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January 27, 2017

Ms. Kit Soo, P.G.  
Senior Hazardous Materials Specialist  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway  
Alameda, CA 94502

**SUBJECT:** Soil and Groundwater Investigation Work Plan  
139<sup>th</sup> Avenue Property  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578  
ACDEH Fuel Leak Case No. RO0003214  
GeoTracker Global ID No. T10000009956

Dear Ms. Soo:

The LEMR Trust is pleased to present the enclosed work plan, prepared by Environmental Risk Assessors, for an investigation of the property located at 295 139<sup>th</sup> Avenue in San Leandro, California. This work plan is submitted pursuant to discussions during the meeting between representatives of the Alameda County Department of Environmental Health and The LEMR Trust on December 5, 2016.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge.

Please feel free to call me at 925-683-9779 if you have any questions.

Sincerely,



Erin Tamer  
The LEMR Trust



Environmental Risk Assessors

## Soil and Groundwater Investigation Work Plan

139<sup>th</sup> Avenue Property  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578

February 8, 2017

Prepared for:  
The LEMR Trust  
PO Box 511  
Alamo, CA 94507



Prepared by:  
Environmental Risk Assessors  
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ACDEH Fuel Leak Case No. RO0003214

GeoTracker Global ID No. T10000009956

ERA Project No. 01-2017-1500-001



## Environmental Risk Assessors

February 8, 2017

The LEMR Trust  
PO Box 511  
Alamo, CA 94507  
Attn: Ms. Erin Tamer

**SUBJECT:** Soil and Groundwater Investigation Work Plan  
139<sup>th</sup> Avenue Property  
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ACDEH Fuel Leak Case No. RO0003214  
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Dear Ms. Tamer,

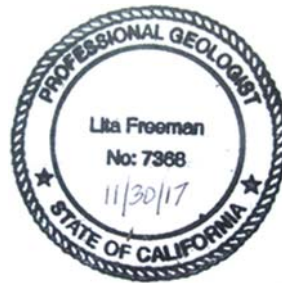
The attached *Soil and Groundwater Investigation Work Plan* (“the Work Plan”) has been prepared by Environmental Risk Assessors (ERA) on behalf of The LEMR Trust for the above-referenced property (the Site). The Work Plan was prepared in accordance with a request from the Alameda County Department of Environmental Health (ACDEH) as requested during the meeting between representatives of the ACDEH and The LEMR Trust on December 5, 2016. The proposed scope of work is presented in the attached work plan.

Please do not hesitate to contact me at (916) 677-9897 and via email at [litafreeman@gmail.com](mailto:litafreeman@gmail.com) if you have any questions or comments regarding this work plan.

Sincerely,

Environmental Risk Assessors

Lita D. Freeman, PG #7368  
Professional Geologist



Tel 916-677-9897  
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**CERTIFICATIONS**

Report Prepared By:

*Lita D. Freeman*



February 8, 2017

Lita D. Freeman, P.G.  
Principal Geologist  
California Professional Geologist No. 7368

Date

\* All information, conclusions, and recommendations in this document have been prepared under the supervision of and reviewed by a California Professional Geologist of Environmental Risk Assessors.

A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

## Environmental Risk Assessors

### 1. INTRODUCTION

Environmental Risk Assessors (ERA) has prepared this *Soil and Groundwater Investigation Work Plan* (the “Work Plan”) on behalf of The LEMR Trust for the property located at 295 139<sup>th</sup> Avenue in San Leandro, Alameda County, California (the “Site”; Figure 1). This Work Plan was prepared in accordance with a request from the Alameda County Department of Environmental Health (ACDEH) during a meeting with representatives of The LEMR Trust on December 5, 2016.

