quality Assurance Department.

Distribution of the Quality Assurance Manual and SOPs will be performed using "Document Receipt Acknowledgment" forms (Figures 7-1 & 7-2) which require receipt acknowledgment by an individual or organization of the controlled document or subsequent revisions. The distribution of controlled documents will be tracked on a Document Distribution list. All documentation and correspondance regarding controlled documents will be maintained within the Quality Assurance Department.

7.2 Client and Laboratory Communication

The laboratory establishes a requirement of maintaining a formal system for documenting project/program specific needs provided by the client, and communicating pertinent information to the laboratory for successful execution of analytical methods. The objective of the laboratory is to provide clients valid, defensible data. STL San Francisco recognizes that meeting this goal begins with efficient, timely, and organized project management. Section 2.5 details the responsibilities of the project manager. The laboratory is aware of the availability of numerous methods and analytical techniques, and that continued communication between the laboratory and the client is fundamental to assure that correct, justified methods are used. Project management will also ensure that any communicated client concerns or changes in requirement during sample receipt and the span of the project are conveyed and properly addressed by the measures and tools of communication. SOP 02.12: Sample Handling - Client and Laboratory Communication Protocol, describes a formal system of this subject.

Figure 7-1

DOCUMENT RECEIPT ACKNOWLEDGMENT

THE FOLLOWING CONTROLLED COPY
Copy No.:_____

OF DOCUMENTS WHICH COMPRISE THE STL SAN FRANCISCO QUALITY PROGRAM OR PORTIONS THEREOF ARE BEING TRANSMITTED FOR YOUR IMPLEMENTATION AND USE. PLEASE SIGN/DATE THIS DOCUMENT TRANSMITTAL ACKNOWLEDGING YOUR RECEIPT OF THE DOCUMENT(S) LISTED BELOW AND TO ENSURE YOUR STATUS ON THE CONTROLLED DOCUMENTS HOLDERS LIST.

DOCUMENT NAME: QUALITY ASSURANCE MANUAL

DOCUMENT REVISION:_____

NOTE: PLEASE DESTROY REVISION _____ IN ITS ENTIRETY AND REPLACE WITH ATTACHED REVISION.

ISSUED TO - DEPARTMENT / ORGANIZATION:_____

I HAVE RECEIVED THE ABOVE LISTED DOCUMENTS

Name (Printed):_____

Name (Signed):_____

Company Name/Office:_____

Date Received:_____

PLEASE COMPLETE THIS RECEIPT AND RETURN TO:

STL San Francisco
Quality Assurance Department
1220 Quarry Lane
Pleasanton, CA 94566

Figure 7-2

Acknowledgment of Receipt for Standard Operating Procedures (SOPs)

SOP #	TITLE	REV	DATE

Fill in name of person receiving SOP *Fill in control #*

Issued To: Control #:

The signature below confirm that the SOPs listed above have been received:

Fill in signature of person receiving SOP *Fill in date signed*

_____ Date_____

8.0 Personnel Training and Qualifications

Training is provided to all new employees in their fields of assignment to ensure their ability to carry out job functions. Trainers are designated by the Laboratory Director. The program consists of two phases, Initial Training and Continuing Training. Training will be documented and maintained in an employee training records file as part of the Quality Assurance Program (Fig. 8-1, Method or Task Training Form, Fig. 8-2, Technical Training Form, Fig. 8-3, Certification Form for analysis of Performance Sample).

8.1 Initial Training and Development Programs

All employees must demonstrate initial competency prior to assumption of their assigned duties based on the following criteria:

- Orientation of job functions and how it interacts with the overall organization.
- Receive training or supervision in the method by a qualified person prior to performing technical work.
- Passing a written and/or oral examination by a qualified analyst or manager.
- Perform and pass an appropriate Performance Evaluation(PE) sample.
- Perform an appropriate Method Detection Limit Study (MDL).
- Receive an orientation of the QA program.
- Receive an orientation of the Health & Safety program.

8.2 Continuing Training -

Continuing Training is performed at scheduled times to assure certification revisions are current and changes to laboratory SOPs and other protocols are communicated. All analysts must be **recertified** annually for all analyses they run routinely by passing an in-house performance evaluation sample at a minimum and must also be certified before performing commercial analyses for any method they have not run routinely for a period of one year or longer.

Continuing training is based on two criteria, in-house training and off-site training:

8.2.1 In-house Training

- Acceptable review of the method with an experienced analyst or Operations Manager.
- Acceptable performance on an appropriate PE sample.

8.2.2 Off-site Training includes seminars, workshops, job related academic classes.

8.3 Health & Safety Training -

STL San Francisco maintains a Health and Safety (H & S) training program that is required of all employees. New employees are instructed in basic H & S policies and practices during orientation. Scheduled H & S meetings reinforce good safety practices and expand all employees awareness of H & S issues. Employees (such as sample disposal technicians and couriers) who may be exposed to potentially serious Health and Safety issues may be required to participate in additional OSHA training. The Safety Officer maintains written safety records for each employee who has been trained on safety issues.

8.4 Quality Assurance Training -

STL San Francisco maintains a Quality Assurance (QA) training program that is required of all employees. New employees are instructed in basic QA policies and practices during orientation. Weekly department meetings are held to review Quality issues, new methodologies, or upcoming audits.

Figure 8-1

EMPLOYEE TRAINING RECORD

ASSIGNMENT:_____
(Method or General Task)

REFERENCES:_____

_____
(List all SOPs pertaining to Method or Task)

EMPLOYEE NAME (TRAINEE): _____

TRAINER(s) NAME: _____

Training Assignment			
As each assignment is completed for the task listed above, fill in date and initial. When training is completed, return this form to the QA/QC Dept. for record updating.	**Date Complete**	**Trainee Initials**	**Trainer Initials**
Has received all references listed above.			
Has read all references listed above.			
Can correctly answer oral and/or written questions for the references listed above.			
Knows proper documentation procedures for recording information for this task, including reporting of data generated.			
Can demonstrate preventive maintenance techniques for equipment used in task.			
Can operate the required instrumentation as prescribed by the Manufacturers' Manuals and SOPs.			
Knows all Quality Control requirements, including Corrective Actions. Can demonstrate these steps.			
Has satisfactorily performed the task in accordance with SOPs or specified Policy Directives.			

Figure 8-2

EMPLOYEE TRAINING RECORD

ASSIGNMENT: _____

(Method or General Task)

REFERENCES: _____

(List all SOPs pertaining to Method or Task)

EMPLOYEE NAME (TRAINEE): _____

TRAINER(s) NAME: _____

Training Assignment			
As each assignment is completed for the task listed above, fill in date and initial. When training is completed, return this form to the QA/QC Dept. for record updating.	Date Complete	Trainee Initials	Trainer Initials
Has received all references listed above.			
Has read all references listed above.			
Can correctly answer oral and/or written questions for the references listed above.			
Knows proper documentation procedures for recording information for this task, including reporting or data generated.			
Can demonstrate preventive maintenance techniques for equipment used in task.			
Can operate/properly calibrate the required instrumentation as prescribed by the Manufacturers' Manuals and SOPs.			
Can demonstrate traceability and preparation of all standard solutions and reagents used.			
Knows calibration/quality control requirements, including corrective actions. Can demonstrate these steps.			
Has received Health and Safety training, and can demonstrate proper techniques of waste disposal as required and documented in QAM and laboratory Chemical Hygiene Manual.			
Has correctly and accurately analyzed Reference Materials (PE/PA samples) in accordance with methodology.			

Figure 8-3

Performance Evaluation Study (PES) Summary

Next Certification Due:

Analyst Name: Date:

EPA Method/No.: SOP No.:

Instrument: Standard:

Submission No.: Sample No./Type:

PES CLASSIFICATION: ☐Initial Continuing

PERFORMANCE:	Accept ?	Yes	No
Calibration Run		_____	_____
Sample Prep By:	Date:	_____	_____
SOP Available		_____	_____
Standard Record Correct		_____	_____
Start-Up Procedure		_____	_____

EVALUATION:

Compound	Reported Result	Certified Value	Acceptance Limits

(See addendum for multi-component tests)

Performance Results Pass ____ Fail____

Comments / Corrective Action (if applicable):

_____

_____

_____ _____

QA Signature Date

9.0 Control of Purchased Items and Services

9.1 Procurement -

The procurement of items and services are controlled to meet the following quality requirements set by the Corporate Management:

- Appropriate technical and quality requirements are adequately specified in purchase orders (PO).
- Sufficient reviews and approvals are received prior to procurement to verify project objectives are reflected in the procurement
- The procurement process accurately transmits requirements to suppliers and subcontractors
- Selected suppliers and subcontractors are qualified.
- Items and services conform to quality assurance, commercial, and technical procurement requirements.

9.1.1 Procurement Document Control -

Procurement documents issued by STL San Francisco including bid requests, purchase orders, and contracts will be prepared, reviewed, and approved as described in STL San Francisco Standard Operating Procedures. Bids and contracts will be reviewed and documented by the Laboratory Director, Project Manager, Quality Assurance Department, and/or MIS Manager, as appropriate, prior to initiation of documents.

9.1.2 Purchase Requisitions -

The Department Team Members will be responsible for requesting items or services affecting their department. The Quality Assurance Department and Laboratory Director will review and approve the technical and quality requirements for the item(s) or service(s) to be supplied. All Laboratory purchases will be controlled by logging, numbering, and monitoring revisions so that the information issued and used is current.

Vendors will furnish appropriate documentation of chemicals, equipment, and supplies that must be submitted upon delivery of merchandise. Subcontractors will be prequalified and required to furnish documented evidence of their capabilities to perform laboratory analyses prior to commencing work. The

Quality Assurance Department or Laboratory Director are responsible for auditing subcontract laboratories.

9.1.3 Procurement Documentation Revision

Revision(s) to procurement documents which have been issued will be initiated using the same method as the original procurement and will be approved

9.2 Reagents -

All chemicals will be inspected for container integrity upon receipt. The date of receipt and lot number will be recorded in a log book within each department. All chemical certificates will be kept on file within each department.

A control system for batch testing chemicals is followed. The lot numbers will be recorded and the solvents tested for the analytes of concern. The tests must meet the purity criteria before the chemicals are distributed within the laboratory. Whenever possible, STL Corporate will arrange with the manufacturer to reserve those lots of solvent already tested and approved.

To ensure freedom from contamination, all reagents used will be the purest grade required for a particular analysis. For most analyses, Analytical Grade is satisfactory. All organic solvents are pesticide-grade or equivalent. Preparation of reagents is documented and includes preparer, lot number or documented reference code, dilutions, date prepared, and expiration date. Solvents and reagents are routinely checked for contamination by analyzing them as method or instrument blanks for the analytical methods for they are used.

Reagents will be stored in accordance to manufacturer's directions, in appropriate containers and conditions to maintain safety and integrity.

9.3 Standards -

All standards - calibration, spiking, surrogate and internal - will be purchased from suppliers with certification of purity and concentration and stored in each department by receipt dates. They will be inspected and tested against previously validated standards. Suspect standards will be returned to the vendor. The date of receipt, source, lot number, expiration, assigned lab ID number, and person receiving it will be recorded in a standards logbook maintained within the Quality Assurance department. The lab ID number and the expiration date will be recorded on the standard container.

All working standards will be traceable to the neat standards by documenting the neat ID number in the standard preparation logbook. Additionally, the logbook will include the preparation date, amount of neat standard used, final volume, concentration of each compound used, solvent used, expiration date, and preparer. The working standard will be given a lab ID number which is entered on the container label along with the standard name, date prepared, preparer, and expiration date.

Organic standards will be stored in dedicated freezer/refrigerators maintained at -10°C to -20°C for volatile standards and 4° ± 2°C for all others. Refrigerator temperatures will be monitored and documented in a logbook daily. Metals standards will be kept at room temperature.

9.4 Sample Bottles -

Each lot of sample bottles purchased will have a certificate of analysis which is logged in a binder and maintained in Sample Control. Sample bottles will meet EPA specifications and will not be reused.

9.5 Glassware Cleaning -

Glassware cleaning procedures are documented in SOP #13.03. All glassware will be washed with phosphate-free detergent and stored in a closed, contaminant-free area.

9.5.1 Volatile Organic Glassware will be scrubbed in detergent and hot water. It will be rinsed thoroughly with hot tap water, then three times with DI water. The glassware will be oven dried at 150° C. Syringes and small items will be cleaned by rinsing with methanol.

9.5.2 Extractable Organic Glassware will be rinsed with acetone only if samples left an oily residue or other residue that cannot be cleaned with detergent and water. It will be rinsed with hot tap water, scrubbed with detergent and water, rinsed with hot tap water, then rinsed three times with DI water. It will be oven dried at 150°C. Prior to use, it will be rinsed with the solvent to be used for extraction.

9.5.3 Inorganic Glassware will be rinsed with hot tap water, scrubbed with detergent and hot water, rinsed with hot tap water, then three times with DI water, oven dried at 150°C, and stored. Prior to use, metals glassware will be rinsed with 2% nitric acid.

9.6 Laboratory Water -

Deionized water (ASTM Level II) will be used throughout the laboratory. Milli Q water treatment systems will be used in the volatile organic and metals preparation areas for increased purity.

The quality of water will be monitored routinely against acceptance criteria and will be referenced in an appropriator standard operating procedure. Minimum monitoring will consist of conductivity measurement and analysis of method blanks.

Maintenance of the water system will be performed on an “as needed” basis through monitoring. Logbooks will be maintained for recording all monitoring results and maintenance work performed.

9.7 Subcontracted Laboratory Work -

Only approved laboratories will be used for subcontracted analyses. For certain projects, subcontracted laboratories must be approved by the program

Instructions will be documented on a chain-of-custody that is sent with the samples to the subcontracted laboratory. When the subcontracted work is completed, the report will go through the same review and approval process as is conducted for in-house data evaluation.

9.8 Inventory Tracking -

Inventories of purchased items will be monitored and maintained by the accounting department. Each department will be responsible for maintaining an adequate inventory.

10.0 Laboratory Procedures and Reviews

10.1 Standard Operating Procedures (SOPs) -

The process for the preparation, review, approval, issuance, and revision of these documents is contained in STL San Francisco SOP #1.00. All SOPs will be assigned a unique number, revision date, and title. Prior to issuance, the document will be reviewed and approved by the Laboratory Director, Technical Reviewer, and Quality Assurance Department. The reviewers will verify that the following criteria are met:

- The procedure conforms with the department and laboratory process.
- Regulatory requirements are met.
- Client requirements are met.

Final approval requires the date and signatures of the Technical Reviewer, Laboratory Director, and Quality Assurance.

10.2 Method Performance Policy

Method performance data will be determined before each method is used in the laboratory and will be completed within thirty working days (However, some methods may require a longer period.). The Quality Assurance Department will be notified if a new method is to be implemented to STL-San Francisco's list of analyses. The Quality Assurance Department will recommend appropriate procedures to be evaluated by the Laboratory Director. Following evaluation, an SOP based on approved methods, such as EPA, will be drafted and sent in for review by the QA Department. If the draft SOP is in order, the analyst will be trained. The performance evaluation will proceed in the laboratory.

Initially, the analyst will generate a calibration curve for the analytes of interest. The concentration levels of the calibration standards will demonstrate the ability to meet the method detection limit (MDL). Furthermore, a second source standard will be analyzed to verify the standard used for calibration. If the calibration curve meets method requirements, an MDL study will then be carried out in accordance with SOP #12.03.01. Precision and accuracy studies will be run in accordance with SOP #12.03.03, followed by a performance sample, if applicable. Once the studies have been completed with all the data compiled and accepted, all summary results with supporting raw data will be submitted to QA for final review and approval. Only following approval by QA will the new method be considered acceptable, ready for analysis of samples, and will be submitted for certification/validation from certifying agencies, if applicable.

10.3 Data Review -

Data review involves the checking of data quality and documentation. It also requires dated and signed entries on worksheets and logs used for samples, use of sample numbering systems to track samples through the process, and the use of quality control criteria to accept or reject specific data. All data are reviewed, signed, and dated by the analyst and a qualified chemist prior to issuing a final report. Data review procedures are discussed in SOPs #11.02 & 11.03. Additionally, Level III & IV data packages are reviewed, signed, and dated by the Project Manager and the Quality Assurance Department.

Non-compliance issues will be returned to the applicable department analyst where appropriate action will be taken. Changes will be marked-through with one line, initialed, and dated.

10.4 Computerized Data -

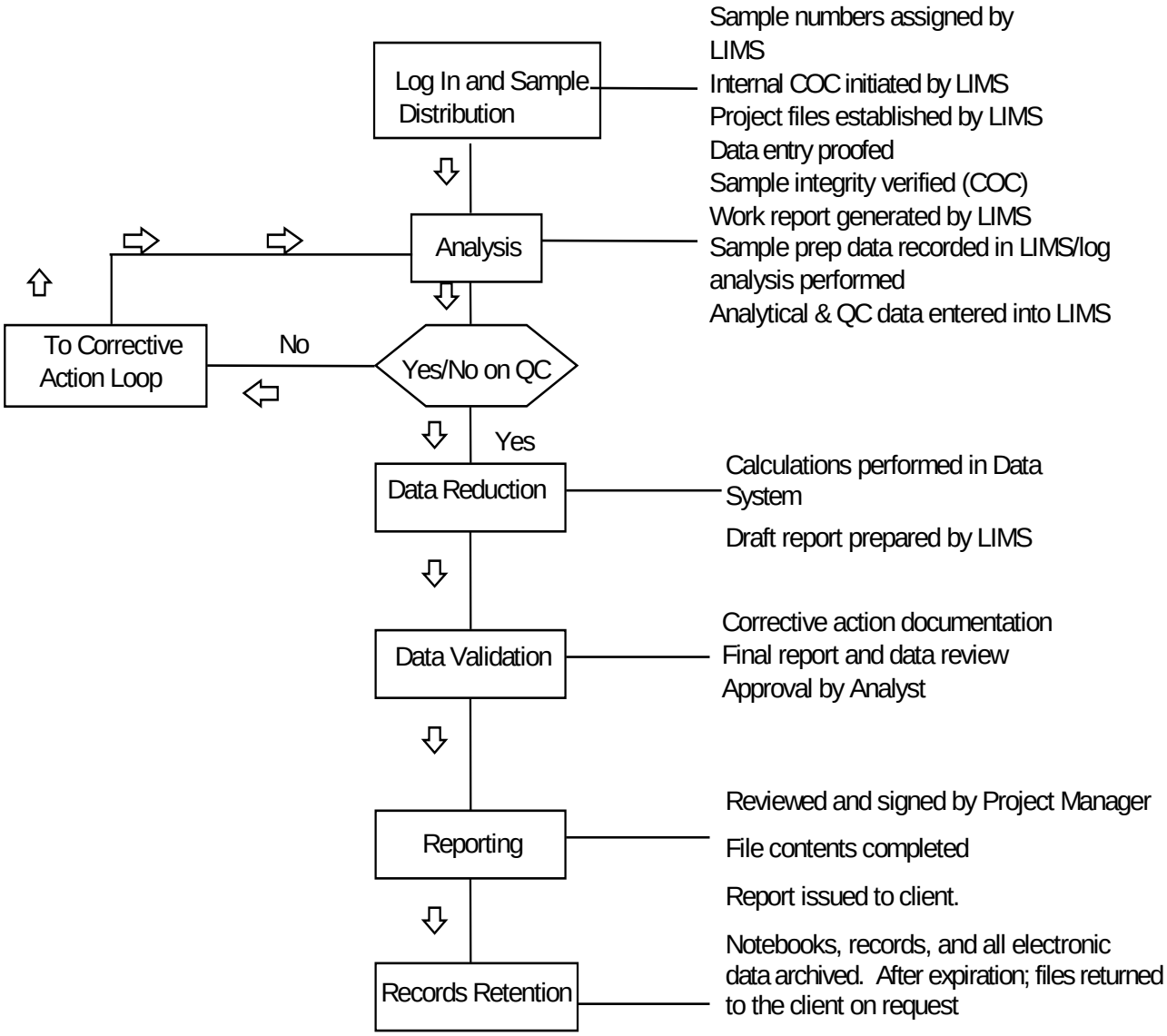
Computerized data collection and handling systems used by STL San Francisco will assure that each data entry and file is uniquely identified so that data can be reliably stored and retrieved without loss. In addition, all data files will be supported by hard copies.

It is the responsibility of the Laboratory Director to ensure that computer personnel are sufficiently trained in order to prevent data corruption, that computer software is validated, and that levels of security clearance for software access are implemented.

It is the responsibility of the Quality Assurance Department to assure that processes are being implemented and upheld through laboratory system audits.

Figure 10-1

STL SAN FRANCISCO DATA FLOW CHART



11.0 Laboratory Audits

Audits measure the laboratory's quality performance, determine the effectiveness of the implemented quality system elements in meeting specified quality objectives, and ensure compliance with the various certification programs.

Audit assessment serves as a management tool by providing important information to ensure that collected data are defensible. Overall, audits lend to the continuous improvement and dynamics of the Laboratory's Quality System.

The laboratory undergoes and is subjected to **Internal** (System, Data, and Special) and **External** audit process.

11.1 Internal Audits

11.1.1 Systems Audits

Systems audits are technical by nature and are used to verify by examination and evaluations of objective evidence, that applicable elements of the quality system have been developed, documented, and effectively implemented in accordance and in conjunction with the requirements specified within this QA manual.

Systems audits are conducted on an ongoing basis. Audits for each department, both operational and support, shall be performed not less than annually.

Upon completion of the audit, the QA Manager will issue an audit report addressed to the Team Leader of the audited department within 21 working days. A copy of the report is sent to the Lab Director.

Written audit responses are required within 21 calendar days of audit report issue. The audit response follows the format of the audit report, and corrective actions and time frames for their implementation are included for each deficiency. The audit response is directed to all individuals copied on the audit report. Where a corrective action requires longer than 21 days to complete, the target date for the corrective action implementation is stated and evidence of the corrective action is submitted to the QA Department in the agreed upon time frame. Closure of the audit is verified by QA.

11.1.2 Data Audits

Data audits are focussed to assess the level of customer service, method compliance, regulatory compliance, accuracy and completeness of test results and reports, documentation, and adherence to established QC criteria, laboratory SOPs, technical policy, and project specific QC criteria.

A data auditing frequency target of 10% has been established. Level III and IV data packages are subjected to 100% QA review. The QA Department provides feedback and/or corrections and revisions to project reports where necessary. Data audits must include electronic reproducibility of selected raw data (e.g., reproducing area at selected retention time); LIMS data entry review; adherence to graphic edit or manual integration policy; approach to the analytical sequence conforms to guidance and SOP; verify demonstration of secondary and peer review, and confirm that Project specific requirement have been met.

Records of the data audits shall be kept, and the frequency of data audits shall be included in the monthly QA report. In performing data audits, it is essential that data be assessed in terms of differentiating between systematic and isolated errors. Upon noting anomalous data or occurrences in the data audits, the QA Department is responsible for seeking clarification from the appropriate personnel, ascertaining whether the error is systematic or an isolated error, and overseeing correction and/or revision of the project report if necessary. Errors found in client project reports are revised and the revision sent to the client. The QA Department is also responsible for assisting in the corrective action process where a data audit leads to identification of the need for permanent corrective action.

11.1.3 Special Audits

Special audits are conducted on an as needed basis, generally as a follow up to specific issues such as client complaints or data concerns, corrective actions, proficiency testing results, data audits, systems audits, validation comments, or regulatory audits. Special audits are focussed on a specific issue. Report format, distribution, and timeframes are designed to address the nature of the issue. Audits of this nature may also serve to accelerate or augment personnel training.

11.2 External Audits

STL San Francisco is routinely audited by clients and external regulatory authorities. The lab is available for these audits and makes every effort to provide the auditors with the personnel, documentation, and assistance required by the auditors. The auditing agency will arrange on-site schedules, and set timeframes for the laboratory's response to findings

or comments. STL San Francisco recommends that the audits be scheduled with the QA Department so that all necessary personnel are available on the day of the audit.

12.0 Records Management

Accurate records on a project are essential for current and historical purposes and must meet regulatory and liability issues. STL San Francisco's documents are retained and stored in such a manner that meets client, project, and legal requirements. To demonstrate that quality has been achieved, STL San Francisco will maintain a records management system that includes documents that are specific to a project or a group of samples within an ongoing project and those that demonstrate overall laboratory operations. The records management system implemented will provide data that is secure, complete, and easily retrievable. All laboratory records from the time of sample receipt through reporting and disposal of samples will be available and stored in a manner that safeguards their integrity from tampering or physical damage or loss. All documentation that is associated with a given project will be available for review by STL San Francisco and its clients. This documentation includes associated operational and project specific data generated by the laboratory.

12.1 Current Records -

The laboratory will assign a Document Controller responsible for the records management system. This individual will initiate new project files, update files as necessary with additional information, and assist laboratory personnel in withdrawing and returning records. To maintain control of these records within the laboratory, an "archival request" file will be maintained. This file will contain at a minimum the project file check-out, file designation, date check-out, person borrowing records, and date returned to files. Retention of records will be in accordance with contract or appropriate regulatory requirements.

12.2 Laboratory Logbooks -

The Quality Assurance Department shall issue a control number for every laboratory notebook, log, and working record used by the laboratory and maintain a record of the use and archival of such documents. These documents include instrument logs, calibration logs, refrigerator temperature logs, deionized water logs, instrument maintenance logs, extraction and run logs, and standard logs.

In most cases, laboratory logbooks will be bound and given a control number upon disbursement. Each page will be numbered. When these logs are completely filled and no longer used, they will be returned to and archived by the Quality Assurance Department.

12.3 Telephone Logbooks -

Telephone logbooks will be dispersed to those employees who have contact with project management, such as Project Managers, Laboratory Director, Quality Assurance Department, and Business Development. Notebooks will be bound and given a control number upon disbursement. Each page will be numbered. When these logs are completely filled and no longer used, they will be returned to and archived by the Quality Assurance Department.

12.4 Records Storage -

12.4.1 All **analytical records** will be kept for at least **five years**. They will be kept in files in the work area as long as they are actively used, after which they will be stored in secure central storage. Electronic results of chromatograms and test results in LIMS will be archived and stored in the computer room.

12.4.2 Client's reports and project files will be stored for at least **five years**. They will be kept by Client name in secured central office files for one year, and then in secure central storage. They will be disposed of in a confidential manner. Prior to disposal of records, key clients will be contacted and given the option of transferring the records to their possession.

12.4.3 All **Quality Assurance records** will be stored in the Quality Assurance Department. Documents detailing custody of instrument logbooks and bench sheets, QA Manuals, and the like will be stored with the Quality Assurance Department.

12.4.4 Accounting documents will be retained for five years. Ledgers will be kept both in hard copy and in electronic format. Accounting records will be held in a separate storage area reserved for the Accounting Department.

Retention periods, type of archival, location, and responsible party of all records are listed on the "Document Storage" (Table IV, page 12-3).

Table IV
Document Storage

	Hardcopy Records		Electronic Records		
	Retention Period	**Location**	**Retention Period**	**Medium**	**Location**
Laboratory Reports					
Chromatograms	5 Years	Central Storage	5 Years	Optical Disk	Computer room
Chemists' Bench Sheets	5 Years	Central Storage			
Chemists' Lab Notebooks	5 Years	Central Storage			
Instruction & Run Logs	5 Years	Central Storage			
Sample Control					
Technician Sample Requests	6 Months	Sample Control			
Internal Sample Logs	5 Years	Central Storage			
Job check Review Forms	2 Months	Project Manager			
Clients' Reports & Project Files					
Reports	5 Years	Central Storage	5Years/LIMS	Optical Disk	Computer Room
Project Records	5 Years	Central Storage	5 Years/MS Word & WP	Floppy Disk	Record file
Electronic Deliverables			5 Years/Military	Floppy Disk	
			5 Years/Commercial	Floppy disk	Network Backups
Chains of Custody	5 Years	Central Storage			
QA Records					
Bench Sheet Check Out Log	5 Years	Central Storage			
QA Manual Check Out Log	5 Years	Central Storage			
QA Charts	5 Years	Central Storage			
SOPs-All Revisions	5 Years	Central Storage			
Accounting					
Payroll	5 Years	Accounting Storage	7 Years	Floppy Disk	Accounting Department
Checks, Receipts	5 Years	Accounting Storage	7 Years	Floppy Disk	Accounting Department
Invoices	5 Years	Accounting Storage	7 Years	Floppy Disk	Accounting Department
Ledgers	5 Years	Accounting Storage	7 Years	Floppy Disk	Accounting Department
Human Resources					
Personnel Files	7 Years	Human Resources			
Building Key/Security code Log	7 Years	Human Resources			

References

The following references were used in preparation of this document and as the basis of the STL San Francisco Quality System:

California Code of Regulations, Title 22, Div. 4, Article 8, “Quality Assurance Documents”, Section 64815.

Code of Federal Regulations, "Test Procedures for Analysis of Organic Pollutants", 40 CFR Section 136, Appendix A, B, C, July 1996 edition: Organics in water EPA Methods 608, 624, 625, and 200.7.

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Good Automated Laboratory Practices, EPA 2185, 1995.

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Leaking Underground Fuel Tank (LUFT) Manual, State of California Water Resources Control Board, August, 1990: Organics, TPH by gas chromatography, and toxics in soil and groundwater.

Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water, USEPA EMSL, Cincinnati, OH, September, 1986: Organics in water (drinking water).

Methods of Chemical Analysis of Water and Waste, EPA - 600/4-79-020, USEPA EMSL, Cincinnati, OH, Revised, March 1983, including Method 300.0, EPA-600/4-84-017, March 1984: Metals in water, inorganic parameters, oil and grease, and petroleum hydrocarbons.

Navy Installation Restoration Laboratory Quality Assurance Guide, Interim Guidance Document, Naval Facilities Engineering Service Center, February 1996.

Navy Installation Restoration Chemical Data Quality Manual, Navy IR CDQM, June 1998.

Shell for Analytical Chemistry Requirements, US Army Corps of Engineers, December 1998.

STL Quality Management Plan, M-Q-001, Revision 4, January 24, 2001.

Standard Methods for Examination of Water and Wastewater, 18th edition, American Public Health Association, 1992: Pesticides, wet chemistry, and petroleum hydrocarbons in waters, soils, and sludges.

Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, USEPA OSW, Washington, D.C., November, 1986, including Update III, December 1996: Metals and organics in soils and mobility extracts; metals and organics in groundwater for RCRA compliance; hazardous material characterization.

Test Methods for Evaluating Solid Waste, “Quality Control”, SW-846, Chapter 1, Revision 1, July 1992.

Personnel

ERIC T. TAM

Education: **Bachelor of Science in Chemistry, May 1985**
University of California, Berkeley

Professional Experience:

11/87-present **Laboratory Director, STL San Francisco, Pleasanton, CA**
Responsible for overall management and direction of the laboratory operation. Includes hiring and managing chemists to carry out chemical analysis of environmental samples. Overseeing Chemists perform analysis using gas chromatographs, mass spectrometer, ICP, and other sophisticated techniques. Counsel chemists in developing methods used in the laboratory, trouble-shooting and maintaining instrument and preparing final reports to clients. Together with the Quality Assurance Department, responsible for obtaining and maintaining laboratory certifications and approvals.

11/85-11/87 **Senior Chemist, Anresco, Inc., San Francisco, CA**
Responsible for the day-to-day operation of the gas chromatography section of the laboratory. Duties include carrying out chemical analysis of environmental samples and food products using gas chromatograph and other instruments, supervising, developing new procedures to fit the needs of clients, etc.

8/85-11/85 **Chemist I, Anatec Laboratory, Santa Rosa, CA**
Responsible for carrying out routine wet chemistry procedures for environmental samples, analyzing soil gas samples using gas chromatograph, preparing and testing gas bombs, analyzing air samples for radon, running bacterial studies of water samples, etc.

DENNIS MAYUGBA

Education: **B.A. Biology, University of the Pacific, Stockton, CA**
Two year graduate course work in Biology, U.O.P.

Professional Experience:

6/95-present **Quality Assurance Manager, STL San Francisco, Pleasanton, CA**
Design and manage the implementation and maintenance of the laboratory's Quality Assurance Program. Semivolatiles GC and HPLC chemist II.

8/91-4/95 **Quality Assurance/Semivolatiles Chemist, Roy F. Weston, Inc.**
QA/QC practices includes data review and validation of organic and inorganic analysis: AFCEE; USACE; NEESA and CLP. Employee orientation and training, coordination of Performance Evaluation Studies, State Certification requirements, internal auditing of lab units, corrective action implementation, preparation of annual QA/QC reports, SOP generation and implementation and document control. GC operation and maintenance using FID and ECD detectors, HPLC operation and maintenance.

6/85-6/91 **Adjunct Instructor, University of the Pacific, Stockton, CA**
Designed and instructed Science Programs for Life Long Learning.

8/81-4/85 **Laboratory QA Technician, Diamond Walnut Growers, Stockton, CA**
Responsibilities included microbiological techniques and Wet chemistry analysis.

JILL THOMAS

Education: **B.A. Honors Chemistry, Mills College**
Minor Mathematics

Professional Experience:

11/92-present **Quality Assurance, STL San Francisco, Pleasanton, CA**
Responsible for the control and review of documents, preparation of the QA Manual, coordination of SOP's with Team Leaders. Assist in developing and maintaining laboratory Information Management System. Train and counsel chemists and technicians in techniques necessary to provide quality test results. Together with the QA Manager, obtain and maintain laboratory certifications and approvals.

5/90-11/92 **QA/QC Manager, GTEL Environmental Lab, Concord, CA**
Developed and operated quality assurance program. Trained chemists and technicians in proper analytical technique. Overall responsibility for GTEL's report production and quality. Responsible for obtaining and maintaining certification in thirteen states.

5/89-5/90 **Chemist, GTEL Environmental Lab, Concord, CA**
Performed all inorganic analysis. Trained and supervised chemists in inorganic analysis section.

10/86-5/89 **Chemist, Kennedy-Jenks Labs, San Francisco, CA**
Performed all gas chromatography analysis using EPA methods. Trained and supervised chemists in organics analysis section. Provided QA support for the laboratory.

GARY COOK

Education: **B.A. Chemistry, Dartmouth College, 1971**
M.A. Chemistry, University of Oregon, 1974
M.B.A. Marketing, Cal State University, Hayward, 1981

Professional Experience:

1990-Present **Director, Business Dev., STL San Francisco, Pleasanton, CA**
Responsible for customer accounts, customer satisfaction and the development of ChromaLab's business. Act as Project Manager for accounts.

1988-1990 **Technical Services Manager, Nuclepore Corp, Pleasanton, CA**
Provide technical support for customers, lead customer service department and developed business for specialty filter lines.

1982-1988 **Technical Manager, McKesson Chem. & Water Division, CA**
Lead technical support and research programs to two divisions of McKesson Corp.. Managed technical programs of $2MM/yr., operation programs of $5MM/yr. and capital programs of $1MM/yr..

1978-1982 **Laboratory Manager, Analytical Services, McKesson Corp., Dublin, CA**
Lead analytical service group providing support to $6 billion company, including environmental, product and process analysis. Also provided contract analysis worth $600,000 per year.

1974-1978 **Analytical Chemist, Formost-McKesson and Shaklee, CA**
Provided chemical analysis to support company operation and contract analysis for clients needing environmental and other testing.

AFSANEH SALIMPOUR

Education: B.S. Environmental Health

Professional Experience:

1998-Present **Project Manager, STL San Francisco, Pleasanton, CA**
Responsible for customer accounts, customer satisfaction and the development of ChromaLab's business.

1992-1998 **Project Manager/Marketing, Superior Precision Analytical**
Served as an interface between client and laboratory. Assisted clients with result interpretation. Advised chemists regarding data delivery requirements for their projects. Reviewed data packages and certifies analysis for accuracy. Provided sales staff with technical support.

1989-1992 **Senior Chemist, Superior Precision Analytical**
Responsible for managing the organic section of the environmental laboratory. Duties included; sampling management, tracking from sample log-in through reporting of results and utilizing computer based systems. Performed Gas Chromatography analysis of both soil and water in accordance with SWA methods. Performed maintenance and trouble shooting of analytical instrumentation including instrument set up. Interpreted reduction and data validation of chromatographs. Interacted and followed up with clients to alleviate and resolve potential problems. Supervised and trained new chemists.

1985-1989 **Chemist, Engineering Science, Inc.**
Duties included utilizing gas chromatography in determining presence of PCB, pesticides, aromatic and halogenated hydrocarbon in environmental water and soil samples. GC maintenance and trouble shooting, data entry and analysis using personal computers.

SURINDER SIDHU

Education: **M.S. Botany Major, Biochemistry Minor**
B.S. Chemistry

Professional Experience:

1995-Present **Project Manager, STL San Francisco, Pleasanton, CA**
Responsible for customer accounts, customer satisfaction, and the development of ChromaLab's business.

1991-1995 **Organic Lab Supervisor, Precision Analytical Laboratory**
Analysis for Volatiles and Semi-volatiles by GC/MS.
Supervised laboratory staff, result interpretation and trouble shooting in GC and GC/MS. Helped clients with technical questions on all analysis. Trained all new chemists in the lab. Responsible for QA/QC for laboratory data and graphs.

1987-1991 **Senior Organic Chemist, Clayton Environmental Consultants**
Analyzed hazardous waste on routine basis using EPA method for volatile and semi-volatile by mass spectra. Method validation studies for EPA mass spectra and gas chromatography.

1985-1987 **Senior Chemist, International Technology Corporation**
Analyzed hazardous waste by gas chromatography using EPA methods 601 through 613. Involved at various steps of plant treatment trouble shooting processes, reaction mechanism, rate reaction and allied kinetics. Analyzed hazardous waste using classical wet chemistry methods. Metals by ICP and AA. Instrumental experience on gas chromatography, deonex anion separation UV and IR spectrophotometer.

VINCENT VANCIL

Education: Los Positas College, Livermore, CA

Professional Experience:

1999-Present **Project Manager, STL San Francisco, Pleasanton, CA**
Responsible for customer accounts, customer satisfaction and the development of ChromaLab's business.

1995-1999 **Analyst, STL San Francisco (formerly ChromaLab, Inc.), Pleasanton, CA**
Responsible for extracting, loading and data reduction for in the Gas/BTEX department. Maintained equipment and coordinated the workload in for Gas/BTEX making sure that the results were on time and accurate.
Trained and showed proficiency in analyzing PCB's and Pesticides.

DANIEL WOODHAMS

Education: California State University, Long Beach, CA

Professional Experience:

11/95-Present **MIS Manager, STL San Francisco, Pleasanton, CA**
Responsible for design, purchase, installation, training and maintenance of Novel network and Laboratory Information Management Systems; creation of custom data packages to meet individual client needs.

12/88-10/95 **Corp. Manager of Information Systems, Resna Industries**
Managed staff of four direct and ten indirect personnel. Responsible for design, purchase, installation, training and maintenance of Novell based LAN/WAN, VAX cluster based accounting systems and all network and plant security.

6/86-12/88 **Owner, Woodhams Computer Consultants**
Sales, software DBMS developer, post-sale training and maintenance. Serviced client base of 100 plus PC systems. Directed the design team of DBMS software development corporation. Clients included: Hubbell Corporation, Dublin computer Systems, BMW-North America and Space Control Systems.

ZOLTAN ILES

Education: University of Zabrab, Faculty of Geodesy, Zagreb, Croatia, 1991
Data Tech Institute, San Jose, CA

Professional Experience:

02/98-Present **LIMS Specialist, STL San Francisco, Pleasanton, CA**
Responsible for design, programming and maintenance of ChromaLab's Laboratory Information Management System (LIMS). Integrates laboratory instruments into LIMS for direct data downloading.

1993-1998 **IS Manager and Senior Programmer/Analyst, Superior Analytical Laboratory, Inc., Martinez, CA**
Designed, coded, tested and implemented a Laboratory Information Management System (LIMS). Designed and developed a data validation application and transfer protocol for several Gas Chromatograph methods.

1986-1993 **Programmer/Analyst, University of Zagreb, Faculty of Technology, Zagrebg, Croatia**
Performed data analysis and graphical presentation of data for ongoing water pollution monitoring projects for the United Nations pollution monitoring program. Responsible for the design and development of application for controlling small intel8085 based units utilizing PCs and data transfer by modem to a remote computer

Group Team Leaders

Linda Atienza

03/97-Present **Team Lead for Organic Extractions Department, STL San Francisco, Pleasanton, CA**

B.S. Chemistry, University of Santo Tomas, Manila, Phils.
Thirteen years experience in the environmental field.

John Labash

07/94-Present **Team Lead for Metals, Classic Chemistry, and Sample Control Departments, STL San Francisco, Pleasanton, CA**

B.S. Wildlife Biology and Environmental Chemistry, Juniata College, Huntingdon, PA
Seventeen years experience as supervisor and analytical chemist focused on metals. Experience in running ICP, GC, FAA and CVAAS. Experience also includes scheduling work flow, supervising and training chemists and technicians, implementing QA/QC procedures, maintaining and troubling shooting instruments.

Michael Lee

12/95-Present **Team Lead for Semi-volatile Department, STL San Francisco, Pleasanton, CA**

B.S. Chemistry, Glassborn State, Glassborn, NJ
Ten years of laboratory experience with IT Corporation and GTEL. Responsibilities included wet chemistry techniques and general supervision of activities for the GC/MS group. Responsibilities included maintenance, method modifications and trouble shooting in the Volatile and Semi-volatile labs.

Group Team Leaders (continued)

Alex Tam

07/89-Present **Team Lead for Volatile Department, STL San Francisco, Pleasanton, CA**

B.S. Chemistry, San Jose State University, San Jose, CA
Twelve years analytical experience with ChromaLab, Inc., including EPA methods 8015, 8020, 8080, 8240, 8260 and 8270.

Glossary

Acceptance Limits – Limits of acceptable performance based on statistical studies of EPA Performance Evaluation samples.

Accuracy – The degree of agreement between a measurement and true or expected value, or between the average of a number of measurements and the true or expected value.

Action Limit – A control limit on a control chart which, if exceeded, requires corrective action to ve taken. Action limits are usually placed at ±3 standard deviations from the expected or mean value.

Analyte – A component measured in a chemical analysis.

Assignable Cause – An event believed to have caused a change in precision or accuracy in a measurement process.

Audit - A systematic evaluation to determine the conformance to specifications of an operational function or activity.

Batch - Environmental samples, which are prepared and/or analyzed together with the same process, using the same lot(s) of reagents. A **preparation batch** is composed of one to 20 environmental samples of a similar matrix, meeting the above mentioned criteria. Where no preparation method exists (example, volatile organics, water) the batch is defined as environmental samples that are analyzed together with the same process and personnel, using the same lots of reagents, not to exceed 20 environmental samples. An **analytical batch** is composed of prepared environmental samples, extracts, digestates or concentrates that are analyzed together as a group. An **analytical batch** can include prepared samples originating from various environmental matrices and can exceed 20 samples.

Blank – Organic or aqueous solution, free of analytes under analysis.

Blind Sample – A proficiency sample submitted for analysis which has known values to the person submitting the sample, but unknown to the analyst. For internal continued proficiency studies, a blind sample may be purchased from a vendor or prepared internally from a second source standard which contains the analyte(s) of interest for a particular analytical method.

Bias – A systemic error that may occur within a method or that may be caused by an irregularity of the measurement system.

Calibration – Comparison of a measurement standard or instrument with another standard or instrument to eliminate by adjustment any variation from the true value.

Calibration Check Sample – A standard, from a source other than that prepared for calibration, and at a concentration midway on the calibration curve.

Certification – A formal evaluation and acceptance of a laboratory with respect to its competence in performing specified analyses.

Chain-of-Custody (COC) – A legal document which identifies samples collected and traces their source, dates, times, relinquishing and receival history and defines all analytical parameters to be measured; an unbroken trail of accountability that ensures the physical security of samples, data and records.

Check Standard – A calibration standard used to evaluate the measurement process of an instrument.

Comparability – Ability to provide analytical data comparable to other agencies and to provide similar data within the same laboratory over a period of time.

Composite Sample – A sample composed of two or more portions, mixed together.

Compromised Sample - A sample received in a condition that jeopardizes the integrity of the results.

Confirmation - Verification of the presence of a component using an additional analytical technique. These may include second column confirmation, alternate wavelength, derivatization, mass spectral interpretation, alternative detectors, or additional cleanup procedures.

Continuing Calibration Blank (CCB) – Organic or aqueous solution, free of analytes under analysis, unprepared, but containing the same volumes and reagents as calibration standards. It is run after the CCV to check the null reading for the calibration curve. The first CCB of a run may be referred to as an Initial Calibration Blank (ICV).

Continuing Calibration Verification (CCV) – A standard, from the same source used to prepare the calibration standard, and at a concentration midway on the calibration curve. The CCV is run to check that the instrument remains calibrated.

Control Chart – A graph plotting time against sequences of measurement results and including control limits. Results are expected to fall within these control limits in order to be statistically in control.

Control Limit – The limits on a control chart which are set by laboratory method studies. Points falling between these limits are considered statistically in control. Two kinds of control limits are usually used: warning limits and action limits.

Control Sample – A sample of known composition that is measured along with test samples in order to evalutate the measurement process.