Background information in this Work Plan is based on findings presented in Basics Environmental Inc.’s (Basics Environmental) Phase I Environmental Site Assessment (Phase I ESA) report (Basics Environmental, 2015) and ERA’s limited Phase II Environmental Site Assessment (Limited Phase II ESA) report (ERA, 2016). The investigation described in this Work Plan is focused on defining potential on-site source(s) of volatile organic compounds (VOCs) reported in soil and groundwater at the Site during ERA’s limited Phase III ESA, evaluating if the subsurface has been impacted by past site activities, and evaluating off-site sources for the VOCs reported in groundwater at the Site during ERA’s limited Phase III ESA.

The Site has been listed as a case with the ACDEH and the California Environmental Protection Agency (Cal-EPA) State Water Resources Control Board (SWRCB). The following identification numbers have been assigned to the Site:

- ACDEH Fuel Leak Case No. RO0003214; and
- GeoTracker Global Identification No. T10000009956.

#### 1.1 Objective and Purpose

The ultimate objective for the Site is to obtain regulatory case closure. The purpose of the proposed work, as described in this Work Plan, is summarized as follows:

- Assess the source(s) of the VOCs reported in soil and groundwater beneath the Site;
- Evaluate on-site locations for the potential presence of VOCs and petroleum hydrocarbons in soil and groundwater beneath the Site from past site activities;
- Assess the potential presence of VOCs in soil gas beneath the on-site building;
- Assess the lateral extent and potential off-site sources of VOCs in groundwater.

#### 1.2 Site Description

The Site is addressed 295 139<sup>th</sup> Avenue, San Leandro, Alameda County, California, and consists of one approximately 0.5-acre Alameda County parcel of land (Figure 2). The Site is currently developed with one approximately 16,150-square-foot commercial building occupied by two tenants.

Site-specific information is presented in Table 1.

Table 1. General Site Information	
<b>Project Name:</b> 139 <sup>th</sup> Avenue Property	<b>Current Development:</b> One-story commercial building
<b>Address:</b> 295 139 <sup>th</sup> Avenue, San Leandro	<b>Assessor Parcel Number:</b> 77B-1225-5-5
<b>Location:</b> Northwestern side of 139 <sup>th</sup> Avenue	<b>Occupants:</b> A&C Auto Body, JP Body and Paint

## Environmental Risk Assessors

### 2. BACKGROUND

#### 2.1 Site History

The Site is improved with a one-story building occupied by A&C Auto Body and Frame (Unit A) and JP Body and Paint (Unit C). Unit B/D/E (formerly three separate units) was most recently occupied by Street Shades.

Basics Environmental conducted an assessment and presented the findings in their report titled *Phase I Environmental Site Assessment, 295 139<sup>th</sup> Avenue, San Leandro, California* dated December 4, 2015. Copies of drawings from Basics Environmental's report are presented in Appendix A. Records reviewed by Basics Environmental revealed the following:

- The Site was undeveloped prior to the construction in 1951 of an office/factory building owned by Mr. John Maggi;
- Between 1951 and the mid-1980s, the building was occupied by Security Parachute & Equipment Company, Security Parachute, and GQ Security Parachute; operations by these companies were reported to include assembly of nylon parachutes for the U.S. Air Force with the components provided by contractors and the parachutes assembled on site in a line production manner; a machine shop was present near the northeastern corner of the building during this time;
- Hazardous substances used and stored on site by the parachute manufacturing companies included solvent in one 55-gallon drum, methyl ethyl ketone in two 5-gallon containers, and gasoline in a 500-gallon underground storage tank (UST) located immediately east of the building with an associated gas pump just inside the nearby service bay door as shown on a site map dated 1972 (see Drawing 4 in Appendix A);
- A geophysical survey that included a ground penetrating radar study reportedly conducted in the past did not reveal evidence of an on-site UST;
- The building has been divided into five or less units since the late-1980s and has been occupied by various tenants who have predominantly performed auto painting and auto body repair; former/current tenants included: A Quality Auto Painting in Unit C between at least 1995 and 2005, Auto Collision Repair in Unit A in at least 2000, C&S Automotive Restoration in Unit C in at least 2004, and Bill's Towing in 2005;
- Bay City Rental occupied Unit(s) A and/or C between the late-1980s and 1995 and reportedly used solvents stored in a parts washer tub and gasoline stored in 5-gallon containers;
- Exclusive Auto Craft, the occupant of Unit C between at least 1990 and 1992, reportedly installed a spray paint booth in 1990 and used paints and solvents;
- Rizzo's Body Shop, the occupant of Unit A between at least 2002 and 2003, reportedly installed a spray paint booth in 2002 and likely used paints and solvents;
- A&C Auto Body and Frame, the occupant of Unit A since at least 2005, utilizes the spray paint booth, uses paints and thinners, and has a paint/thinner storage and mixing room;
- Street Shades, the occupant of Units B/D/E between at least 2013 and 2015, reportedly installed a spray paint booth in 2014, and used paints and thinners; and