Corrective Action - Action taken to eliminate the causes of an existing non-conformance, defect or other undesirable situation in order to prevent recurrence.

Data Audit - A qualitative and quantitative evaluation of the documentation and procedures associated with environmental measurements to verify that the resulting data are of acceptable quality.

Demonstration of Capability (DOC) - Procedure to establish the ability to generate acceptable accuracy and precision.

Detection Limit – The minimum concentration an analyte can be detected with confidence.

Document Control - The act of ensuring that documents (electronic or hardcopy and revisions thereto) are proposed, reviewed for accuracy, approved for release by authorized personnel, distributed properly and controlled to ensure use of the correct version at the location where the prescribed activity is performed.

Double Blind Sample – A type of proficiency sample where the analyst is unaware that it is a test sample.

Equipment Blank - A portion of the final rinse water used after decontamination of field equipment; also referred to as Rinsate Blank and Equipment Rinsate.

Field Blank - A blank matrix brought to the field and exposed to field environmental conditions.

Holding Time - The maximum time that a sample may be held before preparation and/or analysis as promulgated by regulation or as specified in a test method.

Instrument Blank - A blank matrix that is the same as the processed sample matrix (i.e. extract, digestate, condensate) and introduced onto the instrument for analysis.

Internal Chain of Custody - An unbroken trail of accountability that ensures the physical security of samples, data and records. Internal Chain of Custody refers to additional documentation procedures implemented within the laboratory that includes special sample storage requirements, and documentation of all signatures and/or initials, dates, and times of personnel handling specific samples or sample aliquots.

Instrument Detection Limit (IDL) - The minimum amount of a substance that can be measured with a specified degree of confidence that the amount is greater than zero using a specific instrument. The IDL is associated with the instrumental portion of a specific method only, and sample preparation steps are not considered in its derivation. The IDL is a statistical estimation at a specified confidence interval of the concentration at which the relative uncertainty is ±100%. The IDL represents a range where qualitative detection occurs on a specific instrument. Quantitative results are not produced in this range.

Laboratory Control Sample (LCS) - A blank matrix spiked with a known amount of analyte(s), processed simultaneously with, and under the same conditions as, samples through all steps of the analytical procedure.

Laboratory Control Sample Duplicate (LCSD) – A replicate LCS.

Laboratory Quality Manual (LQM) - A document stating the quality policy, quality system and quality practices of the laboratory. The LQM may include by reference other documentation relating to the laboratory's quality system.

Limit of Detection (LOD) - The minimum amount of a substance that an analytical process can reliably detect.

Matrix - The substrate of a test sample.

Matrix Duplicate (MD) - Duplicate aliquot of a sample processed and analyzed independently; under the same laboratory conditions; also referred to as Sample Duplicate; Laboratory Duplicate.

Matrix Spike (MS) – A sample that is prepared along with its batch, but is spiked with a known amount of analytes from a stock solution before extraction and analysis.

Matrix Spike Duplicate (MSD) – A replicate MS.

Method – A description of sequential measurement procedures.

Method Blank – Organic or aqueous solution, free of analytes under analysis, that is processed simultaneously with, and under the same conditions as, samples through all steps of the analytical procedure.

Method Detection Limit (MDL) - The minimum amount of a substance that can be measured with a specified degree of confidence that the amount is greater than zero using a specific measurement system. The MDL is a statistical estimation at a specified confidence interval of the concentration at which the relative uncertainty is ±100%. The MDL represents a range where qualitative detection occurs using a specific method. Quantitative results are not produced in this range.

Non-conformance - An indication, judgement, or state of not having met the requirements of the relevant specifications, contract, or regulation.

Outlier – A data point that is not representative of the data set. It falls outside the control limits.

Performance Audit – A proficiency evaluation of an analyst or laboratory by assessing the results of known test-sample results.

Performance Evaluation (PE) Samples – A sample, the composition of which is unknown to the analyst and which has known values to the person or agency submitting the sample, submitted for analysis to test whether the analyst/laboratory can produce analytical results within specified performance limits. Also referred to as Proficiency Test (PT) Sample.

Precision – Agreement of replicate results, such as sample duplicates or spike duplicates. Precision will be expressed as percent relative standard deviation (RSD) or relative percent difference (RPD).

Preservation - Refrigeration and/or reagents added at the time of sample collection to maintain the chemical, physical and/or biological integrity of the sample.

Procedure – A set of systematic instructions for using a method of measurement or sampling.

Proficiency Testing - Determination of the laboratory calibration or testing performance by means of inter-laboratory comparisons.

Proprietary - Belonging to a private person or company.

Quality Assurance – A system consisting of quality assessment and quality control with the purpose of providing the assurance that defined standards of quality are met.

Quality Assurance Project Plan (QAPP) - A formal document describing the detailed quality control procedures by which the quality requirements defined for the data and decisions pertaining to a specific project are to be achieved.

Quality Control (QC) - The overall system of technical activities, the purpose of which is to measure and control the quality of a product or service.

Quality Control Sample - A control sample, generated at the laboratory or in the field, or obtained from an independent source, used to monitor a specific element in the sampling and/or testing process.

Quality Management Plan (QMP) - A formal document describing the management policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an agency, organization or laboratory to ensure the quality of its product and the utility of the product to its users.

Quality System - A structured and documented management system describing the policies, objectives, principles, organizational authority, responsibilities, accountability, and implementation plan of an organization for ensuring quality in its work processes, products (items), and services. The quality system provides the framework for planning, implementing, and assessing work performed by the organization and for carrying out required QA/QC.

Quantitation Limit (QL) - The minimum amount of a substance that can be quantitatively measured with a specified degree of confidence and within the accuracy and precision guidelines of a specific measurement system. The QL can be based on the MDL, and is generally calculated as 3-5 times the MDL, however, there are analytical techniques and methods where this relationship is not applicable. Also referred to as Practical Quantitation Level (PQL), Estimated Quantitation Level (EQL), Limit of Quantitation (LOQ).

Raw Data - Any original information from a measurement activity or study recorded in laboratory notebooks, worksheets, records, memoranda, notes, or exact copies thereof and that are necessary for the reconstruction and evaluation of the report of the activity or study. Raw data may include photography, microfilm or microfiche copies, computer printouts, magnetic/optical media, including dictated observations, and recorded data from automated instruments. Reports specifying inclusion of “raw data” do not need all of the above included, but sufficient information to create the reported data.

Record Retention - The systematic collection, indexing and storing of documented information under secure conditions.

Reference Standard - A standard, generally of the highest metrological quality available at a given location, from which measurements made at that location are derived.

Relative Standard Deviation – The coefficient of variation expressed as a percentage.

Replicate – Two or more identical samples or measurements.

Reporting Limit (RL) - The level to which data is reported for a specific test method and/or sample. The RL is generally related to the QL. The RL must be minimally at or above the MDL.

Representativeness – Ability to provide data which is representative of the sampled medium.

Selectivity - The capability of a measurement system to respond to a target substance or constituent.

Sensitivity - The difference in the amount or concentration of a substance that corresponds to the smallest difference in a response in a measurement system using a certain probability level.

Significant figure(s) – Figure(s) that remains to a number or decimal after the ciphers to the right or left are canceled.

Spike - A known amount of an analyte added to a blank, sample or sub-sample.

Standard – A solution or substance prepared by an analyst to establish a calibration curve or analytical response function of the instrument.

Standard Operating Procedure – A procedure developed for repetitive use when performing a specific measurement of sampling operation.

Storage Blank - A blank matrix stored with field samples of a similar matrix.

Subsample – A representative portion taken from a sample.

Surrogate – Organic compounds similar to compounds being analyzed. Used in GC and GC/MS analyses for spiking.

Systems Audit - A thorough, systematic, on-site, qualitative review of the facilities, equipment, personnel, training, procedures, record keeping, data validation, data management, and reporting aspects of a total measurement system.

Test Method – A defined technical procedure for performing a test.

Traceability - The property of a result of a measurement that can be related to appropriate international or national standards through an unbroken chain of comparisons.

Trip Blank - A blank matrix placed in a sealed container at the laboratory that is shipped, held unopened in the field, and returned to the laboratory in the shipping container with the field samples.

Verification - Confirmation by examination and provision of evidence against specified requirements.

Warning Limits – A control limit on a control chart, usually ± 2 standard deviations from the expected or mean value. Action is required when results fall outside the warning limits too frequently. A single value outside a warning limit does not necessarily require action, but should alert one to a possible problem.

STANDARD OPERATING PROCEDURES INDEX NUMBERING SYSTEM

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3.03.01	METALS STANDARDS & SOLUTION EXPIRATION POLICY	QA PLAN
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4.08	PCBS - OIL	EPA 3580A
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7.00	**EXTRACTABLE ORGANICS ANALYTICAL PROCEDURES**	
7.01	DIESEL & EXTRACTABLE HYDROCARBONS	EPA 8015 M
7.02	ORGANOCHLORINE PESTICIDES & PCBS	40 CFR, Pt 136, App A, 608
7.03	ORGANOCHLORINE PESTICIDES	EPA 8081A
7.04	PCBs	EPA 8082
7.05	SEMI-VOLATILE ORGANICS	40 CFR, Pt 136, App A, 625
7.06	SEMI-VOLATILE ORGANICS	EPA 8270C
7.05-O	POLYNUCLEAR AROMATIC HYDROCARBONS	EPA 8310
7.06-O	NITROAROMATICS & NITROAMINES	EPA 8330
7.07	ALCOHOLS & GLYCOL	EPA 8015A mod

STANDARD OPERATING PROCEDURES INDEX NUMBERING SYSTEM

CHAPTER	TITLE	METHOD
8.00	**METALS ANALYTICAL PROCEDURES**	
8.01	MERCURY - LIQUID	EPA 7470A
8.02	MERCURY - SOLIDS	EPA 7471A
8.03	NIOSH 7300-AIR	NIOSH 7082
8.04	HEXAVALENT CHROMIUM	EPA 7196A
8.05	METALS BY ICP	40 CFR 136, APP.C
8.06	METALS BY ICP	EPA 6010B
8.07	TOTAL METALS BY GFAA	EPA 7000
8.08	TOTAL METALS BY GFAA	SM 3113B
9.00	**AIR ANALYTICAL PROCEDURES**	CARB 410,NIOSH 7300, EPA 8260,8010,8020
10.00	**INSTRUMENT CALIBRATION & OPERATING PROCEDURES**	
10.01	OPERATION OF OPTIMA 3000XL	PE OPERATING MANUAL
10.02	MERCURY ANALYZER	PE OPERATING MANUAL
10.03	AAS PE5100	PE OPERATING MANUAL
11.00	**DATA HANDLING AND VALIDATION**	
11.01	DATA CHECK	QA PLAN
11.02	INORGANIC DATA REVIEW	QA PLAN
11.03	ORGANIC DATA REVIEW & ARCHIVAL PROCEDURES	QA PLAN
12.00	**QA PROCEDURES**	
12.01	CORRECTIVE ACTION	QA PLAN
12.02.01	1 STATISTICAL CONTROL LIMITS	EPA SW846,CH4
12.02.02	2 CONTROL CHARTS	EPA SW846,CH4
12.03.01	MDLS	EPA SW846
12.03.02	IDLS	EPA SW846
12.03.03	PRECISION/ACCURACY STUDIES	EPA SW846
12.03.04	MDL/IDL/RL TRACKING & IMPLEMENTATION	EPA SW846
12.04	PERFORMING MANUAL INTEGRATIONS	QA PLAN
12.05	PERFORMING TIME AND DATE CHANGES ON INSTRUMENTATION	CHROMALAB POLICY
12.06	CONTROL SAMPLE NOMENCLATURE	QA MANUAL
12.07	VALIDATION OF INITIAL & CONTINUING CALIBRATION DATA	EPA SW846
12.08	CRITERIA FOR METHOD BLANK ACCEPTANCE	EPA, SW846
12.09	INTERNAL CUSTODY OF EXTRACTS & DIGESTATES	QA MANUAL
12.10	NON-CONFORMANCE CONTROL	QA MANUAL
12.11	INTERNAL AUDITS	QA MANUAL
12.12.01	PERFORMANCE SAMPLES,ANALYSIS OF	QA MANUAL
12.12.02	INITIAL AND CONTINUED PROFICIENCY TRNG'	QA MANUAL
12.13	DOCUMENT CONTROL	QA MANUAL
12.14	SURVEILLANCES	QA MANUAL
12.15	RETENTION TIME WINDOWS	EPA 8000B
12.16	SELECTION OF CALIBRATION POINTS	QA PLAN
13.00	**GENERAL PROCEDURES**	

STANDARD OPERATING PROCEDURES INDEX NUMBERING SYSTEM

CHAPTER	TITLE	METHOD
13.01	REFRIGERATOR BLANK DOCUMENTATION	QA MANUAL
13.02	TEMPERATURE BLANK	QA MANUAL
13.03	GLASSWARE CLEANING	QA MANUAL
13.04	SAMPLE CONTAINER DOCUMENTATION	QA MANUAL
13.05	CALIBRATION OF BALANCES	QA MANUAL
13.06	REFRIGERATOR TEMPERATURE DOCUMENTATION	QA MANUAL
13.07	CRITERIA FOR DILUTIONS	CHROMALAB POLICY
13.08.01	PIPETTE CALIBRATION	CHROMALAB POLICY
13.08.02	PIPETTE USE	CHROMALAB POLICY
13.09	OPERATION OF DIGITAL THERMOMETER	IR OPERATING MANUAL
13.10	INSTRUCTIONS FOR CALIBRATING LABORATORY THEMOMETERS	QA MANUAL
14.00	**INSTRUMENT MAINTENANCE**	
14.01	PREVENTATIVE MAINTENANCE	QA MANUAL
14.02	MAINTENANCE LOG	QA MANUAL
15.00	**INFORMATION SYSTEMS**	
16.00	**REPORTING**	
17.00	**TRAINING**	QA MANUAL
18.00	**SAFETY**	H&S MAN'L,OSHA/NEPA

APPENDIX C
ADMINISTRATIVE RECORD

ADMINISTRATIVE RECORD

Agency for Toxic Substances and Disease Registry (ATSDR). .Toxicological profile for 1,3-Dichloropropene. U.S Department of Health and Human Services. February 1991.

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Bay Area Air Quality Management District (BAAQMD). 1996. "Meteorological Monitoring Guidance." *Manual of Procedures*. Volume IV. Appendix A. May.

California Code of Regulations, Title 22, Division 4.5 Environmental Health Standards for the Management of Hazardous Waste

California Code of Regulations, Title 8, Section 1532.1

California Environmental Quality Act (CEQA), Public Resources Code, Division 13, Section 21000, et seq

California Hazardous Waste Control Law, California Health and Safety Code, Division 20, Chapters 6.5 and 6.8.

California Occupational Health and Safety Act, Labor Code, Division 5, Section 6300, et. seq

California Environmental Protection Agency – Department of Toxics Substances Control (DTSC), Interim Guidance for Sampling Agricultural Soils for School Sites (Second Revision), August 26, 2002.

DTSC, Public Participation Policy and Guidance Manual EO-94-002-PP.

DTSC, Remedial Action Plan (RAP) Policy, EO-95-007-PP, December 5, 1995

DTSC, Removal Action Work Plans (RAWP), Memorandum, Barbara Coler, Statewide Cleanup Operations Division, March 14, 1995.

DTSC, Transportation Plan Preparation Guidance for Site Remediation, May 1994

DTSC, Voluntary Cleanup Agreement, California Department of General Services. Department of Toxic Substances Control, May 2003.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986

ENVIRON International Corporation. Phase II - Site Characterization Report University of California Former Bay Area Research and Extension Center (BAREC), 90 North Winchester Boulevard, Santa Clara, California. October 2003.

Jenkins, Sanders & Associates. Background Metal Concentrations in the San Francisco Bay Sediments. 1994.

Lawrence Berkeley National Laboratory. Analysis of Background Distributions of Metals in Soil at Lawrence Berkeley National Laboratory. June 2002.

IT Corporation. Final Removal Action Work Plan. Town and Country Village Shopping Center / Winchester Parcel. San Jose, California. November 1999.

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Scott, Christina. *Background Metal Concentrations in Soils in Northern Santa Clara County California*. University of San Francisco, Masters Thesis 1991

U.S. Code of Federal Regulations, Title 40, Protection of the Environment, Part 300 National Contingency Plan

.

U.S. Environmental Protection Agency, *USEPA Region 9 Preliminary Remediation Goals (PRGs).* October 1, 2002.

U.S. Environmental Protection Agency. 2000. *Meteorological Monitoring Guidance for Regulatory Modeling Applications.* EPA-454/R-99-005. February.

U.S. Environmental Protection Agency, *Guidance on Conducting Non-Time Critical Removal Actions Under CERCLA*, EPA/540-R-93-057, 1993.

U.S. Environmental Protection Agency, *Remediation Technologies Screening Matrix and Reference Guide*. EPA 542-B-93-005, 1993.

U.S. Environmental Protection Agency. 1992. *Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised.* EPA-454/R-92-019. October.

U.S. Environmental Protection Agency, *Risk Assessment Guidance for Superfund, Volume 1, Human Health Evaluation Manual (Part A), Interim Final, EPA/540/1-89/002*, December, 1989.

U.S. Environmental Protection Agency. *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, October, 1988.

U.S. Environmental Protection Agency, EPA Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, SW-846.

APPENDIX D

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) NOTICE OF DETERMINATION

NOTICE OF DETERMINATION

To: Office of Planning and Research
State Clearinghouse
P.O. Box 3044, 1400 Tenth Street, Room 212
Sacramento, CA 95812-3044

From: Department of Toxic Substances Control
Northern California – Coastal Cleanup Branch
700 Heinz Avenue, Suite 200
Berkeley, CA 94710

Subject: FILING OF NOTICE OF DETERMINATION IN COMPLIANCE WITH SECTION 21108 OR 21152 OF THE PUBLIC RESOURCES CODE

Project Title: Removal Action Workplan for the former BAREC site (now Santa Clara Gardens Development Project)

State Clearinghouse No.: SCH# 2003072093

Project Location: 90 North Winchester Blvd., Santa Clara, CA

County: Santa Clara County

Project Description: The Removal Action Workplan (RAW) consists of a removal and off-site disposal of soil contaminated with arsenic and dieldrin to an approved offsite facility. Approximately 6,000 cubic yards of soil will be excavated from an area that is a little over an acre in size. Most excavation will go down to three feet. Excavated areas will be backfilled with clean soil. The RAW was prepared consistent with the Health and Safety Code, Section 25356.1.

As ☐ Lead Agency ☒ a Responsible Agency under the California Environmental Quality Act (CEQA), DTSC approved the above-described project on **[date]** and has made the following determinations:

1. The project ☐ will ☒ will not have a significant effect on the environment.
2. A ☐ Negative Declaration ☐ Mitigated Negative Declaration ☒ Environmental Impact Report was prepared for this project pursuant to the provisions of CEQA.
3. Mitigation measures ☒ were ☐ were not made a condition of project approval.
4. A mitigation reporting or monitoring plan ☒ was ☐ was not adopted for this project.
5. A Statement of Overriding Considerations ☐ was ☒ was not adopted for this project.
6. Findings ☒ were ☐ were not made pursuant to the provisions of CEQA.

This is to certify that the final environmental document, comments and responses, and the record of project approval are available to the public at the following location: [Address] [City], CA [Zip Code].

Virginia Lasky	Hazardous Substances Engineer	510-540-3829
Contact Person Name	Contact Person Title	Phone #
Barbara J Cook		10/19/2007
Branch Chief Signature		Date
Barbara J. Cook, P.E.	Hazardous Substances Engineer Sup. II	510-540-3843
Branch Chief Name	Branch Chief Title	Phone #

TO BE COMPLETED BY OPR ONLY

Date Received For Filing and Posting at OPR:

CALIFORNIA ENVIRONEMNTAL QUALITY ACT
RESPONSIBLE AGENCY
STATEMENT OF FINDINGS

Project Title: Removal Action Workplan for the former BAREC (now Santa Clara Gardens Development Project)

State Clearinghouse Number: SCH 2003072093

Responsible Agency Contact Person: Virginia Lasky, Project Manager

Telephone No.: (510) 540-3829

Project Location: 90 North Winchester Blvd., Santa Clara, Santa Clara County.

Project Description: The Removal Action Workplan (RAW) consists of a removal and off-site disposal of soil contaminated with arsenic and dieldrin to an approved offsite facility. Approximately 6,000 cubic yards of soil will be excavated from an area that is a little over an acre in size. Most excavation will go down to three feet. Excavated areas will be backfilled with clean soil. The RAW was prepared consistent with the Health and Safety Code, Section 25356.1.

Findings:

As a Responsible Agency, DTSC reviewed the following documents prepared by the City of Santa Clara as Lead Agency for the larger redevelopment project to assess impacts as they relate to the project now before DTSC for consideration:

- City of Santa Clara, *Draft Environmental Impact Report (EIR) for the Santa Clara Gardens Development Project.* March 9, 2006 (SCH# 2003072093).
- City of Santa Clara, *Recirculated Draft EIR for the Santa Clara Gardens Development Project.* July 21, 2006.
- City of Santa Clara, Final EIR for the *Santa Clara Gardens Development Project.* March 26, 2007.

Using its independent judgment, DTSC makes the following findings:

1. The above documents a) adequately addressed the proposed impacts of the project now before DTSC for decision; and b) are adequate for use by DTSC for assessing potential impacts of the soil excavation, now before DTSC for approval.

   DTSC concurs with the findings made by the City in the above documents relating to the larger Santa Clara Gardens Development Project. In assessing impacts associated with the development project, the City concluded that approval of the overall development project would have significant unavoidable impacts to Land Use, Transportation and Circulation, and Cumulative Impacts on Air Quality, Transportation and Circulation, and Land Use and Agricultural Resources. As a result, the City adopted a Statement of Overriding Considerations. It should be noted that most of the significant and unavoidable impacts are associated with the larger project which is the development. However, in considering the impacts of the RAW, DTSC concluded the following:

   Land Use: The City finds the conversion of Farmland to Non-Agricultural Use to be a significant impact. There are no feasible mitigation measures available to reduce the project's important farmland impacts. Therefore, this would be a significant and unavoidable impact of the project. However, the DTSC project does not involve any land use decisions and therefore has no impact on agricultural resources.

   Transportation and Circulation: The EIR also found that future development may cause a potentially significant impact on vehicular site access and onsite circulation depending on the design/redesign and approval of project access roadways. This would, however, be mitigated by the following: by adding the project driveway to the existing signalized intersection and restricting the intersection of the west leg of Forest Avenue with Winchester Boulevard to right turns only. Because construction of this improvement requires a permit from the City of San Jose and the City of Santa Clara cannot guarantee that the mitigation measures will be constructed to accommodate project impacts on Winchester Blvd. This would result in significant, unavoidable short-term traffic impacts. However, the DTSC soil remediation project would generate up to 40 one-way truck trips per day. The remediation and development construction trips would not occur simultaneously since all remediation activities would be completed before project

construction and would be using existing roadways. The remediation related trips would be temporary and would not substantially increase existing roadway traffic volumes. This would be a less-than-significant impact.

Cumulative Impacts:

a) Air Quality: EIR has determined that the development project could result in construction-related PM_{10} emissions that would contribute to the continued exceedance of BAAQMD thresholds. This is considered a significant cumulative PM_{10} air quality impect. However, the EIR acknowledged that remediation activities would not contribute to this cumulative impact due to the implementation of dust control measures incorporated into the RAW during remediation activities and the short duration of remediation activities. This would be a less-than-significant impact.

b) Transportation and Circulation: The development project would impact four intersections. Infrastructure improvements have been identified which would reduce these impacts to less than significant levels. However, due to the uncertainty of funding for the improvements, this remains a cumulatively significant and unavoidable impact. For remediation project, due to the limited number of trucks required for the implementation of the DTSC RAW, and it's temporary, short term duration, the DTSC RAW does not contribute to this significant unavoidable impact to Transportation and Circulation. This would be a less-than-significant impact.

c) Land Use and Agricultural Resources: The EIR determined that the conversion of agricultural land by the proposed development would result in a significant and unavoidable cumulative impact. However, the DTSC remediation of contaminated soil would not result in loss of agricultural land and does not involve any land use decisions. This would be a less-than-significant impact.

2. Approval of the RAW will not result in significant effects on the environment. Mitigation measures identified in the EIR for Noise and the Cultural Resources Impacts have been incorporated into the RAW, as appropriate, to reduce impacts to less-than-significant levels. No additional DTSC mitigation measures are necessary to approve the project; and no DTSC monitoring plan is required as otherwise required pursuant to Public Resources Code Section 21081.6.

A Notice of Determination (NOD) indicating the results of said findings will be filed with the State Clearinghouse of the Governor's Office of Planning and Research pursuant to Section 15096(I) of the State CEQA Guidelines.

Certification:

I hereby certify that the statements furnished above present the data and information used to support the findings made herein pursuant to Cal. Code Regs., tit. 14, § 15091 or 15096 (h), and the facts, statements, and in formation presented herein, are true and correct to the best of my knowledge and belief.

Barbara J Cook — 10/19/2007

DTSC Branch Chief Signature — Date

Barbara J. Cook, P.E.	Hazardous Substances Engineer Sup. II	(510) 540-3843
DTSC Branch Chief Name	DTSC Branch Chief Title	Phone #

APPENDIX E

RESPONSIVENESS SUMMARY

RESPONSIVENESS SUMMARY
FOR
THE DRAFT REMOVAL ACTION WORKPLAN
BAY AREA RESEARCH EXTENSION CENTER (BAREC)
90 NORTH WINCHESTER BLVD.,
SANTA CLARA, CALIFORNIA
October 2007

Between March 22 and April 21, 2006, the Department of Toxic Substances Control (DTSC) held a 30-day public comment period the draft Removal Action Workplan (RAW) for the Former Bay Area Research Extension Center (BAREC) site located at 90 North Winchester Blvd., Santa Clara, California. This document was placed in the information repositories listed below to provide the public with information regarding the proposed removal action and to solicit public comments on the adequacy of the document.

On March 21, 2006, DTSC mailed out a Fact Sheet, which summarized the draft RAW and proposed site cleanup methods, to the site mailing list. A Public Notice display advertisement for the draft RAW was placed in the San Jose Mercury News on March 22, 2006. Copies of the fact sheet and display advertisement are found in Attachment A. A public meeting was held on April 13, 2006 at which DTSC received oral comments.

The draft RAW provided the findings of the investigations, removal action objectives and removal alternatives evaluated to address pesticides (mainly, dieldrin) and arsenic contamination in soil at the site. The draft RAW proposed to excavate soil containing contaminants above cleanup levels for residential land use and dispose of it at an approved offsite facility. There will be no other restrictions.

DTSC received verbal and written comments during the public comment period. DTSC's responses to these comments are provided below. After review and consideration of the comments, DTSC approved and adopted the attached draft RAW as the Final RAW. A copy of the Final RAW and other site-related documents is available for review at the following locations:

Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, California 94710
(510) 540-3800
Monday thru Friday
Excluding State Holidays
8AM to 5PM

Central Park Library
2635 Homestead Road
Santa Clara, CA
(408) 615-2200
Mon. & Tues. (9AM – 9PM)
Wed. (12PM – 9PM)
Thurs. thru Sat (9AM – 6PM)
Sunday (1-5PM)

This Responsiveness Summary is organized as follows:

- Section I is the introduction.
- Section II lists the comments received and provides responses to those comments.
- Attachment A provides copies of the fact sheet and display advertisements.
- Attachment B provides a map showing the location of the BAREC Site.
- Attachment C includes a copy of the transcript for the public meeting held on April 13, 2006
- Attachment D includes copies of the written comments received.
- Attachment E includes copies of supporting documentation for the responses.

RESPONSE TO COMMENTS

This section provides responses to verbal comments received during the public comment period. Comments have been grouped by topic and either included verbatim or summarized. Comments containing similar content have been combined where a similar response is appropriate. The comments are followed by reference numbers that indicate which commenter(s) made the comment (each commenter has been assigned a reference number). A list of the reference numbers, commenters, and the media through which the comment was received is located on pages 21-22.

Dust /Particulates

Comment 1: The plan to clean up the contaminated soil is inadequate to protect the surrounding neighborhood from exposure to wind-borne dust containing arsenic and dieldrin. **(1, 2, 3, 8, 10, 14, 17)**

Response 1: The Removal Action Workplan (RAW) includes dust control measures that will minimize or suppress airborne dust. In addition real-time dust monitoring is required. If the difference between downwind and upwind particulate concentrations is found to be above 50 micrograms of particulate/cubic meter, additional dust control measures such as watering or work stoppage would occur.

This limit is protective of neighbors. Based on our calculation and using the maximum concentration of arsenic in soil at 37 mg/kg and the particulate limit of 50 micrograms (ug) of dust /cubic meter, the worst-case calculated airborne concentration of arsenic of 0.00185 ug/cubic meter does not exceed the Acute Recommended Exposure Level (REL) in air of 0.19 ug/cubic meter. This worst case estimate is approximately one hundred times lower than the Acute REL.

While there is no available Acute REL value for aldrin/dieldrin, the U.S. EPA Ambient Air Preliminary Remedial Goal (PRG) of 5.6×10^{-4} ug/cubic meter was used. The PRG is a level which US EPA has determined to be acceptable and is a conservative value because it is based on long term exposure. Based on our calculation and using the maximum concentration of dieldrin in soil at 240 ug/kg and the particulate limit of 50 micrograms of dust /cubic meter, the calculated airborne concentration of dieldrin of 1.2×10^{-5} ug/cubic meter does not exceed the USEPA Ambient Air PRG 4.2×10^{-4} ug/cubic meter This worst case estimate is based on the maximum concentration not the average and is approximately 40 times lower than the Ambient Air PRG.

Comment 2: What is the height and construction of the wind screen. **(3, 19)**

Response 2: A 10 foot high wood fence or an equivalent with bracing will be installed and will remain in place during cleanup of the site.

Comment 3: You are claiming that there is no contamination during transport, but what about surrounding urban area. **(3, 10)**

Response 3: Before leaving the site, truck tires will be cleaned and trucks will be covered.

Comment 4: The 50 ug/m^3 PM_{10} concentration threshold to implement dust controls strategies during the clean-up (Section 11.4 of the RAW) is probably insufficient to guarantee that PM_{10} levels downwind of the site are below the Recommended Action Level (RAL) for eight-hour average PM_{10} concentration of 87 ug/m^3 (Section 1.1.3). Particularly on days when the background concentration of PM_{10} is large a contribution of 50 ug/m^3 (or slightly below) from the soil clean-up could bring total PM_{10} contributions downwind of the site to levels higher than the eight-hour RAL. A lower threshold than 50 ug/m^3 should therefore be used during days of high background PM_{10} concentrations to ensure that the RAL is not exceeded during these periods. **(11)**

Response 4: Because the work will only occur between 7 A.M. and 6 P.M., applying a difference between downwind and upwind of 50 ug total particulate/cubic meter as based on an instantaneous reading, will ensure that the project do not cause exceedences of the PM_{10} standards. PM_{10} (Particles less than 10 micrometers in diameter) is a subset of total dust. By applying the limit proposed to total particulate, DTSC is able to ensure that changes to work practices can be made in a timely manner to ensure that the applicable standards, which are based on a 24-hour average, are not exceeded.

Comment 5: The siting of the PM_{10} measurement stations downwind of the clean-up site is extremely important for the success of the proposed mitigation strategy since measurements from these stations will be used to determine if soil clean-up is yielding PM10 concentrations greater than your chosen threshold (currently 50 ug/m^3). Particularly, it is important that these locations are located immediately downwind of the site to ensure that measurements are taken at the true location of maximum impact. No analysis was presented in the RAW, however, showing the proposed positions of these downwind sites relative to the prevailing wind direction of the area. Also, it was unclear in the RAW whether these stations would be mobile so that, if necessary, they could be repositioned in real-time downwind of the clean-up. If this clean-up strategy is carried out, please ensure that the PM_{10} measurement devices are sited according to such an analysis and in consultation with a qualified air pollution meteorologist. **(11, 24, 26)**

Response 5: The on-site meteorological station will be located in an area representative of wind patterns for the site, as described in published guidance. On-site meteorological data collected will include wind speed and direction, temperature, and relative humidity. During excavation and loading of contaminated soils, fence line monitoring and meteorological data will be collected on an hourly basis. Also there will be visual observations to ensure that visible dust is under control and minimized. If dust levels exceed a 50 ug/m^3 difference between upwind and downwind monitors, then additional dust control measures will be implemented. No specific PM_{10} monitoring will

be conducted, only total particulate will be measured during excavation and loading activities.

Comment 6: Is there any reporting to the public once dust has been put into the air? **(15)**

Response 6: DTSC will post the daily air monitoring data on its website. The location of the information will be included in the work notice which will be sent out to the community prior to the start of clean up work.

Site Characterization

Comment 7: There is a lack of documentation regarding the chemicals used on the site. All records of chemicals and pesticides used on the facility since the 1920 should be located. **(3, 8, 7, 15, 16)**

Response 7: A review of pesticide records indicated that the records available were only available from 1979 to 2002. California regulations did not require records of pesticide use until 1980. Much of the information provided in the Site Characterization Report was based on discussions with University of California personnel. Based on the records available and the interviews, approximately 90 chemicals were used (Section 2.1, Site Characterization Report). The records indicate that many of these chemicals were used in very small quantities on the scale of what a typical homeowner might use in their backyard. 76 of these chemicals are of low toxicity given the nature of the chemical and the quantities used (see page 11-12 of the Site Characterization Report). The remaining 14 chemicals (Table 3, Site Characterization Report) were tested at approximately 60 locations throughout the site (Figure 3, Site Characterization Report). In addition, even though there were no records of use at the site, an additional 60 pesticides/herbicides known to be in use prior to 1979 and that could be potentially toxic and persistent in the environment (depending on the quantity and frequency of use) were also tested at approximately 60 locations across the site. In summary, 89 chemicals were tested at approximately 60 different locations across the site.

Comment 8: Why didn't you do the minimum sampling of about 3-4 probes per acre on the site? **(3, 26)**

Response 8: Soil samples were collected from approximately 60 locations across the entire BAREC site. An additional 76 samples were collected to determine the extent of contamination. This work was performed in accordance with California Environmental Protection Agency – Department of Toxic Substances Control (DTSC) guidance for sampling agricultural sites for future schools (http://www.dtsc.ca.gov/PublicationsForms/prog_pubs.cfm?prog=Site%20Cleanup) Because of the additional sensitivity of children to potentially toxic substances, sampling and testing for potential school sites requires more samples and tests than sampling and testing for other land uses.

Comment 9: The three samples that had the most elevated concentrations of dieldrin are in Field 1 and Field 3. The three points are over ½ acre apart. That DTSC average the measurements so only one became a problem. More tests should be done. **(3, 5, 11, 19)**

Response 9: U.S. EPA recommends using the average concentration to represent "a reasonable estimate of the concentration likely to be contacted over time". The guidance previously issued by EPA in 1992, Supplemental Guidance to RAGS: Calculating the Concentration Term (EPA 1992), states that, "because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent upper confidence limit (UCL) of the arithmetic mean should be used for this variable." (http://www.hanford.gov/dqo/training/ucl.pdf) The 95% upper confidence level (UCL) of the mean for dieldrin concentrations at the site was calculated and the result indicated it to be below the cleanup level. In spite of this, the highest concentration of dieldrin will be removed. Confirmation samples will be collected to ensure that cleanup goals will be met.

Comment 10: There were at least five fuel tanks on the site, two as large as 1,000 gallons. DTSC did not perform any significant testing other than the surface and did not discover any problems. **(3, 5)**

Response 10: There were 4 fuel tanks: two underground 1,000 gallon tanks and two above ground 500 gallon tanks. The Santa Clara Fire Department oversaw the tank removal work and made a determination that further work is not required. The 1,000 gallon tanks were observed to be in good condition with no evidence of leaks or damage when they were removed in 1993. Since the tanks were in good condition, contamination was not expected. Samples were collected from the soil beneath the tanks and the results showed that contamination was not present.

The other two tanks were above ground, portable, double walled tanks which were situated on a concrete pad. Sample results confirmed that contamination was not present near these tanks.

Comment 11: Soil sampling did not follow an approved protocol and was inadequate. The method and rationale for choosing 75 locations over 17 acres were not provided. You did not perform any deep soil testing or groundwater testing? Why? This development will affect all of that, including run-off, groundwater, the water table in general, etc. Why did you not do deeper soil test in areas that you know will be dug up deeply, like the foundations for the senior facility? The digging will go at least 35-40 feet (of not more) since there will be multiple 4+ story buildings. Why did you not test this far? **(3, 5, 8, 17, 22, 25)**

Response 11: Sampling procedures and protocol were described in section 2 of the Phase II - Site Characterization Report dated October 2003. Deeper samples for pesticides were analyzed whenever there was a detection above the Preliminary

Remediation Goals (PRGs) or background at the surface (0 to 6 inches) as in soil sampling locations F1-C, F3-A, F3-B, F3-E, F3-F and F7-G.

Dieldrin and arsenic were detected consistently only in shallow soil samples and at no deeper than 3 feet for dieldrin and 4 feet for arsenic. Arsenic and dieldrin bind to the soil and therefore do not move easily downward and are not expected to be present in the deeper soil or in groundwater. The data collected supports this. The depth to groundwater is between 20 and 30 feet deep. Based on the soil sample results, groundwater sampling was determined to be unnecessary.

Sampling locations were identified and samples were collected based on how the property was used based on the historical information available. The rationale for choosing the methods (or the contaminants) and the locations are described in sections 1 and 2 of the Site Characterization Report. Surface sample results, other than dieldrin and arsenic, were either less than the screening and detection levels, or within background levels.

Comment 12: What about soil testing in the neighbor's yards? You are doing a disservice to the neighbors by not testing everything in the area, that is, all the houses that border the property should have soil tests to make sure there is not chemical and pesticide pollutants in their back yard. This should be a mandate and requirement in your RAW. **(3, 7, 15)**

Response 12: Based on the sampling results at the edges of the property, there is no indication that the BAREC site has contaminated the adjacent properties. DTSC has been made aware of sample results from some of the adjacent properties which have elevated dieldrin. DTSC is working with those property owners to sample those backyards adjacent to the BAREC site.

Many areas in Santa Clara County were used for agricultural purposes. The use of pesticides/herbicides to control pests or weeds was a normal part of farming and the detection of pesticides/herbicides in land previously used for agriculture is not uncommon. DTSC does not have information that indicates that the BAREC site caused the contamination detected in the residential backyards.

Comment 13: The BAREC site was used for over 70 years to test agricultural pesticides. Nonetheless, laboratory analysis was conducted for only a handful of the 90 known pesticides applied to this site, and for none of the unknown pesticides applied for half a century before records were maintained. No empirical data in the form of broad spectrum analyses were developed to validate the decision not to test for other pesticides, nor were the theoretical calculations purportedly supporting this decision actually presented in the Phase II document. **(5)**

Response 13: In the 1900's, the active ingredients in most pesticides were arsenic, antimony, selenium, sulfur, thallium zinc, copper, or plant-derived alkaloids. Other simple inorganic compounds (e.g., sodium nitrate, ammonium sulfate and sulfuric acid)

were put into very limited use after a few decades as herbicides. (California's First Century of Pesticide Regulation, California Department of Pesticide Regulation). The first commercially manufactured synthetic pesticides were the organochlorine pesticides (e.g., DDT, dieldrin, aldrin, etc.) which were produced beginning in 1943. The organochlorine pesticides (DDT, dieldrin, chlordane, etc.) are considered the most persistent and toxic of all the synthetic pesticides. After the ban of DDTs and other pesticides in the 1960s, non-persistent synthetic pesticides were manufactured such as: organophosphates, carbamates, pyrethroids, and biopesticides. These newer type of pesticides have much shorter half-lives and their concentrations and toxicity reduce quickly after application.

Given the history of pesticide use in California, the sampling conducted at the site focused on the most persistent and toxic pesticides (e.g., DDT, aldrin, dieldrin endrin, etc.).

Comment 14: The Phase II relied on out-of-date closure documents with limited testing to conclude that there are no risks from underground storage tanks, a pesticide evaporation basin, and a leach field. These closure documents were not intended to support unrestricted residential usage. **(5)**

Response 14: See Response 10 regarding the tank removals.

The sewer leach pit was sampled at 7 feet and 10 feet below ground surface for the presence of organochlorine pesticides. According to the Environ staff, consultant for DGS, the depth of the pit during the sampling was observed to be 7 feet. A 1977 drawing indicate however that the dimension of the pit was 4 feet wide by 6 feet long and a depth of 4 feet (Page 8 of the Site Characterization Report). Results were non detect. (Page 17 of the Site Characterization Report).

The evaporation basin (bed) had a liner which consisted of two sheets of 20-mil-thick nylon-reinforced butyl rubber liner which was found to be in good condition. Composited sediment samples were collected in July 1987. Results indicated detections of some pesticides. Additional sampling on the soil was conducted in October 1987, after removing the liners. Sample results indicated detection of chloropropham. There is no available health screening level for chloropropham but it is classified by U.S. EPA as slightly toxic. It has a half-life of 30 to 65 days in soil depending upon the temperature. Based on the half-life, it is estimated that the contaminant concentration present to be very low or gone. Additional soil samples were collected on the pond and the sediment trap for arsenic, the results indicate the concentrations are within the San Francisco Bay Area soil background concentrations. (Pages 6, 7 and 17 of the Site Characterization Report).

Comment 15: Who did the initial sampling of the site? **(12)**

Response 15: Sampling at the BAREC site was conducted by consultants hired by the Department of General Services.

Comment 16: What happens if the contamination is actually deeper than what we initially thought?**(12, 13, 22, 25)**

Response 16: Confirmation samples will be collected from the edges and the bottoms of the excavations to determine whether the cleanup goals have been met. If the confirmation samples find additional contamination, DTSC will instruct the contractor to excavate additional material.

Comment 17: During the late 1940's, 50's and 60's, it was a common practice to bury un-used chemicals and that there are numerous burial sites at BAREC, although there are no clear records. **(8)**

Response 17: Interviews with UC personnel and review of existing records including areal photos and site operations, did not reveal information regarding existence of buried unused chemicals. The sampling at the site targeted areas where chemicals were reportedly handled. No buried containers were found in any of the 60 plus locations where samples were collected.

Comment 18: The RAW does not address the existing onsite water supply well used historically for the agricultural testing activities. This well, which penetrates a deeper aquifer beneath the site, should be properly abandoned so that it does not serve as a potential migration of contaminants its vicinity. Groundwater samples should be collected from this well to characterize the deeper aquifer and further provide support to justification for its fate **(5, 8).**

Response 18: The well was abandoned in accordance with State and local requirements. A Well Destruction Completion Notice was issued (See appendix E) by The Santa Clara Valley Water District on July 7, 2004.

Comment 19: DTSC said it is not aware of any water issues or water runoff. At the intersection of Forest and Henry, where the fence is exposed and the dieldrin is at the highest concentration, is also the location where the water pools frequently. How could DTSC conduct its study and make a recommendation without doing a full examination of the site at all times? **(3, 16, 25)**

Response 19: Water and runoff issues were not observed during site visits and therefore not documented in the Draft RAW. Confirmation samples will be collected after the excavation to ensure that contamination has not spread.

Comment 20: It seems like with the high-rise senior center, with a four-story building the footings are going to be much deeper than two feet. Have they tested deeply, say for the foundation for a high-rise? **(8, 19, 22)**

Response 20: Deeper samples were only taken in areas where contamination was found in the shallow samples. About 35 samples were collected in the area where the

senior housing is proposed and the results showed only two locations above the cleanup level and are located in the shallow soils which will be removed and properly disposed.

Comment 21: If the pesticides and other chemicals that are used are not healthful to humans, and they sprayed and there's evidence and we -- here we have up to 80 years' worth of them, we don't, we don't have a map in the, in the RAW report about where that water was going during water runoff? **(25)**

Response 21: Maps provided in the Draft RAW define the extent of contamination. For this property, other than the place where the dieldrin is high, all the samples near the edge of the property were below the screening levels. There was no sample collected between the fence and the elevated dieldrin detection, but the field where the pesticides were applied does not go all the way to the fence. Confirmation samples along the edge of the excavation nearest the fence will be taken to confirm that the dieldrin has not moved onto the adjacent property.

Risk Assessment

Comment 22: Although preparation of a Human Health Risk Assessment (HHRA) is typical for any removal action, this RAW is not based on an HHRA. Thus, cleanup levels are not based on an assessment of the actual risk to future residents from residual contamination. Instead, the cleanup levels are based only on meeting background arsenic levels and the EPA's PRG for dieldrin. Further, the arsenic background determination used for the cleanup level is not based on any credible source. Indeed, the background level assumption is contradicted by the very sampling data included in the Phase II report. **(5)**

Response 22: The process DTSC follows to characterize a site is to first review historical uses of the property, conduct site sampling to determine what is present and then compare it against screening values or known background levels. For this site, there were only two contaminants (arsenic and dieldrin) that were above the screening levels.