## Environmental Risk Assessors

- JP Body and Paint, the occupant of Unit C since 2015, reportedly utilizes the spray paint booth, uses paints and thinners, has a paint mixing room, and performs automotive repairs in the parking lot immediately east of their unit.

Basics Environmental was unable to obtain installation or removal reports for the UST shown on the 1972 map and did not identify reports of major violations, spills, or unauthorized releases at the Site (Basics Environmental, 2015). Basics Environmental noted that the Site is within the area of the *DWA Plume*, a regional groundwater plume impacted by VOCs, petroleum-related compounds, and metals from multiple facilities. The primary compounds of concern (COCs) reported in the DWA Plume are the VOCs tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride (VC), and to a lesser extent, 1,1-dichloroethene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), 1,2-dichloroethane (1,2-DCA), and chloroform (DTSC, 2014). TCE is the most widespread of the COCs within the DWA Plume. Monitoring and sampling of numerous groundwater monitoring wells within the DWA Plume are ongoing. Basics Environmental noted that, based on the third quarter 2014 groundwater monitoring report prepared by The Source Group (The Source Group, 2015), PCE has been reported within the shallow groundwater below the Site at concentrations of less than 10 micrograms per liter ( $\mu\text{g/L}$ ).

ERA's review of the groundwater sampling report prepared by The Source Group in 2015 indicated that shallow groundwater flow direction beneath the immediate site vicinity was westward (The Source Group, 2015). Analysis of groundwater samples collected from nearby wells in 2013 and 2014 (The Source Group, 2015) revealed the presence of PCE, as follows:

- Well GS-7: at a concentration of 59  $\mu\text{g/L}$  in the groundwater samples from this well, located approximately 200 feet north of the Site in an upgradient to crossgradient direction; and
- Well PZ-1: at a concentration of 210  $\mu\text{g/L}$  in the groundwater samples from this well, located approximately 450 feet east-northeast of the Site in an upgradient to crossgradient direction;
- Well MW-7: at a concentration of 6.9  $\mu\text{g/L}$  in the groundwater samples from this well, located approximately 2,000 feet west of the Site in a downgradient direction.

The locations of wells GS-7 and PZ-1 are shown on Figure 3.

As discussed below, PCE was reported at a concentration of 9.5  $\mu\text{g/L}$  in a groundwater sample collected from boring SB-1 during ERA's limited Phase II ESA (ERA, 2016). Based on these analytical results, the PCE beneath the Site may be related to past on-site activities and/or the DWA plume.

### 2.2 Previous Investigation

ERA conducted a subsurface investigation and presented the findings in the report titled *Limited Phase II Environmental Site Assessment Report, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578* dated March 3, 2016. A copy of ERA's Limited Phase II ESA report is presented in Appendix B. Two borings (SB-1 and SB-2 as shown on the *Site Plan*, Figure 2) were advanced in February 2016 at select on-site locations to collect soil and groundwater samples. The scope of work was designed in general accordance with the SWRCB's *Leaking Underground Fuel Tank Guidance Manual* (LUFT Manual) dated September 2012 and revised December 2015 (SWRCB 2015).



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The boring locations were selected based on available historical information and site observations, as follows:

- Boring SB-1 was placed in the area of the 500-gallon gasoline UST and was drilled to a depth of 38 feet below ground surface (bgs); and
- Boring SB-2 was placed in the area of the paint and thinner storage/mixing room observed in Unit A and was drilled to a depth of 24 feet bgs.

Soil and groundwater samples collected from the borings were analyzed, as discussed below. Results are summarized in tables presented in ERA's Limited Phase II ESA report in Appendix B.

### 2.2.1 Soil Sampling

Soil samples SB-1-8.5 (from the 8.0 to 8.5-foot depth interval) and SB-2-2.5 (from the 2.0 to 2.5-foot depth interval) collected from borings SB-1 and SB-2, respectively, were submitted for analyses as follows:

- VOCs, including Total Petroleum Hydrocarbons (TPH) quantified as gasoline (TPHg), benzene, toluene, ethylbenzene, and xylenes (collectively BTEX), methyl tert-butyl ether (MTBE), tert-Butyl Alcohol (TBA), 1,2-dichloroethane (EDC [or 1,2-DCA]), 1,2-dibromoethane (EDB), and naphthalene, using U.S. Environmental Protection Agency (U.S. EPA) Method 8260B; and
- TPH quantified as motor oil (TPHmo) using U.S. EPA Method SW8015B.

Upon review of the initial analytical results for soil sample SB-2-2.5, the laboratory was directed to analyze the deeper soil samples from boring SB-2 since the soil gas samples could not be analyzed due to a laboratory error. Soil samples SB-2-5, SB-2-10, and SB-2-15 were analyzed for PCE only using U.S. EPA Method 8260B.

Analysis of the soil samples revealed the following:

- PCE was reported in soil sample SB-2-2.5 at a concentration of 0.032 milligrams per kilogram (mg/kg);
- PCE was reported in soil sample SB-2-5 at a concentration of 0.013 mg/kg;
- No other VOCs were reported in the soil samples at concentrations at or above their respective laboratory reporting limit (lab RL); the lab RL of 0.004 mg/kg for EDB was above its' Tier 1 ESL of 0.00033 mg/kg which is based on leaching to groundwater (as established by the Cal-EPA San Francisco Bay Regional Water Quality Control Board [SFBRWQCB] Tier 1 ESLs [Environmental Screening Levels], dated February, 2016); and
- Petroleum hydrocarbons were not reported in soil samples SB-1-8.5 and SB-2-2.5 at concentrations at or above their respective lab RL (0.25 mg/kg and 5 mg/kg for TPHg and TPHmo, respectively).

### 2.2.2 Groundwater Sampling

The groundwater sample collected from boring SB-1 was submitted for analyses as follows:

- VOCs, including TPHg, BTEX, MTBE, TBA, EDC (1,2-DCA), EDB, and naphthalene, using U.S. EPA Method 8260B; and
- TPHmo using U.S. EPA Method SW8015B.

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Analysis of the groundwater sample revealed the following:

- PCE was detected at a concentration of 9.5 µg/L;
- TCE was detected at a concentration of 1.2 µg/L;
- No other VOCs were reported in the groundwater sample at concentrations at or above their respective lab RL; the lab RL of 0.5 µg/L for naphthalene was above its' Tier 1 ESL of 0.12 µg/L which is based on the Maximum Contaminant Level; and
- Petroleum hydrocarbons were not reported in groundwater samples at concentrations at or above their respective lab RL (50 µg/L and 500 µg/L for TPHg and TPHmo, respectively).

The lab RL for TPHmo was elevated because of the amount of sediment in the sample.

### 2.2.3 Evaluation

The concentrations of compounds of concern detected in soil and groundwater samples were compared to applicable ESLs established by the SFBRWQCB (SFBRWQCB, 2016).