Because arsenic is widely present in background soil, a site or regional background number can be used as cleanup goal instead according to U.S. EPA guidelines (http://www.epa.gov/region09/waste/sfund/prg/index.html#prgtable) The arsenic background concentration is based on plotting the cumulative frequency of the shallow arsenic soil concentrations at the site which shows an inflection point at 20 mg/kg, indicating anything above 20 mg/kg are considered to be above background levels. The Town and County Village Shopping Center site was made a reference because its remedial action objectives used 12 mg/kg as a site wide average concentration and a maximum arsenic concentration of 20 mg/kg similar to BAREC as shown in Table 1. Based on the above information, the use of a screening level and background level

instead of a human health risk assessment are considered appropriate approach for assessing the health hazard of the site.

Based on the results of the sampling conducted as part of the Site Characterization Study, DTSC determined that removal of arsenic above the naturally occurring background levels would be appropriate as a cleanup goal and that a stand alone Health Risk Assessment was not necessary.

DTSC has evaluated the cumulative health risk of all of the pesticides detected at the site by using the equation provided by the Office of Environmental Health Hazard Risk Assessment (OEHHA) at their website: http://www.oehha.ca.gov/risk/pdf/Hazard-Risk%20Calculator11-04.xls**.** The calculation indicates that the cumulative health risk is within the U.S. EPA target health risk range of 1×10^{-4} and 1×10^{-6}.

Using the 95th upper confidence level of the mean for the pesticide data (arsenic is not included because background levels are above risk based screening levels), the excess cancer risk before cleanup is already less than 1 in a million. (If maximum concentrations are used the excess cancer risk is approximately 9 in one million, which is also within the acceptable risk range) Because the dieldrin in one sample is 8 times the screening level, the RAW requires the removal of this area. With the removal of this soil to the cleanup goal, the risk assessment calculation using the maximum would be 3 in one million. The outputs from these evaluations are located in Appendix E

A Screening-Level Risk Assessment was also conducted for the site which assesses potential cancer and health hazard (non-cancer) risks from the dust generated during the soil removal regarding. Results of the Assessment indicate the estimated risks for both cancer and non-cancer are below the acceptable level. The assumptions use for these calculations are very conservative.

Comment 23: An HHRA was prepared as part of a 2002 Phase II Report. DTSC never reviewed this analysis - despite the Department of General Service's obligation to submit this information pursuant to the Voluntary Cleanup Plan. **(5)**

Response 23: DTSC did not require the submittal of an HHRA. The 2002 HHRA referenced here was not reviewed by DTSC.

Also, the Voluntary Cleanup Agreement for the BAREC site includes DTSC's boilerplate language for the site cleanup process which includes a reference to a risk assessment. For this site, DTSC did not require the submittal of a Human Health Risk Assessment (HHRA) prior to development of the Draft Removal Action Workplan (Draft RAW), because cleanup was going to be to the screening levels and/or background level.

Cleanup Alternatives and Cleanup issues

Comment 24: Commentors opposed all the stated clean-up alternatives in the workplan (1).

Response 24. Comment noted.

Comment 25: Why weren't the non-excavation alternatives discussed or explored? An alternative remediation should be used such as phytoremediation. This method raises no contaminated dust. Plants can take in and store dieldrin from the soil. This is the safest method for a residential area. Also, has been found to have a 20 to 80 percent cost savings over the State's proposed methods. **(1, 2, 3, 5, 7, 11)**

Response 25: Non excavation techniques were considered informally as part of development of the Draft RAW. Phytoremediation is a promising technology, however, the fate of the contaminants is uncertain, and it can take years to decades to find out if remediation is successful. Specific species of plant and the right type of soil have to be used to increase the success of the phytoremediation. Other uncertainties include, change in season and whether the specific plant species would live long or needed to be replanted. In addition, arsenic contamination found at the site was as deep as 3 ½ feet below the surface. In order to ensure that the plant root systems have access to this material, it would have to be excavated and spread on the site. This would require tilling and grading. In addition, the contaminated plant materials would then need to be disposed of properly to ensure that the contamination is not spread to other areas of the property or other off site locations. The excavation and off-site disposal is a recognized technique. The length of time to implement is about 14 days. DTSC feels that removing contamination from the site is the most protective way of cleaning-up this site.

Comment 26: On page 4-54 of the Draft EIR, it speaks about the objective of the RAW: ". . . to minimize the exposure of future site residents. What about the current residents in the area? What about the current population you are sacrificing? **(3)**

Response 26: Implementation of the RAW protects both current residents and future residents from exposure to significant concentrations of contaminants at the BAREC site.

Comment 27: The safest and most conservative way to protect the human population is using techniques such as phytoremediation and bioremediation. These are non-invasive approaches and focuses on protecting human health and doing things organically to fix the problem, not just move it. You should not be pressured by timelines to do the right thing and not be pressured by financial concerns. We have assembled a number of experts and organizations that are willing to help clean this place up naturally and not remove soil, endangering the public and neighbors.

Because no matter what the development is, the soil should be cleaned properly and completely. Do you really think putting children and a high-density senior facility on a toxic dump is a good thing if the toxins are not cleaned up completely? Don't you want to leave this site free from all chemicals and pesticides and know you did the right thing?

If you were a resident in the neighborhood and had the chemicals in the soil in your area, what would you want done? **(3, 4, 5, 7, 8, 11, 19)**

Response 27: Phytoremediation and bioremediation are not completely “non-invasive” technologies. Phytoremediation would not be able to address the arsenic contamination at depth with out excavation and spreading of the soil. Bioremediation also relies on the biota and nutrients being mixed into the soil. This requires tilling of the soil as well. Removing contamination from the site is the most protective way of cleaning-up a site and can be done in a short time period, in a few weeks.

The goal of the cleanup is to remove the contaminants to unrestricted land use which is protective of people of all ages. While cleanup is occurring, dust control measures (discussed in response 1) will take place and DTSC will require real-time monitoring.

Comment 28: The draft RAW indicates that, “at no time, will the trucks travel through residential area.” It is impossible since the contaminated soil is in the middle of a residential area. **(1, 3)**

Response 28: No truck traffic will occur on Forrest, North Henry or Dorcich within the residential neighborhood. Trucks will enter and exit the site on Winchester Boulevard and travel to Stevens Creek Boulevard then to either Interstate 280 or 880 to an appropriate landfill.

Comment 29: While you're digging you're planning to stock the soil someplace else and cover it at night, and then after you've dug whatever depth you're going, you're going to be putting in clean soil, correct, to cover that hole? **(20)**

Response 29: Stockpiling would occur so that they can load the trucks efficiently and they can excavate efficiently. The majority of the soil would be loaded directly into the trucks instead of stockpiled. Doing this will also minimize the potential for creation of dust.

As far as bringing in clean fill, DTSC is not requiring that the excavations be backfilled with clean soil so the contractor could grade the soil or, if they wish, bring in clean soil to ensure that the excavations are not safety hazards. If any fill material is brought in, DTSC would make sure that it is meets the cleanup standards for the project.

Comment 30: I am concerned that if you're going to bring clean fill in, the traffic on Winchester Boulevard, the street's going to start cracking and everything with all that heavy materials. Will there be somebody out there like traffic control, because those trucks swinging out are going to need a lot of room coming out of that property**. (20)**

Response 30: A traffic flag person will control truck traffic entering and leaving the site.

Comment 31: You found contamination at three feet deep. In that area, will you dig three feet deep just in that area? **(14)**

Response 31: If the sample at three feet had elevated concentrations, we would continue to dig until a confirmation sample demonstrates that the cleanup goal had been achieved.

Comment 32: On the contaminated site you said you tried to dig a foot below. What is the radius that you usually try to dig around that, the site? **(24)**

Response 32: Digging is conducted below where there is known contamination and then you take confirmation samples. To determine the areal extent of an excavation, an estimate is made based on nearby samples. Once the initial excavation has been completed, confirmation samples at the edges of the excavation are collected. If the results are above the cleanup level, then you excavate or step out in the direction where the results were high. This is an iterative process and may involve stepping out 1 or more times until the cleanup goal is achieved.

Comment 33: And you're going by EPA guidelines, then, as to what the threshold of acceptable? **(15)**

Response 33: DTSC used a combination of different screening levels and naturally occurring background levels. Screening levels include the USEPA Region 9 preliminary remedial goals (PRGs) and the California Human Health Soil Screening Levels (CHHSLs), which are numbers which were developed by the Office of Environmental and Human Health Assessment.

Comment 34: So when you say that your dieldrin contamination, up in the upper left, is the only site that you're going to feel that you need to remove, you're confident that all the rest of the property, even in between all of the other spots that you've tested, is dieldrin free, or dieldrin acceptable? **(15)**

Response 34: Sample results indicate dieldrin contamination is present in the indicated location. Based on other results no other areas of concerns were identified (Figure 4 of the Site Characterization Report).

Comment 35: If you lived next door on one of these residential properties that border three sides of BAREC, and this soil contamination removal plan was put forward to you as a neighbor, how comfortable would you be with that? **(15)**

Response 35: The levels that were found are above the screening levels established by U.S. EPA and the California Office of Environmental Health Hazard Assessment which are based on 1×10^{-6} excess cancer risk. DTSC feels that excavation and offsite disposal of the contaminated soils is the best remedy for the site since the impacted soil can be removed completely and

quickly. There are mechanisms in place to prevent dust from leaving the site and trucks can be routed safely and not in residential neighborhood.

Comment 36: How can you make that assumption that this is the best alternative because, you know, for a planned residential development? **(17)**

Response 36: DTSC develops its cleanup levels based on the proposed use of the site.

Zoning

Comment 37: Protecting and preserving every meter of open space is hard work but is vitally important in our cities. Open space serves as a testament to our historical roots, a serene place to wallk and clear your mind in a crowded city and can serve as an educational center to learn about how to nurture the soil and ourselves. We have overdeveloped our land with population pressures and economic interests. It is now time for the County to build up and not out. Please put an urban growth boundary around BAREC for our children for their children's children. We cannot take it back once developed. Is it the best use of land for one individual to make a short term profit or for the entire health of the community to benefit? (**2, 3, 6, 9, 17, 21**)

Response 37: Comment noted. The City of Santa Clara is responsible for determining the future use of properties in this City; not DTSC.

Comment 38: DTSC said that the reason excavation was seen as the best alternative was that it is quick and was in line with the development plan. How can DTSC objectively protect the public and do their job safely when DTSC has the proposed (not approved) project in mind. DTSC's job is to make sure things are done right and done well, not at the will of the developers or their timelines. Why weren't the non-excavation alternatives discussed or explored? **(1, 2, 3, 6, 9, 17, 21)**

Response 38: DTSC does not have any jurisdiction on the development portion or planned use of the site. It is DTSC's objective to ensure the site is cleaned up to be consistent with the proposed land use; meaning more restrictive standards are applied to residential land use than commercial land use. Removing contamination from the site is the most protective way of cleaning-up a site, see response to 25 and 27 for further information.

Miscellaneous Issues

Comment 39: The depiction of the land is inaccurate, trying to minimize its size and value. **(3)**

Response 39: This figure was taken from the Environmental Systems Research Institute (ESRI) which develops geographic information systems for use throughout the United States.

Comment 40: If all of these chemicals were used on the site and it was known (the SaveBAREC group notified you over two years ago), why are you only getting involved now? What about all the disking that has been done for three or more years since the site was closed? **(3, 16)**

Response 40: DTSC has been involved in activities at this site since May 2003. Based on the levels found at the site, DTSC does not believe disking has significantly changed where contamination is located. Disking was done to control weed growth to meet fire department requirements. The cleanup activities are required to make the site available for potential residential use. In its current state, the site does not pose a threat to the neighborhood.

Comment 41: DTSC doesn't really care about whether there is cancer in the area and we were referred to the Northern California Cancer Center at (510) 608-5000. **(3)**

Response 41: As indicated in the public meeting, DTSC is not a health agency. The Northern California Cancer Center (NCCC) Greater Bay Area Cancer Registry is the agency that follows up on potential "cancer clusters". DTSC can not speak to potential past exposure. DTSC is responsible for ensuring that the property does not continue to create a risk to the community and that it is cleaned up in a manner which is protective of public health and the environment.

Comment 42: Since the methods of the existing soil samples is in question and the consultant was hired and paid for by the State who has an interest on putting a housing development on the site, it is just appropriate that a new soil sample test be done. A number of names were given during the meeting. **(3)**

Response 42: The normal practice is for an owner/developer to hire their own consultant/contractor to investigate a site. DTSC, as the oversight agency, has the authority to ask for additional information or tasks to be conducted as we have on this site or on other sites. DTSC also has the obligation to ensure that the site is adequately characterized to define the extent of contamination at the site. DTSC does not believe that additional testing is necessary at the site with the exception of the proposed confirmations samples which will be collected after excavation has been conducted.

Comment 43: On page 4-61, the Draft EIR states: "However, dieldrin was not considered a chemical of potential concern because only 3 of the 60 soil samples had concentrations above PRGs in surface soils and the concentrations were of limited horizontal and vertical decent. Therefore, dieldrin in the onsite soils would not pose a significant adverse human health risk effect (Environ 2003)." DTSC insults the public by saying there is little contamination at the site. Also, here the samples of dieldrin that are off the charts are right where the proposed public park is and in the "children's tots" area. You think people are going to want to know-- that you took out the minimum about of a deadly toxin and did not remove it completely?

Response 43: This comment was forwarded to the City of Santa Clara, the Agency responsible for the CEQA document. DTSC does consider dieldrin a contaminant of concern.

Comment 44: The Draft RAW that the public has access to is about 15% the size of the actual one? Due to this one item alone, you should reset the public's timeline to examine the document. **(3)**

Response 44: Environ, the consultant for the Department of General Services (DGS) delivered two copies of the draft RAW to the library on March 24, 2006 (Monday 10 A.M.)**.** DTSC found out about the smaller version of the RAW at the public meeting. On April 15, 2006, DTSC delivered another copy of the complete draft RAW to the library.

Comment 45: Why did you release the Draft RAW in the middle of the Draft EIR? This makes it so the public needs to look at all of the 1,500+ pages at the same time. You have months to prepare this, how can you expect the public to read it and understand it in 30 calendar days? **(3)**

Response 45: The City's CEQA was broader in scope and DTSC as a responsible agency for the project is expected to make it available to the public when possible within the same time frame of the Draft EIR.

Comment 46: How much are your services costing the State and the tax payers? How much has this cost to date? What is the projected cost of this effort (just the State's part)? What is the estimated cost of the excavation and removal of the soil? What is the total cost to clean the soil using the methods describe? **(3)**

Response 46: DTSC can only respond as it relates to our oversight costs. The total cost of DTSC's oversight to date is approximately $43,000. The total estimated cost for the cleanup is approximately $870,000. DTSC's costs will be paid for by DGS.

Comment 47: It appears that Mr. Dan Potash is both working for the State, in the marketing of the property, and also managing the environmental portion of the site. And, he is in competition with major environmental consultants and engineers which he does not have any background on. Why is Mr. Potash preparing the RAW and at the same time selling the BAREC for the state? **(7)**

Response 47: Anne Gates with Environ Corporation is the technical consultant hired by DGS for this project. Anne is a Registered Professional Engineer in the State of California who has many years of experience in the evironmental field. She was hired by the Department of General Services to prepare documents as required in the RAW.

Comment 48: Now, what about vapor intrusion. Has this, because three years ago we all knew about radon gas, but, you know, three years ago vapor intrusion was a new issue. With the decay of these products now coming up

through soil gas, are we testing the residents around this area, have we done something like we did out at Watson Park where we actually did blood samples for the, the people who are there? And if, if so, what does that, what does that look like? **(12)**

Response 48: DTSC did not require vapor sampling because dieldrin and arsenic do not evaporate into the air, instead they cling to the soil. The contamination at Watson Park is lead. DTSC is not the regulatory agency that conducts blood testing, however, most counties do have a blood lead testing program. However, arsenic and dieldrin are not chemicals which you would test for in blood.

Comment 49: Is this considered a Brownfield site? **(3, 15)**

Response 49: Yes.

Comment 50: Whose responsibility is it or was it to notify the DTSC of the toxins when the site was closed in January of 2003 **(16)**

Response 50: There's no responsibility or requirement to notify DTSC of contamination. Many properties get cleaned up with city or county oversight, or U.S. EPA oversight, so there's not a legal requirement that DTSC has to be the oversight agency or has to be informed that there's contamination from applied pesticides. Chemicals that are applied as part of normal agricultural operations are not generally tested for until a property is going to be no longer used for agriculture.

Comment 51: Does DGS have any responsibility for the chemicals on the soil? **(16)**

Response 51: The State of California is considered to be the party responsible for the cleanup since they own the property where contamination is present.

Comment 52: I just have a question about the arsenic. Is it organic or inorganic? **(18)**

Response 52: We have not speciated between inorganic or organic. We only did total arsenic testing.

Comment 53: Do we have historical buildings on that property. My question is, will any of the buildings be affected during your excavation of your soil removal? **(20)**

Response 53: The buildings are proposed to be demolished as part of the redevelopment project, not part of the cleanup project. So building demolition and building issues are not something that DTSC is responsible for requiring or, or permitting.

The property owner has indicated to us that they want to clean up the property to residential standards. Our job is to ensure that if they do cleanup, that it meets the standard and it is done safely. If the, the site is proposed for some other use, generally the cleanup levels are higher. The land use is within the jurisdiction of the City of Santa Clara not DTSC.

Comment 54: Because there are known contaminants on the site now, are you going to be looking at making any advice to the Department of General Services regarding that disking activity? **(12)**

Response 54: Based on the comments received during the meeting, DTSC worked with DGS and the City of Santa Clara to mow the site while spraying water to minimize the dust in August 2006 and July 2007. This method was chosen, instead of the traditional disking, based on concerns from the public as well as other governmental agencies.

Comment 55: I was told behind this there's actually a, like a, a river bed, creek bed that actually goes through. Could or could not, this is going back 15 years ago, it was told to us when we purchased, when I purchased my property. So I'd like to find out if there is a leach field where. And should I be concerned, as an adjacent resident, that it's in my property? **(23)**

Response 55: There was a pond that was used on the BAREC site which was called the evaporation pond. They would take the application equipment that they used to apply the pesticides, they would rinse that out and the rinsate would go into the evaporation pond. There was extra sampling done in that area down to seven to ten feet.

Comment 56: If I sell my property do I have to make any disclosures regarding the contamination? **(23)**

Response 56: Real Estate Disclosure is covered under Seciton 25359.7 of the Health and Safety Code for owners of non-residential real properties and Civil Code,1102 covers disclosures for residential properties. Being adjacent to a property which has been cleaned up should not affect your property value. Please address this question towards your realtor.

Comment 57: We as neighbors will be notified when they will -- if this happens, when it will start? And how will we be notified? And we, as neighbors, will we have a number that we can call? **(24, 26)**

Response 57: DTSC will issue a work notice about a week before our activities begin. It will include our contact information and we want to hear any complaints regarding dust or if a tarp or fence blows down so that we can follow up.

Also the Bay Area Air Quality Management District is one of the places to call and make complaints regarding dust. They will also follow up.

Comment 58: Has the USGS been involved with the mapping of the area for the groundwater purposes? **(25)**

Response 58: The USGS has not been involved. The groundwater at the site is between 20 and 30 feet below ground surface and flows to the east. The deeper confined aquifer is encountered beneath an extensive aquitard at depths greater than 300 feet below ground surface.

Comment 59: I would suggest a third party soil test be done, soil food, what was mentioned by Katheryn, they're experts in soil testing, they have labs all over the world including up in Oregon, which is probably the one closest to us. I would suggest that you guys recommend that DTS, or Department of General Services, fund that experiment. Elaine Ingham is willing to do that. She's actually reduced her rate to actually look at the soil, and I would suggest you take her up on that offer. **(3, 16)**

Response 59: Confirmation sampling will be conducted to ensure that concentrations at the site meet the cleanup goals. State law requires that a certified laboratory be used to analyze all the results.

Comment 60: The University has a long standing policy of a committee to review all proposals for research and to publish the results of that publicly funded research. And, that DTSC secure all documents under the appropriate UC authority. **(8)**

Response 60: As part of the information submitted, description of research activities where and how was used was provided. Additionally, 90 chemicals were tested. DTSC does not feel it is necessary to collect the historic research material.

Comment 61: I've been to a couple of the city council meeting and, and I have to say I'm deeply, deeply troubled. I'm not necessarily implying by this board, because you're obviously concerned with cleanup. But I see on the site history the only option is site proposed for development of residential housing. And I just have to tell you as a citizen who is newly learning about this process that the decisions have already been made, that this is just kind of a bit of a hoax of having public come out and comment. **(21)**

Response 61: Comment Noted.

The property owner has indicated to us that they want to clean up the property to residential standards. Our job is to ensure that when cleanup is done, it meets the applicable standard and it is done safely. Cleaning up the site to unrestricted standard is the highest standard of cleanup so DTSC believes it can be used for any use. If the site is proposed for some other use, generally

the cleanup levels are higher. Specifically, the decision on land use is within the jurisdiction of the City of Santa Clara not DTSC.

List of Commentors:

(1) Form Letter dated March 29, 2006 from the following parties: Victor Aldana, Lucille Andueza, Gino Barsante, Dorothy D. Cabonzy, Albert Chan, Jeanie Chan, Stephanie Chang, William Christman, Palma Christman, Angelica Delgado, Angela D'Orfani, Marilyn Dort, Jean Elvin, Becky McIntyre, Marguerite Lee, Robin Lee, David Lehr, Agnieszka Mazur, Lauren McCutcheon, Monica Mendez, Catherine Paz, Janet Petty, Eric Quetingco, Cheryl Quetingco, Zaim Sibic, Vesna Rozic-Sibic, Traci Suyeishi, Kirk Vartan, and Sue Woo.

(2) Form Letter dated March 29, 2006 from the following parties: Victor Aldana, Lucille Andueza, Albert Chan, Dorothy D. Cabonzy, Curtis Chang, Chris Hackler, Jaennie Chan, Marguerite Lee, Robin Lee, Monica Mendez, Eric Quetingco, Cheryl Quetingco, Traci, Suyeishi, Kirk Vartan, and Sue Woo.

(3) E-mailed comments dated April 21, 2006 from Mr. Kirk Vartan

(4) Letter dated April 20, 2006 from Mr. Joe Whaley

(5) Letter dated April 21, 2006 from John Farrow, M.R. Wolfe and Associates

(6) E-mail dated April 24, 2006 from Cindy Russell

(7) Letter dated April 21, 2006 from Kathryn Mathewson

(8) E-mail dated April 20, 2006 from Sharon McCray.

(9) E-mail dated April 18, 2006 from Carolyn Straub and Steve McHenry

(10) E-mail dated April 10, 2006 from Alison McEntire

(11) Letter dated April 19, 2006 from Frank R. Freedman, PhD, Envirpcorp Consulting

(12) Oral comments received from Cameron Colson at the April 13, 2006 public meeting, transcript pages 14 – 17, 63 - 64

(13) Oral comments received from Frank Freedman at the April 13, 2006 public meeting, transcript page 18, 87,

(14) Oral comments received from Joe Sunseri at the April 13, 2006 public meeting, transcript pages 19 – 20, 61 – 63, 65.

(15) Oral comments received from Linda Perrine at the April 13, 2006 public meeting. Transcript pages 21 –25, 43, 85 – 87, 90 – 92, 96 - 98.

(16) Oral comments received from Kirk Vartan at the April 13, 2006 public meeting. Transcript pages 26 – 31, 79 – 85, 93 - 95.

(17) Oral comments received from Steve Hazel at the April 13, 2006 public meeting. Transcript pages 31 – 42, 88 - 90.

(18) Oral comments received from Dick Sheehan at the April 13, 2006 public meeting. Transcript pages 42 – 43.

(19) Oral comments received from Kathryn Mathewson at the April 13, 2006 public meeting. Transcript pages 45 – 51.

(20) Oral comments received fromJerry McKee at the April 13, 2006 public meeting. Transcript pages 52 – 54.

21) Oral comments received from Margo Wixsom at the April 13, 2006 public meeting. Transcript pages 55 – 59, 92 - 93.

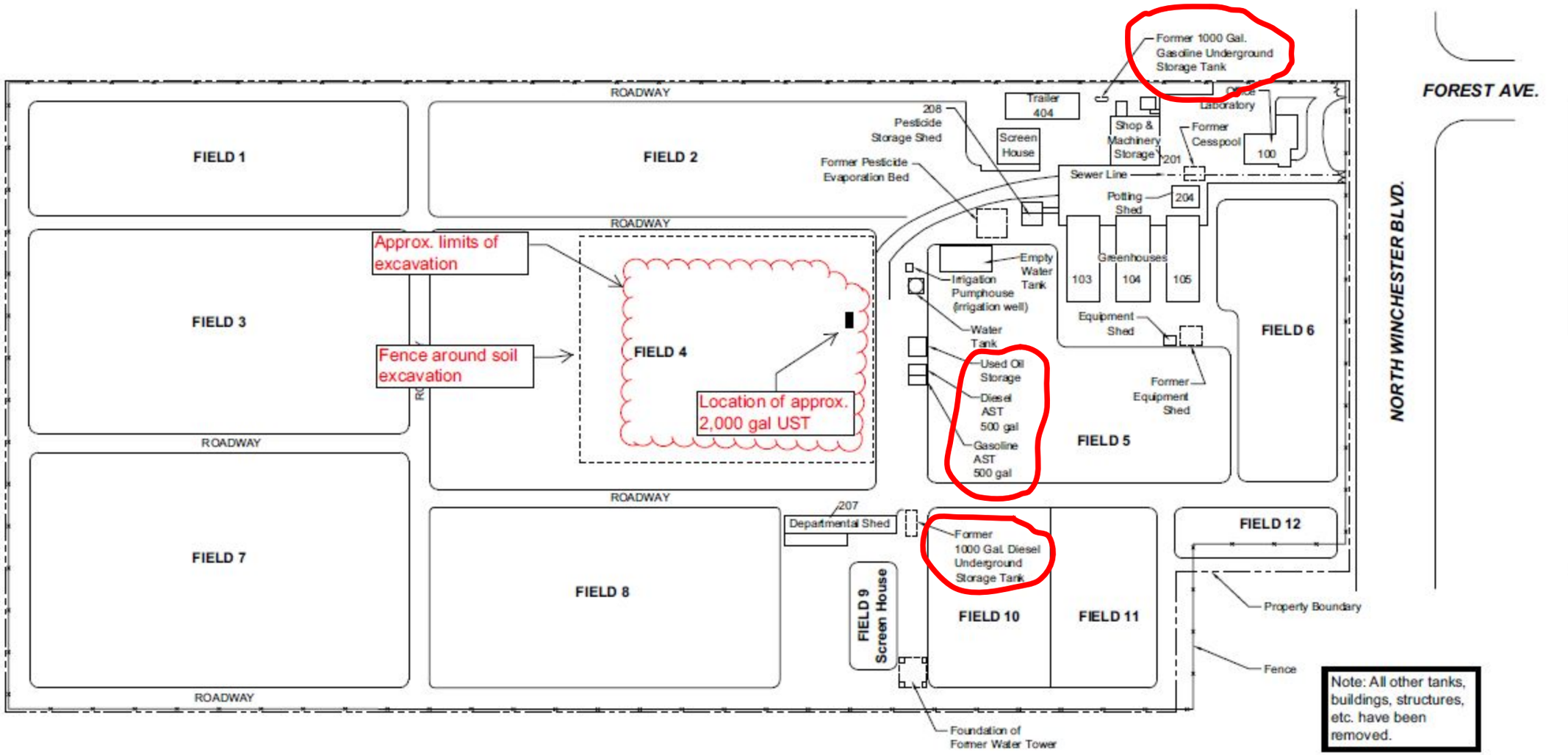
(22) Oral comments received from Manuel Meudible at the April 13, 2006 public meeting. Transcript pages 59 – 61.

(23) Oral comments received from Pat Sunseri at the April 13, 2006 public meeting. Transcript pages 65 – 68.

(24) Oral comments received from Jane Matulich at the April 13, 2006 public meeting. Transcript pages 69 – 74.

(25) Oral comments received from Ron Becksted at the April 13, 2006 public meeting. Transcript pages 74 – 78.

(26) Oral comments received from Barbara McCune at the April 13, 2006 public meeting. Transcript pages 78 – 79.



ENVIRON

6001 Shellmound Street, Suite 700, Emeryville, California 94608

Site Layout with UST Location
BAREC University of California
90 N. Winchester Blvd.
Santa Clara, California

DATE	CONTRACT NUMBER	FIGURE
5/26/10	03-10609A	1
DRAFTER: RS	APPROVED: / REVISED:	

D:\DRAWING\03\10609A-LAYOUT.DWG

Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental Protection

Maziar Movassaghi
Acting Director
700 Heinz Avenue
Berkeley, California 94710-2721

Arnold Schwarzenegger
Governor

August 11, 2010

Mr. Ron Small
California Department of General Services
707 Third Street, Suite 6-130
West Sacramento, California 95605

Dear Mr. Small:

The Department of Toxic Substances Control (DTSC) has received the Removal Action Completion Report dated August 2, 2010 for the Former UC Bay Area Reseerch Extension Center site located at 90 North Winchester Boulevard, Santa Clara, California. DTSC provided guidance and oversight for the development and implementation of e removel action plan for this site along with the following additional documents: Health and Sefety Plans, and a Community Profile.

Our review of the Removal Action Completion Report indicates that the work has been conducted in accordance with the approved RAW and that the remediation goals heve been achieved. DTSC hereby approves the Completion Report as the final report.

With completion of this remediation, the BAREC site does not pose a threat to human health or the environment under any land use, including unrestricted residential development and is safe for occupancy for single family homes. Therefore, DTSC determines that no further action is necessary with respect to investigetion and remediation of hazerdous substances at the site. As with any real property, if previously unidentified contamination is discovered at the Site, additional assessment investigation and/or clean up may be required.

If you have any questions regarding this approval, please contect me at (510) 540-3834.

Sincerely,

Karen M. Toth, Unit Chief
Brownfields and Environmental Restoration Program – Berkeley Office

cc: Ms. Anne Wooster Gates
Environ
6001 Shellmound Street, Suite 700
Emeryville, California 94608

Report of Completion
of
Removal Action

1. Site Name:

Bay Area Research Extension Center

2. Site address:

90 North Winchester Boulevard
Santa Clara, California

3. Type of Site:

[X] RP-lead [ ] NPL (listed or proposed)
[ ] DTSC-lead [ ] RWQCB-lead
[ ] EPA-lead [ ] Local Agency-lead

4. Size of Site:

[] Small [ ] Medium
[X] Large [ ] X-Large

5. Names of Responsible Parties:

State of California
Department of General Services

6. Role of DTSC in Removal Action (RA):

[ ] DTSC implemented RA directly.
[X] DTSC provided oversight/guidance to RPs or other state, local or federal agency for RA.

7. Description of RA:

The RA consisted of shallow excavation of soils contaminated with arsenic and dieldrin from a former agricultural research facility. In most areas, excavation went to between 1 and 3 feet below ground surface. The excavation under the former Building 100 basement went to 11 feet. Approximately 6,000 cys of soil was excavated and removed. Approximately 840 tons (from Hotspot #3) of this soil was disposed of as California (non-RCRA) hazardous waste at Clean Harbors Buttonwillow LLC. Approximately 12,532 tons were disposed of as nonhazardous waste at TriCities Recycling and Disposal Facility, in Fremont, California. During excavation activities in Field 4, an approximately 2,000 gallon underground fuel storage tank (UST) was found.

The UST was drained, washed, removed and disposed under oversight of the Santa Clara Fire Department. Dust monitoring was conducted on an hourly basis at the perimeter of the site as well as within the excavation and loading areas while contaminated soils were being handled.

8. Cost of RA:

The cost of the removal action is unknown.

9. Date of RA:

The removal action began on May 10th and was completed on June 30, 2010.

10. Work Remaining to be done at Site:

No further work related to hazardous substances remains.

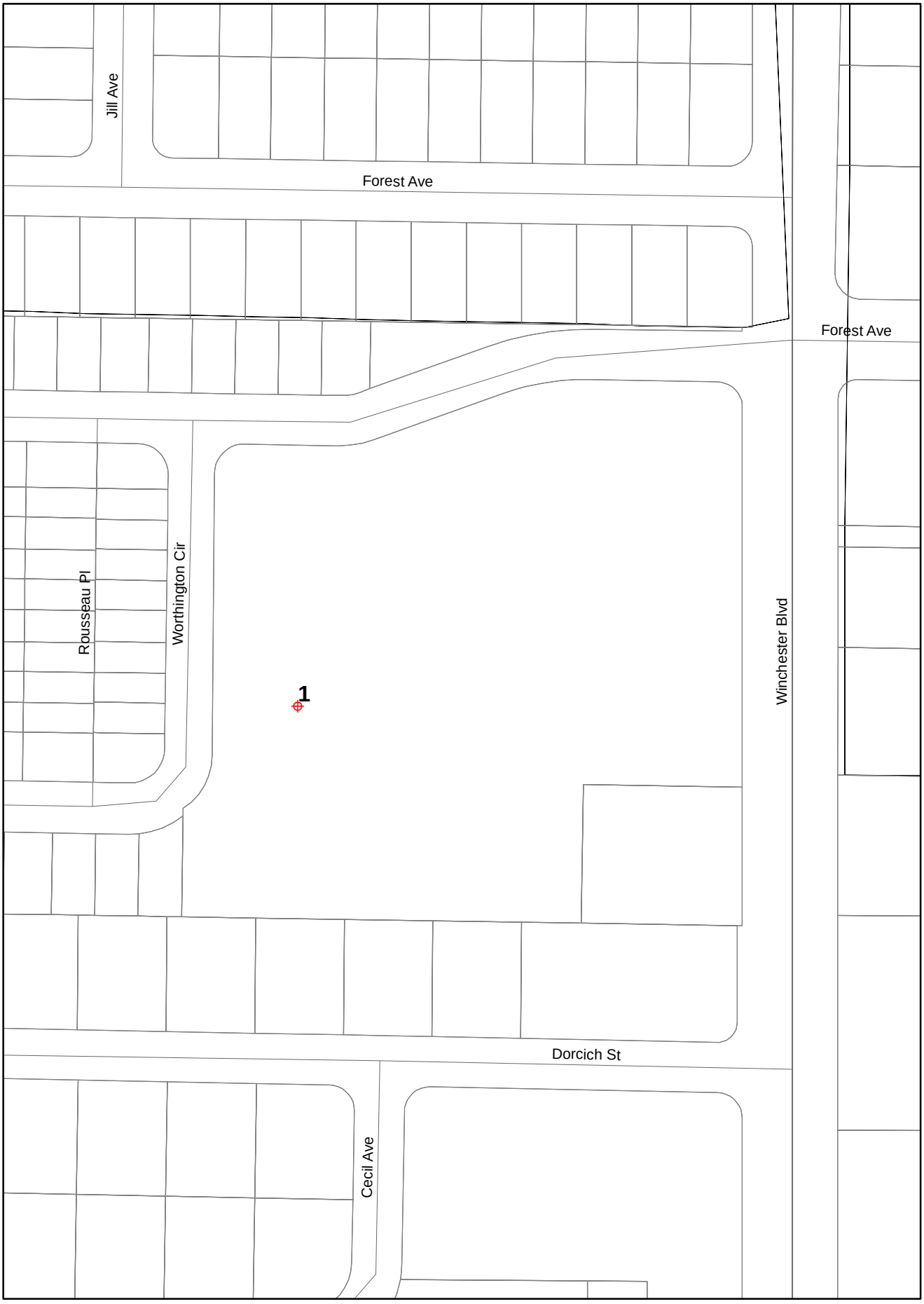
Karen M. Toth P.E. - Unit Chief

8/9/2010
Date

Barbara J. Cook, P.E., Performance Manager

8/10/2010
Date

ID	CONSULTANT	PERMIT	WELLID	WELLSTATUS	
1		04D00277	07S01W15H001	D	


Jill Ave
Forest Ave
Forest Ave
Rousseau Pl
Worthington Cir
1
Winchester Blvd
Dorcich St
Cecil Ave

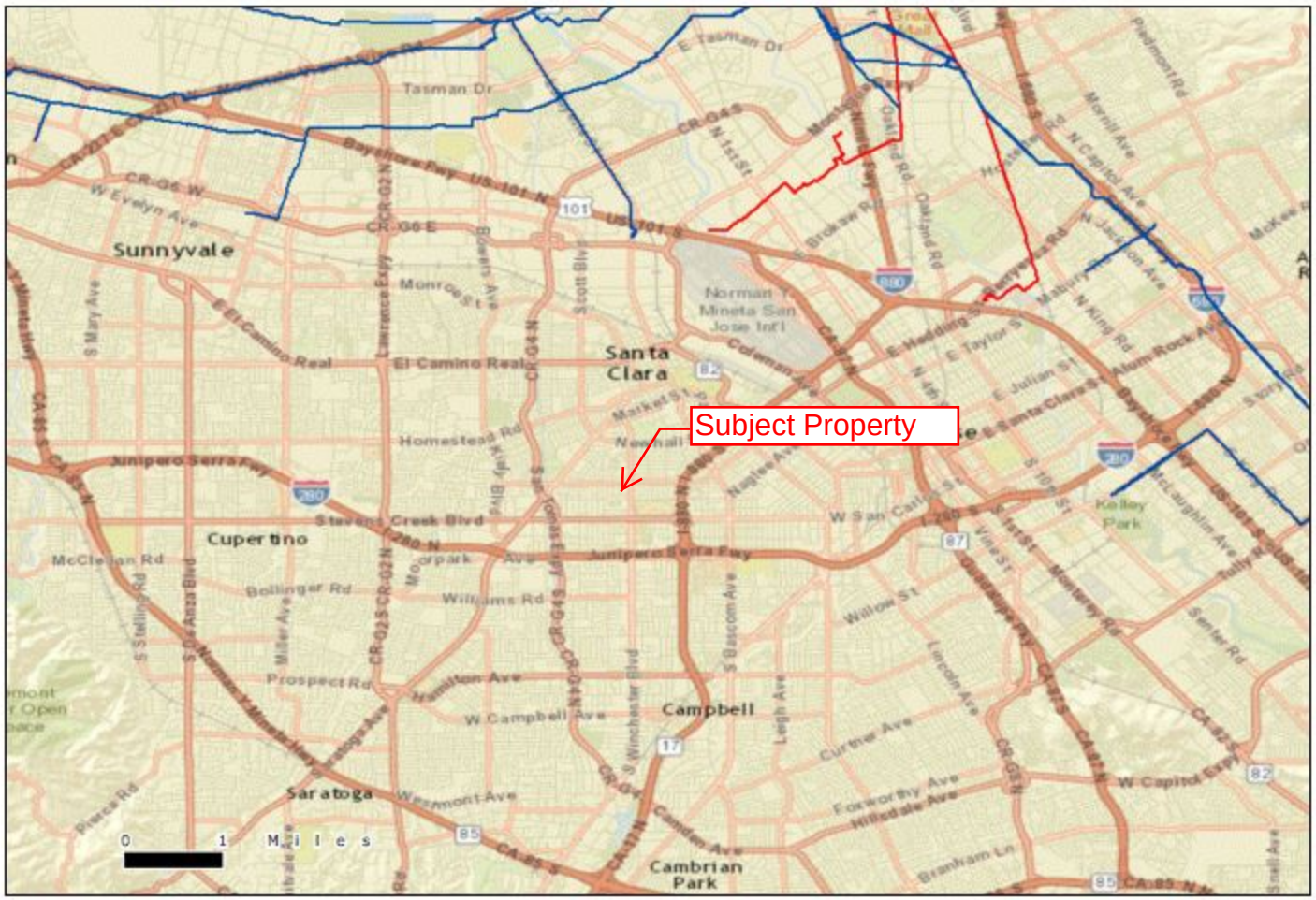
NPMS Public Map Viewer

Public Viewer Layer List

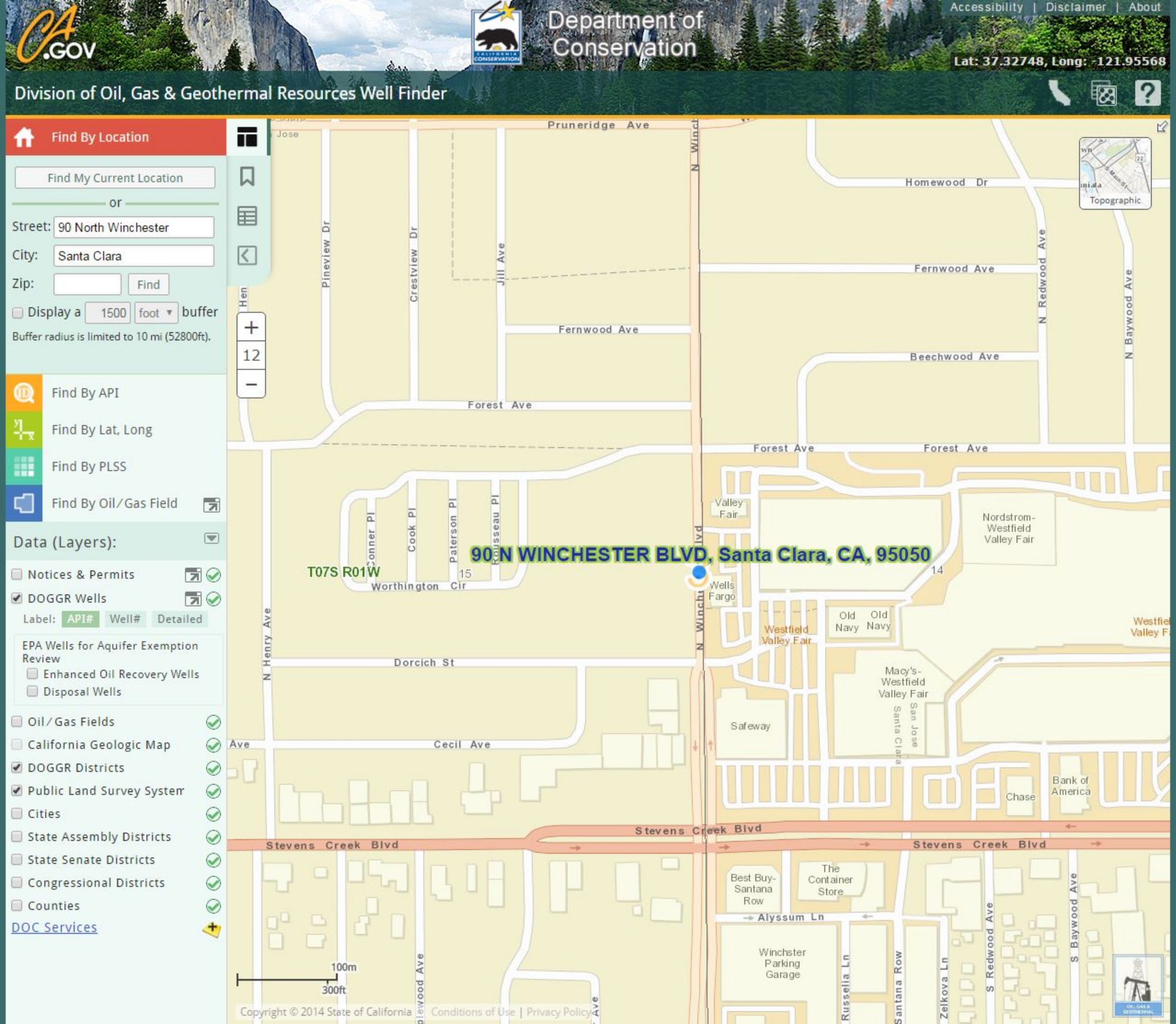
- [x] Gas Transmission Pipelines (scale dependent)
  - GAS
- [x] Hazardous Liquid Pipelines (scale dependent)
  - LIQUID
- [ ] LNG Plants (scale dependent)
- [ ] Breakout Tanks (scale dependent)
- [ ] Other Populated Areas (scale dependent)
- [ ] Highly Populated Areas (scale dependent)
- [ ] Roads, Railroads & Airports
  - [x] World Transportation
- [ ] Boundary Lines & Names
  - [x] World Boundaries and Places
- [ ] Shaded Relief
  - [x] World Shaded Relief
- [ ] Aerial
  - [x] World Imagery
  - [x] Low Resolution 15m Imagery
  - [x] High Resolution 60cm Imagery
  - [x] High Resolution 30cm Imagery

Please refer to the User Manual which is accessible via the Help link for guidance on this map application. If you need additional assistance, please contact the NPMS National Repository staff at npms@dot.gov or 703-317-6294.

View pipelines by ...