#### 2.2.3.1 Soil Results Evaluation

Comparison of the analytical results to the ESLs for soil (SFBRWQCB, 2016) indicate that the concentrations of PCE in soil samples SB-2-2.5 (0.032 mg/kg) and SB-2-5 (0.013 mg/kg) were below the Tier 1 ESL of 0.42 mg/kg for PCE (based on leaching to groundwater) and the direct exposure human health risk ESL for commercial/industrial soil of 2.8 mg/kg. PCE was not detected in soil samples SB-2-10 and SB-2-15 at concentrations at or above the lab RL of 0.005 mg/kg.

#### 2.2.3.2 Groundwater Results Evaluation

Comparison of the analytical results to the ESLs for groundwater (SFBRWQCB, 2016) indicated that the reported concentration of PCE (9.5 µg/L) was above its' Tier 1 ESL of 3 µg/L, which is based on direct exposure, but was below its' ESL for commercial/industrial land use shallow groundwater vapor intrusion human health risk level of 26 µg/L. The concentration of TCE (1.2 µg/L) was below its' Tier 1 ESL of 5 µg/L.

The lab RL (500 µg/L) for TPHmo in groundwater was below its' ESL of 50,000 µg/L (based on gross contamination). No evidence (staining, odors, etc.) of petroleum hydrocarbon impacts was noted in the soil samples collected from the borings.

## 3. INITIAL SITE CONCEPTUAL MODEL

The Initial Site Conceptual Model (SCM) documents the regional and site geology and hydrogeology, surface water bodies in the site vicinity, wells located within a 1,000-foot radius of the Site, reported off-site and on-site releases, COCs, residual and dissolved contamination, potential preferential pathways, potential exposure pathways, and sensitive receptors. Sufficient information has not been obtained to develop an adequate SCM; however, the Initial SCM utilizing the available information is presented in Table 2. Table 3 presents the data gaps identified during preparation of the Initial SCM, information on the water-supply wells identified in the sensitive receptors survey are presented in Table 4, and the locations of the water-supply wells are shown on Figure 3. A rose diagram prepared using data obtained during monitoring events for nearby off-site wells is presented on Figure 2 and Figure 4 (Woodward-Clyde Consultants, 1993; URS Consultants, 2011; The Source Group, 2015).

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The purpose of presenting the Initial SCM within this Work Plan is to aid in evaluating the data collected to date and help identify data gaps. As data gaps are addressed, the Initial SCM will be updated. Tables, figures, and select reference material noted in the Initial SCM are presented in Appendix C.

### 4. POTENTIAL DATA GAPS

Data gaps identified during preparation of the Initial SCM, the proposed investigation, rationale, and proposed analysis are summarized in Table 3.

### 5. PROPOSED SUBSURFACE INVESTIGATION ACTIVITIES

To further evaluate the current subsurface conditions and address subsurface data gaps noted in Section 4, ERA will perform a subsurface investigation.

The proposed scope of work is presented below. The sampling and analysis program is summarized in Table 5.

#### 5.1 Pre-Field Activities

Before field activities associated with the proposed assessment are conducted, the pre-field tasks described below will be completed.

##### 5.1.1 Health and Safety

ERA will prepare a site-specific *Health and Safety Plan* for the scope of work as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The document will be reviewed and signed by ERA personnel and contractors performing work at the Site.

##### 5.1.2 Permitting

ERA will obtain a soil boring permit from Alameda County Public Works Agency (ACPWA), before commencing intrusive field activities. ERA will coordinate field activities with ACPWA and schedule a ACPWA inspector to document compliance with permit requirements.

#### 5.2 Field Activities

##### 5.2.1 Utility Clearance

Before subsurface work is conducted at the Site, the proposed sampling locations will be cleared for underground utilities by notifying Underground Services Alert North (USA North) at least 48 hours prior to intrusive field activities. In addition, a private utility locating contractor will clear each proposed sampling location before the start of intrusive field activities. Proposed sampling locations will be adjusted, as necessary, to maintain a distance of at least 3 feet from identified underground utilities/structures.