All Rights Reserved - PHMSA - Pipeline and Hazardous Materials Safety Administration - 2012


CA.GOV
Department of Conservation
Accessibility | Disclaimer | About
Lat: 37.32748, Long: -121.95568
Division of Oil, Gas & Geothermal Resources Well Finder
Find By Location
Find My Current Location
or
Street: 90 North Winchester
City: Santa Clara
Zip:
Find
Display a 1500 foot buffer
Buffer radius is limited to 10 mi (52800ft).
Find By API
Find By Lat, Long
Find By PLSS
Find By Oil/Gas Field
Data (Layers):
Notices & Permits
DOGGR Wells
Label: API# Well# Detailed
EPA Wells for Aquifer Exemption Review
Enhanced Oil Recovery Wells
Disposal Wells
Oil/Gas Fields
California Geologic Map
DOGGR Districts
Public Land Survey System
Cities
State Assembly Districts
State Senate Districts
Congressional Districts
Counties
DOC Services
90 N WINCHESTER BLVD, Santa Clara, CA, 95050
T07S R01W
Pruneridge Ave
Homewood Dr
Fernwood Ave
Beechwood Ave
Forest Ave
Dorcich St
Cecil Ave
Stevens Creek Blvd
Alyssum Ln
Worthington Cir
Pineview Dr
Crestview Dr
Jill Ave
N Redwood Ave
N Baywood Ave
N Henry Ave
S Redwood Ave
S Baywood Ave
Valley Fair
Nordstrom-Westfield Valley Fair
Wells Fargo
Westfield Valley Fair
Old Navy
Macy's-Westfield Valley Fair
Safeway
Chase
Bank of America
Best Buy-Santana Row
The Container Store
Winchster Parking Garage
Topographic
100m
300ft
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AEI Consultants
Environmental & Engineering Services
2500 Camino Diablo, Walnut Creek, CA 94597
Tel: 925.746.6000 Fax: 925.746.6099

March 30, 2016

Attn: File Review
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, CA 94710
(510) 540-3800
(510) 540-3801 FAX

Subject: File Review Request
AEI Project No. 356064

To Whom It May Concern:

AEI has been contracted to perform a Phase I Environmental Site Assessment. Please indicate if you have any current or archived records pertaining to aboveground storage tanks (ASTs), underground storage tanks (USTs), hazardous materials storage/disposal, industrial waste discharges, and/or releases for the following site:

- 90 North Winchester Boulevard, Santa Clara, CA (APN: 303-17-053)
  Bay Area Research Extension Center
  EnviroStor ID #43010031

If you do not have any records, please indicate in the space below and fax back this sheet to (510) 338-3192, call me at (510) 907-3145 x2109, or e-mail me at escudero@aeiconsultants.com if you have any questions.

Sincerely,

Elizabeth Scudero
Project Manager

☐ No Files for address(es) listed above
Name: _____
Title: _____
Phone: _____

X_____ _____
Signature Date

AEI Consultants
Environmental & Engineering Services
2500 Camino Diablo, Walnut Creek, CA 94597
Tel: 925.746.6000 Fax: 925.746.6099

March 30, 2016

Attn: File Review
Santa Clara County Environmental Health Department
1555 Berger Drive, Suite 300
San Jose, CA 95128
(408) 918-3400 general phone
(408) 280-6479 FAX

Subject: File Review Request
AEI Project No. 356064

To Whom It May Concern:

AEI has been contracted to perform a Phase I Environmental Site Assessment. Please indicate if you have any current or archived records pertaining to aboveground storage tanks (ASTs), underground storage tanks (USTs), hazardous materials storage/disposal, industrial waste discharges and/or spills/releases for the following site(s):

- 90 North Winchester Boulevard, Santa Clara, CA
  APN: 303-17-053

If you do not have any records, please indicate in the space below and fax back this sheet to (510) 338-3192, or contact me at (510) 907-3145 x2109 or at escudero@aeiconsultants.com if you have any questions.

Sincerely,

Elizabeth Scudero
Project Manager

☐ No Files for address(es) listed above
Name: _____
Title: _____
Phone: _____

X_____ _____
Signature Date

RESPONSE TO RECORDS REQUEST 033016D

Projects/356064 Santa Clara, CA x

Reyna, Susanna Susanna.Reyna@deh.sccgov.org via sccconnect.onmicrosoft.com Mar 30

to me, Raquel

Good afternoon,

Thank you for your recent record request received on 3/30/16 for the following address in SANTA CLARA:

90 NORTH WINCHESTER BOULEVARD

We have no records for this location. However, additional electronic documents may be found on the following websites:

Local Oversight Program (LOP)
GEOTracker (GT)

Please be advised that in some cities, other participating agencies may be responsible for maintaining the type of files you requested. This link may be of assistance in determining who will have the documents you are looking for in the future:
UNIDOCS – Who regulates what in Santa Clara County

Best regards,

Susanna Reyna
Administrative Support Officer
County of Santa Clara
Department of Environmental Health
408-918-3496
408-298-6261 Fax
susanna.reyna@deh.sccgov.org

NOTICE: This email message and/or its attachments may contain information that is confidential or restricted. It is intended only for the individuals named as recipients in the message. If you are NOT an authorized recipient, you are prohibited from using, delivering, distributing, printing, copying, or disclosing the message or content to others and must delete the message from your computer. If you have received this message in error, please notify the sender by return email.

-

People (2)

Reyna, Susanna
susanna.reyna@deh.sccgov.org

Show details

Roberta Stewart <rstewart@valleywater.org> Mar 29

to me, PublicRecords

Hello,

District staff has reviewed their documents and do not have anything for the addresses below. Please be aware that the Santa Clara Valley Water District is not the lead agency for Solvent and Contamination files. All of our past files are available electronically with the County of Santa Clara, Department of Environmental Health at: http://lustop.sccgov.org
Please also see the other recommended sites in the attachment.

We do provide some files at: http://www.valleywater.org/Services/FuelLeaksAndSolvents.aspx ; however, please note that these files may be incomplete and not kept up to date. For the official records you will need to contact the appropriate regulatory agency listed in the attached file. Please bookmark these websites for your future reference.

Also try the local Fire Department.

Sincerely,

Santa Clara Valley Water District

ROBERTA STEWART
SENIOR OFFICE SPECIALIST
PUBLIC RECORDS ASSISTANT
Records and Library Unit
Office(408) 630-2838 Hotline(408) 630-2360
PublicRecords@valleywater.org

From: Elizabeth Scudero [mailto:escudero@aeiconsultants.com]
Sent: Monday, March 28, 2016 4:53 PM
To: PublicRecords
Subject: Request to view records

APPENDIX F

ENVIRONMENTAL LIEN SEARCH AND/OR CHAIN OF TITLE

Environmental Liens / AUL Report

AFX Corp., Inc. TitleSearch.com - EnvironmentalLiens.com

Order Number	356064	**Effective Date**	3/25/2016		
Last name	HOUSING AUTHORITY OF THE CITY OF SANTA CLARA				
First name		**County**	SANTA CLARA		
Street address	90 NORTH WINCHESTER DR	**City**	SANTA CLARA	**State**	CALIFORNIA
Mailing address	1500 WARBURTON AVE, SANTA CLARA CA 95050-3713				
Parcel Number	303-17-053	**Alternate parcel number**			
Legal Desc.	PARCEL 3, 5.75AC				

Federal, state, and local environmental records have been researched, resulting in the following list of recorded environmental liens and AUL's (activity and usage limitations) for the subject property having been found:

ENVIRONMENTAL LIENS, IC s, LUC s, AUL s, & DEUR s

1 NONE FOUND WITH UNITED STATES EPA
2 NONE FOUND WITH CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
3 NONE FOUND IN THE SANTA CLARA COUNTY OFFICIAL LAND RECORDS
4

JUDGMENTS, LIENS

1 NONE FOUND WITH CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
2 NO PENDING ENFORCEMENT ACTION LOCATED
3
4

OTHER INFORMATION:

This search is subject to the terms and conditions at TitleSearch.com.

APPENDIX G

QUALIFICATIONS

Elizabeth Scudero – Project Manager, Due Diligence

BA – Environmental Studies, University of California, Santa Cruz
BA – Feminist Studies (emphasis in Science, Technology, and Medicine), University of California, Santa Cruz

EPA accredited Asbestos Building Inspector
CA Certified Lead Sampling Technician

Ms. Scudero has been in the environmental service industry since 2013. She provides project management to ensure ASTM compliance and satisfaction of client requirements for Phase I Environmental Site Assessments, Environmental Transaction Screens, Regulatory Database Reviews, and Historical Records Reviews.

Project experience for Ms. Scudero includes:

- Phase I Environmental Site Assessments
- Limited Environmental Site Assessments
- Environmental Transaction Screens
- Records Research with Risk Assessments
- Regulatory Database Reviews
- Historical Records Reviews

In addition, prior to joining the environmental consulting industry, Ms. Scudero spent four years studying a diverse range of environmental disciplines including: restoration ecology, political ecology, environmental policy, agriculture and sustainable agriculture, environmental economics, environmental justice, and geography.

Shannon Lefebvre – National Client Manager

BS Earth Science, Western Michigan University

Ms. Lefebvre has nearly 20 years of experience in the environmental services industry, primarily as a project manager working directly with clients to fulfill their environmental needs. Ms. Lefebvre has been responsible for management of small local clients as well as large national and regional accounts.

Project experience for Ms. Lefebvre includes:

- Phase I Environmental Site Assessments – Responsible for scheduling and managing all phases of environmental assessments and due diligence including debt and equity type clients. Properties range from large and small acreage raw land to residential, agricultural, retail, commercial and industrial properties. Projects included single sites and large portfolios of sites.

- Phase II Environmental Site Assessments – Responsible for planning and coordinating all phases of subsurface soil investigation at former landfills, agricultural operations, underground storage tank (UST) sites, dry cleaners, and industrial facilities; interpretation of analytical results and technical review of peer reports. Projects included removal of USTs and associated remediation for Leaking Underground Storage Tank (LUST) case closure.

- National Environmental Policy Act (NEPA) Compliance – Responsible for all aspects of NEPA compliance for telecommunication towers including tribal notification, review of archaeology reports and endangered species reports, State Historic Preservation Office (SHPO) submittals, and windshield surveys), for preparation of Environmental Assessments/Finding of No Significant Impact (FONSI), and Environmental Impact Statements (EIS).

- Stormwater Pollution Prevention Plans (SWPPP)– Responsible for preparation of SWPPPs for Arizona Department of Transportation (ADOT) statewide maintenance facilities, interpretation of analytical results of storm water sampling from ADOT facilities for comparison to regulatory requirements and preparation of reports; conducting annual SWPPP inspections for City of Phoenix Aviation Department, preparation of ADOT Quality Assurance Manual and ADOT Enforcement Response Plan.

- Indoor Air Quality - Responsible for the management and planning of assessment and remediation oversight regarding indoor quality issues for apartment complexes, dialysis facilities, mobile office units, retail centers, and banking workplaces throughout the U.S. Roles include instituting assessment criteria and remediation strategies.

- Asbestos – Responsible for managing asbestos survey and abatement projects throughout the U.S. Properties include multi-family complexes, banking centers, dialysis facilities, mobile office units and retail facilities. Work performed ranged from due diligence and/or proposed demolition projects, including large scale retail malls, to localized assessment for renovations for property upgrades.

Appendix C

April 29, 2019

Mr. Tyler Rogers
DAVID J. POWERS AND ASSOCIATES
1871 The Alameda, Suite 200
San Jose, California 95126

Re: HUD Explosive and Fire Hazards Review
90 N. Winchester Agrihood NEPA
90 N. Winchester Boulevard
San Jose, California

Dear Mr. Rogers:

This HUD Explosive and Fire Hazards Review was performed for David J. Powers and Associates, who is preparing a NEPA assessment in connection with the proposed 90 N. Winchester Agrihood development. The project is planned on the property located at 90 N. Winchester Boulevard, in San Jose, California.

Purpose

The purpose of this HUD Explosive and Fire Hazards Review was to identify facilities in the vicinity of the project site having significant observed or reported Specific Hazardous Substances (per 24 CFR Part 51 C, Appendix I) storage, and to evaluate the "acceptable separation distance (ASD)" for the storage containers with respect to their proximity to the project site. This letter was prepared in accordance with the Agreement for Professional Services dated April 22, 2019.

Scope of Work

This survey was conducted in general accordance with 24 CFR Part 51 Subpart C, Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature. The scope of work performed included the tasks on the following page.

- Performed a visual survey of the site vicinity in an attempt to identify readily observable names and addresses of businesses located within an approximately 2,000-foot radius of the project site appearing to have the potential to store significant quantities of Specific Hazardous Substances (list appended to this letter) in stationary aboveground containers.

- Requested the most recent available Santa Clara County Environmental Health Department (SCCEHD) hazardous materials inventory for each of the identified facilities; reviewed available/provided inventories.

- Requested and reviewed additional information provided by SCCEHD, as needed, on specific hazardous materials storage locations.

- Calculated ASDs for facilities with reported storage of qualifying quantities of Specific Hazardous Substances stored in aboveground containers.

Identified Potentially Significant Vicinity Facilities

On April 23, 2019, a visual survey of the businesses within approximately 2,000 feet of the project site was performed in an attempt to identify those appearing likely to store significant quantities of Specific Hazardous Substances. Current hazardous materials/waste inventories for nine identified businesses were requested from the SCCEHD; four of the identified businesses had hazardous materials inventories on file, which the SCCEHD provided via email.

The SCCEHD provided documentation reporting storage of Specific Hazardous Substances (per 24 CFR Part 51 C, Appendix I) at quantities determined to warrant calculation of ASDs, in general accordance with the procedures outlined in 24 CFR Part 51 C, for three facilities. The SCCEHD provided additional storage location information for one facility.

A summary of the three businesses with storage of Specific Hazardous Substances, and the most conservative calculated ASD for each, is presented in the table on the following page. The complete ASD calculations are included as an attachment to this letter.

IDENTIFIED POTENTIALLY SIGNIFICANT FACILITIES AND ASSOCIATED ASDS

Facility Name	Facility Address	Approximate Distance from Site* (feet)	Calculated ASD (feet)
Goodyear Auto Service	486 N. Winchester Blvd.	178**	245 gallons oil/waste oil = 154
Goodyear Auto Service	3146 Stevens Creek Blvd.	832	275 gallons used oil = 162
Audi Stevens Creek	3350 Stevens Creek Blvd.	1,348	500 gallons oil/waste oil = 208

* Distance from anticipated storage location of explosive and/or flammable material to nearest property line of the project site measured using ruler feature of Google Earth.

**Distance from storage location provided by SCCEHD to nearest property line of the project site measured using ruler feature of Google Earth. Per SCCEHD inspector note, "this information is unconfirmed and should not be used to determine compliance requirements".

Conclusions

Based on the calculated values, the ASD for each of the identified Specific Hazardous Substances reported at vicinity facilities is satisfied for the project site.

It should be noted that the ASD calculated for oil/waste oil storage at the Goodyear Auto Service facility at 486 N. Winchester Boulevard, adjacent east of N. Winchester Boulevard from the project site, is satisfied for the location of the ASTs provided by the SCCEHD inspector. Per information provided by the inspector however, the AST locations are "unconfirmed and should not be used to determine compliance requirements". If required, a further degree of confirmation could be obtained through performance of a site reconnaissance and/or interview with the business operator.

Limitations

The conclusions and recommendations made in this letter regarding potentially significant Specific Hazardous Substances users within the site vicinity were based on business names/addresses readily observable from accessible public right-of-ways and review of provided readily available documents containing data collected and/or reported by others at the time this study was performed. Other businesses using Specific Hazardous Substances may have been located within a 2,000-foot radius of the site but were not observable or readily identifiable at the time this study was performed; data collected and/or reported by others may or may not have been accurate. The accuracy and completeness of hazardous materials information provided by the SCCEHD is unknown. More accurate information on types, quantities, and storage conditions of explosive and/or flammable materials used at vicinity facilities could be obtained through performance of a site reconnaissance and/or interview with the business operators.

The data and conclusions presented in this letter are applicable only to the time this study was performed. Businesses and materials used within the site vicinity likely will change over time and

this study should be updated as appropriate, to ensure that the most currently available data has been included. As with all HUD Explosive and Fire Hazard Reviews, the extent of information obtained was a function of client demands, time limitations, access limitations, and budgetary constraints.

This letter was prepared for the sole use of David J. Powers and Associates. No warranty, expressed or implied, has been made, except that the services have been performed in accordance with environmental principles generally accepted at this time and location.

Thank you for allowing Running Moose Environmental Consulting, LLC to assist you with this project. If you have any questions, please do not hesitate to call.

Sincerely,

Running Moose Environmental Consulting, LLC

Belinda P. Blackie, P.E.
P.E. Number C56448
Principal Environmental Engineer

References

California Environmental Reporting System (CERS). *Hazardous Materials and Wastes Inventory Matrix Report, Audi Stevens Creek, 3350 Stevens Creek Bl., San Jose 95117*. February 15, 2019.

CERS. *Hazardous Materials and Wastes Inventory Matrix Report, Goodyear Auto Service Center, 3176 Stevens Creek Bl., San Jose 95117*. March 28, 2018.

CERS. *Hazardous Materials and Wastes Inventory Matrix Report, Goodyear Auto Svc Ctr. #8766, 486 N. Winchester Bl., San Jose 95128. March 30, 2018*.

Cornell Law School, Legal Information Institute. *Appendix I to Subpart C of Part 51 – Specific Hazardous Substances*. Undated. https://www.law.cornell.edu/cfr/text/24/appendix-I_to_subpart_C_of_part_51

HUD. *24 CFR Part 51 Subpart C, Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature, Acceptable Separation Distance (ASD) Electronic Assessment Tool*. 2018. https://www.hudexchange.info/environmental-review/asd-calculator/

HUD Exchange. *Explosive and Flammable Facilities*. 2018. https://www.hudexchange.info/environmental-review/explosive-and-flammable-facilities/

Specific Hazardous Substances
(per Appendix I to Subpart C of Part 51)

Hazardous Liquids	Hazardous Gases
Acetic Acid	Acetaldehyde
Acetic Anhydride	Butadiene
Acetone	Butane
Acrylonitrile	Ethene
Amyl Acetate	Ethylene
Amyl Alcohol	Ethylene Oxide
Benzene	Hydrogen
Butyl Acetate	Liquefied Natural Gas (LNG)
Butyl Acrylate	Liquefied Petroleum Gas (LPG)
Butyl Alcohol	Propane
Carbon Bisulfide	Propylene
Carbon Disulfide	Vinyl Chloride
Cellosolve	
Cresols	
Crude Oil (Petroleum)	
Cumene	
Cyclohexane	
No. 2 Diesel Fuel	
Ethyl Acetate	
Ethyl Acrylate	
Ethyl Alcohol	
Ethyl Benzene	
Ethyl Dichloride	
Ethyl Ether	
Gasoline	
Heptane	
Hexane	
Isobutyl Acetate	
Isobutyl Alcohol	
Isopropyl Acetate	
Isopropyl Alcohol	
Jet Fuel and Kerosene	
Methyl Alcohol	
Methyl Amyl Alcohol	
Methyl Cellosolve	
Methyl Ethyl Ketone	
Naptha	
Pentane	
Propylene Oxide	
Toluene	
Vinyl Acetate	
Xylene	

ASD Calculations

All ASDs were calculated using the program at:
https://www.hudexchange.info/environmental-review/asd-calculator/

Values listed in summary table within the letter were rounded to the nearest whole foot.

Goodyear Auto Service – 486 N. Winchester Boulevard

- 245 gallons motor oil/used oil (ambient pressure)
  ASD for Thermal Radiation for People = 153.93 feet
  ASD for Thermal Radiation for Buildings = 26.24 feet

Goodyear Auto Service – 3146 Stevens Creek Boulevard

- 275 gallons used oil (ambient pressure)
  ASD for Thermal Radiation for People = 161.52 feet
  ASD for Thermal Radiation for Buildings = 27.68 feet

Audi Stevens Creek – 3350 Stevens Creek Boulevard

- 500 gallons motor oil/waste motor oil (ambient pressure)
  ASD for Thermal Radiation for People = 207.20 feet
  ASD for Thermal Radiation for Buildings = 36.50 feet

GOODYEAR AUTO SVC CTR #8766 (CERSID: 10353322)

Facility Information Accepted Apr 2, 2018

Submitted on 3/30/2018 7:17:26 AM by *Chris Wiley* of The Goodyear Tire and Rubber Company (Akron, Oh)
Submittal was ***Accepted*** on 4/2/2018 5:11:17 PM by Yoni Fajardo
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection.

- Business Activities
- Business Owner/Operator Identification

Hazardous Materials Inventory Accepted Apr 2, 2018

Submitted on 3/30/2018 7:17:26 AM by *Chris Wiley* of The Goodyear Tire and Rubber Company (Akron, Oh)
Submittal was ***Accepted*** on 4/2/2018 5:11:22 PM by Yoni Fajardo
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection.

- Hazardous Material Inventory (7)
- Site Map (Official Use Only)
  - *Annotated Site Map (Official Use Only)* (Web graphic, 365KB)

Emergency Response and Training Plans Accepted Apr 2, 2018

Submitted on 3/30/2018 7:17:26 AM by *Chris Wiley* of The Goodyear Tire and Rubber Company (Akron, Oh)
Submittal was ***Accepted*** on 4/2/2018 5:11:48 PM by Yoni Fajardo
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection. On your next submittal, please update the local CUPA phone number (408-918-3400) & the Regional Water Quality Control phone number (510-622-2300).

- Emergency Response/Contingency Plan
  - *Emergency Response/Contingency Plan* (Adobe PDF, 152KB)
- Employee Training Plan
  - *Employee Training Plan* (MS Excel, 20KB)

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location		CERS ID	**10353322**
Facility Name	**GOODYEAR AUTO SVC CTR #8766** 486 N WINCHESTER BL, SAN JOSE 95128	**In Shop**		Facility ID Status	**Submitted** on 3/30/2018 7:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Ethylene Glycol** CAS No 107-21-1	**Gallons** State Liquid Type Waste	**55** Storage Container Plastic/Non-metalic Drum Days on Site: 365	**55**	30 Pressue Ambient Temperature Ambient	400 Waste Code 343	- Health Acute Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location	CERS ID **10353322**
Facility Name	**GOODYEAR AUTO SVC CTR #8766** 486 N WINCHESTER BL, SAN JOSE 95128	**Inside storage Area**	Facility ID Status **Submitted** on 3/30/2018 7:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Motor Oil** CAS No	**Gallons** State: Liquid Type: Mixture	**760** Storage Container: Tank Inside Building, Steel Drum, Plastic Bottle or Jug Days on Site: 365	**245**	300 Pressue: Ambient Temperature: Ambient	0 Waste Code: 221		VARIOUS LUBRICATING BASE OILS ADDITIVE PACKAGE, INCLUDING ZINC ALKYLDITHIOPHOSPHATE	85 % 15 % 2 %		6474X-XX-X MIXTURE 68649-42-3
Combustible Liquid, Class III-B	**Used lubricating oils** CAS No: 70514-12-4	**Gallons** State: Liquid Type: Waste	**245** Storage Container: Tank Inside Building Days on Site: 365	**245**	110 Pressue: Ambient Temperature: Ambient	1450 Waste Code: 221					
	Automatic Transmission Fluid CAS No	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Steel Drum Days on Site: 365	**55**	25 Pressue: Temperature:	0 Waste Code:					
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**Misc Aerosols** CAS No	**Pounds** State: Liquid Type: Waste	**100** Storage Container: Steel Drum Days on Site: 365	**100**	100 Pressue: Ambient Temperature: Ambient	300 Waste Code:	- Physical Flammable - Physical Gas Under Pressure				
Combustible Liquid, Class III-B	**Ethylene Glycol** CAS No: 107-21-1	**Gallons** State: Liquid Type: Mixture	**110** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code: 343	- Health Acute Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location		CERS ID	**10353322**
Facility Name	**GOODYEAR AUTO SVC CTR #8766** 486 N WINCHESTER BL, SAN JOSE 95128	**Outside, covered area**		Facility ID Status	**Submitted** on 3/30/2018 7:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Drained Used Oil Filters	**Gallons**	**600**	**600**	200	1800		Waste Petroleum Hydrocarbons	100 %		Mixture
	CAS No NA	State Solid	Storage Container Other		Pressue Ambient	Waste Code 223					
		Type Mixture	Days on Site: 365		Temperature Ambient						

Google Maps

Imagery ©2019 Google, Map data ©2019 Google 50 ft

GOODYEAR AUTO SERVICE CENTER (CERSID: 10351687)

Facility Information Accepted Apr 9, 2018

Submitted on 3/28/2018 10:17:29 AM by *Chris Wiley* of The Goodyear Tire and Rubber Company (Akron, Oh)
Submittal was ***Accepted*** on 4/9/2018 10:38:03 AM by Yoni Fajardo
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection.

- Business Activities
- Business Owner/Operator Identification

Hazardous Materials Inventory Accepted Apr 9, 2018

Submitted on 3/28/2018 10:17:29 AM by *Chris Wiley* of The Goodyear Tire and Rubber Company (Akron, Oh)
Submittal was ***Accepted*** on 4/9/2018 10:37:58 AM by Yoni Fajardo
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection.

- Hazardous Material Inventory (12)
- Site Map (Official Use Only)
  - *Annotated Site Map (Official Use Only)* (Web graphic, 790KB)

Emergency Response and Training Plans Accepted Apr 9, 2018

Submitted on 3/28/2018 10:17:29 AM by *Chris Wiley* of The Goodyear Tire and Rubber Company (Akron, Oh)
Submittal was ***Accepted*** on 4/9/2018 10:37:50 AM by Yoni Fajardo
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection. On your next submittal, please update the Regional Water Quality Control phone number. It should be 510-622-2300.

- Emergency Response/Contingency Plan
  - *Emergency Response/Contingency Plan* (Adobe PDF, 155KB)
- Employee Training Plan
  - *Employee Training Plan* (MS Excel, 20KB)

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location		CERS ID	**10351687**
Facility Name	**GOODYEAR AUTO SERVICE CENTER** 3146 STEVENS CREEK BL, SAN JOSE 95117	**Inside Location**		Facility ID Status	**Submitted** on 3/28/2018 10:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Brake Fluid** CAS No 107-21-1	**Gallons** State Liquid Type Pure	**32** Storage Container Plastic Bottle or Jug	**1**	10 Pressue Ambient Temperature Ambient	Waste Code	- Health Acute Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location		CERS ID	**10351687**
Facility Name	**GOODYEAR AUTO SERVICE CENTER** 3146 STEVENS CREEK BL, SAN JOSE 95117	**Parking lot**		Facility ID Status	**Submitted** on 3/28/2018 10:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Quantities Largest Cont.	Quantities Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Ethylene Glycol** CAS No 107-21-1	**Gallons** State Liquid Type Waste	**55** Storage Container Plastic/Non-metalic Drum	**55**	30 Pressue Ambient Temperature Ambient	600 Waste Code	- Health Acute Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location		CERS ID	**10351687**
Facility Name	**GOODYEAR AUTO SERVICE CENTER** 3146 STEVENS CREEK BL, SAN JOSE 95117	**Service Area**		Facility ID Status	**Submitted** on 3/28/2018 10:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
Combustible Liquid, Class III-B	**Waste Brake Fluid** CAS No 107-21-1	**Gallons** State Liquid Type Waste	**40** Storage Container Steel Drum, Other Days on Site: 365	**30**	15 Pressue Ambient Temperature Ambient	120 Waste Code 343	- Health Acute Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location	CERS ID **10351687**
Facility Name	**GOODYEAR AUTO SERVICE CENTER** 3146 STEVENS CREEK BL, SAN JOSE 95117	**Service Bay**	Facility ID Status **Submitted** on 3/28/2018 10:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Ozzy Juice Parts Washer Fluid	**Gallons**	**80**	**40**	40						
	CAS No	State: Liquid	Storage Container: Plastic Bottle or Jug, Other		Pressue: Ambient	Waste Code					
		Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**The Goodyear Tire and Rubber Company**	Chemical Location	CERS ID **10351687**
Facility Name	**GOODYEAR AUTO SERVICE CENTER** 3146 STEVENS CREEK BL, SAN JOSE 95117	**Warehouse**	Facility ID Status **Submitted** on 3/28/2018 10:17 AM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**Waste Aerosol Cans** CAS No	**Gallons** State: Liquid Type: Waste	**55** Storage Container: Steel Drum Days on Site: 365	**55**	10 Pressure: Ambient Temperature: Ambient	110 Waste Code:	- Physical Gas Under Pressure				
Combustible Liquid, Class III-B	**Waste Absorbent** CAS No	**Gallons** State: Solid Type: Waste	**110** Storage Container: Steel Drum Days on Site: 365	**55**	35 Pressure: Ambient Temperature: Ambient	330 Waste Code: 223	- Health Acute Toxicity				
Combustible Liquid, Class III-B	**Automatic Transmission Fluid** CAS No	**Gallons** State: Liquid Type: Mixture	**120** Storage Container: Steel Drum, Other Days on Site: 365	**55**	55 Pressure: Ambient Temperature: Ambient	0 Waste Code:					
	Gear Oil/Differential Oil CAS No: 70514-12-4	**Gallons** State: Liquid Type: Mixture	**16** Storage Container: Steel Drum Days on Site: 365	**16**	10 Pressure: Ambient Temperature: Ambient	Waste Code: 221					
	Lithium grease CAS No	**Pounds** State: Solid Type: Mixture	**800** Storage Container: Steel Drum Days on Site: 365	**220**	600 Pressure: Ambient Temperature: Ambient	Waste Code:					
	Drained Used Oil Filters CAS No: NA	**Gallons** State: Solid Type: Waste	**110** Storage Container: Steel Drum Days on Site: 365	**55**	30 Pressure: Ambient Temperature: Ambient	600 Waste Code: 223		Waste Petroleum Hydrocarbons	100 %		Mixture
Combustible Liquid, Class III-B	**Motor Oil** CAS No	**Gallons** State: Liquid Type: Mixture	**800** Storage Container: Aboveground Tank, Steel Drum, Plastic Bottle or Jug Days on Site: 365	**220**	400 Pressure: Ambient Temperature: Ambient	Waste Code: 221		VARIOUS LUBRICATING BASE OILS ADDITIVE PACKAGE, INCLUDING ZINC ALKYLDITHIOPHOSPHATE	85 % 15 % 2 %		6474X-XX-X MIXTURE 68649-42-3
	Used lubricating oils CAS No: 70514-12-4	**Gallons** State: Liquid Type: Waste	**335** Storage Container: Aboveground Tank, Steel Drum Days on Site: 365	**275**	100 Pressure: Ambient Temperature: Ambient	4300 Waste Code: 221					

AUDI STEVENS CREEK (CERSID: 10351930)

Facility Information Accepted Feb 15, 2019

Submitted on 2/15/2019 3:50:34 PM by *Tabatha Billingslea* of Penske Automotive Group (San Francisco, CA)
Submittal was ***Accepted*** on 2/15/2019 4:34:44 PM by Xavier Dupree
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection.

- Business Activities
- Business Owner/Operator Identification

Hazardous Materials Inventory Accepted Feb 15, 2019

Submitted on 2/15/2019 3:50:34 PM by *Tabatha Billingslea* of Penske Automotive Group (San Francisco, CA)
Submittal was ***Accepted*** on 2/15/2019 4:34:55 PM by Xavier Dupree
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection.

- Hazardous Material Inventory (12)
- Site Map (Official Use Only)
  - *Annotated Site Map (Official Use Only)* (Adobe PDF, 444KB)

Emergency Response and Training Plans Accepted Feb 15, 2019

Submitted on 2/15/2019 3:50:34 PM by *Tabatha Billingslea* of Penske Automotive Group (San Francisco, CA)
Submittal was ***Accepted*** on 2/15/2019 4:35:04 PM by Xavier Dupree
Comments by regulator: Accepted as administratively complete. A technical review may be conducted subsequently as part of your next facility inspection.

- Emergency Response/Contingency Plan
  - *Emergency Response/Contingency Plan* (Adobe PDF, 365KB)
- Employee Training Plan
  - Provided In Submital Element: Emergency Response and Training Plans

Aboveground Petroleum Storage Act Submitted Feb 15, 2019

Submitted on 2/15/2019 3:50:34 PM by *Tabatha Billingslea* of Penske Automotive Group (San Francisco, CA)

- Aboveground Petroleum Storage Act Documentation
  - Provided In Submital Element: Hazardous Materials Inventory

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**Penske Automotive Group**	Chemical Location	CERS ID **10351930**
Facility Name	**AUDI STEVENS CREEK** 3350 STEVENS CREEK BL, SAN JOSE 95117	**Detail Department**	Facility ID Status **Submitted** on 2/15/2019 3:50 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Quantities Largest Cont.	Quantities Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**Cleaners/Soaps** CAS No	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	25 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Various Detergents	100 %		Mixture

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**Penske Automotive Group**	Chemical Location	CERS ID **10351930**
Facility Name	**AUDI STEVENS CREEK** 3350 STEVENS CREEK BL, SAN JOSE 95117	**Outside Container**	Facility ID Status **Submitted** on 2/15/2019 3:50 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Quantities Largest Cont.	Quantities Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 2, Toxic, Oxidizing, Class 1	**Used Batteries** CAS No 7664-93-9	**Gallons** State: Liquid Type: Waste Storage Container: Tote Bin Days on Site: 365	**25**	**1**	12 Pressue: Ambient Temperature: Ambient	200 Waste Code: 792	- Physical Corrosive To Metal - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Sulfuric Acid	40 %		7664-93-9
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Waste Brake Fluid** CAS No	**Gallons** State: Liquid Type: Waste Storage Container: Steel Drum Days on Site: 365	**55**	**55**	25 Pressue: Ambient Temperature: Ambient	660 Waste Code: 343	- Health Specific Target Organ Toxicity	Diethylene Glycol 2-(2-Propoxyethoxy)ethanol 2-(2-butoxyethoxy)ethanol Additives	50 % 30 % 10 % 2 %		111-46-6 6881-94-3 112-34-5 Proprietary
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Used Oil Filters** CAS No	**Pounds** State: Solid Type: Waste Storage Container: Steel Drum Days on Site: 365	**880**	**220**	440 Pressue: Ambient Temperature: Ambient	10560 Waste Code: 221	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified	Refined Base Oils Additives Dirt/Fuels/Water	70 % 10 % 10 %		64742-55-8 68649-42-3 Mixture
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Waste Absorbent** CAS No	**Pounds** State: Solid Type: Waste Storage Container: Steel Drum Days on Site: 365	**220**	**220**	110 Pressue: Ambient Temperature: Ambient	2640 Waste Code: 223	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified	Refined Base Oils Additives Dirt/Fuels/Water	70 % 10 % 10 %		64742-55-8 68649-42-3 Mixture

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**Penske Automotive Group**	Chemical Location	CERS ID **10351930**
Facility Name	**AUDI STEVENS CREEK** 3350 STEVENS CREEK BL, SAN JOSE 95117	**Outside Parts Department**	Facility ID Status **Submitted** on 2/15/2019 3:50 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Quantities Largest Cont.	Quantities Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**Diesel Exhaust Fluid** CAS No	**Gallons** State: Liquid Type: Mixture	**275** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	137 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation	Urea Water	40 % 60 %		57-13-6 7732-18-5

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**Penske Automotive Group**	Chemical Location	CERS ID **10351930**
Facility Name	**AUDI STEVENS CREEK** 3350 STEVENS CREEK BL, SAN JOSE 95117	**Parts Department**	Facility ID Status **Submitted** on 2/15/2019 3:50 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Quantities Largest Cont.	Quantities Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Motor Oil** CAS No	**Gallons** State: Liquid Type: Mixture	**150** Storage Container: Plastic Bottle or Jug Days on Site: 365	**0.25**	75 Pressure: Ambient Temperature: Ambient	Waste Code	- Physical Hazard Not Otherwise Classified - Health Hazard Not Otherwise Classified	Refined Base Oils Additives	85 % 15 %		64742-55-8 68649-42-3
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Automatic Transmission Fluid** CAS No	**Gallons** State: Liquid Type: Mixture	**150** Storage Container: Plastic Bottle or Jug Days on Site: 365	**0.25**	75 Pressure: Ambient Temperature: Ambient	Waste Code	- Health Hazard Not Otherwise Classified	Refined Base Oils Additives	85 % 15 %		64742-55-8 68649-42-3
DOT: 8 - Corrosives (Liquids and Solids) Corrosive, Water Reactive, Class 2, Toxic, Oxidizing, Class 1	**New Batteries** CAS No: 7664-93-9	**Gallons** State: Liquid Type: Mixture	**50** Storage Container: Box Days on Site: 365	**1**	25 Pressure: Ambient Temperature: Ambient	Waste Code	- Physical Corrosive To Metal - Health Carcinogenicity - Health Acute Toxicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Sulfuric Acid	40 %		7664-93-3

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org.	**Penske Automotive Group**	Chemical Location	CERS ID **10351930**
Facility Name	**AUDI STEVENS CREEK** 3350 STEVENS CREEK BL, SAN JOSE 95117	**Service Department**	Facility ID Status **Submitted** on 2/15/2019 3:50 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Quantities Largest Cont.	Quantities Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Motor Oil** CAS No	**Gallons** State: Liquid Type: Mixture	**1300** Storage Container: Aboveground Tank Days on Site: 365	**500**	650 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Hazard Not Otherwise Classified	Refined Base Oils Additives	85 % 15 %		64742-55-8 68649-42-3
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Waste Motor Oil** CAS No	**Gallons** State: Liquid Type: Waste	**500** Storage Container: Aboveground Tank Days on Site: 365	**500**	250 Pressue: Ambient Temperature: Ambient	6000 Waste Code: 221	- Health Hazard Not Otherwise Classified	Refined Base Oils Additives Dirt/Fuels/Water	75 % 10 % 10 %		64742-55-8 68649-42-3 Mixture
DOT: 3 - Flammable and Combustible Liquids Combustible Liquid, Class III-B	**Waste Coolant** CAS No	**Gallons** State: Liquid Type: Waste	**300** Storage Container: Aboveground Tank Days on Site: 365	**300**	150 Pressue: Ambient Temperature: Ambient	3600 Waste Code: 135	- Health Acute Toxicity - Health Reproductive Toxicity	Ethylene Glycol Water Additives	50 % 45 % 5 %		107-21-1 7732-32-5 Mixture

Appendix D

Draft Environmental Impact Report

AGRIHOOD

April 2018

Cover Renderings: STEINBERG

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Appendix D: Phase I Environmental Site Assessment

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Appendix F: Soil Survey Report

SUMMARY

PROJECT LOCATION

The 5.8-acre project site includes one parcel (APN 303-14-053) located at the southwest corner of North Winchester Boulevard and Worthington Circle in the City of Santa Clara. The project site is currently undeveloped and surrounded by single-family residential and commercial/retail land uses.

PROJECT OVERVIEW

In 2007, the City of Santa Clara approved the development of up to 165 senior residential units and a one-acre park on the site as part of the larger 17.0-acre project described within the Santa Clara Gardens Development Project Final Environmental Impact Report (FEIR). As discussed in Section 1.0 Introduction, this document utilized data from the FEIR where relevant.

The project proposes to construct the previously approved 165 senior apartments, as well as 160 multi-family apartment units, within two separate structures. Up to 36 townhouses are also proposed to be located along the west side of the site. The project would provide approximately 1.5 acres of community gardens, agricultural gardens, and communal open space for residents and the public. A 1,650-square-foot community building and café for public and resident use, and an 800-square-foot garden workshop/shed are also proposed.

SUMMARY OF PROJECT IMPACTS

The Initial Study (contained within Appendix A) and this Draft Focused EIR concluded that the project would result in the impacts outlined below. Identified significant impacts would be mitigated to a less than significant level, except for Impact GHG-1 (GHG emissions above the accepted threshold) and Impact TRA-1 (level of service impacts at the intersection of Stevens Creek and North Winchester Boulevard in the City of San Jose), as described within the table that follows.

Impact	Mitigation
	Biological Resources
Impact BIO-1: Construction activities associated with the proposed project could result in the loss of fertile eggs, nesting raptors or other migratory birds, or nest abandonment.	**MM BIO-1.1:** Construction shall be scheduled to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay Area extends from February 1st through August 31st. If it is not possible to schedule construction and tree removal between September and January, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests are disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August).

	During this survey, the ornithologist shall inspect trees and other possible nesting habitats within and immediately adjacent to the construction area for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with the California Department of Fish and Wildlife, shall determine the extent of a construction-free buffer zone to be established around the nest to ensure that raptor or migratory bird nests would not be disturbed during project construction. (**Less than Significant Impact with Mitigation)**
	Cultural Resources
Impact CUL-1: Earthmoving activities on-site could uncover as yet unrecorded subsurface cultural resources.	**MM CUL-1.1:** A qualified archaeologist shall be on-site to monitor the initial excavation of native soil once all engineered soil is removed from the project site. After monitoring the initial excavation, the archaeologist shall make recommendations for further monitoring if it is determined that the site has cultural resources. If the archaeologist determines that no resources are likely to be found on site, no additional monitoring shall be required. If a find has been made and deemed to be significant, an Archaeological Resources Treatment Plan shall be prepared by a qualified archaeologist. The plan shall be prepared and submitted to the Community Development Director prior to the continuance of ground disturbing activities at the project site. Consistent with the Santa Clara Gardens Development Final Environmental Impact Report, the Archaeological Resources Treatment Plan shall contain the following: • Identification of the scope of work and range of subsurface effects (including location map and development plan), including requirements for preliminary field investigations. • Description of the environmental setting (past and present) and the historic and prehistoric background of the parcel. • Development of research questions and goals to be addressed by the investigation (what is significant vs. what is redundant information). • Detailed field strategy used to record, recover, or avoid the finds and address research goals. • Analytical methods. • Report structure and outline of document contents. • Disposition of the artifacts. • Appendices: all site records, correspondence, and consultation with Native Americans, etc. (**Less than Significant Impact with Mitigation)** **MM CUL-1.2:** In the event that human remains are discovered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped. The Santa Clara County Coroner shall be notified and shall make a determination as to whether the remains are of

	Native American origin or whether an investigation into the cause of death is required. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) immediately. Once NAHC identifies the most likely descendants, the descendants shall make recommendations regarding proper burial, which shall be implemented in accordance with Section 15064.5(e) of the California Environmental Quality Act Guidelines. The archaeologist shall recover scientifically-valuable information, as appropriate and in accordance with the recommendations of the MLD. A report of findings documenting any data recovery shall be submitted to the Director of Community Development and the Northwest Information Center. **(Less than Significant Impact with Mitigation)**
	Greenhouse Gas Emissions
Impact GHG-1: The proposed project's operational greenhouse gas emissions would exceed the Substantial Progress efficiency metric of 2.6 metric tons of CO2e/year/service population.	The project would result in an increase in the severity of the post-2020 GHG emissions impact previously disclosed as a significant and unavoidable impact by the City Council in adopting the Santa Clara 2010-2035 General Plan and General Plan FEIR. This impact is significant and unavoidable. **(Significant and Unavoidable Impact)**
	Transportation/Traffic
Impact TRA-1: The project would have a significant impact under background plus project conditions at the North Winchester Boulevard/Stevens Creek Boulevard intersection	A condition of approval could be included by the City of Santa Clara City Council requiring payment of a voluntary fee to fund alternative offsetting transportation improvements, per the City of San José Protected Intersection Policy. Payment of the fee for these offsetting improvements does not, however, constitute mitigation of this significant traffic impact. San José policy would not allow the project to construct improvements at this intersection to mitigate the project's traffic impacts. Additionally, implementation of the offsetting improvements cannot be assured by the City of Santa Clara and would not reduce the project impact. Thus, the impact is considered significant and unavoidable. **(Significant and Unavoidable Impact)**

SUMMARY OF ALTERNATIVES TO THE PROPOSED PROJECT

The California Environmental Quality Act (CEQA) requires that an EIR identify alternatives to the project as proposed. The CEQA Guidelines state that an EIR must identify alternatives that would feasibly attain the most basic objectives of the project, but avoid or substantially lessen significant environmental effects, or further reduce impacts that are considered less than significant with the incorporation of mitigation. A summary of project alternatives follows. A full analysis of project alternatives is provided in Section 8.0 Alternatives Analysis.

<u>No Project - No Development Alternative</u>

The CEQA Guidelines stipulate that an EIR specifically include a No Project - No Development Alternative to allow decision-makers to compare the impacts of approving the project with the impacts of not approving the project. Under the No Project – No Development Alternative, the site would remain vacant; therefore, this alternative would avoid the proposed project's significant, unavoidable transportation and GHG impact, the less than significant (with mitigation) construction air quality impact, and all other less than significant impacts. The No Project - No Development Alternative would not, however, meet any of the proposed project's specific objectives to develop a mixed-use, transit-oriented development on the site.

No Project – Existing Zoning (165 Senior Housing) Alternative

This alternative allows for construction of up to 165 senior residential dwelling units with building heights of up to 60 feet, which was previously approved as part of the Santa Clara Gardens Development Project FEIR in 2007. The significant construction-related air quality (as a result of TACs) impact would be lessened and the significant transportation impact at North Winchester Boulevard and Stevens Creek Boulevard would be avoided. The GHG impact threshold would not be exceeded, but the project would not avoid the less than significant (with mitigation incorporated) biological resources, cultural resources impacts. The basic objectives related to the provision of high-density, transit-oriented uses would not be met.

Reduced Intensity (340 Units) Alternative

A Reduced Intensity Alternative would allow for development of approximately 340 units where 361 are proposed. The significant transportation impact at North Winchester Boulevard and Stevens Creek Boulevard would be avoided with this alternative[1] and significant construction-related TAC impacts would potentially be lessened. The GHG impact threshold would be exceeded to a comparable extent. This alternative would not avoid the less than significant (with mitigation incorporated) biological resources, cultural resources impacts. This alternative would meet the basic project objectives.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines state than an EIR shall identify an environmentally superior alternative. If the environmentally superior alternative is the "No Project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (Section 15126.6(e)(2)).
The environmentally superior alternative would be the No Project - No Development Alternative, which would avoid all project impacts. This alternative would not meet any project objectives.

The Reduced Intensity (340 Units) Alternative would avoid the significant impact at the City of San Jose intersection of Stevens Creek Boulevard and North Winchester Boulevard, but would have comparable GHG and TAC emissions impacts to the proposed project. This alternative would meet the project objectives. The Reduced Intensity (340 Units) Alternative would be the environmentally superior alternative to the proposed project.

[1] Black, Gary. Hexagon Transportation Consultants. Email correspondence with Amie Ashton. February 20, 2018.

AREAS OF PUBLIC CONTROVERSY

The mass and scale of the proposed project in relation to surrounding uses have been raised as concerns by members of the public during public meetings. Additionally, traffic concerns have been raised.

SECTION 1.0 INTRODUCTION

1.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The City of Santa Clara, as the Lead Agency, has prepared this Draft Focused EIR for the Agrihood Project in compliance with CEQA and the CEQA Guidelines.

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental impacts of a proposed project, as well as identifies mitigation measures and alternatives to the proposed project that could reduce or avoid adverse environmental impacts. As the CEQA lead agency for this project, the City of Santa Clara is required to consider the information in the EIR along with any other available information in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, environmental impacts, mitigation measures, cumulative impacts, alternatives, and growth-inducing impacts. It is not the intent of an EIR to recommend either approval or denial of a project. The environmental impacts associated with the proposed project are primarily related to Air Quality and Transportation/Traffic resource areas. These issues are discussed in Section 3.2 and Section 3.8 of this EIR, respectively.

1.2 EIR PROCESS

1.2.1 Focusing the EIR

The City of Santa Clara prepared an Initial Study (see Appendix A) that determined preparation of an EIR was needed for the proposed project, and was used to focus the EIR on the potentially significant impacts (CEQA Guidelines Section 15063(c)(3)(a)). The Initial Study concluded that the EIR should focus on Aesthetics, Air Quality, GHG emissions, Hazards and Hazardous Materials, Land Use, Noise, and Transportation/Traffic resource areas. Energy is also discussed as it is a required analysis in an EIR. Agricultural and Forest Resources, Biological Resources, Cultural Resources, Geology and Soils, Hydrology and Water Quality, Mineral Resources, Population and Housing, Public Services, Recreation, and Utilities and Service Systems were analyzed in the Initial Study. The project's impacts in these subject areas were determined to be less than significant or less than significant with mitigation included in the project.

1.2.2 Notice of Preparation and Scoping

In accordance with Sections 15063 and 15082 of the CEQA Guidelines, the City of Santa Clara issued a Notice of Preparation (NOP) for this EIR. The NOP was circulated to local, state, and federal agencies on April 27, 2017. The 30-day comment period concluded on May 30, 2017. The NOP provided a general description of the proposed project and identified possible environmental impacts that could result from implementation of the project. The City also held a public scoping meeting on May 22, 2017 to discuss the project and solicit public input as to the scope and contents of this EIR. The meeting was held at the City of Santa Clara City Hall at City Council Chambers. Appendix B of this EIR includes the NOP and comments received on the NOP.

1.2.3 Draft EIR Public Review and Comment Period

Publication of this Draft EIR will mark the beginning of a 45-day public review and comment period. During this period, the Draft EIR will be available to local, state, and federal agencies and interested organizations and individuals for review. Notice of this Draft EIR will be sent directly to every agency, person, and organization that commented on the NOP. Written comments concerning the environmental review contained in this Draft EIR during the 45-day public review period should be sent to:

City of Santa Clara Community Development Department
Rebecca Bustos, Associate Planner
1500 Warburton Avenue
Santa Clara, CA 95050
Phone: (408) 615-2450
E-mail: rbustos@santaclaraca.gov

1.3 FINAL EIR/RESPONSES TO COMMENTS

Following the conclusion of the 45-day public review period, the City will prepare a Final EIR in conformance with CEQA Guidelines Section 15132. The Final EIR will consist of:

- List of individuals and agencies commenting on the Draft EIR;
- Responses to comments received on the Draft EIR, in accordance with CEQA Guidelines Section 15088;
- Revisions to the Draft EIR text, as necessary; and
- Copies of letters received on the Draft EIR.

Section 15091(a) of the CEQA Guidelines stipulates that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental impacts unless the public agency makes written findings. If the lead agency approves a project despite it resulting in significant adverse environmental impacts that cannot be mitigated to a less than significant level, the agency must state the reasons for its action in writing. This Statement of Overriding Considerations must be included in the record of project approval.

1.3.1 Notice of Determination

If the project is approved, the City will file a Notice of Determination (NOD), which will be available for public inspection and posted within 24 hours of receipt at the County Clerk's Office for 30 days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the approval under CEQA Guidelines Section 15094(g).

SECTION 2.0 PROJECT INFORMATION AND DESCRIPTION

2.1 PROJECT DESCRIPTION

2.1.1 Project Location and Background

The 5.8-acre project site includes one parcel (APN 303-14-053) located at the southwest corner of North Winchester Boulevard and Worthington Circle in the City of Santa Clara, as shown on Figures 2.1-1, 2.1-2, and 2.1-3. The project site is currently vacant and undeveloped. The site is generally surrounded by single-family residential land uses to the north, south, and west. Commercial uses (Westfield Valley Fair mall) are located to the east. A retail center is also located to the south.

In 2007, the City of Santa Clara approved the development of up to 165 senior residential units and a one-acre park on the site as part of the larger 17.0-acre project described within the Santa Clara Gardens Development Project FEIR. As discussed in Section 1.0 Introduction, this document utilizes data from the previous document, where relevant.

2.1.2 Proposed Development

2.1.2.1 *Residences*

The project proposes to construct the previously approved 165 senior apartments, as well as 160 multi-family apartment units, within two separate structures. Up to 36 townhouses are also proposed along the west side of the site. The location and orientation of these structures is shown on the site plan in Figure 2.1-4. The apartments would be five-story podium structures. As shown in the elevations in Figure 2.1-5, the podium apartment structures would be approximately 63 feet tall to the roof and 72 feet tall to the parapet. The townhouses would be three stories tall and would be approximately 41 feet tall at the top of roof.

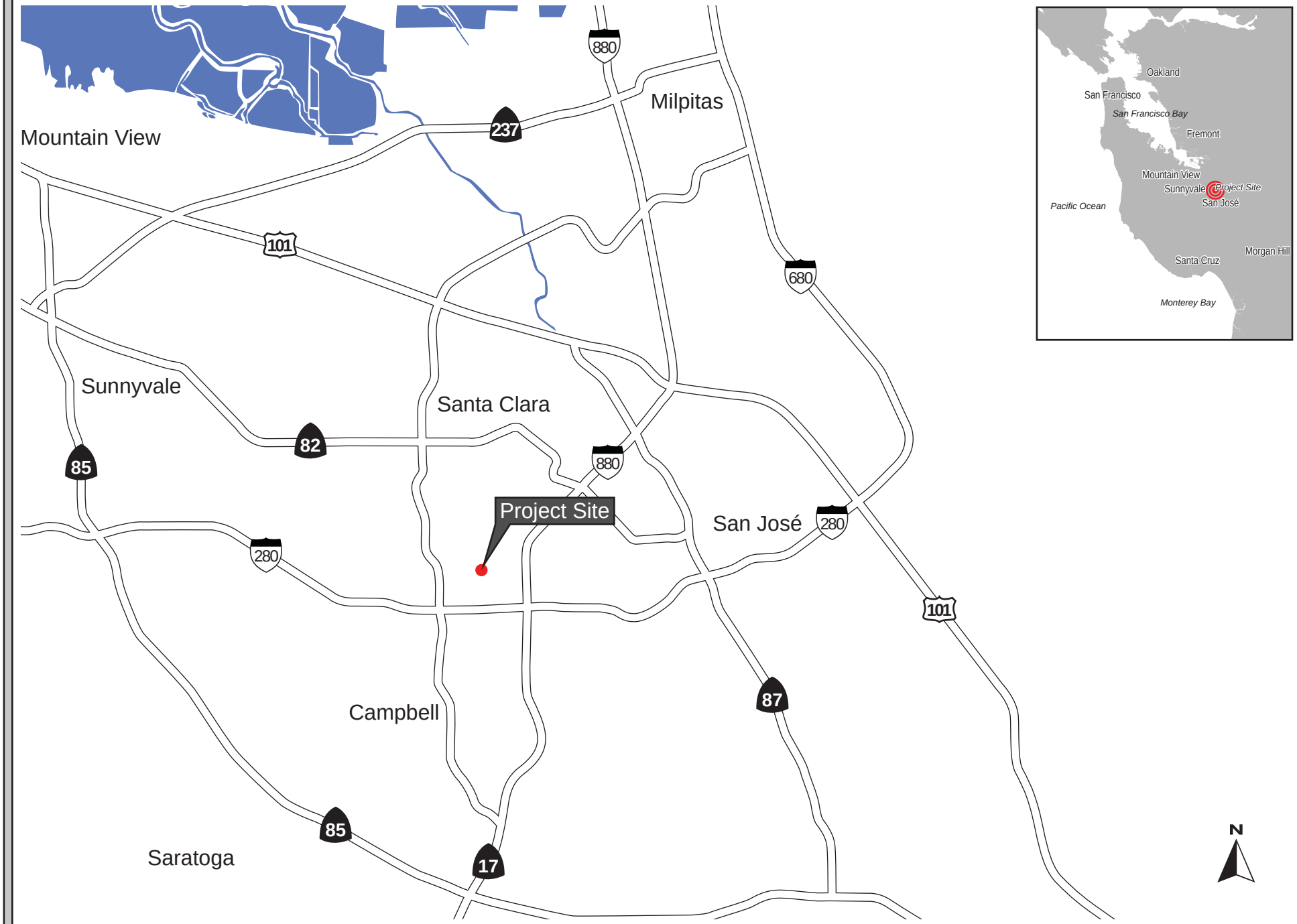
2.1.2.2 *Open Space and Amenity Uses*

Private open space would be provided as approximately 50 square-foot balconies within 50 percent of the senior and multi-family apartment units. The townhouses would have up to two approximately 40 to 50 square-foot balconies for private open space.

The project would also provide approximately 1.5 acres of professionally managed community agricultural/garden space, as well as communal open space for residents and the public. A portion of the crops grown at the site would be harvested seasonally for distribution to project residents as well as the community. The remainder of the on-site open space areas, in particular along North Winchester Boulevard, would be public open space for local events and recreation. A single-story community building and café for public and resident use, and a garden workshop/shed are also proposed. The locations of these features and amenities are shown in the landscape plan in Figure 2.1-6.

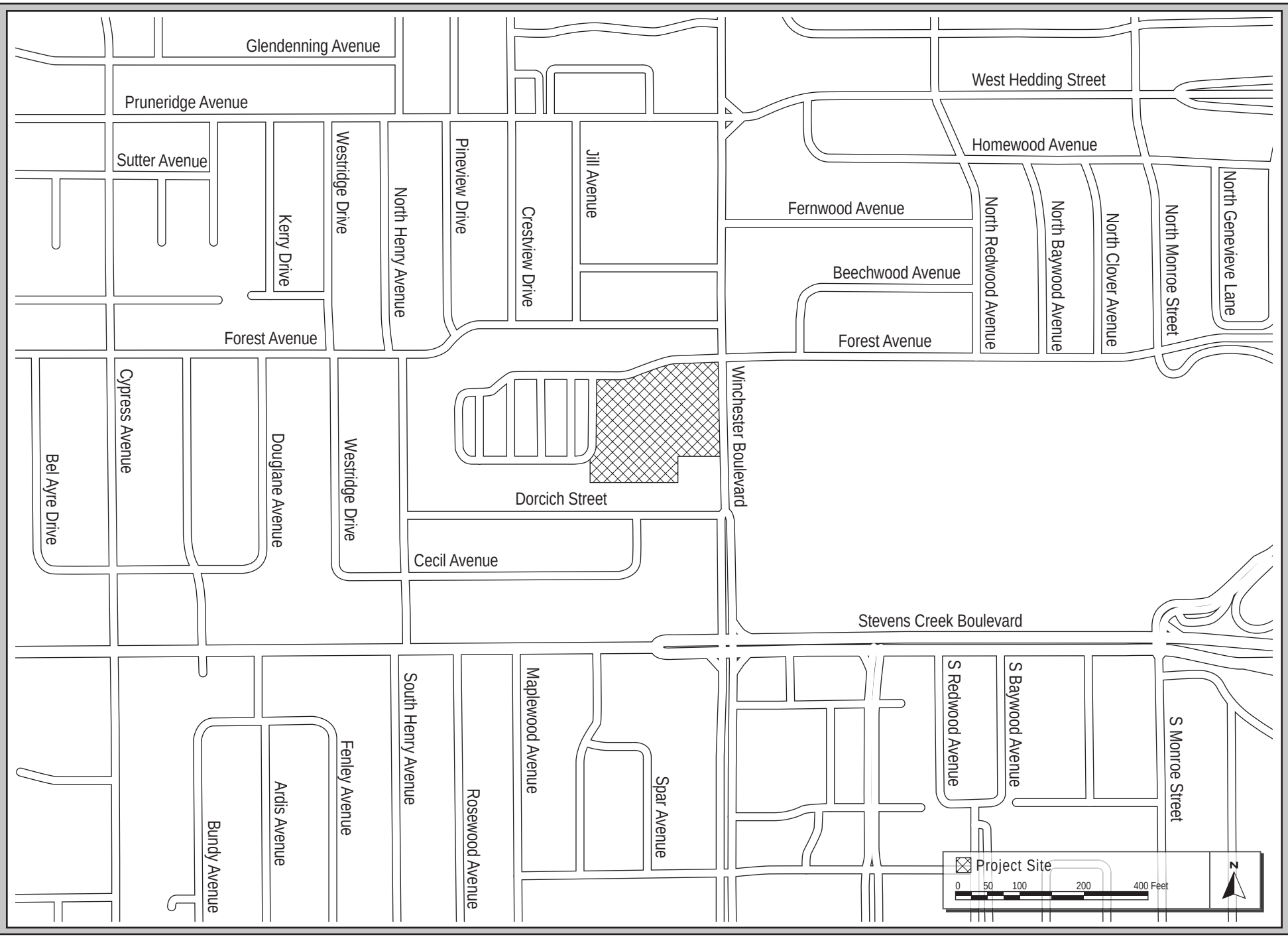
2.1.2.3 *Parking and Access*

Parking for the 325 proposed residential apartments would be located within parking garages that would be wrapped by the podium structures so that they are integrated and not visible from primary public vantage points.



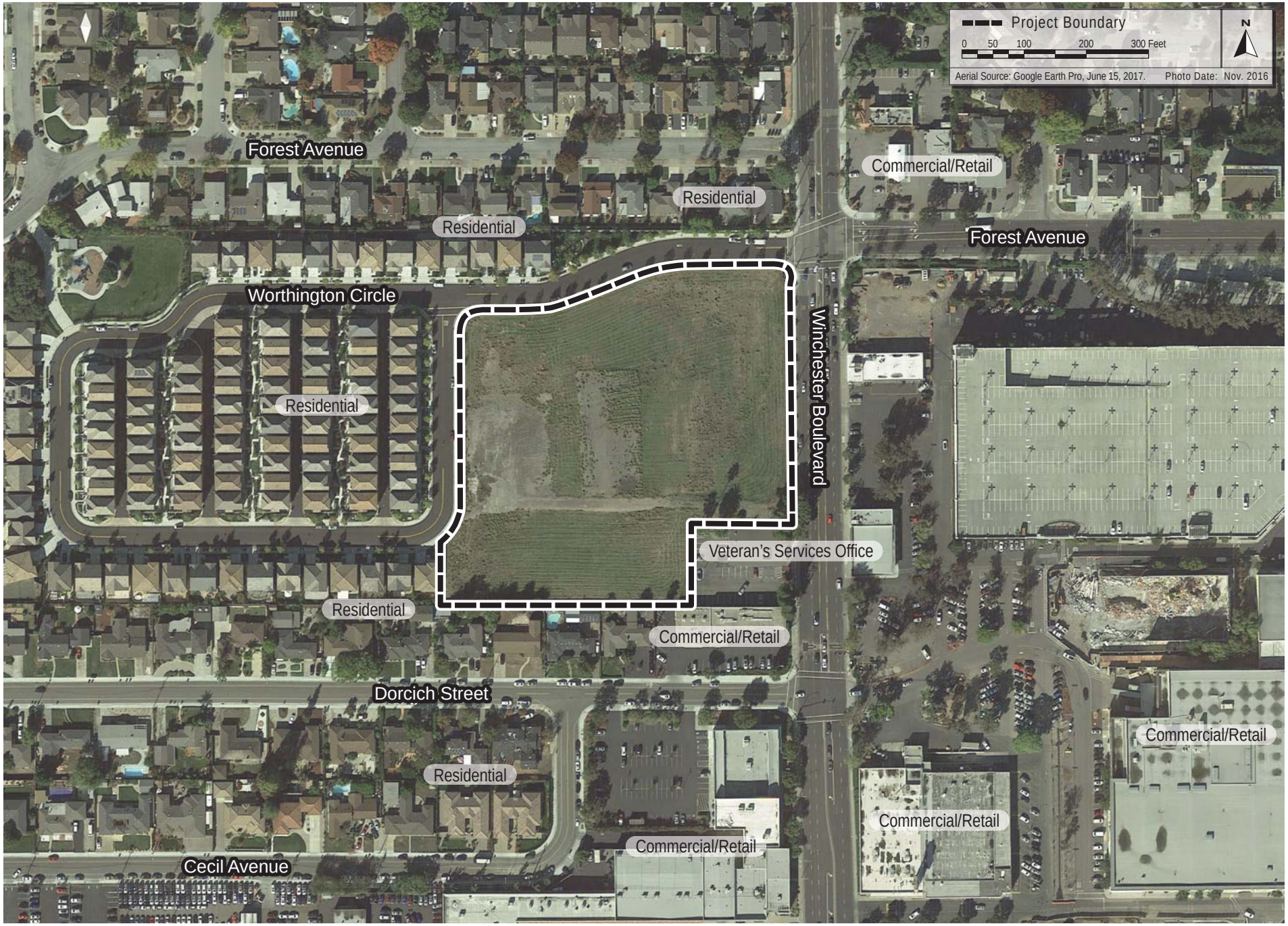
REGIONAL MAP

FIGURE 2.1-1



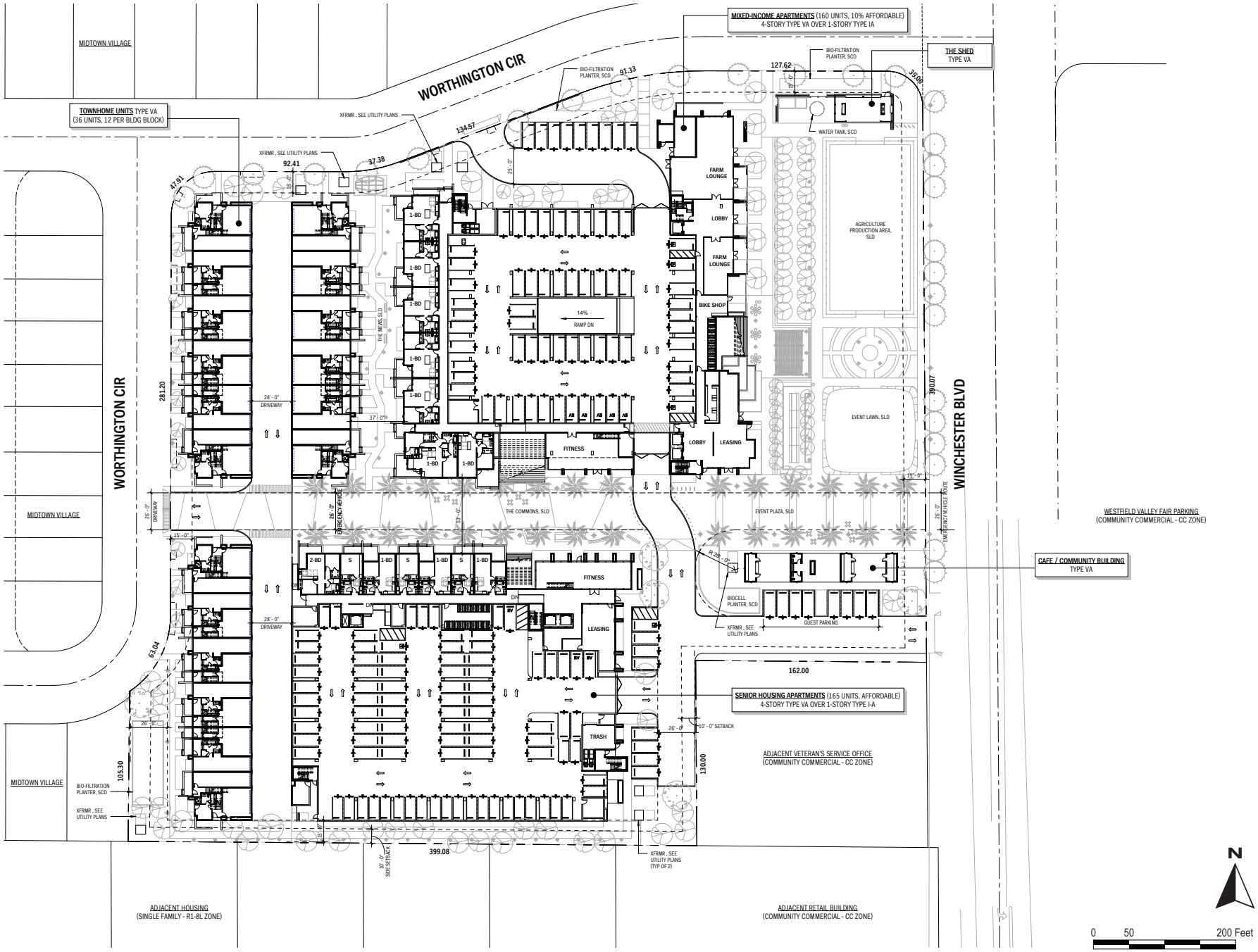
VICINITY MAP

FIGURE 2.1-2



AERIAL PHOTOGRAPH WITH SURROUNDING LAND USES

FIGURE 2.1-3



SITE PLAN

FIGURE 2.1-4

Source: Steinberg, 1/12/18.

ELEVATIONS

FIGURE 2.1- 5

LANDSCAPE AREAS

A. "THE SHED"
B. COMPOST / WASTE BINS
C. AGRICULTURE PRODUCTION AREA
D. ORCHARD
E. POLLINATOR/ HERB GARDEN
F. TERRACE LOUNGE
G. STAIRCASE OVERLOOK
H. EVENT LAWN
I. OUTDOOR DINING ROOM
J. EVENT PLAZA
K. COMMUNITY STRUCTURE/CAFE
L. COMMONS COMMUNITY SEATING
M. "THE MEWS"
N. DRIVEWAY
O. WALK / DOG WALK TRAIL
P. TRELLIS / LOUNGE
Q. OUTDOOR KITCHEN / BBQ
R. RAISED VEGETABLE GARDENS
S. BOCCE COURT
T. AQUATIC ELEMENT
U. FLEXIBLE SEATING
V. FIRE ELEMENT
W. OLIVE GROVE
X. EXERCISE AREA
Y. DOG PLAY / SOCIAL AREA
Z. WATER STORAGE/RE-USE TANK

LANDSCAPE PLAN

FIGURE 2.1-6

The project would provide 99 parking spaces (0.60 spaces per unit) for the senior apartments and 200 spaces for the multi-family apartments (1.25 spaces per unit). The multi-family apartment building would have one level of below-grade parking and one level on the first floor, whereas the senior apartment building would have parking on the first floor only. Two parking spaces would be provided for each of the 36 townhouses, for 72 total spaces. Five at-grade parking spaces would be located adjacent to the proposed café.

The project proposes 72 bicycle parking spaces for the senior apartments and 48 for the multi-family apartments, which would be located in a designated bicycle parking area within each structure's parking garage. Bicycle repair stations are also proposed as part of the bicycle parking facilities.

Vehicular and bicycle access to the townhouses and apartment parking areas would occur via two ingress/egress driveways from Worthington Circle, as well as a two-way driveway from North Winchester Boulevard. Pedestrians would access the site from the public sidewalk along North Winchester Boulevard.

2.1.2.4 *Utility Connections and Site Improvements*

Storm, sewer, and water utility lines within Worthington Circle and North Winchester Boulevard surround the project site on three sides. The project would connect to the existing lines within those streets. Significant off-site utility improvements are not required for the project.

A 10-foot-wide sidewalk with a four-foot-wide planter strip for street trees is proposed for North Winchester Boulevard in order to facilitate pedestrian access. Sidewalks along Worthington Circle would remain as 4.5-foot-wide walkways.

2.1.2.5 *Green Building*

The proposed project would be constructed in accordance with the State of California Green Building Standards Code (CalGreen), which generally requires enhanced insulation and design provisions to minimize wasteful energy consumption. The project would also implement the following green building measures and design features:

- Solar-ready roof;
- Salvage or recycle at least 50 to 65 percent of construction waste (consistent with City ordinance requirements);
- Bicycle parking and dedicated bicycle repair stations;
- Provision of EV charging stations for vehicles;
- Water-efficient residential plumbing fixtures;
- Energy-efficient lighting fixtures;
- Rainwater capture and reuse in the community garden area;
- An urban farm that would produce food for on-site consumption by residents;
- Low-water landscaping and water-efficient irrigation design.
- Voluntary participation in a TDM program for residents, which could include subsidized transit passes.

2.1.2.6 *Construction*

Construction of the project would take approximately two to three years to complete. Project construction would likely begin in 2019 and be completed by 2021 or early 2022. The project would export approximately 14,000 cubic yards of soil from the site. The project proposes a temporary traffic control plan with a flagger during construction and construction workers would park on and off-site in designated parking areas to avoid impacting residential and commercial uses in the vicinity.

2.1.3 General Plan and Zoning Designations

The project site is designated *Medium Density Residential* under the City's General Plan. The *Medium Density Residential* designation is intended for residential development at densities ranging from 20 to 36 units per gross acre with access from arterial streets or in close proximity to neighborhood centers and multi-family uses. Building types can include a combination of low-rise apartments, townhouses, and row houses with garage or below-grade parking.

The project proposes a new *PD – Planned Development* zoning to accommodate the project, as the current PD zoning only allows 165 senior apartments. The *PD* zoning designation is intended to accommodate development that is compatible with the existing community and is required to:

- Integrate uses that are not permitted to be combined in other zoning districts; or
- Utilizes imaginative planning and design concepts that would be restricted in other zoning districts; or
- Subdivides land or air space in a manner that results in units not having the required frontage on a dedicated public street; or
- Creates a community ownership project.

2.2 PROJECT OBJECTIVES

Pursuant to CEQA Guidelines Section 15124, the EIR must identify the objectives sought by the proposed project. The applicant's objectives for the project are as follows:

- Develop the site into an economically viable, mixed-income residential project with up to 325 multi-family apartments (including the previously approved 165 senior units) and up to 36 townhouses that will provide a distinct mix and variety of unit types to serve a broad population that will help address the City's housing needs.
- Establish intergenerational physical and social connections through the provision of a varied mix of housing types and amenities that support community vitality in accordance with the City's General Plan.
- Enhance the City's identity by providing project residents and the community with an "Agrihood" that provides access to a variety of local, unique and community-serving on-site amenities including a production farm, orchard, gardens, public plaza, café and community room.
- Create and maintain a residential built environment that promotes the safety and well-being of its residents and the surrounding community.

- Create a residential transit-oriented project balanced with community-serving amenities that connects to and enhances the City's bike, pedestrian and transit network, while reducing vehicle trips.
- Promote sustainability by developing a residential project on an infill and easily accessible project site and through the incorporation environmentally responsible construction techniques and conservation of energy and water in accordance with the major strategies of the City's General Plan.

2.3 USES OF THE EIR

This EIR is intended to provide the City of Santa Clara, other public agencies, and the general public with relevant environmental information needed in considering the proposed project. The City of Santa Clara anticipates approvals by the City, including but not limited to the following:

- Planned Development Zoning
- Architectural Review
- Tentative Map
- Issuance of Grading, Building, Encroachment, Utility, and Occupancy Permits
- Other applicable Public Works Clearances

SECTION 3.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

This section presents the discussion of impacts related to the following environmental resource areas in their respective subsections:

3.1	Aesthetics	3.5	Hazards and Hazardous Materials
3.2	Air Quality	3.6	Land Use and Planning
3.3	Energy	3.7	Noise and Vibration
3.4	GHG	3.8	Transportation/Traffic

The discussion for each includes the following subsections:

ENVIRONMENTAL SETTING

This subsection provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and describes the existing, physical environmental conditions at the project site and in the surrounding area.

IMPACTS

This subsection includes thresholds of significance for determining impacts, discusses the project's consistency with those thresholds, and discusses the project's consistency with applicable plans. For significant impacts, feasible mitigation measures are identified. Mitigation measures are measures that will minimize, avoid, or eliminate an identified significant impact. Each impact is numbered using an alphanumeric system corresponding to the identified environmental issue. For example, **Impact HAZ-1** denotes the first potentially significant impact discussed in the Hazards and Hazardous Materials section. Mitigation measures are also numbered to correspond to the impact they address. For example, **MM NOI-2.3** refers to the third mitigation measure for the second impact in the Noise section.

CONCLUSION

This subsection provides a summary of the project's impacts on the resource area.

Important Note to the Reader

The California Supreme Court in a December 2015 opinion [*California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 (No. S 213478)] confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project on the environment, including whether a project may exacerbate existing environmental hazards.

The City of Santa Clara currently has policies that address existing conditions (e.g., air quality, noise, and hazards) affecting a proposed project, which are also discussed in this EIR. This is consistent

with one of the primary objectives of CEQA and this document, which is to provide objective information to decision-makers and the public regarding a project. The CEQA Guidelines and the courts have affirmed that a CEQA document (e.g., EIR or Initial Study) can include information of interest even if such information is not an "environmental impact" as defined by CEQA.

Where applicable, in addition to describing the impacts of the project on the environment, this EIR will discuss policies pertaining to existing conditions. Such examples include, but are not limited to, locating a project near sources of air emissions that can pose a health risk, in a high noise environment, or on/adjacent to sites involving hazardous substances.

3.1 AESTHETICS

3.1.1 Environmental Setting

3.1.1.1 *Regulatory Framework*

State

Scenic Highways Program

The California Scenic Highway Program is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. There are no state-designated scenic highways in the City of Santa Clara. State Route (SR) 280 from the San Mateo County line to SR 17, is the nearest eligible, but not officially designated, State Scenic Highway.

Local

Santa Clara General Plan

The following General Plan policies related to aesthetics are applicable to the proposed project.

Policies	Description
5.3.1-P3	Support high quality design consistent with adopted design guidelines and the City's architectural review process.
5.3.1-P10	Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.
5.3.1-P28	Encourage undergrounding of new utility lines and utility equipment throughout the City.
5.3.4-P8	Encourage building heights of up to five stories in large mixed-use developments along arterial street frontages, with the potential for taller buildings north of the Caltrain corridor.
5.3.4-P10	Require parking to be substantially below-grade or in structures with active uses along streets.
5.3.4-P12	Prioritize pedestrian-oriented streetscape and building design in mixed-use development, including features such as wider sidewalks, street furniture, specialty planters, signage, public art, street trees, special paving materials, decorative awnings, enhanced entrances, colors, variety of materials, and textures and distinctive building massing and articulation.

Santa Clara City Code

The City Code includes regulations associated with protection of the City's visual character and maintenance of property or premises, to promote a sound and attractive community appearance. The City Code also includes an Architectural Review process, as outlined in Zoning Ordinance Chapter 18.76. The Architectural Review process is intended to serve the following purposes:

- Encourage the orderly and harmonious appearance of structures and properties;
- Maintain the public health, safety, and welfare;

- Maintain property and improvement values throughout the City;
- Encourage the physical development of the City that is consistent with the General Plan and other City regulations; and
- Enhance the aesthetic appearance, functional relationships, neighborhood compatibility and excellent design quality.

No building permit shall be issued, and no structure, building, or sign shall be constructed or undergo exterior alternations until such plans and drawings have been approved by the Architectural Committee.

Architectural Committee Policies – Community Design Guidelines

The Architectural Committee reviews plans and drawings submitted for architectural review for design, aesthetic considerations, and consistency with zoning standards, generally prior to submittal for building permits. The Architectural Committee follows the City's Community Design Guidelines. The intent of these guidelines is to provide consistent development standards in the interest of continued maintenance and enhancement of the high-quality living and working environment in the City.

3.1.1.2 *Existing Conditions*

Project Site

The 5.8-acre project site is currently undeveloped and primarily consists of bare ground with sections of asphalt on a relatively flat lot. Given the developed nature of the surrounding area, only intermittent views of the Diablo Range and Santa Cruz Mountains are available from the project site looking east and west, respectively. The project site is secured by chain link fencing around the perimeter of the property (see Photos 1 and 2).

Surrounding Land Uses

The immediate project area is composed of a mix of uses, including single-family residential and one story strip mall commercial with associated at-grade parking lots. In the larger project area, there are taller uses associated with Westfield Valley Fair mall and Santana Row, which are further from the site to the east and southeast, respectively. Aside from the recently constructed single-family residential uses located along Worthington Circle, this larger area lacks a cohesive structural or landscape character. Exterior materials are mixed, and the commercial structures have differing heights and setbacks. Landscaping is limited only to irregular street trees, as well as ground-cover and shrubs in small areas of the at-grade parking lots for the commercial uses. Aside from a generally unified character in the single-family residential areas, the larger project area lacks a cohesive visual character. Further detail is provided in the discussion that follows.

Immediately north and west of the project site is Worthington Circle, which is a two-lane roadway that loops through the adjacent residential neighborhood. Located along Worthington Circle are two- to three- story single-family residences that were constructed approximately four years ago as part of a 110-unit development. The buildings are primarily neutral-colored stucco with gable roofs and eaves (see Photo 3 and Photo 4). The single-family residences located north of the project site have driveways.

PHOTO 1: View of the project site, looking southeast from Worthington Circle.

PHOTO 2: View of the project site and surrounding land uses, looking southeast from Worthington Circle.

PHOTO 3: View of the adjacent land uses, looking northwest from Worthington Circle.

PHOTO 4: View of the adjacent land uses, looking southwest from Worthington Circle.

PHOTO 5: View of the adjacent land uses, looking northwest from Winchester Boulevard.

PHOTO 6: View of the surrounding development, looking east from Winchester Boulevard.

PHOTO 7: View of the surrounding development, looking southeast from Winchester Boulevard.

Parking is located within garages fronting Worthington Circle or are located the rear of the units (assessed via an alleyway at the rear of the units). This residential neighborhood has a uniform look with front yards, sidewalks, porches, consistent landscaping, and street trees.

Located immediately southeast of the project site is the Veterans Services Office and a parking lot (see Photo 5). The Veterans Services Office is a one-story brick structure with asymmetrical fixed frame windows located on the eastern building façade. The entrance to the building and parking lot is bordered by a metal gate. Immediately south of the project site (fronting Dorcich Street) are one and two story residences, constructed in the mid-1950s. These houses are wood and stucco-clad with composite shingle roofs, and have a more standard setbacks and landscaping with street-facing garages.

East of North Winchester Boulevard from the project is a one-story cinder block automobile shop and a four-story parking structure (see Photo 6 and Photo 7). Also located east of the site is a large commercial/retail shopping complex (Westfield Valley Fail mall) and surface parking lot.

3.1.2 Aesthetic Impacts

3.1.2.1 *Thresholds of Significance*

For the purposes of this EIR, an aesthetic impact is considered significant if the project would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

3.1.2.2 *Effects on Scenic Vistas and Highways*

There are no scenic vistas within the City according to the certified 2010-2035 General Plan Integrated Final EIR (General Plan FEIR).[2] There are also no state scenic highways in the vicinity of the project site. For this reason, development of the project site would not impact a designated scenic vista or highway. **(No Impact)**

3.1.2.3 *Visual Character*

As shown in the conceptual elevations (Figure 2.1-5), the project would consist of two, five-story residential podium buildings and 36 three-story townhouses. The podium apartment structures would be approximately 63 feet tall to the roof and 72 feet tall to the parapet, while the townhouses would be approximately 36 feet tall to the roof. Parking for the proposed residential apartments would be located within parking garages that would be wrapped by the podium structures so that they are

[2] City of Santa Clara. 2010-2035 General Plan Integrated Final Environmental Impact Report. SCH# 2008092005. January 2011. Page 141.

integrated and not visible from public vantage points. Proposed materials and colors would be similar in tone to surrounding buildings and uses (neutral-colored cement plaster and wood siding, with wood and metal trim, and metal roofs).

Given that the project site is currently vacant and undeveloped, any development on-site would be a change compared to existing conditions. The project would be of greater mass and scale than existing development in the immediate vicinity; however, the project would be consistent with the planned growth for the site in the City's General Plan and would also be smaller in scale compared to the neighboring Westfield Valley Fair mall. While the project has a more modern style, as compared to older commercial and residential uses in the vicinity, the colors and materials would be consistent with what is present in the surrounding area. Further, there is variation in the surrounding land uses and architectural styles, with no single aesthetic that is dominant such that a conflict would occur. In addition, the project is subject to the City's Architectural Review process that would ensure quality development that conforms to the City's Community Design Guidelines. While the project would alter the existing visual character of the project site, it would not significantly degrade the existing visual character or quality of the site and its surroundings. **(Less than Significant Impact)**

3.1.2.4 *Light and Glare Impacts*

The project would include outdoor security lighting on-site, along walkways, driveways, and entrance areas, which would introduce new lights sources in the area. All new development, however, would undergo architectural and site design review by Planning staff and the City's Architectural Committee prior to issuance of building permits to ensure that the project would not create a substantial new source of light or glare for adjacent residences, businesses, or persons traveling on the local roadways. Typical design requirements include directional and/or shielded lights to minimize the brightness and glare of the lights and use of low-reflective building materials. The project does not propose to use highly reflective materials, such as mirrored glass, and would comply with the City's Community Design Guidelines. As a result, impacts due to light and glare would be less than significant. **(Less than Significant Impact)**

3.1.2.5 *Consistency with Plans and Policies*

The proposed project would be consistent with applicable General Plan policies by including new landscaping and public open space, providing structured and below-grade parking, participating in the architectural review process, and providing pedestrian-oriented streetscapes and facilities throughout the project site. Further, landscaping and trees would be planted to reduce the heat island effect.

3.1.3 <u>Conclusion</u>

Implementation of the proposed project would not result in significant aesthetic or light and glare impacts. **(Less than Significant Impact)**

3.2 AIR QUALITY

The discussion within this section is based, in part, on an air quality analysis completed for the proposed project by Illingworth & Rodkin, Inc. in March of 2018. The report is provided as Appendix C to this EIR.

3.2.1 Environmental Setting

Air quality is determined by the concentration of various pollutants in the atmosphere. The amount of a given pollutant in the atmosphere is determined by the amount of pollutants released within an area, transport of pollutants to and from surrounding areas, local and regional meteorological conditions, and the surrounding topography of the air basin.

The Bay Area Air Quality Management District (BAAQMD) is responsible for assuring that federal and state ambient air quality standards are attained and maintained in the Bay Area. Air quality studies generally focus on four criteria pollutants that are most commonly measured and regulated, including carbon monoxide (CO), ground level ozone (O_3), nitrogen dioxide (NO_2), and suspended particulate matter (PM_{10} and $PM_{2.5}$).[3,4] Table 3.2-1 shows violations of state and federal air quality standards at the monitoring station in downtown San José (the nearest monitoring station to the project site) during the 2014 to 2016 period (the most recent years for which data is available). The total number of days where air quality standard have been exceeded have gone down over time.

Table 3.2-1: Ambient Air Quality Standards Violations

Pollutant	Standard	Days Exceeding Standard		
		2014	2015	2016
San Jose Station				
Ozone	State 1-hour	0	0	0
	Federal 8-hour	0	2	0
Carbon Monoxide	Federal 8-hour	0	0	0
	State 8-hour	0	0	0
Nitrogen Dioxide	State 1-hour	0	0	0
PM_{10}	Federal 24-hour	0	0	0
	State 24-hour	1	1	0
$PM_{2.5}$	Federal 24-hour	2	2	0

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for

[3] Particulate matter is referred to by size (i.e., 10 or 2.5) because the size of particles is directly linked to their potential for causing health problems.
[4] BAAQMD. "Annual Bay Area Air Quality Summaries." Accessed April 25, 2017. http://www.baaqmd.gov/about-air-quality/air-quality-summaries.

PM10 under the California Clean Air Act, but not the federal act. The area has attained both state and federal ambient air quality standards for CO.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are a broad class of compounds known to cause morbidity or mortality, usually because they cause cancer. TACs are found in ambient air, especially in urban areas, and are released by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, state, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs. Diesel exhaust is a complex mixture of gases, vapors, and fine particles. CARB has adopted regulations for stationary and mobile sources to reduce emissions of diesel exhaust and diesel particulate matter (DPM). Several of these regulatory programs affect medium and heavy-duty diesel trucks, which represent the bulk of DPM emissions from California highways.

Sensitive Receptors

Sensitive receptors are groups of people that are more susceptible to pollutant exposure (i.e., children, the elderly, and people with illnesses). Locations that may contain a high concentration of sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, elementary schools, parks, and places of assembly.

3.2.1.1 *Regulatory Framework*

Regional

2017 Clean Air Plan

BAAQMD is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state and federal air quality standards will be met. BAAQMD's most recently adopted plan is the *Bay Area 2017 Clean Air Plan* (2017 CAP). The 2017 CAP focuses on two related BAAQMD goals: protecting public health and protecting the climate. To protect public health, the 2017 CAP describes how BAAQMD will continue its progress toward attaining state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the 2017 CAP includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. The City of Santa Clara and other jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing air quality Impacts developed by BAAQMD within their

CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

Local

Santa Clara General Plan

General Plan policies related to air quality that are applicable to the project include the following.

Policy	Description
5.10.2-P1	Support alternative transportation modes and efficient parking mechanisms to improve air quality.
5.10.2-P2	Encourage development patterns that reduce vehicle miles traveled and air pollution.
5.10.2-P6	Require "Best Management Practices" for construction dust abatement.
5.8.5-P1	Require new development and City employees to implement transportation demand management programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.
5.8.5-P5	Encourage transportation demand management programs that provide incentives for the use of alternative travel modes to reduce the use of single-occupant vehicles.
5.8.5-P9	Promote transportation demand management programs that provide education, information and coordination to connect residents and employees with alternate transportation opportunities.

3.2.1.2 *Existing Conditions*

The project site is vacant and does not currently generate emissions of pollutants that might affect ambient air quality.

The nearest sensitive receptors are residences are located adjacent to the project site to the north, south, and west. These residences are approximately five feet to the south and 50 feet to the north and west (across Worthington Circle) of the project site.

3.2.2 Air Quality Impacts

3.2.2.1 *Thresholds of Significance*

For the purposes of this EIR, an air quality impact is considered significant if the project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors);

- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Impacts from the Project

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the Lead Agency and must be based to the extent possible on scientific and factual data. The City of Santa Clara has considered the thresholds updated by BAAQMD in May 2017 and regards these thresholds to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and $PM_{2.5}$. The BAAQMD CEQA Air Quality thresholds used in this analysis are identified in Table 3.2-2, which follows.

Table 3.2-2: Thresholds of Significance Used in Air Quality Analyses

Pollutant	Construction	Operation	
	Average Daily Emissions (pounds)	**Average Daily Emissions (pounds)**	**Maximum Annual Emissions (tons)**
ROG, NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust (PM_{10}/$PM_{2.5}$)	Implement Best Management Practices	None	None
Risk and Hazards for New Sources and Receptors (Project)	Same as operational threshold	• Increased cancer risk of >10.0 in one million • Increased non-cancer risk of > 1.0 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase: > 0.3 μ/m^3 (Zone of influence: 1,000-foot radius from property line of source or receptor)	
Risk and Hazards for New Sources and Receptors (Cumulative)		• Increased cancer risk of >100 in one million • Increased non-cancer risk of > 10.0 Hazard Index (chronic or acute) • Ambient $PM_{2.5}$ increase: > 0.8 μ/m^3 (Zone of influence: 1,000-foot radius from property line of source or receptor)	

Sources: BAAQMD CEQA Thresholds Options and Justification Report (2009) and BAAQMD CEQA Air Quality Guidelines (dated May 2017).

Impacts to the Project

The California Supreme Court issued an opinion that CEQA does not generally require an analysis of the impacts of locating development in areas subject to environmental hazards unless the project would exacerbate those existing environmental hazards.[5] Nevertheless, the City of Santa Clara has policies that address existing air quality conditions affecting a proposed project, which are also discussed below. The criteria used by the City of Santa Clara for determining whether new receptors would be affected are the same as those listed for Risk and Hazards for New Sources and Receptors in Table 3.2-2.