##### 5.2.2 Drilling and Sampling

ERA personnel will oversee a California licensed driller using a Geoprobe direct-push drilling rig during soil gas, soil, and groundwater sampling activities. The borings will be advanced to the proposed maximum depth (up to 38 feet bgs), boring refusal, or groundwater, whichever is shallower. Borings are proposed in the upgradient and downgradient directions on site with respect to local groundwater flow direction based on data collected during monitoring events associated with the regional DWA Plume.

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The proposed sampling locations are as follows:

- Boring SB-3 in the auto repair area in the parking lot east of Unit C to a depth of 8 feet bgs to collect soil samples to evaluate potential impacts from past on-site activities;
- Boring SB-4 near the Site's northeastern corner in the area of used oil containers and in an upgradient direction on the Site to a depth of 38 feet bgs to collect soil and groundwater samples to evaluate potential impacts from on-site releases (if any); groundwater samples from this boring will also be used to evaluate potential on-site migration of the regional DWA Plume;
- Boring SB-5 near the southeastern corner of the Site in an upgradient direction to a depth of 38 feet bgs to collect soil and groundwater samples to evaluate potential impacts from on-site releases (if any); groundwater samples from this boring will also be used to evaluate potential on-site migration of the regional DWA Plume;
- Boring SB-6 inside Unit E near the spray paint booth and storage room with oily stains on concrete floor to a depth of 38 feet bgs to collect soil gas, soil, and groundwater samples to evaluate potential impacts from past on-site activities;
- Boring SB-7 inside Unit C near the spray paint booth, flammables cabinets, auto body parts, and stained concrete floor to a depth of 38 feet bgs to collect soil and groundwater samples to evaluate potential impacts from past on-site activities;
- Boring SB-8 inside Unit C near the paint mixing area, drum storage, and former machine shop to a depth of 8 feet bgs to collect soil gas and soil samples to evaluate potential impacts from past on-site activities;
- Boring SB-9 inside Unit A near the former storage room and supply room to a depth of 8 feet bgs to collect soil gas and soil samples to evaluate potential impacts from past on-site activities; and
- Boring SB-10 inside Unit A near the paint mixing area, drum storage, stained concrete floor, spray paint booth; and near boring SB-2 to a depth of 38 feet bgs to collect soil gas, soil, and groundwater samples to evaluate potential impacts from past on-site activities and the extent of VOCs in soil samples collected from boring SB-2.

### 5.2.3 Soil Gas Sampling

Soil gas samples will be collected in general accordance with the protocols presented in the *Advisory Active Soil Gas Investigations* prepared by the Cal-EPA DTSC, LARWQCB, and RWQCB-SFB (DTSC, LARWQCB, and SFBRWQCB 2015).

Soil gas samples will be collected at depths of approximately 0.5 feet and 5 feet below the bottom of the concrete floor slab from temporary soil gas probes at sampling locations SB-6, SB-8, SB-9, and SB-10 by driving a stainless steel probe equipped with a hardened, reverse-threaded steel driving point into the subsurface using a roto-hammer or similar method.

Flexible tubing will be connected to a steel vapor tip coupled in an airtight seal to the end of the drive probe. The annular space around the drive probe will be filled with sand and sealed with hydrated bentonite to the ground surface to prevent leakage of ambient air into the soil gas sample. The probes will be left in place for at least 2 hours before sampling. The samples will be collected into 50 milliliter (mL) glass syringes; 1,1-difluoroethane (1,1-DFA) will be used as a leak check compound.

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The vapor samples will be analyzed for VOCs by the mobile laboratory by Method 8260.

Following sample collection, the vapor probes will be removed and the hole will be backfilled with concrete and resurfaced to match the surrounding flooring.