3.2.2.2 *Air Quality Impacts*

Construction

Criteria Pollutants

Construction activity is anticipated to include grading and site preparation, trenching, building construction, and paving. Construction-related automobiles, trucks, and heavy equipment are a primary concern with regard to criteria pollutant emissions as a result of diesel particulate matter. Emissions of reactive organic gases (ROG), nitrogen oxides (NO_X), and PM_{10} and $PM_{2.5}$ exhaust associated with construction are shown in Table 3.2-3.

Table 3.2-3: Construction Criteria Pollutant Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Total construction emissions[1]	2.73 tons	1.58 tons	0.05 tons	0.04 tons
Average daily emissions[2]	10.5 lbs./day	6.1 lbs./day	0.2 lbs./day	0.2 lbs./day
BAAQMD Thresholds	54 lbs./day	54 lbs./day	82 lbs./day	54 lbs./day
Threshold Exceeded?	**No**	**No**	**No**	**No**

[1]Assumesa worst-case, two-year construction timeframe.

[2]Assumes 260 workdays annually

These emissions would not exceed the BAAQMD significance thresholds and, therefore, would not result in a significant impact. **(Less than Significant Impact)**

Fugitive Dust

Dust is generated by a variety of project construction activities including grading, import/export of fill material, and vehicle travel on unpaved surfaces. Project construction activities would include removal of existing asphalt surfaces and excavation and grading, which would generate dust and other particulate matter. The amount of dust generated would be highly variable and is dependent on the size of the area disturbed at any given time, the amount of activity, soil conditions, and meteorological conditions. Sensitive receptors in the project vicinity could be adversely affected by dust generated during construction activities, particularly $PM_{2.5}$, which is a known TAC.

[5] *California Building Industry Association v. Bay Area Air Quality Management District, 62 Cal. 4th 369*, filed December 17, 2015.

Consistent with General Plan Policy 5.10.2-P6, the project will implement the following dust control best management practices (BMPs), as recommended by BAAQMD to reduce construction fugitive dust impacts during all phases of construction. These measures would also limit diesel exhaust, which is also a known TAC:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- Haul trucks transporting soil, sand, or other loose material off-site shall be covered or a minimum of two feet of freeboard shall be provided.
- Visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- Vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- Roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as a soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- Construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. Equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

With implementation of the BAAQMD Basic Construction Mitigation Measures, impacts due to dust emissions and exhaust during construction of the proposed project would be reduced to a less than significant level. **(Less than Significant Impact)**

<u>Toxic Air Contaminants – Single Source</u>

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations but they may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issues associated with construction emissions are cancer risk and exposure to $PM_{2.5}$.

Figure 3.2-1 shows the locations of sensitive receptors and maximally exposed individual (MEI) for DPM and $PM_{2.5}$ concentrations occurred. The maximum concentrations occurred the MEI (a single-family residence) adjacent to the southern project site boundary.

Figure 3.2-1: Locations of Off-Site Sensitive Receptors and MEI

The maximum increased residential cancer risks are shown in Table 3.2-4. The maximum residential excess cancer risk would be above the BAAQMD significance threshold. Annual $PM_{2.5}$ concentrations and the hazard index (non-cancer health hazards from TAC exposure) would be less than BAAQMD significance thresholds.

Table 3.2-4: Project Construction Community Risk Impacts at MEI

Source	Maximum Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Maximum Hazard Index
Project Construction	19.9 (infant)	0.10	0.02
BAAQMD Threshold	>10.0	>0.3	>1.0
Significant?	***Yes***	***No***	***No***

Impact AQ-1: Construction of the proposed project would temporarily increase maximum cancer risks for nearby sensitive receptors. **(Significant Impact)**

Mitigation Measures: The following mitigation measure shall be implemented to reduce cancer risks for nearby receptors.

MM AQ-1.1: The project applicant shall select equipment during construction to minimize emissions consistent with at least one of the following methods:

- Mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days shall meet, at a minimum, United States Environmental Protection Agency particulate matter emissions standards for Tier 2 engines or equivalent;
- Use of equipment that includes CARB-certified Level 3 Diesel Particulate Filters;
- Use of alternatively fueled equipment (i.e., non-diesel) would meet this requirement; or
- Other measures may be the use of added exhaust devices, or a combination of measures above that are demonstrated to reduce community risk impacts to a less than significant level.

With implementation of the minimum equipment standards listed in MM AQ-1.1 (Tier 2 engines or equivalent), maximum cancer risk levels would be reduced to 3.1 per million during construction of the proposed project. As a result, the impact would be reduced to a less than significant level. **(Less than Significant Impact with Mitigation)**

Operation

Criteria Pollutants

The proposed project would not conflict with the 2017 CAP because it would be smaller than the BAAQMD CEQA Air Quality Guidelines Operational Criteria Pollutant Screening Size. With 361 dwellings proposed, the project is below the screening size for both condos/townhouses (451 dwelling units) and mid-rise apartments (494 dwelling units), as shown in Table 3-1 of the 2017 BAAQMD Guidelines. Because the project would not exceed the BAAQMD screening criteria, it would not result in the generation of operational-related criteria air pollutants and/or precursors that exceed the thresholds shown in Table 3.2-2. Thus, the project is not required to incorporate project-specific control measures listed in the 2017 CAP. Further, implementation of the project would not inhibit BAAQMD or partner agencies from continuing progress toward attaining state and federal air quality standards and eliminating health-risk disparities from exposure to air pollution among Bay Area communities, as described within the 2017 CAP. **(Less than Significant Impact)**

3.2.2.3 *Odors*

Examples of land uses that generate considerable odors includes wastewater treatment plants, landfills, and chemical plants. The project proposes residential, open space, agricultural, and commercial uses on site which would not be sources of significant odors. Compost areas and waste

bins are proposed to be located near the corner of Worthington Circle and North Winchester Boulevard, approximately 120 feet from the nearest existing sensitive receptors. Thus, any odor impacts would be minor and less than significant. **(Less than Significant Impact)**

3.2.2.4 *Consistency with Plans*

Santa Clara General Plan

The project is consistent with applicable General Plan policies related to air quality by proposing high-density residential uses near existing alternative transportation and commercial uses (which reduces vehicle miles traveled), implementing BAAQMD measures for construction dust abatement, evaluating and mitigating health risks impacts from the project to off-site sensitive receptors, and analyzing health risks to on-site receptors from existing sources.

3.2.2.5 *Air Quality Issues Not Covered Under CEQA*

On December 17, 2015, the California Supreme Court issued an opinion in *CBIA vs. BAAQMD* holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents unless the project risks exacerbating those environmental hazards or risks that already exist. Nevertheless, the City has policies and regulations that address existing conditions affecting a proposed project, which are discussed below.

Community health risk assessments look at all substantial sources of TACs that can affect sensitive receptors located within 1,000 feet of a project site. These sources include freeways or highways, busy surface streets, and stationary sources identified by BAAQMD. A review of the project area identified two roadways, North Winchester Boulevard and Stevens Creek Boulevard, as the only substantial sources of mobile TAC emissions. In addition, there are two emergency generators powered by diesel engines in the proximity of the site that are permitted by BAAQMD. Both of these generators are located within the Westfield Valley Fair mall.
Single source and combined community risk impacts from nearby sources (i.e. roadways and stationary sources) are summarized in the following Table 3.2-5.

Table 3.2-5: Operational Community Risk Impacts to New Residences			
Source	**Maximum Cancer Risk (per million)**	**Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)**	**Maximum Hazard Index**
Stevens Creek Boulevard	2.1	0.06	<0.01
North Winchester Boulevard	4.5	0.13	<0.01
Plant 16255, Macy's Valley Fair Generator at 3051 Stevens Creek	3.6	0.00	0.00
Plant 19388, Nordstrom, Inc. Generator at 2400 Forest Avenue	0.9	0.00	0.00
Single Source Maximum	4.5	0.13	0.01
BAAQMD Threshold – Single Source	>10	>0.3	>1.0
Significant?	***No***	***No***	***No***
Cumulative Total	<11.1	0.19	0.01
BAAQMD Threshold – Cumulative Sources	***>100***	***>0.8***	***>10.0***
Significant?	***No***	***No***	***No***

As shown above, the individual and combined impacts from the noted sources within 1,000 feet of the project site would be below the BAAQMD thresholds of significance and, as a result, implementation of the proposed project would not result in a health risk to future site occupants.

3.2.3 Conclusion

The proposed project, with the implementation of mitigation measure MM AQ-1.1, would not result in a significant increase to the maximum cancer risk for nearby sensitive receptors. **(Less than Significant Impact with Mitigation Incorporated)**

The proposed project would not result in any other significant air quality impacts with the implantation of BAAQMD Basic Construction Mitigation Measures. **(Less than Significant Impact)**

3.3 GREENHOUSE GAS EMISSIONS

In accordance with CEQA (Public Resources Code Section 21093) and CEQA Guidelines Section 15152, the following impacts analysis tiers from the certified General Plan FEIR. Updated information reflecting changes to the regulatory setting is also incorporated in the discussion. The discussion is also based on a greenhouse gas (GHG) assessment completed for the proposed project in Mach 2018 by Illingworth & Rodkin, Inc. The reports is provided as Appendix C to this EIR.

3.3.1 Environmental Setting

Unlike emissions of criteria and toxic air pollutants, which have regional and local impacts, emissions of GHGs have a broader, global impact. Global warming associated with the greenhouse effect is a process whereby GHGs accumulating in the upper atmosphere contribute to an increase in the temperature of the earth's atmosphere. The principal GHGs contributing to global warming and associated climate change are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and fluorinated compounds. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial and manufacturing, utility, residential, commercial, and agricultural sectors.

3.3.1.1 *Regulatory Framework*

Federal

Clean Air Act

The EPA is the federal agency responsible for implementing the Clean Air Act (CAA). Under the CAA, the EPA has the authority to regulate emissions of GHGs. The EPA also has authority to monitor GHG emissions and potentially prescribe actions to reduce those emissions.

State

California Global Warming Solutions Act

Under the California Global Warming Solution Act, also known as Assembly Bill (AB) 32, the California Air Resources Board (CARB) established a statewide GHG emissions cap for 2020, adopted mandatory reporting rules for significant sources of GHG, and adopted a comprehensive plan, known as the *Climate Change Scoping Plan*, identifying how emission reductions will be achieved from significant GHG sources.

In 2016, Senate Bill (SB) 32 was signed into law, amending the California Global Warming Solution Act. SB 32 requires CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its *Climate Change Scoping Plan* in December of 2017 to express the 2030 statewide target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 $MMTCO_2e$.

Senate Bill 375 – Redesigning Communities to Reduce GHG Emissions

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light-truck sectors for 2020 and 2035, as compared to 2005 emissions levels. The per-capita GHG emissions reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.[6]

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission partnered with the Association of Bay Area Governments, BAAQMD, and the Bay Conservation and Development Commission to prepare the region's Sustainable Communities Strategy, known as *Plan Bay Area*. This plan establishes a course for reducing per-capita GHG emissions through the promotion of compact, mixed-use residential and commercial neighborhoods near transit, particularly within identified Priority Development Areas (PDAs). The proposed project is not within a defined PDA.

Plan Bay Area 2040 was adopted in July 2017. Target areas in the *Plan Bay Area 2040* Action Plan include reducing GHG emissions, improving transportation access, maintaining the region's infrastructure, and enhancing resilience to climate change.

Regional

Bay Area 2017 Clean Air Plan

BAAQMD and other agencies prepare clean air plans as required under state and federal CAAs. The *Bay Area 2017 Clean Air Plan (*2017 CAP) focuses on two closely related BAAQMD goals: protecting public health and protecting the climate. Consistent with the GHG reduction targets adopted by the State of California, the 2017 CAP lays the groundwork for the BAAQMD's long-term effort to reduce Bay Area GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. The 2017 CAP includes a wide range of control measures designed to decrease emissions of methane (and other super-GHGs), as well as decrease emissions of carbon dioxide resulting from fossil fuel combustion.

BAAQMD CEQA Air Quality Guidelines

The BAAQMD CEQA *Air Quality Guidelines* are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the Bay Area. The City of Santa Clara and other jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds, rules, plans, and methodologies for evaluating GHG emissions specified in the BAAQMD CEQA Air Quality Guidelines.

The BAAQMD thresholds were developed specifically for the Bay Area after considering the effects of AB 32 scoping plan measures that would reduce regional emissions. BAAQMD intends to achieve GHG reductions from new land use developments to close the gap between projected

[6] The emission reduction targets are for those associated with land use and transportation strategies, only. Emission reductions due to the California Low Carbon Fuel Standards or Pavley emission control standards are not included in the targets.

regional emissions with AB 32 scoping plan measures and the AB 32 targets. The BAAQMD GHG recommendations currently include a project-level GHG emission efficiency metric of 4.6 MT of CO_2e per service population (future residences and full-time workers) per year.

Local

City of Santa Clara General Plan

General Plan policies applicable to GHG emissions from the project include the following.

Policies	Description
5.3.1-P10	Provide opportunities for increased landscaping and trees in the community, including requirements for new development to provide street trees and a minimum 2:1 on- or off-site replacement for trees removed as part of the proposal to help increase the urban forest and minimize the heat island effect.
5.3.1-P14	Encourage Transportation Demand Management strategies and the provision of bicycle and pedestrian amenities in all new development greater than 25 housing units or more than 10,000 non-residential square feet, and for City employees, in order to decrease use of the single-occupant automobile and reduce vehicle miles traveled, consistent with the Climate Action Plan.
5.8.5-P1	Require new development and City employees to implement transportation demand management programs that can include site-design measures, including preferred carpool and vanpool parking, enhanced pedestrian access, bicycle storage and recreational facilities.
5.10.3-P1	Promote the use of renewable energy resources, conservation and, recycling programs.

Climate Action Plan

In December 2013, the City adopted a comprehensive GHG emissions reduction strategy (Climate Action Plan) to achieve its fair share of statewide emissions reductions for the 2020 timeframe consistent with AB 32. The Climate Action Plan outlines the City's path toward creating a more sustainable, healthy, and livable community. The Climate Action Plan focuses on renewable energy generation, energy efficiency, water conservation, waste reduction, providing efficient transportation and land use planning, and mitigating the urban heat island effect.

The City's current Climate Action Plan does not address the requirements of SB 32 (2030 reduced emissions target for projects constructed post-2020, such as the proposed project).

3.3.1.2 *Existing Conditions*

The project site is currently undeveloped and does not generate GHG emissions.

3.3.2 Checklist and Discussion of Impacts

3.3.2.1 *Thresholds of Significance*

For the purposes of this EIR, a GHG emissions impact is considered significant if the project would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

As described previously, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD has determined that GHG emissions would cause significant environmental impacts. The significance thresholds identified by BAAQMD are 1,100 MT of CO_2e per year OR 4.6 MT CO_2e per service population per year. In addition, a project that is in compliance with the City's Climate Action Plan (a qualified GHG Reduction Strategy) is considered to have a less than significant GHG impact.

The numeric thresholds set by BAAQMD and included within the City's Climate Action Plan, however, were calculated to achieve the state's 2020 target of 1990 GHG levels. The project is anticipated to take approximately two to three years to complete, starting in 2019 and finishing in 2021. The project, therefore, would not be fully constructed and occupied until after December 31, 2020.

The state has completed a Scoping Plan which will be utilized by BAAQMD to establish the 2030 efficiency threshold. The efficiency threshold would need to be met by individual projects in order for state and local governments to comply with the SB 32 2030 reduction target. At this time BAAQMD has not published a quantified threshold for 2030. For the purposes of this analysis, however, a Substantial Progress efficiency metric of 2.6 MT CO2e/year/service population has been calculated for 2030 based on the GHG reduction goals of Senate Bill 32 and Executive Order B-30-15, taking into account the 1990 inventory and the projected 2030 statewide population and employment levels.

3.3.2.2 *Greenhouse Gas Emissions*

Construction

GHG emissions would occur over the short-term during project construction activities, and would primarily result from emissions from equipment exhaust and worker and vendor trips. GHG emissions associated with construction were computed to be 405 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, and vendor, hauling, and worker trips.
Neither BAAQMD nor the City of Santa Clara has not proposed a threshold of significance for construction-related GHG emissions. BAAQMD does, however, encourage the incorporation of best management practices to reduce GHG emissions during construction, including using at least 10 percent local building materials, and recycling or reusing construction waste. **(Less than Significant Impact)**

Operational Emissions

Annual emissions resulting from project operation are shown in Table 4.3-1 based on a service population of 788 persons.

Table 4.3-1: Annual Project GHG Emissions	
Source Category	**Proposed Project Emissions (in MT) in 2021**
Area	19
Energy Consumption	524
Mobile	1,669
Solid Waste Generation	93
Water Usage	65
Total:	2,371
Per Capita Emissions	**3.0 MT CO2e/service population**
Substantial Progress Threshold	***2.6 MT CO2e/service population***
Significant?	***Yes***

Impact GHG-1: The proposed project's operational GHG emissions would exceed the Substantial Progress efficiency metric of 2.6 MT CO2e/year/service population.

The 2010-2035 General Plan FEIR concluded that Citywide 2035 GHG emissions, which encompass emissions from the current project, are projected to exceed efficiency standards necessary to maintain a trajectory to meet long-term 2050 state climate change reduction goals. Achieving the substantial emissions reductions would require policy decisions at the federal and state level and new and substantially advanced technologies that cannot today be anticipated, and are outside the City's control, and therefore cannot be relied upon as feasible mitigation strategies. Given the uncertainties about the feasibility of achieving the substantial 2035 emissions reductions, the City's contribution to climate change for the 2035 timeframe is conservatively determined to be cumulatively considerable. Based on this conclusion, the City found that build out of the 2035 General Plan would have a significant and unavoidable GHG emissions impact beyond 2020 and adopted overriding considerations for development assumed under the General Plan.

The project exceeds the development assumptions in the General Plan. The General Plan designation for the site is *Medium Density Residential*, which allows up to 36 du/ac, or a total of 209 dwelling units. The approved project allows 165 units and the project proposes a total of 361 units, or 62.2 du/ac, thus exceeding the base density in the General Plan. This is an increase in the severity of the post-2020 GHG emissions impact previously disclosed as a significant and unavoidable impact by the City Council in adopting the Santa Clara 2010-2035 General Plan and General Plan FEIR. Implementation of the proposed project would increase the severity of the previously identified GHG emissions impact. Thus, the impact is significant and unavoidable. **(Significant and Unavoidable Impact)**

3.3.2.3 *Plan or Policy Conflict*

2017 Clean Air Plan

The project supports the goals of the 2017 CAP of protecting public health and protecting the climate consistent with 2017 CAP by:

- Implementing mitigation measures to reduce TAC emissions during construction;
- Reducing motor vehicle miles traveled by proposing a mixed-use project in proximity to existing/proposed/planned pedestrian, bicycle, and transit facilities; and
- Complying with applicable regulations that would result in energy and water efficiency including Title 24 and CalGreen.

For these reasons, the proposed project would not conflict with implementation of the 2017 CAP. **(Less than Significant Impact)**

Santa Clara General Plan and Climate Action Plan

The proposed project would be consistent with applicable General Plan policies to reduce GHG emissions and the Climate Action Plan by improving the project site landscaping and increasing tree density, complying with Title 24 and CALGreen, proposing pedestrian transit improvements, participating in the City's Construction and Demolition Debris Recycling Program, using cleaner construction equipment (see MM AQ-1.1), and providing landscaping and shade trees to reduce the urban heat island effect. **(Less than Significant Impact)**

3.3.3 Conclusion

The proposed project would result in operational emissions that exceed substantial progress GHG emissions thresholds. Implementation of the proposed project would increase the severity of the GHG emissions impact previously identified within the Santa Clara 2010-2035 General Plan and General Plan FEIR.; therefore, this impact is significant and unavoidable. **(Significant and Unavoidable Impact)**

The proposed project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. **(Less than Significant Impact)**

3.4 ENERGY

The quantities of energy analyzed as part of operation of the proposed project includes the previously approved (within the Santa Clara Gardens Development Project FEIR) 165 senior housing units. The estimates, therefore, are conservative in terms of overall quantities of electricity, natural gas, and gasoline that would be consumed.

3.4.1 Environmental Setting

Energy consumption is analyzed in an EIR because of the environmental impacts associated with its production and usage. Such impacts include the depletion of nonrenewable resources (e.g., oil, natural gas, coal, etc.) and pollution resulting from their production and consumption.

Energy usage is typically quantified using the British thermal unit (Btu). As points of reference, the approximate amount of energy contained in a gallon of gasoline, a cubic foot of natural gas, and a kilowatt hour (kWh) of electricity are 123,000 Btu, 1,000 Btu, and 3,400 Btu, respectively. Utility providers measure natural gas usage in Btu.

Electrical energy is expressed in units of kilowatts (kW) and kilowatt-hours (kWh). If run for one hour, a 1,000 watt (1 kW) hair dryer would use one kilowatt-hour of electrical energy. Other measurements of electrical energy include the megawatt (1,000 kW) and the gigawatt (1,000,000 kW).

3.4.1.1 *Regulatory Framework*

At the federal level, energy standards set by the U.S. Environmental Protection Agency (EPA) apply to numerous consumer products and appliances (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

State

Renewable Energy Standards

In 2002, California established its Renewables Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2010. In 2006, California's 20 percent by 2010 RPS goal was codified under Senate Bill (SB) 107. In 2008, Executive Order S-14-08 was signed into law requiring retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. In October 2015, Governor Brown signed SB 350 to codify California's climate and clean energy goals. A key provision of SB 350 requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable sources by 2030. In 2016 renewable energy facilities provided approximately 52 percent of Silicon Valley Power's (SVP's) electricity mix.[7]

[7] Silicon Valley Power. "Power Content Label." Accessed February 16, 2018. http://www.siliconvalleypower.com/svp-and-community/about-svp/power-content-label.

Building Codes

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years, and the 2016 Title 24 updates went into effect on January 1, 2017.[8] Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.[9]

In January 2010, the state adopted the California Green Building Standards Code (CALGreen), which established mandatory green building standards for buildings in California. CALGreen was also updated and went in to effect on January 1, 2017. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality.

Local

Santa Clara General Plan

Energy-related General Plan policies applicable to the project are shown in the following table.

Policy	Description
5.10.2-P2	Encourage development patterns that reduce vehicle miles traveled and air pollution.
5.10.3-P1	Promote the use of renewable energy resources, conservation and recycling programs.
5.10.3-P3	Maximize the efficient use of energy throughout the community by achieving adopted electricity efficiency targets and promoting natural gas efficiency, consistent with the Climate Action Plan.
5.10.3-P4	Encourage new development to incorporate sustainable building design, site planning and construction, including encouraging solar opportunities.
5.10.3-P5	Reduce energy consumption through sustainable construction practices, materials, and recycling.
5.10.3-P6	Promote sustainable buildings and land planning for all new development, including programs that reduce energy and water consumption in new development.

Construction and Demolition Debris Recycling Program

The City of Santa Clara requires applicants seeking building or demolition permits for projects greater than 5,000 square feet to recycle at least 50 percent of discards. Applicants may also meet the City's recycling requirement by reprocessing and reusing construction materials on site or salvaging material, such as wood or fixtures, for reuse.

[8] California Building Standards Commission. "Welcome to the California Building Standards Commission". Accessed February 6, 2018. http://www.bsc.ca.gov/.
[9] California Energy Commission (CEC). "2016 Building Energy Efficiency Standards". Accessed February 6, 2018. http://www.energy.ca.gov/title24/2016standards/index.html.

3.4.1.2 *Existing Conditions*

Total energy usage in California was approximately 7,322 trillion Btu in the year 2015, the most recent year for which this data was available. The breakdown by sector was approximately 18 percent (1,357 trillion Btu) for residential uses, 19 percent (1,465 trillion Btu) for commercial uses, 24 percent (1,837 trillion Btu) for industrial uses, and 39 percent (3,017 trillion Btu) for transportation.[10] This energy is primarily supplied in the form of natural gas, petroleum, nuclear electric power, and hydroelectric power.

The project site is currently undeveloped. Energy is not consumed or used at the site.

Electricity

In 2016, California produced approximately 93 percent of the electricity it consumed and the rest was imported. California's non carbon dioxide-emitting electric generation (from nuclear, large hydroelectric, solar, wind, and other renewable sources) accounted for 50 percent of total in-state generation for 2016, compared to 40 percent in 2015.[11] Electricity supplied from out-of-state, coal-fired power plants has continued to decrease since 2006, following the enactment of a state law requiring California utilities to limit new long-term financial investments only to power plants that meet California emissions standards.[12]

California's total system electric generation in 2016 was 290,567 gigawatt-hours (GWh), which was down 1.6 percent from 2015's total generation of 295,405 GWh. California's in-state electric generation was up by approximately one percent at 198,227 GWh compared to 196,195 GWh in 2015, and energy imports were down by 6,869 GWh to 92,341 GWh.[13] In 2016, total in-state solar generation increased 31.5 percent from 2015 levels and wind generation increased 10.8 percent.

Growth in annual electricity consumption from traditional power plants declined reflecting increased energy efficiency and higher self-generation from solar photovoltaic power systems. Per capita drops in electrical consumption are predicted through 2027 as a result of energy efficiency gains and increased self-generation (particularly from photovoltaic systems).[14] Due to population increases, however, it is estimated that future demand in California for electricity will grow at approximately one percent each year through 2027, and that 319,256 GWh of electricity would be utilized in the state in 2027.[15]

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[10] United States Energy Information Administration. *State Profile and Energy Estimates, 2015*. Accessed February 21, 2018. Available at: https://www.eia.gov/state/?sid=CA#tabs-2.
[11] CEC. "Total System Electric Generation". Accessed February 13, 2018. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.
[12] EIA. "California State Profile and Energy Estimates Profile Analysis". Accessed February 13, 2018. https://www.eia.gov/state/analysis.php?sid=CA#40.
[13] CEC. "Total System Electric Generation". Accessed February 14, 2018. http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html.
[14] CEC. *California Energy Demand Updated Forecast, 2017-2027*. Accessed February 14, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN214635_20161205T142341_California_Energy_Demand_Updated_Forecast.pdf.
[15] Ibid.

Electricity in Santa Clara County in 2016 was consumed primarily by the commercial sector (77 percent), followed by the residential sector consuming 23 percent. In 2016, a total of approximately 16,800 GWh of electricity was consumed in Santa Clara County.[16] SVP is the City of Santa Clara's energy utility and would provide electricity service to the project site. In 2016 renewable energy facilities (including solar, geothermal, and biomass, eligible hydroelectric, and wind) provided 28 percent of SVP's electricity mix; large hydroelectric facilities provided 24 percent; natural gas provided 35 percent, coal facilities provided 10 percent, and four percent was unspecified.[17]

3.4.1.3 *Natural Gas*

PG&E provides natural gas services within the City of Santa Clara. In 2016, approximately three percent of California's natural gas supply came from in-state production, while 97 percent was imported from other western states and Canada.[18] California's natural gas is supplied by interstate pipelines, including the Mojave Pipeline, Transwestern Pipeline, Questar Southern Trails Pipeline, Tuscarora Pipeline, and Baja Norte/North Baja Pipeline.[19] As a result of improved access to supply basins and pipeline expansion projects, these pipelines currently have excess capacity.

In 2016, approximately 32 percent of the natural gas delivered for consumption in California was for electricity generation, 37 percent for industrial uses, 19 percent for residential uses, 11 percent for commercial uses, and less than one percent for vehicle fuel. In 2015, California consumed approximately 1,005,447,915 MMBtu (million btu) of natural gas; a slight increase from 2014 when 1,004,741,027 MMBtu were consumed.[20] In Santa Clara County, a total of 40,253,475 MMBtu of natural gas were consumed in 2015, which is approximately four percent of the state's total.[21]

Natural gas demand in California is anticipated to decrease approximately one percent per year through 2035 and 2016 data is anticipated to reflect this trend when fully released. This decline is due to residential, commercial, and industrial electricity generation; aggressive energy efficiency programs; and a decrease in demand for electrical power generation as a result of the implementation of RPS targets (as the state moves to power generation resources that result in less GHG emissions than natural gas). [22]

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[16] CEC. Energy Consumption Data Management System. "Electricity Consumption by County". Accessed February 14, 2018. http://ecdms.energy.ca.gov/elecbycounty.aspx.
[17] Silicon Valley Power. "Power Content Label." Accessed February 16, 2018. http://www.siliconvalleypower.com/svp-and-community/about-svp/power-content-label.
[18] California Gas and Electric Utilities. 2016 California Gas Report. Accessed February 13, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN212364_20160720T111050_2016_California_Gas_Report.pdf.
[19] Ibid.
[20] EIA. "Natural Gas Delivered to Consumers in California". Accessed February 13, 2018. http://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SCA_a.htm.
[21] CEC. "Natural Gas Consumption by County". Santa Clara County 2015 Data. Accessed February 13, 2018. http://ecdms.energy.ca.gov/gasbycounty.aspx.
[22] California Gas and Electric Utilities. 2016 California Gas Report. Accessed February 13, 2018. http://docketpublic.energy.ca.gov/PublicDocuments/16-BSTD-06/TN212364_20160720T111050_2016_California_Gas_Report.pdf.

3.4.1.4 *Fuel for Motor Vehicles*

California accounts for more than one-tenth of the United States' crude oil production and petroleum refining capacity.[23] In 2017, 15 billion gallons of gasoline were sold in California.[24] The average fuel economy for light-duty vehicles (autos, pickups, vans, and SUVs) in the United States has steadily increased from about 13.1 miles-per-gallon (mpg) in the mid-1970's to 22 mpg in 2015.[25] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. That standard, which originally mandated a national fuel economy standard of 35 miles per gallon by the year 2020, was subsequently revised to apply to cars and light trucks Model Years 2011 through 2020.[26,27] In 2012, the federal government raised the fuel economy standard to 54.5 miles per gallon for cars and light-duty trucks by Model Year 2025.[28]

3.4.2 Energy Impacts

3.4.2.1 *Thresholds of Significance*

Based on Appendix F of the CEQA Guidelines, and for the purposes of this EIR, a project will result in a significant energy impact if the project will:

- Use fuel or energy in a wasteful manner; or
- Result in a substantial increase in demand upon energy resources in relation to projected supplies.

3.4.2.2 *Energy Waste or Increase in Demand*

Construction

Construction activities associated with the proposed project are estimated to occur at the site over a two-year period and would consist of site preparation, grading, construction of the proposed buildings, paving, and installation of landscaping. The overall construction schedule and process is designed to be efficient in order to avoid excess monetary costs. That is, equipment and fuel are not typically used wastefully on the site because of the added expense associated with renting the equipment, as well as maintaining and fueling it; therefore, the opportunities for efficiency gains during construction are limited.

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[23] U.S. EIA. *California State Profile and Energy Estimates: Profile Analysis*. Accessed February 8, 2018. http://www.eia.gov/beta/state/analysis.cfm?sid=CA

[24] California Department of Tax and Fee Administration. Net Taxable Gasoline Gallons. Accessed February 16, 2018. http://www.cdtfa.ca.gov/taxes-and-fees/MVF_10_Year_Report.pdf.

[25] U.S. EPA. Table 4-23: Average Fuel Efficiency of U.S. Light Duty Vehicles. Accessed February 6, 2018. http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_04_23.html.

[26] U.S. Department of Energy. Energy Independence & Security Act of 2007. Accessed February 8, 2018. http://www.afdc.energy.gov/laws/eisa.

[27] Public Law 110–140—December 19, 2007. Energy Independence & Security Act of 2007. Accessed February 8, 2018. http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf.

[28] National Highway Traffic Safety Administration. *Obama Administration Finalizes Historic 54.5 mpg Fuel Efficiency Standards.* August 28, 2012. Accessed February 8, 2018. http://www.nhtsa.gov/About+NHTSA/Press+Releases/2012/Obama+Administration+Finalizes+Historic+54.5+mpg+Fuel+Efficiency+Standards.

The project includes several measures that would improve the efficiency of the construction process. Implementation of the BAAQMD Basic Construction Mitigation Measures identified in Section 3.2 Air Quality, would restrict excessive equipment use by reducing idling times to five minutes or less and would require contractors to post signs on the project site reminding workers to shut off idle equipment. In addition, consistent with mitigation measure MM AIR-1, equipment would be carefully selected to reduce emissions during construction.

Energy is consumed during construction because the use of fuels and building materials are fundamental to construction of new buildings; however, energy would not be wasted or used inefficiently by construction equipment and waste from idling would be further reduced with implementation of the BAAQMD Basic Construction Mitigation Measures. In addition, the project would comply with the City's Construction and Demolition Debris Recycling Program, minimizing energy impacts from the creation of excessing construction waste. For these reasons, construction activities would not use fuel or energy in a wasteful manner. **(Less than Significant Impact)**

Operation

Operation of the project would consume energy for multiple purposes including, building heating and cooling, lighting, and appliance use. Operational energy would also be consumed by resident, employee, and customer vehicle use to and from the site. It is estimated that the proposed project would use approximately 1.68 GWh of electricity and 4,327 MBtu of natural gas per year.[29] Given the project's estimated 4,372,104 vehicle miles traveled per year, it is estimated that project trips would use approximately 198,732 gallons of gasoline per year (assuming an average fuel economy of 22.0 mpg).

As discussed previously, California's total system electric generation in 2016 was 290,567 GWh (down 1.6 percent from 2015); though, consumption is still expected to increase on percent per year in the future. Efficiency and production capabilities would help meet increased electricity demand in the future, such as improving energy efficiency in existing and future buildings, establishing energy efficiency targets, inclusion of microgrids and zero-net energy buildings, and integrating renewable technologies.[30] Thus, the proposed project's increase in annual electricity use, would not result in a significant increase in demand on electrical energy resources in relation to projected supply statewide.

It is assumed that energy efficiency technology and the RPS targets are likely to reduce demand for natural gas in the state in the future. Additionally, drilling improvements and system efficiencies will continue to enhance production and decrease the overall need for natural gas, respectively.[31] Based on the relatively small increase in natural gas demand from the project (4,327 MBtu per year), and compared to the growth trends in natural gas supply and the existing available supply in California, the proposed project would not result in a significant increase in natural gas demand relative to projected supply.

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[29] Illingworth & Rodkin, Inc. *Agrihood Community Development TAC and GHG Emission Assessment*. February, 2018.
[30] CEC. *2016 Integrated Energy Policy Report*. February 2017. http://www.energy.ca.gov/2016_energypolicy/.
[31] CEC. "2014 Natural Gas Issues Trends, and Outlook." Accessed February16, 2018. http://www.energy.ca.gov/2014publications/CEC-200-2014-001/CEC-200-2014-001-SF.pdf.

Project trips would increase gasoline use at the site by approximately 198,732 gallons of gasoline per year. This increase is small, however, when compared to the annual statewide sales of 15 billion gallons. The project's gasoline use would be anticipated to be reduced given its proximity to existing transit, the proposed mix of uses (residential and commercial) in the project vicinity, implementation of bicycle facilities, and placing residential development near jobs.

The proposed project would be required to be built consistent with the requirements of Title 24 and CalGreen, which include insulation and design standards to minimize wasteful energy consumption. The project would not use fuel or energy in a wasteful manner given that it would also implement the following green building measures and design features:

- Solar-ready roof;
- Salvage or recycle at least 50 to 65 percent of construction waste (consistent with the City's Construction and Demolition Debris Recycling Program requirements);
- Bicycle parking and dedicated bicycle repair stations;
- Provision of EV charging stations for vehicles;
- Water efficient residential plumbing fixtures;
- Energy-efficient lighting fixtures;
- Rainwater capture and reuse in the community garden area;
- An urban farm that would produce food for on-site consumption by residents; and
- Low-water landscaping and water-efficient irrigation design.

For these reasons, the proposed project would not result in the wasteful use of energy or a substantial increase in demand upon energy resources in relation to projected supplies. **(Less than Significant Impact)**

3.4.2.3 *Consistency with Plans*

The proposed project is consistent with applicable General Plan policies to reduce energy consumption and waste by developing a high-density mixed-use project near existing transit and services, providing recycling and bicycle facilities onsite, participating in the City's Construction and Demolition Debris Recycling Program, and complying with Title 24 and CALGreen.

3.4.3 Conclusion

The proposed project, which includes green-building features and would be required to be constructed in compliance with applicable energy efficiency regulations, would not result in a significant energy impact. **(Less than Significant Impact)**

3.5 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based upon a Phase I Environmental Site Assessment prepared by AEI Consultants in July 2016. A copy of this report is included in Appendix D of this EIR.

3.5.1 Environmental Setting

3.5.1.1 *Regulatory Framework*

Federal and State

Hazardous Materials

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. Federal regulations and policies related to development include the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, and the Resource Conservation and Recovery Act (RCRA). In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies including the City of Santa Clara Fire Department have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. The California Department of Industrial Relations, Division of Occupational Safety and Health (DOSH) enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. DOSH also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

Cortese List (Government Code Section 65962.5)

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by the state, local agencies, and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by the Department of Toxic Substances Control (DTSC), State Water Resources Control Board (SWRCB), and CalRecycle. The project site is not on the Cortese List.[32]

[32] DTSC. "Hazardous Waste and Substances Site List (Cortese)". Accessed March 27, 2018. http://www.envirostor.dtsc.ca.gov/public/search?cmd=search&reporttype=CORTESE&site_type=CSITES,OPEN,FUDS,CLOSE&status=ACT,BKLG,COM,COLUR&reporttitle=HAZARDOUS+WASTE+AND+SUBSTANCES+SITE+LIST+(CORTESE).

Local

Norman Y. Mineta San José International Airport Comprehensive Land Use Plan

The Norman Y. Mineta San José International Airport is located approximately 5.0 miles northeast of the project site. Given this distance, the project site is not located within the Airport Influence Area (AIA) of the Norman Y. Mineta San José International Airport, as defined by the Comprehensive Land Use Plan (CLUP).

Santa Clara General Plan

General Plan policies related to hazards and hazardous materials that are applicable to the project are listed below.

Policies	Description
5.10.5-P23	Require appropriate clean-up and remediation of contaminated sites.

Santa Clara Emergency Operations Plan

In June 2016, the City of Santa Clara adopted an Emergency Operations Plan (EOP) to address the planned response of the City of Santa Clara to emergency situations associated with natural disasters and technological incidents, as well as chemical, biological, radiological, nuclear and explosive emergencies. The EOP establishes the emergency organization, assign tasks, specifies policies and general procedures, and provides for coordination of planning efforts for emergency events such as earthquake, flooding, dam failure, and hazardous materials responses.

3.5.1.2 *Existing Conditions*

The project site is currently undeveloped and surrounded by commercial/retail and residential land uses. Groundwater levels on-site were encountered at 20 to 32 feet below ground surface (bgs). Groundwater in the project area flows to the north toward the San Francisco Bay.

Historical Uses of the Project Site

Agricultural Chemicals

The project site and western adjoining property were utilized as a University of California agricultural research facility from 1928 until 2002. Hazardous materials including fertilizers, pesticides, fuels, oils, and cleaning solutions, and portable tanks and trailers were removed when the facility closed in 2002. The buildings were demolished in 2010 after lead-based paint and asbestos abatement activities were completed.

In 2006, the State of California Department of General Services (as the property owner) entered into a voluntary clean-up agreement (VCA) with the DTSC due to historic uses of pesticides and other agricultural chemicals on site. Elevated concentrations of arsenic and dieldrin were detected in the soils and a Removal Action Workplan (RAW) was prepared to identify, evaluate, and recommend remediation alternatives for the impacted soils on site. The VCA and RAW were approved by DTSC in October 2007. Contaminated soils were removed and clean imported fill material was imported to

the site. As of August 2010, the DTSC issued a letter indicating that the Removal Action Completion Report was reviewed and the work has been conducted in accordance with the approved RAW and remediation goals have been achieved. DTSC approved the report and concluded that the site does not pose a threat to human health or the environment.

Underground Storage Tanks

A 1,000-gallon gasoline underground storage tank (UST) and 1,000-gallon diesel UST were removed and two samples were collected beneath each UST in 1993. The soil samples did not detect any gasoline, diesel, benzene, toluene, ethylbenzene, or xylene. As a result, the City of Santa Clara Fire Department (as the authorized CUPA) issued a No Further Action (NFA) letter in 1993. An additional 2,000-gallon UST was found during excavation activities in 2009. The UST was removed and soil samples collected showed low levels of petroleum-hydrocarbons, arsenic, and lead concentrations. The City of Santa Clara Fire Department again issued a NFA letter in 2010.
In 2013 and 2014, 110 single-family houses were constructed on the approximately 11.4 acres of land west of the proposed project site.

Surrounding Area

There are two facilities listed as containing hazardous materials in the vicinity (0.15 mile) of the project site. The Goodyear Auto Service Center, at 486 North Winchester Boulevard (hydrologically cross-gradient), is an auto-related CUPA Listing and a San Jose HAZMAT site. This site is an active auto repair facility operating since 2009. Based on the lack of a documented release and the direction of groundwater flow, the site does not represent an environmental concern. AccUTune and Break and Dowler S Jim Flying A Service Station at 498 North Winchester Boulevard (hydrologically cross-gradient) is a RCRA-SQG[33] listed site. This site was occupied by a gas station from 1966 to 1982, but the facility has been demolished and the site is now occupied by temporary construction trailers for work at the Westfield Valley Fair mall. In addition, this site was listed as generating small quantities of hazardous waste and minor violations in connection with these materials has occurred in the past. Based on the lack of a documented release, the lack of recent or substantial violations, and the inferred direction of groundwater flow, the site does not represent an environmental concern.

3.5.2 Hazards and Hazardous Materials Impacts

3.5.2.1 *Thresholds of Significance*

For the purposes of this EIR, a hazards and hazardous materials impact is considered significant if the project would:

- Create a significant hazard to the public or the environment through routine transport, use, or disposal of hazardous materials;

[33] 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.

- 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;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school;
- 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;
- 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 for people residing or working in the project area;
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

3.5.2.2 *Routine Transport, Use, or Disposal of Hazardous Materials*

The proposed project would use limited amounts of cleaning materials and landscape and agricultural maintenance-related chemicals. These materials would be stored, used, and disposed of in compliance with current product recommendations and state and federal requirements. As a result, these products would not generate substantial hazardous emissions or result in significant hazards due to accidental releases from their use, storage, or transport. Thus, there would not be a significant risk to the public, and the project's impact would be less than significant. **(Less than Significant Impact)**

3.5.2.3 *Hazardous Materials Release*

As discussed previously, the project site and adjacent properties were utilized as a University of California agricultural research facility from 1928 until 2002. Contaminated soils from past agricultural uses and USTs were removed and disposed of in accordance with the site's RAW and federal and state regulations. New backfill, screened for contaminants, was used to level the project site. As of August 2010, the DTSC issued a letter indicating that the Removal Action Completion Report was reviewed and the work has been conducted in accordance with the approved RAW and remediation goals have been achieved. The DTSC concluded that the site does not pose a threat to human health or the environment. Additionally, there are no hazards sites in the vicinity that might result in a release of material that would impact area residents or construction workers. For these reasons, implementation of the project would not create a significant hazard to human health or the environment and the impact is less than significant. **(Less than Significant Impact)**

3.5.2.4 *Impacts to Schools*

The project site is not located within 0.25 mile of any proposed or existing public school; however, the Pacific Autism Center for Education is located 0.15 mile north of the project site. This facility would not be impacted because the project would not emit hazardous emissions or handle hazardous materials, aside from cleaning materials and landscape and agricultural maintenance-related chemicals that would be utilized as directed and in compliance with applicable regulations. Thus, the proposed project would not result in a hazardous materials impact to schools. **(No Impact)**

3.5.2.5 *Cortese List*

As described previously, the project site is not located on the Cortese List; therefore, no impact would occur. **(No Impact)**

3.5.2.6 *Impacts to Airport Operations*

The nearest airport is located approximately 5.0 miles northeast of the project site. The project site is not located within a CLUP-defined safety zone or AIA; therefore, the project would not result in or exacerbate safety hazard impacts due to airport activities. **(No Impact)**

3.5.2.7 *Emergency Response Plan Interference*

The project site is located in a developed area and would not change the local roadway circulation patterns and access, or otherwise physically interfere with the City's EOP.[34] As a result, the impact is less than significant. **(Less than Significant Impact)**

3.5.2.8 *Expose People or Structures to Wildland Fires*

According to the California Department of Forestry and Fire Hazard Protection, the project site is not subject to wildfire hazards.[35] **(No Impact)**

3.5.2.9 *Consistency with Plans*

The proposed project is consistent with applicable General Plan policies requiring cleanup of contaminated sites, in that the remediation goals for the project site have been achieved and the DTSC concluded that the site does not pose a threat to human health or the environment.

3.5.3 Conclusion

The proposed project would not result in significant hazards and hazardous materials impacts. **(Less than Significant Impact)**

[34] City of Santa Clara. *Emergency Operations Plan*. June 2016.
[35] California Department of Forestry and Fire Protection. "Santa Clara County Very High Fire Hazard Zones in LRA." October 8, 2008. Accessed February 20, 2017. http://frap.fire.ca.gov/webdata/maps/santa_clara/fhszl_map.43.pdf.