### 5.2.4 Soil and Grab Groundwater Sampling

A direct-push unit will be used to drive a steel probe equipped with a hardened, reverse-threaded steel driving point into the subsurface to allow collection of soil and groundwater samples.

Soil samples will be screened in the field with a photoionization detector (PID) and observed for evidence of chemical staining. Soil samples will be collected from each boring in new acetate or stainless steel sleeves from those intervals with evidence of chemical staining, if noted, and at depths of approximately 2 feet, 5 feet, and 8 or 10 feet (depending on the total depth of the boring). Soil samples will also be collected from the deeper borings at depths of 15 feet, 20 feet, and 30 feet bgs unless these depth intervals are saturated; soil samples will not be collected below the groundwater table.

New polyvinyl chloride (PVC) casing (with slotted casing in the lower 10 feet and blank casing from above the slotted casing to the ground surface) will be placed in the boreholes and groundwater will be allowed to flow into the casing. Up to 1 gallon of groundwater will be purged from each casing prior to sampling if a sufficient quantity of groundwater is present in the casing to fill the laboratory-provided containers appropriate for the requested analysis. After the groundwater sampling activities are completed, the casing will be removed and the boring will be backfilled in accordance with ACPWA requirements. ERA anticipates that the groundwater sampling activities will be completed by the end of each field day and that the boreholes will not remain open overnight.

The soil and groundwater samples will be placed on ice and transported under chain-of-custody protocols to the project laboratory.

### 5.2.5 Boring Backfill and Waste Management

After the sampling activities are complete, each boring will be backfilled with cement grout and bentonite and sealed at grade with asphalt or soil, as appropriate. The investigation-derived waste, including soil cuttings and rinsate, produced during sampling activities will be containerized using appropriate containers, and disposal options will be evaluated after review of analytical data.

## 5.3 Analysis

As shown in Table 5, two soil samples from each boring (one each from within the 0 to 5-foot depth interval and the 5-foot to 10-foot depth interval based on PID readings, appropriate depth for the location, and/or those exhibiting chemical staining) will be submitted for analysis along with the soil gas and grab groundwater samples. Additional soil samples will be submitted for analysis if chemical staining is noted on soil samples collected from depths of more than 10 feet. The samples will be analyzed on a normal 5-business-day laboratory response time by a laboratory certified by the State of California to perform the requested analyses.

Soil gas samples will be analyzed for VOCs using U.S. EPA Method 8260.

The soil and groundwater samples will be analyzed for the following analytes:

- VOCs, including PCE, TCE, TPHg, and naphthalene, using U.S. EPA Method 8260B; and
- TPH quantified as diesel (TPHd) and TPHmo using U.S. EPA Method SW8015B.



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### 5.4 Report

A report of findings will present a summary of the previous investigations, as appropriate, and regulatory status, the procedures and results for this investigation, figures showing sampling locations, and tables presenting analytical results compared to published screening levels. Copies of the analytical laboratory report will be included in an appendix.

The report will be uploaded to ACDEH and SWRCB websites. In addition, as required by the drilling permit, a copy of the report will be submitted to ACPWA within 60 days of permit approval.

### 6. SCHEDULE

Work for the investigation will begin immediately upon receipt of ACDEH's approval of the Soil and Groundwater Work Plan. The report will be issued within 6 weeks from receipt of ACDEH's approval of this Work Plan based on the assumption that ACPWA approves the drilling permit application and schedules and inspector within 10 business days and the driller has availability within the requested time frame.

### 7. REFERENCES

Basics Environmental, Inc. 2015. *Phase I Environmental Site Assessment, 295 139<sup>th</sup> Avenue, San Leandro, California*. December 4.

California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC), Los Angeles Regional Water Quality Control Board (LARWQCB), San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2015. *Advisory Active Soil Gas Investigations*. July.

Cal-EPA DTSC. 2014. *Remedial Investigation Report, DWA Plume, San Leandro, California*. April.