3.6 LAND USE AND PLANNING

3.6.1 Environmental Setting

3.6.1.1 *Regulatory Framework*

Regional

Santa Clara Valley Habitat Plan

The Valley Habitat Plan (Habitat Plan) is a conservation program intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth on approximately 500,000 acres of southern Santa Clara County. The project site is not located within the Habitat Plan permit area.

Local

Santa Clara General Plan

The following land use and planning-related General Plan policies are applicable to the project.

Policies	Description
5.3.1-P9	Require new development provide adequate public services and facilities, infrastructure, and amenities to serve the new employment or residential growth.
5.3.1-P13	Support high density and intensity development within a quarter-mile of transit hubs and stations and along transit corridors.
5.3.2-P1	Encourage the annual construction of the housing units necessary to meet the City's regional housing needs assessment by reducing constraints to housing finance and development.
5.3.4-P4	Require mixed-use development to meet the density and intensity specified in the lands use classifications.
5.3.2-P2	Encourage higher-density residential development in transit and mixed-use areas and in other locations throughout the City where appropriate.
5.3.2-P3	Encourage below-grade parking and parking structures for development in Medium Density and High Density designations.
5.3.2-P6	Provide adequate choices for housing tenure, type and location, including higher density, and affordability for low- and moderate-income and special needs household.
5.3.4-P6	Locate a neighborhood square or plaza within large mixed-use developments.
5.3.4-P11	Foster active, pedestrian-oriented uses at the ground level, such as retail shops, office, restaurants with outdoor seating, public plazas or residential units with front stoops, in mixed-use development.
5.5.1-P4	For residential development providing greater than 50 percent of the total number of units for affordable housing on residentially designated properties, allow development at any residential density provided that the increased density is compatible with planned uses on neighboring properties and consistent with other applicable General Plan policies.

Zoning Ordinance

The City of Santa Clara Zoning Ordinance (Title 18 of the City Code) provides a regulatory framework for development and operation of uses within the City. The intent of the Zoning Ordinance is to encourage development of various kinds of living, working, and commercial activities in specific areas as defined in the General Plan and to accomplish the following purposes:

- To promote the public health, safety, comfort, and general welfare;
- To conserve the values of property throughout the City and to protect the character and stability of residential, commercial, professional and manufacturing areas, and to promote the orderly and beneficial development of such areas;
- To provide adequate light, air, privacy, and convenience of access to property;
- To minimize congestion on the public streets and highways;
- To provide for the elimination of incompatible and nonconforming uses of land, buildings, and structures which are adversely affecting the character and value of desirable development in each district;
- To establish official plan lines and building setback lines;
- To define the powers and duties of the administrative officers and bodies as provided herein.
- To promote efficient urban design arrangement and to secure economy in governmental expenditures; and
- To preserve landmarks which reflect the City's historical, architectural, cultural and aesthetic traditions and promote a sense of community identity and historic perspective.

3.6.1.2 *Existing Conditions*

Project Site

The project site is currently undeveloped and designated *Medium Density Residential* under the City's General Plan. The *Medium Density Residential* designation is intended for residential development at densities ranging from 20 to 36 units per gross acre. Building types can include a combination of low-rise apartments, townhouses and row houses with garage or below-grade parking.

The project site is zoned *PD – Planned Development* and currently allows for the construction of 165 senior housing units. The *PD* zoning designation is intended to accommodate development that is compatible with the existing community, including:

- Integration of uses that are not permitted to be combined in other zoning districts; or
- Utilization of imaginative planning and design concepts that would be restricted in other zoning districts; or
- Subdivision of land or air space in a manner that results in units not having the required frontage on a dedicated public street; or
- Creates a community ownership project.

Surrounding Land Uses

As shown in Figure 2.1-3, Worthington Circle (adjacent to the north and west of the project site) is a two lane roadway with existing two- to three-story single-family residences constructed as part of the previously approved Santa Clara Gardens Development Project. North of the project site are two-story single-family residences. To the southeast of the project site is a one-story office and a surface parking lot. East of the site across North Winchester Boulevard, is a one-story automobile shop, a four-story parking structure, a large commercial/retail shopping complex, and surface parking lots. South of the project site are two one-story commercial/retail buildings with a surface parking lot and single-family residences that range from one to two stories.

3.6.2 Land Use and Planning Impacts

3.6.2.1 *Thresholds of Significance*

For the purposes of this EIR, a land use and planning impact is considered significant if the project would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

3.6.2.2 *Physically Divide an Established Community*

The project proposes to develop residential, retail, and open space uses with a new east-west oriented pedestrian corridor through the project site, as shown in Figure 2.1-4 (the 110 previously approved single-family housing units have already been developed at the site). The pedestrian corridor would facilitate access to commercial uses on North Winchester Boulevard from residential units located along Worthington Circle. Given that the existing development in the project area consists of a mix of land uses and the proposed pedestrian corridor through the project site would increase connectivity between communities, the proposed project would not physically divide an established community. **(Less than Significant Impact)**

3.6.2.3 *Consistency with Plans*

General Plan

The 5.8 acre project site is designated Medium Density Residential under the City's General Plan, which allows for development of up to 36 dwelling units per acre. The proposed project would develop a total of 361 dwelling units between the senior apartments, multi-family apartments, and townhouses, which would exceed the base General Plan density. More than half of the proposed dwelling units associated with the project would, however, be affordable. Thus, the project would qualify for General Plan Discretionary Use Policy 5.5.1-P4, which provides:

> "For residential development providing greater than 50 percent of the total number of units for affordable housing on residentially designated properties, allow development at any residential density provided that the increased density is compatible with planned uses on neighboring properties and consistent with other applicable General Plan policies."

Constructing 361 dwelling units on 5.8 acres yields a density of 62.2 dwelling units per acre, which is within the allowable density range under the General Plan's Very High Density land use designation pursuant to this General Plan policy. The project must agree to the conditions of granting the bonus (including maintaining unit affordability for at least 55 years). Further, the project would be consistent with General Plan land use and planning policies by:

- Being adequately serviced by public facilities and infrastructure;
- Proposing a mix of residential unit types (i.e. affordable, market-rate, senior);
- Proposing high density residential uses in proximity to major transit stops;
- Proposing active, pedestrian oriented uses at the ground level; and
- Proposing below-grade parking structures.

For these reasons, the proposed project would be consistent with the *Medium Density Residential* land use designation and applicable General Plan policies intended to avoid an environmental impact. **(Less than Significant Impact)**

Zoning Ordinance

The project is currently zoned *PD – Planned Development* and the project proposes a revised *PD* zoning designation to allow the proposed project, which includes an integration of uses that are not permitted to be combined in other zoning districts. The City of Santa Clara does not have a zoning designation that would allow the density and type of development proposed. If the PD zoning is not approved, the project cannot be constructed as proposed. As a result, the project would be consistent with the zoning. **(Less than Significant Impact)**

3.6.2.4 *Habitat Plan Conflict*

The project site is not located within the Habitat Plan area, or any other approved habitat conservation plan or natural community conservation plan; therefore, there would be no conflict. **(No Impact)**

3.6.3 Conclusion

The proposed project would not result in significant land use impacts. **(Less than Significant Impact)**

3.7 NOISE AND VIBRATION

3.7.1 Environmental Setting

3.7.1.1 *Overview*

Several factors influence sound as it is perceived by the human ear, including the actual level of sound, the period of exposure to the sound, the frequencies involved, and the fluctuation in the noise level during exposure. Noise is measured on a "decibel" scale which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are almost always expressed using one of several noise averaging methods, such as L_{eq}, DNL, or CNEL.[36] Using one of these descriptors is a way for a location's overall noise exposure to be measured, given that there are specific moments when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and specific moments when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). L_{max} is the maximum A-weighted noise level during a measurement period.

3.7.1.2 *Vibration Overview*

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. Because of the impulsive nature of construction activities, the use of the PPV descriptor has been routinely used to measure and assess ground-borne vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV.

3.7.1.3 *Regulatory Background*

State

California Building Standards Code

The California Building Standards Code (Title 24, Part 2 of the State of California Code of Regulations) establishes uniform minimum noise insulation performance standards to protect persons within new buildings housing people, including hotels, motels, dormitories, apartments, and dwellings other than single-family residences. Title 24 mandates that interior noise levels attributable to exterior sources not exceed 45 dBA DNL or CNEL in any habitable room. Exterior

[36] L_{eq} is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 p.m. and 7:00 a.m. Community Noise Equivalent Level (CNEL) is similar to the DNL except that there is an additional five dB penalty applied to noise occurring between 7:00 p.m. and 10:00 p.m. As a general rule of thumb where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour L_{eq}.

windows must have a minimum STC of 40 or OITC of 30 when the commercial property falls within the 65 dBA DNL noise contour for a freeway or expressway, railroad, industrial source or fixed-guideway noise source, as determined by the local general plan noise element.

California Green Building Standards Code

The state established exterior sound transmission control standards for non-residential buildings as set forth in the California Green Building Standards Code (CalGreen), specifically within Section 5.507.4.1 and Section 5.507.4.2. CALGreen requires that wall and roof-ceiling assemblies exposed to adjacent roadways have a composite Sound Transmission Class (STC) rating of at least 50 or a composite Outdoor-Indoor Transmission Class (OITC) rating of no less than 40.

Local

Santa Clara General Plan

The City of Santa Clara's General Plan establishes policies to control noise within the community. Table 3.7-1 shows the noise levels considered compatible with specific land uses. Residential land uses are considered compatible with the noise levels up to 55 dBA CNEL. Where exterior noise levels are greater than 55 dBA CNEL and less than 70 dBA CNEL, the design of the project should include measures to reduce noise levels to acceptable levels.

Table 3.7-1: Noise and Land Use Compatibility (CNEL)

Land Use	50	55	60	65	70	75	80	85
Residential								
Educational								
Recreational								
Commercial								
Industrial								
Open Space								

	Normally Acceptable – Compatible
	Conditionally Acceptable – Require Design and insulation to reduce noise levels
	Unacceptable – Incompatible, avoid except when the use is entirely indoors and an interior noise level of 45 dBA can be maintained

Source: *City of Santa Clara 2010-2035 General Plan*

City of Santa Clara General Plan policies related to noise are included in the following table.

Policies	Description
5.10.6-P1	Review all land use and development proposals for consistency with the General Plan compatibility standards and acceptable noise exposure levels. Residential land uses are considered compatible in noise environments of 55 dBA CNEL or less, where the exterior noise levels are greater than 55 dBA CNEL and less than 70 dBA CNEL, the design of the project should include measures to reduce noise levels to acceptable levels. Noise levels exceeding 70 dBA CNEL at residential land uses are considered incompatible. Residential land uses proposed in noise environments exceeding 70 dBA CNEL should generally be avoided, except when the residential use is entirely indoors and where interior noise levels can be maintained at 45 dBA CNEL or less. Commercial land uses are considered compatible in noise environments of 65 dBA CNEL or less.
5.10.6-P2	Incorporate noise attenuation measures for all projects that have noise exposure levels greater than General Plan "normally acceptable" levels (as defined above).
5.10.6-P3	New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid core doors and baffling) and structural measures (earthen berms and sound walls).
5.10.6-P4	Encourage the control of noise at the source through site design, building design, landscaping, hours of operation and other techniques.
5.10.6-P5	Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines, and to place compressors and mechanical equipment in sound-proof enclosures.
5.10.6-P6	Discourage noise sensitive uses, such as residences, hospitals, schools, libraries and rest homes, from areas with high noise levels, and discourage high noise generating uses from areas adjacent to sensitive uses.

Santa Clara City Code

The Santa Clara City Code establishes noise and vibration level performance standards for fixed sources. Section 9.10.40 limits noise levels at residences to 55 dBA during daytime hours (7:00 a.m. to 10:00 p.m. and 50 dBA at night (10:00 p.m. to 7:00 a.m.), noise levels at commercial uses to 65 dBA during daytime hours and 60 dBA during nighttime hours. The City Code does not define the acoustical time descriptor such as L_{eq} (the average noise level) or L_{max} (the maximum instantaneous noise level) that is associated with the above limits. A reasonable interpretation of the City Code would identify the ambient base noise level criteria as an average or median noise level (L_{eq}/L_{50}).

Section 9.10.230 states construction activities are not permitted within 300 feet of residentially zoned property except within the hours of 7:00 a.m. and 6:00 p.m. on weekdays and 9:00 a.m. and 6:00 p.m. on Saturdays. Construction is not permitted on Sundays or holidays.

Section 9.10.050 states this it is unlawful for any person to operate or cause, permit, or allow the operation of, any fixed source of vibration of disturbing, excessive, or offensive vibration on property owned, leased, occupied, or otherwise controlled by such person, such that the vibration originating

from such source is above the vibration perception threshold of an individual at the closest property line point to the vibration source on the real property affected by the vibration.

3.7.1.4 *Existing Conditions*

According to the Santa Clara Gardens Development Project FEIR and General Plan FEIR, noise levels in the eastern portion of the site result primarily from vehicular traffic from North Winchester Boulevard and nearby commercial land uses. Noise levels in the western portion of the site are created by vehicular noise from Stevens Creek Boulevard, adjacent residences, and occasional aircraft noise. Noise levels up to 70 dB are present at the project's property line at North Winchester Boulevard.

The nearest sensitive receptors are the residences located immediately adjacent to the project site to the north, south, and west. These residences are approximately five feet to the south and 50 feet to the north and west (across Worthington Circle) of the project site.

3.7.2 Noise and Vibration Impacts

3.7.2.1 *Thresholds of Significance*

For the purposes of this EIR, a noise and vibration impact is considered significant if the project would result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or local general plan or noise ordinance, or applicable standards of other agencies;
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- 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 expose people residing or working in the project area to excessive noise levels; or
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

The project site is not within the vicinity of a private airstrip; therefore, the last threshold listed above is not discussed further. CEQA does not define what noise level increase would be considered substantial. The following criteria based on standards identified in the California Building Standards Code, CALGreen, General Plan, Santa Clara City Code, and City practice, were used to evaluate the significance of environmental noise resulting from the project:

- A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan or City Code.
- A significant impact would be identified if the construction of the project would expose persons to excessive vibration levels. Ground-borne vibration levels exceeding 0.3 inches/second PPV would have the potential to result in cosmetic damage to normal buildings.
- A significant impact would be identified if traffic generated by the project or project improvements/operations would substantially increase noise levels at sensitive receptors in the vicinity. A substantial increase would occur if the noise level increase is five dBA CNEL or greater, with a future noise level of less than the "normally acceptable" standard, or the noise level increase is three dBA CNEL or greater, with a future noise level equal to or greater than the "normally acceptable" standard.
- A significant noise impact would be identified if construction-related noise would temporarily increase ambient noise levels at sensitive receptors. Hourly average noise levels exceeding 60 dBA $L_{eq,}$ and the ambient by at least five dBA L_{eq}, for a period of more than one year would constitute a significant temporary noise increase at adjacent residential land uses. Where noise from construction activities exceeds 70 dBA L_{eq} and the ambient noise environment by at least 5 dBA L_{eq} at commercial land uses in the project vicinity for a period exceeding one year, the impact would be considered significant.

3.7.2.2 *Construction Noise*

Noise impacts as a result of construction activities generally depend on the timing and duration of noise generating activities and distance between construction noise sources and noise sensitive receptors. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning or nighttime hours), in areas immediately adjoining noise sensitive land uses, or when construction durations last over extended periods of time. Construction activities associated with the proposed project would last approximately two to three years and would temporarily increase noise levels in the project area, in particular for the first year of construction when heavy equipment is used during excavation for the parking garage and utility infrastructure and when the exterior portions of the building are framed.[37] Once construction moves indoors, minimal noise would be generated at off-site locations.

The temporary increase in noise levels in the immediate vicinity of the project during construction would be audible at the residences surrounding the site. These increases would be temporary and sporadic, with heavy construction to be completed in approximately one year. Further, construction-generated noise levels drop off at a rate of about six dBA per doubling of the distance between the source and receptor. Shielding by buildings as they are constructed would provide an additional approximately five dBA noise reduction at some receptors.

Compliance with Santa Clara City Code requirements for construction (Chapter 9.10, listed below) would limit construction to less noise-sensitive hours, require noise-suppression devices for equipment, and provide a disturbance coordinator for residents to contact during construction.

[37] Illingworth & Rodkin, Inc. Agrihood Community Development TAC and GHG Emission Assessment. February 20, 2018.

- Construction and demolition activities shall be limited to the period between 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. to 6:00 p.m. on Saturdays. No construction or demolition activities are permitted on Sundays or holidays.
- Construction crews will be required to use available noise suppression devices and properly maintain and muffle internal combustion engine-driven construction equipment.
- The applicant shall designate a disturbance coordinator and post the name and phone number of this person at easy reference points for the surrounding land uses. The disturbance coordinator shall respond to and address all complaints about noise.

Compliance with City Code requirements during construction of the project would result in a less than significant noise impact. **(Less than Significant Impact)**

3.7.2.3 *Construction Vibration Impacts*

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. Construction activities would include site preparation work, foundation work, paving, and new building framing, and finishing. The proposed project would not require pile driving, which can cause excessive vibration.

For structural damage, the California Department of Transportation recommends a vibration limit of 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern and 0.5 in/sec PPV for newer residential structures. Table 3.7-2 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source.[38]

Table 3.7-2: Vibration Source Levels for Construction Equipment

Equipment		**PPV at 25 feet**
Clam Shovel Drop		0.202
Hydromill (slurry wall)	in soil	0.008
	in rock	0.017
Vibratory Roller		0.210
Hoe Ram		0.089
Loaded Trucks		0.076
Jackhammer		0.035
Bulldozer		0.003

Source: U.S. Department of Transportation, Office of Planning and Environment, Federal Transit Administration. Transit Noise and Vibration Impact Assessment. May 2006.

[38] Vibration Damage. Vibration Damage 101. Site accessed March 27, 2018. http://vibrationdamage.com/vibration_101.htm.

The nearest structures to the project site are garages and accessory structures located approximately five feet from the project property line at the rear of the structures on Dorcich Street. The project proposes a 15-foot setback from the property line in this area (for a total separation of 20 feet between the project structures and the existing garages and accessory buildings). With this distance of separation, vibration levels from construction equipment would be expected to be just below the 0.3 in/sec PPV significance threshold and well under the 0.5 in/sec PPV for newer structures (such as the adjacent homes constructed within the mid- to late-1950s) and any impact would be less than significant.[39] **(Less than Significant Impact)**

3.7.2.4 *Permanent Increase in Noise Levels*

Traffic Noise

The Santa Clara Gardens Development Project FEIR projected future traffic noise levels associated with the larger 17-acre Santa Clara Gardens project site. Using the Federal Highway Administration Highway Traffic Noise Prediction Model (FHWA RD 77 108), the Santa Clara Gardens Development Project FEIR predicted full build out of the Santa Clara Gardens Development Project would result in a less than 0.30 dBA increase in roadway traffic noise (for the 110 single-family residences and 160 senior units). Although the proposed project would result in a further increase in traffic noise due to an additional 1,146 trips per day associated with the 36 townhouses and 165 multi-family apartments, it would not double the amount of traffic on North Winchester Boulevard. The trips would be spread throughout the day and would not noticeably increase the ambient noise level of the project area. Thus, the project-generated traffic would result in a less than significant noise impact. **(Less than Significant Impact)**

Rooftop Equipment Noise

The proposed project would include mechanical equipment, such as ventilation systems, air conditioning units, and exhaust fans. The Santa Clara City Code limits noise levels from building equipment to 55 dBA L_{eq} during the daytime and 50 dBA L_{eq} during the evening at adjacent noise sensitive land uses. To comply with this requirement, the project would be required to provide documentation verifying that the equipment noise would not exceed the requirements of the Santa Clara City Code during the building permit process. Screening and/or other noise attenuation measures would be required to be implemented to ensure compliance with City Code requirements. As a result, noise produced by mechanical equipment during project operations would not significantly impact sensitive receptors near the project site. **(Less than Significant Impact)**

3.7.2.5 *Consistency with Plans*

The project site is consistent with the City's General Plan by including noise attenuation measures to reduce residential and noise levels to 45 dBA CNEL, as required by the California Building Standards Code (as discussed in the following section). The site plan provides separation from transportation noise (North Winchester Boulevard) at residential outdoor areas, though not to below the City's 55 dBA CNEL standard. The project would be constructed consistent with Santa Clara

[39] Vibration Damage. Vibration and Distance. "Vibratory Compactor Vibrations v. Distance". Site accessed March 27, 2018. http://vibrationdamage.com/veldissloglg.jpg

City Code requirements for construction. The project is, therefore, generally consistent with the applicable General Plan policies and City Code requirements.

3.7.2.6 *Noise Issues Not Covered Under CEQA - Consistency Plans and Policies*

As previously discussed, the California Supreme Court issued an opinion in *CBIA vs. BAAQMD* holding that CEQA is primarily concerned with the impacts of a project on the environment and generally does not require agencies to analyze the impact of existing conditions on a project's future users or residents. Nevertheless, the City has policies and that address existing conditions affecting the proposed project, which are discussed in the following section.

Exterior Noise

According to the Santa Clara Gardens Development Project FEIR, exterior noise levels at the residential units closest to North Winchester Boulevard would be exposed to noise levels up to 67 dB Ldn which exceeds the City's noise standard of 55 dB Ldn. This is consistent with the noise levels shown on the "Existing Noise Contours Roadways and Rails (2010)" map within the City's General Plan. Noise standards, however, are not typically applied at private decks or balconies. The City's noise standard of 65 dBA CNEL for recreational exterior noise would apply to common open space areas, and would be exceeded slightly at the uses immediately fronting North Winchester Boulevard; therefore, the project is inconsistent with the General Plan standards. Shielding of outdoor spaces could be required as a condition of approval to reduce noise levels.

Interior Noise

Interior noise levels would vary depending upon the design of the buildings (relative window area to wall area) and the selected construction materials and methods. Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior noise levels range from 60 to 65 dBA CNEL, the inclusion of adequate forced-air mechanical ventilation is often the method selected to reduce noise to acceptable levels by closing the windows to control noise. Where noise levels exceed 65 dBA CNEL, forced-air mechanical ventilation systems and sound-rated construction methods are normally required. Such methods or materials may include a combination of smaller window and door sizes as a percentage of the total building façade facing the noise source, sound-rated windows and doors, sound-rated exterior wall assemblies, and mechanical ventilation so windows may be kept closed at the occupant's discretion.

Because future residents would be exposed to noise levels up to 67 dB Ldn, the project would be required to incorporate noise attenuation measures to achieve the "normally acceptable" City noise level standards and meet Title 24 and CalGreen maximum interior noise levels. As conditions of project approval, the following noise insulation features shall be incorporated into the proposed project to reduce interior noise levels to 45 dBA CNEL or less:

- Provide a suitable form of forced-air mechanical ventilation, as determined by the local building official, so that windows can be kept closed to control noise.

- A qualified acoustical specialist shall prepare a detailed analysis of interior residential noise levels resulting from all exterior sources during the design phase pursuant to requirements set forth in the California Building Standards Code. The study will also establish appropriate criteria for noise levels inside the commercial spaces affected by environmental noise. The study will review the final site plan, building elevations, and floor plans prior to construction and recommend building treatments to reduce residential interior noise levels to 45 dBA CNEL or lower. The specific determination of what noise insulation treatments are necessary shall be conducted on a unit-by-unit basis during final design of the project. Results of the analysis, including the description of the necessary noise control treatments, shall be submitted to the City, along with the building plans and approved design, prior to issuance of a building permit.

With implementation of the previous conditions of approval, the project would be consistent with City policy.

Commercial Land Uses

The project proposes a commercial use along North Winchester Boulevard, where noise levels would also be approximately 67 dB Ldn. Standard commercial construction provides at least 30 dBA of outdoor to indoor noise reduction assuming that the building includes adequate forced-air mechanical ventilation systems so that the windows and doors may remain closed to control noise. Assuming standard commercial construction methods, interior noise levels would be below the CALGreen Code standard of 50 dBA $L_{eq(1\text{-}hr)}$, and the project would be consistent with City policy.

3.7.3 Conclusion

The project's operational noise impacts would be less than significant. Compliance with City Code requirements and previously discussed conditions of approval would reduce temporary construction and impacts to a less than significant level. **(Less than Significant Impact)**

3.8 TRANSPORTATION/TRAFFIC

The following discussion is based on a traffic operations analysis prepared by Hexagon Transportation Consultants, Inc. in March 2018. Although the proposed project is located in the City of Santa Clara, transportation facilities outside of the City would be affected by the proposed project. Thus, the transportation impacts of the project were evaluated following the standards and methodologies set forth by the cities of Santa Clara and San José, and the Valley Transportation Authority (VTA). Since the proposed project is not projected to generate 100 or more net new peak-hour trips, a Congestion Management Program (CMP) analysis, which includes a freeway level of service (LOS) analysis, is not required. A copy of the analysis is provided within Appendix E of this EIR.

3.8.1 Environmental Setting

The impacts of the proposed development were evaluated following the methodologies established by the City of Santa Clara and the Santa Clara County Congestion Management Program (CMP). Traffic conditions were evaluated for the weekday AM and PM Peak Hours of traffic. The AM Peak Hour is generally between 7:00 AM and 9:00 AM; and the PM Peak Hour is generally between 4:00 PM and 6:00 PM.

Traffic conditions were evaluated under existing conditions, background conditions[40], existing plus project conditions, and background plus project conditions to determine if the level of service (LOS) of the local intersections in the project area would be adversely affected by the project generated traffic.

Traffic conditions at the study intersections were evaluated using LOS, which is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or congested conditions with excessive delays. The correlation between average delay and LOS is shown in Table 3.8-1.

Table 3.8-1: Signalized Intersection LOS Definitions

LOS	Description of Operations	Average Delay (seconds)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	Up to 10.0
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 35.0

[40] Background conditions are existing conditions plus approved but not yet constructed development.

Table 3.8-1: Signalized Intersection LOS Definitions		
LOS	**Description of Operations**	**Average Delay** (seconds)
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high V/C ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	Greater than 80.0

Cities of Santa Clara and San José Intersections

The cities of Santa Clara and San José LOS methodology is TRAFFIX, which is based on the Highway Capacity Manual (HCM) 2000 method for signalized intersections. This methodology evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection LOS methodology, each of the cities' methodologies employs the CMP defaults values for the analysis parameters. The City of Santa Clara has LOS D as the minimum standard. On CMP and expressway facilities, as well as and roadways considered regionally significant, the standard is LOS E. The City of San José's LOS standard is LOS D for all signalized intersections, including CMP intersections.

CMP Intersections

CMP study intersections are not analyzed separately, but rather are among the local municipalities' signalized intersections analyzed using TRAFFIX. The only difference between the local municipalities' and CMP analyses is that project impacts are determined on the basis of a different LOS standard – the CMP LOS standard for signalized intersections is LOS E or better.

3.8.1.1 *Regulatory Framework*

Regional

Congestion Management Program

The VTA oversees the CMP, a program aimed at reducing regional traffic congestion. The relevant state legislation requires that all urbanized counties in California prepare a CMP in order to obtain each county's share of gas tax revenues. State legislation requires that each CMP define traffic LOS standards, transit service standards, a trip reduction and transportation demand management, a land use impact analysis program, and a capital improvement element. VTA has review responsibility for proposed development projects that are expected to affect CMP designated intersections.

Local

Santa Clara General Plan

The following General Plan transportation and traffic policies are applicable to the proposed project.

Policies	Description
5.8.1-P3	Identify opportunities to connect people to supportive services, public amenities and transit.
5.8.2-P1	Require that new and retrofitted roadways implement "Full-Service Streets" standards, including minimal vehicular travel lane widths, pedestrian amenities, adequate sidewalks, street trees, bicycle facilities, transit facilities, lighting and signage, where feasible.
5.8.2-P2	Discourage widening of existing roadway or intersection rights-of-way without first considering operational improvements, such as traffic signal modifications, turn-pocket extensions and intelligent transportation systems.
5.8.2-P9	Require all new development to provide streets and sidewalks that meet City goals and standards, including new development in employment areas.
5.8.3-P8	Require new development to include transit stop amenities, such as pedestrian pathways to stops, benches, traveler information and shelters.
5.8.3-P9	Require new development to incorporate reduced on-site parking and provide enhanced amenities, such as pedestrian links, benches and lighting, in order to encourage transit use and increase access to transit services.
5.8.3-P10	Require new development to participate in public/private partnerships to provide new transit options between Santa Clara residences and businesses.
5.8.4-P6	Require new development to connect individual sites with existing and planned bicycle and pedestrian facilities, as well as with on-site and neighborhood amenities/services, to promote alternate modes of transportation.
5.8.4-P7	Require new development to provide sidewalks, street trees and lighting on both sides of all streets in accordance with City standards, including new developments in employment areas.
5.8.4-P8	Require new development and public facilities to provide improvements, such as sidewalks, landscaping and bicycling facilities, to promote pedestrian and bicycle use.
5.8.4-P9	Encourage pedestrian- and bicycle-oriented amenities, such as bicycle racks, benches, signalized mid-block crosswalks, and bus benches or enclosures.
5.8.4-P10	Encourage safe, secure and convenient bicycle parking and end-of-trip, or bicycle "stop" facilities, such as showers or bicycle repair near destinations for all users, including commuters, residents, shoppers, students and other bicycle travelers.

City of San José Protected Intersection Policy

The City of San Jose Protected Intersection Policy provides an LOS exemption for intersections that are located along major transit corridors for which substantial transit improvements are planned. The

Protected Intersection Policy states that additional capacity[41] should not be added to the intersections; rather, they should be allowed to operate at capacity (i.e. exceed the City of San Jose LOS D standard). The LOS policy specifies that Protected Intersections consist of locations that have been built to their planned maximum capacity and where expansion of the intersection would have an adverse effect upon other transportation facilities (such as pedestrian, bicycle, and transit systems).

If a development project has significant traffic impacts at a designated Protected Intersection in the City of San Jose, the project may be approved if offsetting transportation system improvements are provided to other parts of the citywide transportation system or that enhance non-auto modes of travel in the community near the Protected Intersection in furtherance of General Plan policies.

Potential improvements within area neighborhoods could include:

- Traffic calming studies and implementation of measures/devices that could include traffic circles, chokers, tree wells, chicanes, and permanent driver feedback radar speed signs.
- Streetscape features that include street and median trees and neighborhood entry features.
- Improved pedestrian connections throughout the project area including improved connections across Stevens Creek Boulevard and Winchester Boulevard by making crosswalks more visible to drivers, sidewalk widening, and up-lighted crosswalks.
- Working with VTA to expand the existing bus service in the area including increased frequency of service, additional lines to serve areas that are not currently served, and covered bus stops.
- Traffic corridor and operations studies along Stevens Creek Boulevard and Winchester Boulevard to better serve traffic flow as well as transit and pedestrians/bicyclists.

The Protected Intersection Policy has established a fee to fund the identified alternative transportation improvements. The fee as of July 1, 2017 is equal to $3,022 per net peak hour project trip for one intersection impact and $4,533 per net peak hour project trip for multiple intersection impacts.

3.8.1.2 *Existing Conditions*

Existing Roadway Network

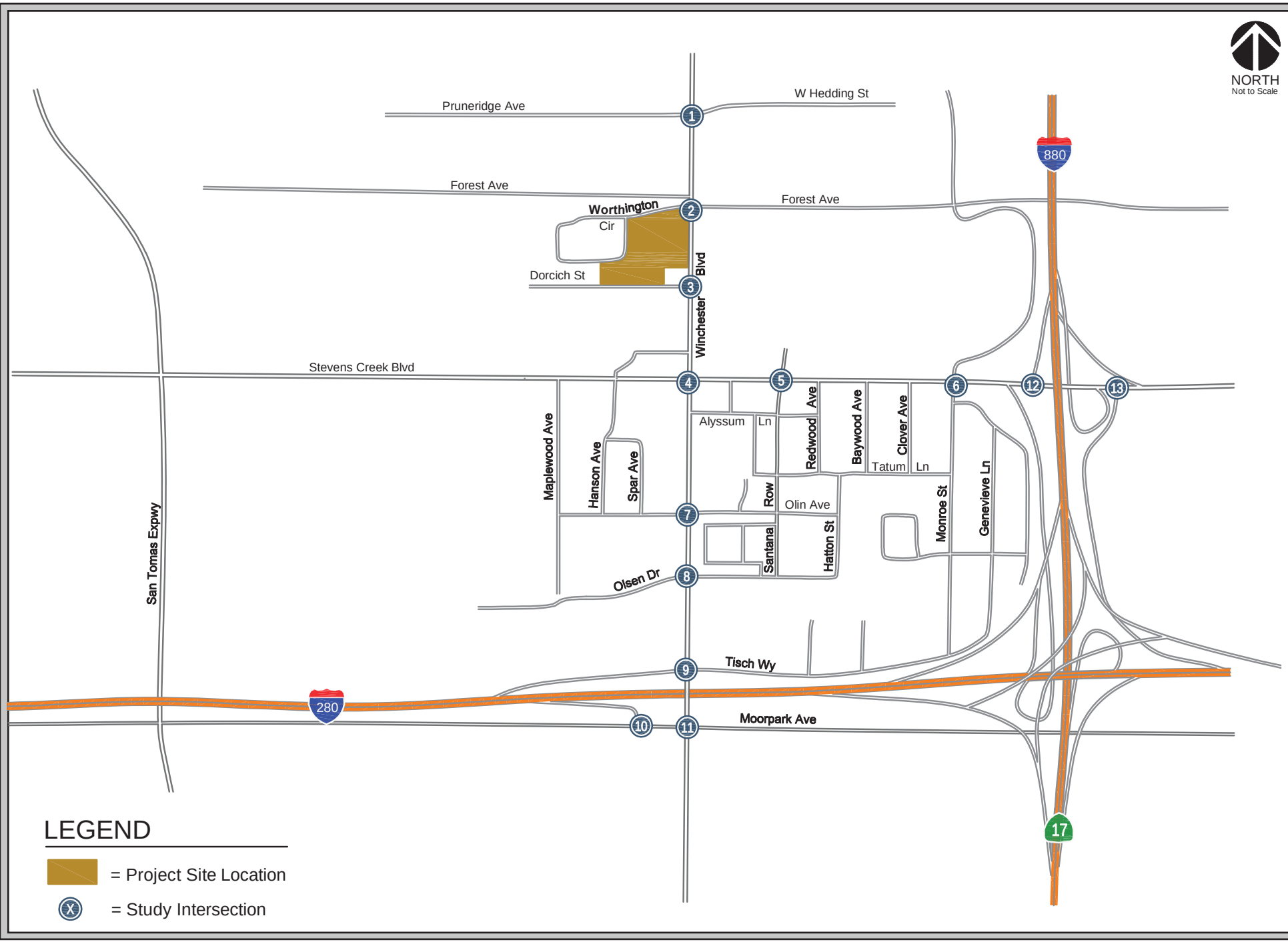
Regional and local access to the project site is described below and shown on Figure 3.8-1.

Regional Access

Interstate 880 (I-880**)** is a north-south freeway that extends through the Bay Area, connecting Oakland to San Jose. Near the vicinity of the project site, I-880 is six lanes wide with three mixed-flow lanes in each direction. I-880 provides site access via a full interchange at Stevens Creek Boulevard.

Interstate 280 (I-280) is an east-west freeway in the vicinity of the project that extends through the Bay Area, connecting San Francisco to San Jose. I-280 is eight lanes wide with three mixed-flow

[41] Additional capacity refers to adding new lanes.



SITE LOCATION AND STUDY INTERSECTIONS

FIGURE 3.8-1

lanes and one high-occupancy vehicle (HOV) lane in each direction in the vicinity of the project site. I-280 provides site access via a full interchange at Stevens Creek Boulevard and an exit-only interchange at South Winchester Boulevard.

State Route (SR) 17 is a north-south freeway that connects San Jose to Santa Cruz. SR 17 is six lanes wide with three mixed-flow lanes in each direction in the vicinity of the project site. SR 17 provides site access via a full interchange at Stevens Creek Boulevard.

Local Access

Stevens Creek Boulevard is a four- to six-lane, east-west arterial street that services the surrounding commercial and residential uses. In the immediate vicinity of the proposed project, Stevens Creek Boulevard contains three mixed-flow lanes in each direction and a center turn lane. Stevens Creek Boulevard provides access to the project site via its connection to North Winchester Boulevard.

North Winchester Boulevard is a north-south arterial street extending from Homestead Road to Blossom Hill Road south of SR 85. North Winchester Boulevard is primarily a four-lane roadway with two mixed-flow lanes in each direction and a center turn lane. The segment between Stevens Creek Boulevard and Hamilton Avenue has six lanes. North Winchester Boulevard would provide direct access to the proposed project via a full-access driveway.

Pruneridge Avenue is an east-west arterial that extends from Tantau Avenue in the west to North Winchester Boulevard, where it transitions into Hedding Street. In the immediate vicinity of the proposed project, Pruneridge Avenue is a four-lane arterial. Pruneridge Avenue has on-street parking and provides access to the project site via its connection to North Winchester Boulevard.

Forest Avenue is a four-lane east-west street, extending from North Winchester Boulevard to Clamar Way, where it transitions into Naglee Avenue. West of North Winchester Boulevard, Forest Avenue transitions into Worthington Circle. Forest Avenue has two lanes in each direction with on-street parking. Forest Avenue/Worthington Circle provides direct access to the proposed project.

Existing Bicycle and Pedestrian Facilities

North Winchester Boulevard adjacent to the project site is a designated Class III bicycle facility, in that bicycles share space with on-street parking along the project frontage.[42] As shown in the 2013 City of Santa Clara Bicycle Map, these lanes continue north and south of the project site along North Winchester Boulevard. In the project vicinity, there is a (partially buffered) bike lane on Hedding Street from the Santa Clara border at North Winchester through into the Berryessa area of east San Jose. The lanes represent the on-street extension of the San Tomas Aquino/Saratoga Creek Trail and also lead to Pomeroy Road and Pruneridge Avenue. This Pruneridge-Hedding-Berryessa corridor is designated as a cross-county bicycle corridor in the VTA bike plan and is listed as priority bike route in the City of Santa Clara 2009 Bike Plan.

[42] City of Santa Clara. "2013 City of Santa Clara Bicycle Map". Accessed February 28, 2018. http://santaclaraca.gov/home/showdocument?id=1326

In the project vicinity, sidewalks exist along both sides of North Winchester Boulevard and adjacent neighborhood roadways. Marked crosswalks with pedestrian signal heads and push buttons are provided along all approaches of the nearby intersections, except the west leg of the Santana Row/Stevens Creek Boulevard.

Existing Transit Facilities

Existing transit service to the study area is provided by VTA, as shown in Figure 3.8-2. The study area is served directly by three local bus routes described below.

Local Route 23 operates on Forest Avenue and Stevens Creek Boulevard. There are two stops within walking distance of the project site: one on North Winchester Boulevard north of Dorcich Street and one on Forest Avenue. Route 23 operates between De Anza College and the Alum Rock Transit Center. Weekday service is from approximately 5:20 AM to 1:00 AM (next day) with 12-minute headways during commute hours.

Local Route 60 operates on North Winchester Boulevard. There are two stops on North Winchester Boulevard within walking distance of the site: one north of Forest Avenue and one north of Dorcich Street. Route 60 operates between the Winchester Transit Center and Great America theme park. Weekday service is from approximately 5:30 AM to 11:10 PM with 15-minute headways during commute hours.

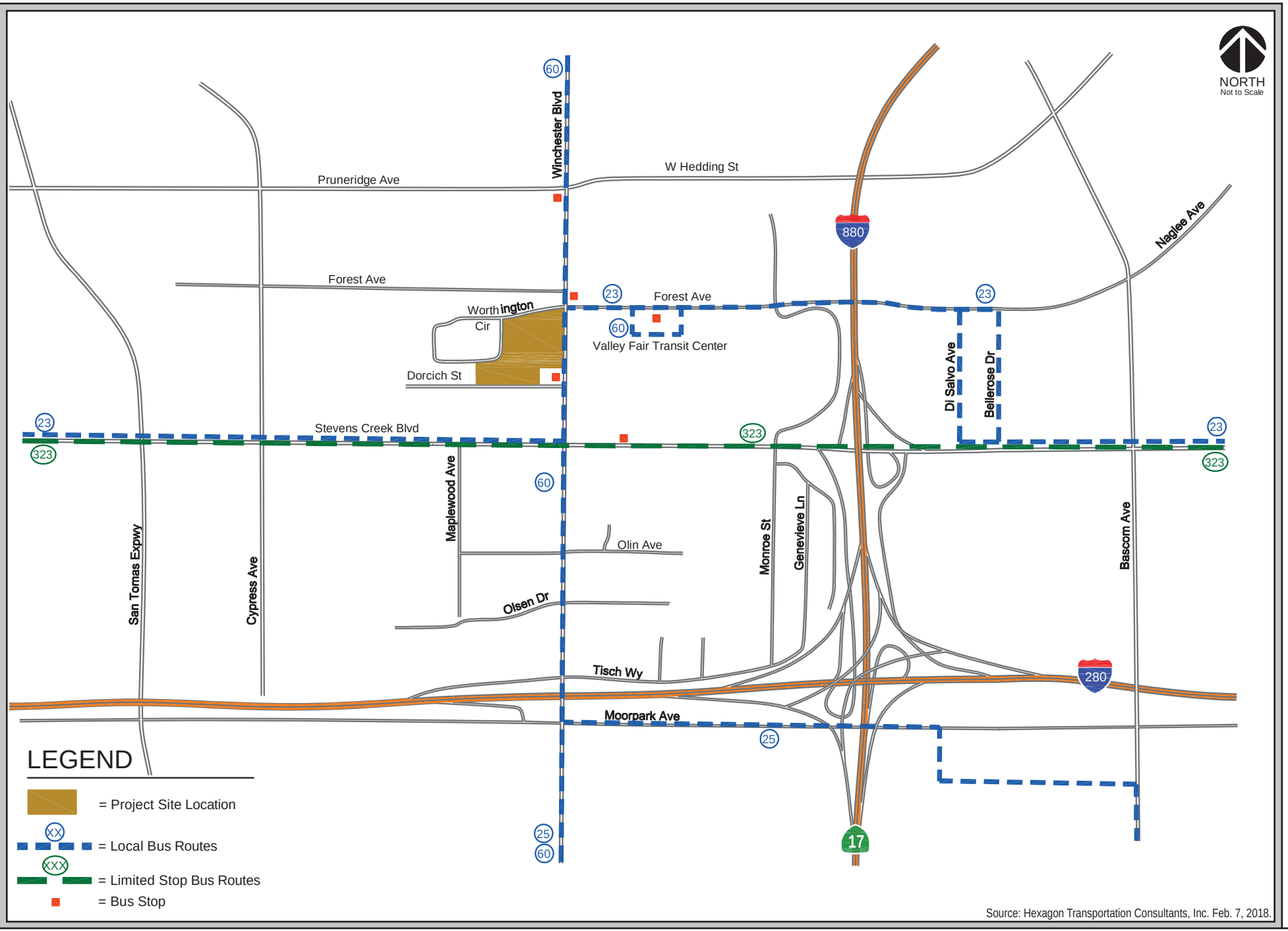
Limited Stop Bus Service Route 323 operates on Stevens Creek Boulevard. There are two stops within a half-mile of the project site east of the North Winchester Boulevard/Stevens Creek Boulevard intersection. Route 323 operates between downtown San Jose and De Anza College. Weekday service is from approximately 6:20 AM to 10:40 PM, with 15 to 20-minute headways during commute hours.

Existing Intersections

The traffic analysis determined the impacts of the proposed project on key signalized intersections in the vicinity of the project. The study intersections are identified below and shown in Figure 3.8-1.

<u>Study Intersections</u>

1. North Winchester Boulevard and Hedding Street/Pruneridge Avenue
2. North Winchester Boulevard and Forest Street/Worthington Circle
3. North Winchester Boulevard and Dorcich Street
4. North Winchester Boulevard and Stevens Creek Boulevard*
5. Santana Row and Stevens Creek Boulevard
6. Monroe Street and Stevens Creek Boulevard
7. North Winchester Boulevard and Olin Avenue
8. North Winchester Boulevard and Olsen Drive
9. North Winchester Boulevard and I-280 WB on-ramp/Tisch Way
10. I-280 EB off-ramp and Moorpark Avenue*
11. North Winchester Boulevard and Moorpark Avenue
12. I-880 SB Ramps and Stevens Creek Boulevard*
13. I-880 NB Ramps and Stevens Creek Boulevard



Source: Hexagon Transportation Consultants, Inc. Feb. 7, 2018.

EXISTING TRANSIT SERVICES

FIGURE 3.8-2

Existing Levels of Service

Intersection levels of service were evaluated against City of Santa Clara, City of San Jose, and CMP standards. Study intersections currently operate at acceptable levels of service (LOS D or better) during the AM and PM peak hours as summarized in Table 3.8-2 below.

Table 3.8-2: Existing and Background Intersection Levels of Service

Study Intersection	Peak Hour	Existing	
		Average Delay (seconds)	**LOS**
1. North Winchester Boulevard and Hedding Street/Pruneridge Avenue (SC)	AM	29.1	C
	PM	34.9	C-
2. North Winchester Boulevard and Forest Street/Worthington Circle (SC)	AM	21.7	C+
	PM	23.5	C
3. North Winchester Boulevard and Dorcich Street(SC)	AM	10.4	B+
	PM	21.2	C+
4. North Winchester Boulevard and Stevens Creek Boulevard* (Protected)	AM	33.3	C-
	PM	47.0	D
5. Santana Row and Stevens Creek Boulevard	AM	13.0	B
	PM	27.4	C
6. Monroe Street and Stevens Creek Boulevard (Protected)	AM	29.7	C
	PM	34.6	C-
7. North Winchester Boulevard and Olin Avenue	AM	16.6	B
	PM	19.5	B-
8. North Winchester Boulevard and Olsen Drive	AM	13.8	B
	PM	18.3	B-
9. North Winchester Boulevard and I-280 WB on-ramp/Tisch Way	AM	25.6	C
	PM	34.6	C-
10. I-280 EB off-ramp and Moorpark Avenue*	AM	11.2	B+
	PM	11.8	B+
11. North Winchester Boulevard and Moorpark Avenue	AM	41.6	D
	PM	43.6	D
12. I-880 SB Ramps and Stevens Creek Boulevard*	AM	23.6	C
	PM	22.5	C+
13. I-880 NB Ramps and Stevens Creek Boulevard	AM	11.5	B+
	PM	11.7	B+

* Denotes CMP intersection

(SC) denotes City of Santa Clara intersections, other intersections are City of San Jose intersections

Bold text indicates conditions that exceed the applicable LOS standard.

3.8.1.3 *Background Conditions*

Background traffic conditions represent conditions anticipated to exist after completion of the environmental review process but prior to operation of the proposed project. Background peak hour traffic volumes are calculated by adding estimated traffic from approved but not yet constructed development to existing conditions. The analysis assumes that the transportation network under background conditions would be the same as the existing transportation network.

Background Intersection Levels of Service

The results of the intersection LOS analysis under background conditions are summarized in Table 3.8-3.

Table 3.8-3: Background Levels of Service

Study Intersection	Peak Hour	Background	
		Average Delay (seconds)	LOS
1. Winchester Boulevard and Hedding Street/Pruneridge Avenue (SC)	AM	32.2	C-
	PM	39.9	D
2. Winchester Boulevard and Forest Street/Worthington Circle (SC)	AM	21.5	C+
	PM	27.0	C
3. Winchester Boulevard and Dorcich Street (SC)	AM	10.5	B+
	PM	21.2	C+
4. Winchester Boulevard and Stevens Creek Boulevard* (Protected)	AM	36.2	D+
	PM	**97.6**	**F**
5. Santana Row and Stevens Creek Boulevard	AM	12.4	B
	PM	27.0	C
6. Monroe Street and Stevens Creek Boulevard (Protected)	AM	44.1	D
	PM	**157.9**	**F**
7. Winchester Boulevard and Olin Avenue	AM	19.7	B-
	PM	32.2	C-
8. Winchester Boulevard and Olsen Drive	AM	25.1	C
	PM	38.9	D+
9. Winchester Boulevard and I-280 WB on-ramp/Tisch Way	AM	**55.7**	**E+**
	PM	**74.9**	**E**
10. I-280 EB off-ramp and Moorpark Avenue*	AM	12.4	B
	PM	12.5	B
11. Winchester Boulevard and Moorpark Avenue	AM	**68.7**	**E**
	PM	46.1	D
12. I-880 SB Ramps and Stevens Creek Boulevard*	AM	30.1	C
	PM	27.4	C

Table 3.8-3: Background Levels of Service			
Study Intersection	**Peak Hour**	**Background**	
		Average Delay (seconds)	**LOS**
13. I-880 NB Ramps and Stevens Creek Boulevard	AM	13.9	B
	PM	12.9	B
* Denotes CMP intersection, (SC) denotes City of Santa Clara intersections, other intersections are City of San Jose intersections **Bold** text indicates unacceptable levels of service			

Measured against the City of Santa Clara, City of San Jose, and CMP LOS standards, the following four intersections are projected to operate at an unacceptable LOS during at least one hour under background conditions.

- North Winchester Boulevard and Stevens Creek Boulevard (PM Peak Hour)
- Monroe Street and Stevens Creek Boulevard (PM Peak Hour)
- North Winchester Boulevard and I-280 WB on-ramp/Tisch Way (AM and PM Peak Hours)
- North Winchester Boulevard and Moorpark Avenue (AM Peak Hour)

3.8.2 Transportation/Traffic Impacts

3.8.2.1 *Thresholds of Significance*

For the purposes of this EIR, a transportation/traffic impact is considered significant if the project would:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit;
- Conflict with an applicable congestion management program, including, but not limited to LOS standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access; or
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities or otherwise decrease the performance of safety of such facilities.

City of Santa Clara Definition of Significant Intersection Impacts

The project would result in a significant impact on traffic conditions at a signalized intersection in the City of Santa Clara if for either peak hour:

1. The LOS at the intersection degrades from an acceptable level (LOS D or better at all City-controlled intersections and LOS E or better at all expressway intersections) under background conditions to an unacceptable level (LOS E or F at city-controlled intersections and LOS F at expressway intersections) under background plus project conditions, <u>or</u>
2. The LOS at the intersection is an unacceptable level (LOS E or F at City-controlled intersections and LOS F at expressway intersections) under background conditions and the addition of project trips causes the average critical delay to increase by four or more seconds *and* the volume-to-capacity ratio (V/C) to increase by 0.01.

A significant impact would be satisfactorily mitigated when measures are implemented that would restore intersection LOS to an acceptable level or no worse than background conditions.

City of San José Significant Intersection Impacts

The project would result in a significant impact on traffic conditions at a signalized intersection in the City of San José if for either peak hour:

1. The LOS at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under background plus project conditions, <u>or</u>
2. The LOS at the intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to increase by four or more seconds *and* the V/C increases by one percent or more.
3. The LOS at a designated Protected Intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical movement delay at the intersection to increase by two or more seconds and the V/C to increase by one-half percent or more.

A significant impact would be satisfactorily mitigated when measures are implemented that would restore the intersection LOS to background conditions or better.

Congestion Management Program Significant Level of Service Impacts

The definition of a significant impact at a CMP intersection is the same as note above, except that the CMP standard for the acceptable LOS at a CMP intersection is LOS E or better. A significant impact by CMP standard is said to be satisfactorily mitigated when measures are implemented that would restore intersection conditions to an acceptable LOS or no worse than background conditions.

3.8.2.2 *Transportation Level of Service Impacts*

The trip generation estimates for the proposed project are presented in Table 3.8-4. It is estimated that the proposed project would generate 1,146 net new daily trips.[43]

[43] The 165 units of senior housing are included within the background conditions.

Table 3.8-4: Project Trip Generation Estimates											
Land Use	**Size**	**Daily**		**AM Peak Hour**				**PM Peak Hour**			
		Rate	**Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
Proposed											
Townhouse	36 du	6.43	231	0.50	4	14	18	0.66	15	9	24
Apartment	160 du	5.44	870	0.34	14	40	54	0.44	43	27	70
15% housing and retail mixed-use reduction[1]			-28		-1	-1	-2		-1	-2	-3
2% housing near major bus stop[2]			-22		0	-1	-1		-1	-1	-2
Community Café	1600 sf	112.18	185	9.94	9	7	16	9.77	10	6	16
15% housing and retail mixed-use reduction[1]			-28		-1	-1	-2		-2	-1	-3
25% pass-by reduction[3]			-3		0	0	0		-2	-1	-3
Community/Agricultural Gardens	15,000 sf	0.78	1	0.02	0	0	0	0.11	0	0	0
Project Trips After Reductions			*1,206*		*25*	*58*	*83*		*62*	*37*	*99*
Trip Reduction Strategy											
5% trip reduction for TDM program with financial incentives[4]			-60		-1	-3	-4		-3	-2	-5
Net Project Trips:			***1,146***		***24***	***55***	***79***		***59***	***35***	***94***

Notes: du = dwelling units; sf = square feet

[1] As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for a mixed-use development project with housing and retail components is equal to 15 percent off the similar trip generator (retail component generates less trips than the housing component).

[2] As prescribed by the VTA Transportation Impact Analysis Guidelines (October 2014), the maximum trip reduction for housing located near a major bus stop is equal to two percent of the employment and housing components. The project is located within 2,000-foot walk of the Valley Fair Transit Center located on Forest Avenue.

[3] A 25 percent PM pass-by reduction is typically applied for retail development within Santa Clara County.

[4] TDM trip reduction of five percent for programs with financial incentives such as subsidized transit passes, per VTA's TIA Guidelines.

3.8.2.3 *Existing Plus Project Intersection Operations*

The LOS of the study intersections was calculated under project conditions by adding the net trips from the proposed development to the existing conditions. The results of the existing plus project conditions analysis are summarized in Table 3.8-5 below.

Table 3.8-5: Existing Plus Project Intersection Levels of Service

Study Intersection	Peak Hour	Existing		Existing Plus Project	
		Average Delay (sec)	**LOS**	**Average Delay** (sec)	**LOS**
1. North Winchester Boulevard and Hedding Street/Pruneridge Avenue (SC)	AM	29.1	C	29.2	C
	PM	34.9	C-	35.1	D+
2. North Winchester Boulevard and Forest Street/Worthington Circle (SC)	AM	21.7	C+	22.1	C+
	PM	23.5	C	23.9	C
3. North Winchester Boulevard and Dorcich Street (SC)	AM	10.4	B+	10.5	B+
	PM	21.2	C+	20.8	C+
4. North Winchester Boulevard and Stevens Creek Boulevard* (Protected)	AM	33.3	C-	34.0	C-
	PM	47.0	D	47.3	D
5. Santana Row and Stevens Creek Boulevard	AM	13.0	B	13.0	B
	PM	27.4	C	27.3	C
6. Monroe Street and Stevens Creek Boulevard (Protected)	AM	29.7	C	29.7	C
	PM	34.6	C-	34.5	C-
7. North Winchester Boulevard and Olin Avenue	AM	16.6	B	16.5	B
	PM	19.5	B-	19.5	B-
8. North Winchester Boulevard and Olsen Drive	AM	13.8	B	13.7	B
	PM	18.3	B-	18.2	B-
9. North Winchester Boulevard and I-280WB on-ramp/Tisch Way	AM	25.6	C	25.7	C
	PM	34.6	C-	34.5	C-
10. I-280 EB off-ramp and Moorpark Avenue*	AM	11.2	B+	11.2	B+
	PM	11.8	B+	11.9	B+
11. North Winchester Boulevard and Moorpark Avenue	AM	41.6	D	41.6	D
	PM	43.6	D	43.7	D
12. I-880 SB Ramps and Stevens Creek Boulevard*	AM	30.1	C	23.7	C
	PM	27.4	C	22.6	C+
13. I-880 NB Ramps and Stevens Creek Boulevard	AM	11.5	B+	11.5	B+
	PM	11.7	B+	11.8	B+

* Denotes CMP intersection

(SC) denotes City of Santa Clara intersections, other intersections are City of San Jose intersections

Bold text indicates unacceptable levels of service; **Bold** and shaded text indicates significant project impact

Analysis of the existing plus project conditions intersection operations concluded that all of the signalized study intersections would continue to operate at an acceptable LOS during AM and PM Peak Hours. Therefore, implementation of the proposed project would have a less than significant impact under existing plus project conditions. **(Less Than Significant Impact)**

3.8.2.4 *Background Plus Project Intersection Operations*

The results of the intersection LOS analysis under background plus project conditions are summarized in Table 3.8-6. Measured against the City of San Jose and CMP LOS standards, four intersections are projected to operate at an unacceptable LOS during at least one hour under background plus project conditions. Based on the City of San José and CMP significance criteria, the protected intersection at North Winchester Boulevard and Stevens Creek Boulevard would be significantly impacted by the project during the PM peak hour.

Table 3.8-6: Background Plus Project Intersection Levels of Service

Study Intersection	Peak Hour	Background		Background Plus Project			
		Average Delay (sec)	**LOS**	**Average Delay** (sec)	**LOS**	**Increase in Critical Delay** (sec)	**Increase in Critical V/C**
1. North Winchester Boulevard and Hedding Street/ Pruneridge Avenue (SC)	AM	32.2	C-	32.3	C-	0.1	0.002
	PM	39.9	D	40.2	D	0.4	0.005
2. North Winchester Boulevard and Forest Street/Worthington Circle (SC)	AM	21.6	C+	22.0	C+	0.5	0.015
	PM	27.0	C	27.3	C	0.2	0.011
3. North Winchester Boulevard and Dorcich Street (SC)	AM	10.5	B+	10.3	B+	0.0	0.005
	PM	21.2	C+	21.0	C+	-0.1	0.013
4. North Winchester Boulevard and Stevens Creek Boulevard* (Protected)	AM	36.2	D+	36.6	D+	0.7	0.010
	PM	**97.6**	**F**	**98.5**	**F**	**2.1**	**0.005**
5. Santana Row and Stevens Creek Boulevard	AM	12.4	B	12.3	B	0.0	0.002
	PM	27.0	C	26.9	C	0.0	0.003
6. Monroe Street and Stevens Creek Boulevard (Protected)	AM	44.1	D	44.5	D	0.3	0.002
	PM	**157.9**	**F**	**158.9**	**F**	**0.9**	**0.002**
7. North Winchester Boulevard and Olin Avenue	AM	19.7	B-	19.7	B-	0.0	0.003
	PM	32.2	C-	32.1	C-	0.0	0.003
8. North Winchester Boulevard and Olsen Drive	AM	25.1	C	25.1	C	0.0	0.003
	PM	38.9	D+	38.9	D+	0.0	0.002
9. North Winchester Boulevard and I-280WB on-ramp/Tisch Way	AM	**55.7**	**E+**	**56.2**	**E+**	**1.7**	**0.006**
	PM	**74.9**	**E**	**75.2**	**E-**	**0.5**	**0.002**

Table 3.8-6: Background Plus Project Intersection Levels of Service							
Study Intersection	**Peak Hour**	**Background**		**Background Plus Project**			
		Average Delay (sec)	**LOS**	**Average Delay** (sec)	**LOS**	**Increase in Critical Delay** (sec)	**Increase in Critical V/C**
10. I-280 EB off-ramp and Moorpark Avenue*	AM	12.4	B	12.4	B	0.0	0.001
	PM	12.5	B	12.5	B	0.0	0.002
11. North Winchester Boulevard and Moorpark Avenue	AM	**68.7**	**E**	**69.1**	**E**	**0.6**	**0.002**
	PM	46.1	D	46.2	D	0.0	-0.007
12. I-880 SB Ramps and Stevens Creek Boulevard*	AM	30.1	C	30.3	C	0.2	0.002
	PM	27.4	C	27.7	C	0.6	0.004
13. I-880 NB Ramps and Stevens Creek Boulevard	AM	13.9	B	13.9	B	0.0	0.002
	PM	12.9	B	13.0	B	0.1	0.003

* Denotes CMP intersection

(SC) denotes City of Santa Clara intersections, other intersections are City of San Jose intersections

Bold text indicates unacceptable levels of service; **Bold** and shaded text indicates significant project impact

A significant impact would occur at the North Winchester Boulevard and Stevens Creek Boulevard (a designated Protected Intersection in the City of San Jose). The intersection operates a LOS F under background conditions and the addition of project trips causes both the critical movement delay at the intersection to increase by 2.1 seconds and the V/C to increase by 0.005 or more.

Impact TRA-1: The project would have a significant impact under background plus project conditions at the North Winchester Boulevard/Stevens Creek Boulevard intersection. **(Significant Impact)**

A condition of approval could be included by the City of Santa Clara City Council requiring payment of a voluntary fee to fund alternative offsetting transportation improvements, per the City of San José Protected Intersection Policy. Payment of the fee for these offsetting improvements does not, however, constitute mitigation of this significant traffic impact. San José policy would not allow the project to construct improvements at this intersection to mitigate the project's traffic impacts. Additionally, implementation of the offsetting improvements cannot be assured by the City of Santa Clara and would not reduce the project impact. Thus, the impact is considered significant and unavoidable. **(Significant and Unavoidable Impact)**

3.8.2.5 *Alternative Transportation Impacts*

Transit Facilities Impacts

The project site is located in a transit-rich area. There are bus stops on North Winchester Boulevard that serve bus lines 23 and 60. Bus stops for bus line 323 are located on Stevens Creek Boulevard, approximately 1,400 feet from the project site and for bus line 25 at Moorpark and North Winchester, approximately 3,800 feet from the site. New transit trips generated by the project can be well-served

by the existing transit services. Delays experienced by routes 23, 25, 60, and 323 as a result of the project would be minimal. **(Less than Significant Impact)**

Bicycle Facilities Impacts

The 2013 City of Santa Clara Bicycle Map shows Class III bicycle sharrow[44] space along the project frontage at north Winchester Boulevard; however, there are no planned improvements within the vicinity of the project site identified by the City and County of Santa Clara or in the San Jose Bike Plan 2020. Though not well connected, the project, would not create enough bicycle travel demand to warrant the installation of bike facilities on the nearby streets. **(Less than Significant Impact)**

Pedestrian Facilities Impacts

In the project vicinity, sidewalks exist along both sides of North Winchester Boulevard and adjacent neighborhood roadways. Marked crosswalks with pedestrian signal heads and push buttons are provided along all approaches of the nearby intersections, except the west leg of the Santana Row/Stevens Creek Boulevard. Overall, the existing sidewalks and pedestrian paths have good connectivity and would provide pedestrians with safe routes to all of the surrounding land uses in the area, including the Westfield Valley Fair mall. In addition, the project proposes to construct a pedestrian corridor through the project site that would provide residents along Worthington Circle direct access to North Winchester Boulevard. **(Less than Significant Impact)**

3.8.2.6 *Other Transportation Impacts*

Air Traffic Patterns

The project site is located approximately 5.0 miles from the nearest airport and would not impact air traffic patterns. **(No Impact)**

Design Hazards and Emergency Access

The project design does not include sharp curves or dangerous intersections that could result in safety hazards; nor does the project propose incompatible uses, such as farm equipment. New internal driveways and access points would be designed and constructed per City standards to ensure adequate site distance and circulation through the site for passenger vehicles, emergency vehicles, and large trucks. For these reasons, the project would not substantially increase hazards due to a design feature or incompatible land use. **(Less than Significant Impact)**

Parking Garage Access

The proposed below-grade parking garage driveway for the multi-family apartment units along the north side of the project site is proposed as a two-way (in/out) driveway from Worthington Circle. The configuration of this driveway as an ingress-only access point was also analyzed to determine whether impacts would occur at the North Winchester Boulevard and Forest Street/Worthington Circle intersection, as shown below in Table 3.8-7. No other intersections included within the traffic

[44] Sharrows are bicycle road markings used to indicate a shared lane environment for bicycles and automobile, but do not indicate a separate lane for bicycles.

analysis would experience changes with an ingress-only driveway (as compared to the proposed in/out driveway) and are, therefore, not included in the table below.

Table 3.8-7: LOS Impact Comparison at North Winchester Boulevard and Forest Street/Worthington Circle

Configuration	Peak Hour	Background		Background Plus Project			
		Average Delay (sec)	**LOS**	**Average Delay** (sec)	**LOS**	**Increase in Critical Delay** (sec)	**Increase in Critical V/C**
Proposed Project (in/out parking garage driveway from Worthington Circle)	AM PM	21.5 27.0	C+ C	22.0 27.3	C+ C	0.5 0.2	0.015 0.011
Driveway Alternate (ingress-only parking garage driveway from Worthington Circle)	AM PM	21.5 27.0	C+ C	21.7 27.2	C+ C	0.3 0.2	0.012 0.008

Source: Hexagon Transportation Associates. Santa Clara Agrihood Transportation Impact Analysis. February 28, 2018.

As shown in the table, the driveway configuration as either an in/out or ingress-only access are not significantly different. As such, the roadways and intersection immediately adjacent to the project site would not have a significant LOS or operational impact under either driveway scenario. **(Less Than Significant Impact)**

3.8.2.7 *Consistency with Plans*

The project is consistent with applicable General Plan policies by proposing improvements to the existing sidewalks along the project site frontage on North Winchester Boulevard and proposing a pedestrian corridor through the project site to connect Worthington Circle and North Winchester Boulevard. The project also proposes pedestrian and bicycle amenities on site, consistent with General Plan policies.

3.8.3 Conclusion

The proposed project would have a less than significant impact on transit, bicycle, and pedestrian facilities. **(Less than Significant Impact)**

Even with the implementation a potential condition of approval requiring payment of a voluntary fee to fund alternative offsetting transportation improvements (per the City of San José Protected Intersection Policy) the proposed project would have a significant and unavoidable impact at the North Winchester Boulevard and Stevens Creek Boulevard intersection. **(Significant and Unavoidable Impact)**

SECTION 4.0 CUMULATIVE IMPACTS

Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, are considerable or which compound or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant projects taking place over a period of time. CEQA Guideline Section 15130 states that an EIR should discuss cumulative impacts "when the project's incremental effect is cumulatively considerable." The discussion does not need to be in as great detail as is necessary for project impacts, but is to be "guided by the standards of practicality and reasonableness." The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence.

The purpose of the cumulative analysis is to allow decision-makers to better understand the potential impacts which might result from approval of past, present, and reasonably foreseeable future projects, in conjunction with the proposed project addressed in this Draft EIR. Cumulative analyses are based on the premise that impacts of specific actions may be less than significant when viewed on a project-by-project basis, but when considered along with the impacts of other projects involving similar activities, these specific actions may be cumulatively considerable. The assumptions for the cumulative analysis are identified below.

4.1 TIMEFRAME OF ANALYSIS

For the purpose of the cumulative impacts analysis, the proposed project is defined in terms of construction duration and post-construction operation. The project applicant anticipates that construction of the project will take approximately two to three years and would consist of site preparation, grading, construction of the proposed buildings (including below-grade parking), paving, and installation of landscaping. Construction of the project is anticipated to begin in 2019, depending on agency approvals, with the project being operational in 2021 to early 2022.

4.2 AREA OF ANALYSIS

The analysis area of potential cumulative impacts represents the physical extent of the limits in which permanent impacts of the proposed project may occur. Section 15130(b)(3) of the CEQA Guidelines states that lead agencies should define the geographic scope of the area affected by the cumulative effect. It is assumed that potential cumulative impacts would not occur in conjunction with other projects beyond this distance because of the nature of the project. Neither construction nor operation will result in impacts significant enough to be cumulatively considerable, particularly if other planned projects are greater than one mile away. This is true of the cumulative analysis for the project for all resource areas except for Air Quality and Greenhouse Gas Emissions, where the cumulative analysis will discuss the project's contribution to a cumulative impact within the greater air basin, and globally, respectively.

4.3 CUMULATIVE PROJECT LIST

For the purposes of this document, "reasonably foreseeable" refers to projects that federal, state, or local agency representatives have knowledge of from the formal application process. Table 4.3-1 lists the known projects that are within approximately two miles of the project and are large enough that a cumulative impact could occur.

Table 4.3-1: Cumulative Projects List				
Project Name and Address	**Distance from Proposed Project**	**Project Description**	**Estimated Construction Schedule**	
			Start	**End**
Santa Clara				
Westfield Valley Fair (San Jose and Santa Clara)	0.25 mile southeast	98,000-square-foot addition to the mall, new 16,000-square-foot structure	Active	2019
Stevens Creek Subaru (3209 Stevens Creek Boulevard)	0.2 mile southwest	Demolition of existing buildings and new 45,778-square-foot car dealership	Active	2018
Santana Terrace Senior Apartments	0.1 mile north	Demolition of existing structure and construction of 92 senior apartments	2019	2020
San Jose				
Santana West (3161, 3162, and 3164 Olsen Drive)	0.4 mile south	970,000 square feet of office space, 29,000 square feet of retail space	TBD	TBD
Volar (350 South Winchester)	0.3 mile south	307 residential units, and 52,200 square feet of commercial uses	2018	2020
Garden City Commercial (southeast corner of Stevens Creek Boulevard and Saratoga Avenue)	0.9 mile southwest	150,000-square-foot office building, 150,000-square-foot mixed use building, 951-stall parking garage	2019	2021
Cambria Hotel (2850 Stevens Creek Boulevard)	0.4 mile southeast	Demolition of existing gas station and new 201,602-square-foot hotel	2018	2020
Santana Row Lot 9 (700 Santana Row)	0.4 mile south	284,000-square foot office building with retail uses and parking structure	Active	2019
Interstate 280/Winchester Boulevard Improvements	0.5 mile south	New access from northbound Interstate-280 to Winchester Boulevard, bicycle, pedestrian, and transit accessibility and connectivity improvements	2022	2024
Sources: City of Santa Clara. Development Projects Story Map. Accessed February 17, 2018 http://missioncity.maps.arcgis.com/apps/MapTour/index.html?appid=5afdbed13fad458cb6288c46a0bad060# City of San Jose. Development Services Major Projects List. Accessed February 17, 2018. http://www.sanjoseca.gov/DocumentCenter/View/69167. Silicon alley Business Journal. "Crane Watch". Accessed February 18, 2018. https://www.bizjournals.com/sanjose/maps/silicon-valley-crane-watch. VTA. Fact Sheet: Highways. Accessed February 17, 2018. http://www.vta.org/projects-and-programs/highway/i-280-winchester-interchange-study.				

4.4 CUMULATIVE IMPACTS

4.4.1 Thresholds of Significance

The discussions below address the following aspects of cumulative impacts:

- Would the effects of the proposed project, when combined with the effects of all past, present, and pending development result in a cumulatively significant impact on the resources in question?
- If a cumulative impact is likely to be significant, would the contribution of the proposed project to that impact be cumulatively considerable?

This section discusses whether the proposed would result in significant short-term (construction) or long-term (operational) environmental impacts when combined with other past, present, planned, and probable future projects in the area.

4.4.2 Air Quality

4.4.2.1 *Construction*

Construction activities associated with all of the cumulative project shown in Table 4.3-1 would temporarily affect local air quality. Construction activities such as demolition, earthmoving, construction vehicle traffic, and wind blowing over exposed earth would generate diesel exhaust emissions and fugitive particulate matter emissions. The proposed project could be constructed at the same time as several the projects in Table 4.3-1; thus, there is the potential for cumulative construction air quality impacts. The cumulative projects would, however, have differing schedules for active ground-disturbing construction, which lessens the potential for cumulative impacts because construction-related air-quality impacts are generally localized. The proposed project would implement BAAQMD Basic Construction Mitigation Measures and cumulative projects in the vicinity would also be required to implement similar measures to reduce air quality impacts. As a result, the project, along with other cumulative projects, would not result in a significant short-term cumulative construction air quality impact.

TAC Impacts – Combined (Cumulative) Sources

Project construction TAC health risks in combination with nearby sources is shown in Table 4.4-1. As shown, the project in combination with other nearby TAC emissions sources would not exceed the BAAQMD thresholds of significance.

Table 4.4-1: Combined Source Construction Community Risk Impacts at MEI

Source	Maximum Cancer Risk (per million)	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Maximum Hazard Index
Project Construction — Unmitigated Project Construction — Mitigated	19.9 (infant) 3.1 (infant)	0.10	0.02
Stevens Creek Boulevard	2.2	0.06	<0.01
North Winchester Boulevard	2.0	0.06	<0.01
Plant 16255, Macy's Valley Fair Generator at 3051 Stevens Creek	3.6	0.00	0.00
Plant 19388, Nordstrom, Inc. Generator at 2400 Forest Avenue	<0.9	0.00	0.00

Cumulative Unmitigated Cumulative Mitigated	28.6 11.8	0.22 <0.22	0.04 <0.04
BAAQMD Threshold – Cumulative Sources	*>100*	*>0.8*	*>10.0*
Significant?	***No***	***No***	***No***

As shown, TAC impacts from combined sources at the MEI would be less than significant during construction.

The Santana Senior Apartments Project would be constructed within a close enough proximity that there would be the potential for a cumulative construction impacts to sensitive receptors as a result of TAC emissions from heavy equipment.[45] The community risk impacts for that project are shown in Table 4.4-2

Table 4.4-2: Santana Terrace Construction Community Risk Impacts

Sensitive Receptor	Cancer Risk (per million)	Annual $PM_{2.5}$ Concentrations ($\mu g/m^3$)	Hazard Index
Nearest residence	4.2 (infants)	0.10	0.01
Cumulative Mitigated Total Including Combined Sources (from Table 4.4-1)	16	<0.32	<0.05
BAAQMD Threshold – Cumulative Sources	*>100*	*>0.8*	*>10.0*
Significant?	***No***	***No***	***No***

Assuming both projects were constructed at the same time and adding the Santana Senior Apartments Project community risks to the combined cumulative scenario, a cumulative TAC impact would not occur, especially with the project's implementation of MM AQ-1.1 to reduce its TAC emissions. As a result, cumulative TAC impacts would be less than significant. **(Less than Significant Cumulative Impact)**

4.4.2.2 *Operation*

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to result in the region being in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. Because the proposed project's operational air quality impact would be less than significant, (per BAAQMD thresholds) the project's contribution to a cumulative impact is also considered less than significant. **(Less than Significant Cumulative Impact)**

[45] David J. Powers & Associates, Inc. Initial Study Santana Terrace Senior Apartments. October 2015. File No: CEQ2015-01197/PLN2015-11231.

4.4.3 Transportation/Traffic

4.4.3.1 *City of Santa Clara Cumulative Significance Threshold*

A project would result in a significant cumulative impact on traffic conditions at a signalized intersection if for either peak hour:

- The LOS at the intersection degrades from an acceptable level (LOS D or better at all city-controlled intersections and LOS E or better at all expressway intersections) under cumulative no project conditions to an unacceptable level (LOS E or F at city-controlled intersections and LOS F at expressway intersections) under cumulative conditions, or
- The LOS at the intersection is an unacceptable level (LOS E or F at city-controlled intersections and LOS F at expressway intersections) under cumulative no project conditions and the addition of project trips causes the average critical delay to increase by four or more seconds *and* the V/C to increase by one percent or more.

4.4.3.2 *City of San José Cumulative Significance Threshold*

As with existing plus project and background plus project, the proposed project would have a significant cumulative level of LOS impact if it would:

- Cause the LOS at any local intersection to degrade from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under cumulative conditions;
- Cause the LOS at any CMP/county intersection or freeway segment to degrade from an acceptable LOS E or better under background conditions to an unacceptable LOS F under cumulative conditions; or
- For any local intersection that is already an unacceptable LOS E or F under background conditions, cause the critical-movement delay at the intersection to increase by four or more seconds and the V/C to increase by one percent (0.01) or more; or
- For any designed Protected Intersection that is already at an unacceptable LOS E or F under background conditions, cause both the critical movement delay at the intersection to increase by two or more seconds and the V/C to increase by one-half percent (0.005) or more.

The transportation impacts of the project were evaluated following the standards and methodologies set forth by the cities of Santa Clara and San José, and VTA. Since the proposed project is not projected to generate 100 or more net new peak-hour trips, a CMP analysis (which includes a cumulative analysis) is not required. **(Less than Significant Cumulative Impact)**

4.4.4 Other Cumulative Impacts

Based on the analysis in this EIR, the proposed project would have no impact on agricultural/forestry resources and mineral resources, and a less than significant impact on aesthetics, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use (including population and housing), and utilities and service systems. The degree in which the proposed project would add to existing or probable future impacts on existing land uses or the aforementioned resources would be negligible.

The analysis did identify impacts to migratory birds as a result of project construction. These impacts are, however, temporary and would be reduced to a less than significant level with

implementation of the proposed mitigation measures. Because of the temporary nature of these impacts and the fact that the impacts will be mitigated, there would be no long term cumulative effect. As a result, the projects contribution to a cumulatively significant biological resources impact would not be considerable. **(Less Than Significant Cumulative Impact)**

4.4.4.1 *Greenhouse Gas Emissions*

The project would likely not be completed until late 2021 or early 2022, implementation of the project would not result in new or greater GHG emission impacts than were previously identified in the Santa Clara General Plan FEIR. Due to the nature of GHG emissions, a significant project level impact is equivalent to a significant cumulative impact. **(Significant and Unavoidable Cumulative Impact)**

4.4.4.2 *Noise and Vibration*

Construction of the proposed project and several of the projects listed in Table 4.3-1 (e.g., Santana Terrace Senior Apartments, Volar, Garden City, and Cambria Hotel) may occur at the same time, such that temporary cumulative construction-related noise impacts could occur. These projects are separated by a distance of several hundred feet and by noise-generating roadways and cumulative impacts would not be likely to occur for the same sensitive receptors due to the distance of separation and high background noise levels from area roadways. Once operational, noise impacts as a result of the proposed project would be minimal as compared to the surrounding noise environment. Thus, the proposed project, in combination with cumulative projects, would not result in a significant temporary or permanent cumulative noise impact. **(Less than Significant Cumulative Impact)**

SECTION 5.0 GROWTH-INDUCING IMPACTS

For the purposes of this EIR, a growth inducing impact is considered significant if the project would:

- Cumulatively exceed official regional or local population projections;
- Directly induce substantial growth or concentration of population. The determination of significance shall consider the following factors: the degree to which the project would cause growth (i.e., new housing or employment generators) or accelerate development in an undeveloped area that exceeds planned levels in local land use plans; or
- Indirectly induce substantial growth or concentration of population (i.e., introduction of an unplanned infrastructure project or expansion of a critical public facility such as a road or sewer line necessitated by new development, either of which could result in the potential for new development not accounted for in local general plans).

The project proposes development on an underutilized parcel which is considered an infill site in the City of Santa Clara. The site is surrounded by existing infrastructure and both existing and planned development. Development of the proposed project would not require significant off-site upgrades to the existing sanitary sewer and/or storm drain lines that directly serve the project site. In addition, the project does not include expansion of the existing infrastructure that would facilitate growth not accounted for in the City's General Plan. The proposed project would place new residences adjacent to existing commercial and retail uses, and would be compatible with neighboring land uses. The project, therefore, would not have a significant growth inducing impact.

SECTION 6.0 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA and the CEQA Guidelines require that an EIR address "significant irreversible environmental changes which would be involved in the proposed project, should it be implemented." [§15126(c). Applicable environmental changes are described in more detail below.

6.1 USE OF NONRENEWABLE RESOURCES

Energy would be consumed during both the construction and operational phases of the project under either option. The construction phase would require the use of nonrenewable resources as part of construction materials, including concrete, metals, plastics, and glass. Nonrenewable resources and energy would also be consumed during the manufacturing and transportation of building materials, preparation of the site, and construction of the buildings. The operational phase would consume energy for multiple purposes, including building heating and cooling, lighting, and use of appliances and electronics. Energy, in the form of fossil fuels, will be used to fuel vehicles traveling to and from the project site.

The project would not result in a substantial increase in demand for nonrenewable resources because it would be subject to the standard Title 24 and CALGreen energy efficiency requirements. As discussed in Section 3.6 Energy, the project is consistent with the City's General Plan policies regarding energy use, which fosters development that reduces the use of nonrenewable energy resources in transportation, buildings, and urban services (utilities).

SECTION 7.0 SIGNIFICANT AND UNAVOIDABLE IMPACTS

A significant unavoidable impact is an impact that cannot be mitigated to a less than significant level if the project is implemented as it is proposed. The following significant unavoidable impacts have been identified as resulting from the proposed project:

- GHG Emissions: Annual GHG emissions would exceed the accepted threshold of 2.6 MT CO2e annually.

- Transportation/Traffic: Exceedance of LOS standards at the North Winchester Boulevard/Stevens Creek Boulevard Protected Intersection in the City of San Jose under Background Plus Project and Cumulative Plus Project conditions.

All other significant impacts of the proposed project would be reduced to a less than significant level with the implementation of mitigation measures identified in this EIR.

SECTION 8.0 ALTERNATIVES

8.1 INTRODUCTION

Section 15126.6 of the CEQA Guidelines requires that an EIR describe a reasonable range of alternatives to the proposed project that could feasibly attain most of the project objectives while avoiding or considerably reducing any of the significant impacts of the proposed project. In addition, the No Project Alternative must be analyzed in the document.

In order to comply with the purposes of CEQA, it is necessary to identify alternatives that reduce the significant impacts that are anticipated to occur if the project is implemented while trying to meet most of the basic objectives of the project. The Guidelines emphasize a common sense approach. The alternatives shall be reasonable, shall "foster informed decision making and public participation," and shall focus on alternatives that avoid or substantially lessen the significant impacts.

8.2 PROJECT OBJECTIVES

The stated objectives of the project proponent are to:

- Develop the site into an economically viable, mixed-income residential project with up to 165 multi-family apartments and 36 townhomes (as well as the previously approved 160 senior units) that will provide a distinct mix and variety of unit types to serve a broad population that will help address the City's housing needs.
- Establish intergenerational physical and social connections through the provision of a varied mix of housing types and amenities that support community vitality in accordance with the City's General Plan.
- Enhance the City's identity by providing project residents and the community with an "Agrihood" that provides access to a variety of local, unique and community-serving on-site amenities including a production farm, orchard, gardens, public plaza, café and community room.
- Create and maintain a residential built environment that promotes the safety and well-being of its residents and the surrounding community.
- Create a residential transit-oriented project balanced with community-serving amenities that connects to and enhances the City's bike, pedestrian and transit network, while reducing vehicle trips.
- Promote sustainability by developing a residential project on an infill and easily accessible project site and through the incorporation environmentally responsible construction techniques and conservation of energy and water in accordance with the major strategies of the City's General Plan.

8.3 SIGNIFICANT PROJECT IMPACTS

The significant, unavoidable impacts identified in this EIR resulting from the proposed project include the following:

- GHG Emissions - annual GHG emissions would exceed the accepted threshold of 2.6 MT CO2e.

- Transportation/Traffic - exceedance of LOS standards at the North Winchester Boulevard/Stevens Creek Boulevard Protected Intersection in the City of San Jose under Background Plus Project and Cumulative Plus Project conditions.

8.4 ALTERNATIVES DISCUSSION

There is no rule requiring an EIR to explore off-site project alternatives in every case. As stated in the Guidelines: "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." (Guidelines, § 15126.6, subd. (a), italics added.) As this implies, "an agency may evaluate on-site alternatives, off-site alternatives, or both." (*Mira Mar, supra*, 119 Cal.App.4th at p. 491.) The Guidelines thus do not require analysis of off-site alternatives in every case. Nor does any statutory provision in CEQA "expressly require a discussion of alternative project locations." (119 Cal.App.4th at p. 491 citing §§ 21001, subd. (g), 21002.1, subd. (a), 21061.)

8.4.1 Location Alternative (Considered but Rejected)

In considering an alternative location in an EIR, the CEQA Guidelines advise that consideration of "whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location".[46]

The project is a high density, mixed-use, transit-oriented development proposed in an area with an appropriate General Plan designation for such a use. In order to identify an alternative site that might reasonably be considered to "feasibly accomplish most of the basic purposes" of the project, and would also mitigate some or all of the identified significant impacts, it is assumed that such a site would need to have the following characteristics:

- Approximately six or more acres in size;
- Located close to transit;
- Close proximity to other mixed-use areas;
- A General Plan designation that allows the proposed uses at a density, height, and floor area ratio similar to the proposed project site;
- Served by available infrastructure; and
- Immediately available.

Location alternatives for the project were considered, but rejected because of the lack of suitable sites that would meet the basic objectives of the project and be immediately available. Since the main objective of the project is to provide a mixed-income, transit-oriented residential project with up to 165 multi-family apartments and 36 townhomes (as well as the previously approved 160 senior units) that provide a mix and variety of unit types and be supported by existing alternative transit, there are very limited (if any) potential locations for developments of similar size near the proposed project site.

[46] CEQA Guidelines Section 15126.6(f)(2)(A)\

Any alternative location within the general project area would not substantially lessen the identified impacts, in that residents would be traveling to and from the same locations and the traffic trips would generally use the same roadways. There are opportunities for redevelopment of larger sites in the northern area of the City of Santa Clara, but sites in these areas would likely have the same or greater impacts than the proposed project site due to existing traffic congestion, inadequate General plan designations, and lack of transit infrastructure. The same GHG and construction TAC impacts would likely occur regardless of development location. For these reasons, an alternative location was not further analyzed.

8.4.2 No Project – No Development Alternative

The CEQA Guidelines [§15126(d)4] require that an EIR specifically discuss a "No Project" alternative, which shall address both the existing conditions, as well as what would be reasonably expected to occur in the foreseeable future if the project is not approved. The CEQA Guidelines stipulate that an EIR specifically include a No Project - No Development Alternative to allow decision-makers to compare the impacts of approving the project with the impacts of not approving the project. The CEQA Guidelines specifically advise that the No Project – No Development Alternative be what would be reasonably expected to occur in the foreseeable future if the project is not approved.

Under the No Project – No Development Alternative, the site would remain vacant; therefore, this alternative would avoid the proposed project's significant GHG and transportation impact, and all other less than significant impacts. The No Project - No Development Alternative would not, however, meet any of the proposed project's specific objectives to develop a mixed-use, transit-oriented development on the site.

8.4.3 No Project – Existing Zoning (165 Senior Housing) Alternative

The project site has a zoning designation of *PD – Planned Development*, which allows for construction of up to 165 senior residential dwelling units at the site with building heights of up to 60 feet. This development was considered as part of the Santa Clara Gardens Development Project FEIR approved by the City in 2007.

The significant construction-related air quality impact (as a result of TACs) would be lessened because the project would be smaller, the project would not include underground parking, and the construction timeframe would be shorter. The significant transportation impact at North Winchester Boulevard and Stevens Creek Boulevard would also be avoided.

While the service population would be smaller, the total number of traffic trips would be less, reducing automobile emissions. In addition, with the smaller project, all other operational emissions would also be reduced. Given the small project, the project would likely be fully constructed and operational by December 31, 2020, thereby allowing the project to utilize the current 2020 thresholds, which are less stringent than the 2030 thresholds. For all these reasons, GHG emissions would be less than significant under this alternative.

This alternative would not avoid the less than significant (with mitigation incorporated) biological resources, cultural resources impacts. While some of the project objectives would be realized,

though to a much lesser extent than for the proposed project; the basic objectives related to the provision of high-density, transit-oriented on the site would not be met.

8.4.4 Reduced Intensity (340 Units) Alternative

A Reduced Intensity Alternative would allow for development of approximately 340 units where 361 are proposed. The significant transportation impact at North Winchester Boulevard and Stevens Creek Boulevard would be avoided with this alternative.[47] The significant construction-related TACs would be comparable to the proposed project because the reduction of 21 units would not shorten the construction timeframe or significantly reduce the size of the buildings.

As with the proposed project, the GHG impact threshold would be exceeded. This alternative would not avoid the less than significant (with mitigation incorporated) biological resources, cultural resources impacts. This alternative would meet the project objectives.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines state than an EIR shall identify an environmentally superior alternative. If the environmentally superior alternative is the "No Project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives (Section 15126.6(e)(2)).
The environmentally superior alternative would be the No Project - No Development Alternative, which would avoid all project impacts. This alternative would not meet any project objectives.

The Reduced Intensity (340 Units) Alternative would avoid the significant impact at the City of San Jose intersection of Stevens Creek Boulevard and North Winchester Boulevard, but would have comparable GHG and TAC emissions impacts to the proposed project. This alternative would meet the project objectives. The Reduced Intensity (340 Units) Alternative would be the environmentally superior alternative to the proposed project.

[47] Black, Gary. Hexagon Transportation Consultants. Email correspondence with Amie Ashton. February 20, 2018.

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SECTION 10.0 LEAD AGENCY AND CONSULTANTS

10.1 LEAD AGENCY

City of Santa Clara Community Development Department

Andrew Crabtree, *Director of Community Development*
Rebecca Bustos, Associate Planner

10.2 CONSULTANTS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners

Shannon George, Principal Project Manager
Amie Ashton, Project Manager
Fiona Phung, Assistant Project Manager
Tyler Rogers, Assistant Project Manager
Zach Dill, Graphic Artist

Appendix E

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: April 12, 2019
Consultation Code: 08ESMF00-2019-SLI-1656
Event Code: 08ESMF00-2019-E-05285
Project Name: Agrihood Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2019-SLI-1656

Event Code: 08ESMF00-2019-E-05285

Project Name: Agrihood Project

Project Type: DEVELOPMENT

Project Description: The project proposes to construct the previously approved 165 senior apartments, as well as 160 multi-family apartment units, within two separate structures. Up to 36 townhouses are also proposed to be located along the west side of the site. The project would also provide approximately 1.5 acres of community gardens, agricultural gardens, and communal open space for residents and the public. A 1,650-square-foot community building and café for public and resident use, and an 800-square-foot garden workshop/shed are also proposed.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/37.32612388723463N121.95126389838846W

Counties: Santa Clara, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Bay Checkerspot Butterfly *Euphydryas editha bayensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2320	Threatened
San Bruno Elfin Butterfly *Callophrys mossii bayensis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3394	Endangered

Flowering Plants

NAME	STATUS
Robust Spineflower *Chorizanthe robusta var. robusta* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9287	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.