Cal-EPA San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2016. *Environmental Screening Levels, Tier 1 ESLs*. February.

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## TABLES

Table 2: Initial Site Conceptual Model  
 139<sup>th</sup> Avenue Property  
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 San Leandro, California 94578

SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
Geology and Hydrogeology	Regional	<p>Near surface geology is characterized as alluvial fan and fluvial deposits (Qhaf) of Holocene age that slope westward on the "East Bay Plain" towards San Francisco Bay. The northwest-southeast trending Hayward Fault, located approximately 1 mile northeast of the Site, separates the younger alluvial deposits (Qal) on the East Bay Plain to the west of the fault from the older metamorphic, volcanic, and sedimentary rocks in the Diablo Range foothills to the east of the fault. The deposits are gravelly sand or sandy gravel at depth, and generally fine upward to sandy or silty clay. The three main alluvial cones in the region are the San Leandro Cone, the San Lorenzo Cone, and the Niles Canyon Cone.</p> <p>The site vicinity is within the San Leandro Cone and the Santa Clara Valley East Bay Plain Groundwater Basin. Generally, shallow aquifer units (surface to a depth of approximately 400 feet bgs) are laterally discontinuous and hydraulically separate from aquifers in the adjacent cones. Below a depth of 400 feet, the aquifers are likely continuous across the boundaries of the three alluvial cones.</p> <p>Shallow aquifers, which typically occur as perched water-bearing zones and comprise a water table aquifer system with relatively high vertical resistance to flow, have been mapped to depths of up to 50 feet in the site vicinity. The shallow</p>	None	Not Applicable	<p>Figure 1: 2012 USGS Map from ERA. 2017. Soil and Groundwater Investigation Work Plan.</p> <p>Geologic map by R.W. Graymer. 2000.</p> <p>Geologic map by California Regional Water Quality Control Board - San Francisco Bay Region (SFBRWQCB) and Alameda County Flood Control and Water Conservative District (ACFC-WCD). 1988.</p> <p>Figures from The Source Group, Inc. 2015. 3Q2014</p>	<p>California Department of Water Resources (DWR). 1960. <i>Intrusion of Salt Water into Groundwater Basins of Southern Alameda County, Bulletin 81.</i></p> <p>Graymer, R.W., USGS. 2000. <i>Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California.</i></p> <p>SFBRWQCB and ACFC-WCD. 1988. <i>Geohydrology and Groundwater-Quality Overview of the East Bay Plain Area, Alameda County, California, 205 (j) Report. Figure 8, Generalized Geologic Map East Bay Plain Area.</i> June.</p> <p>DWR. 2003. <i>California's</i></p>

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		<p>aquifers vary in thickness and may not be present at locations across the San Leandro Cone or may be indistinguishable from the underlying aquifer referred to as the "Newark Aquifer Equivalent." The Newark Aquifer Equivalent is located at depths of approximately 30 to 130 feet bgs. This aquifer is capped by a clay layer ranging in thickness from approximately 25 to 60 feet with several interfingering sand and gravel lenses separated by clay beds that are up to 10 feet thick. This aquifer is separated from underlying aquifers by an aquitard that is comprised of a relatively homogenous estuarine mud or blue-gray clay, referred to as "Old Bay Mud" or "Yerba Buena Mud." This aquitard is typically about 50 feet thick and is regional in extent but pinches out to the east towards the Hayward Fault.</p> <p>Currently, groundwater in the shallow units generally flows from east to west towards San Francisco Bay. Groundwater level contours for the Newark Aquifer Equivalent indicate that shallow zone aquifers have an average horizontal gradient of about 0.002.</p> <p>During the September 2014 groundwater monitoring event for the DWA Plume well network, depths to groundwater ranged from 0.08 to 28.39 feet bgs in the site vicinity. During this monitoring event, groundwater flow was established to be west to southwest.</p>				<p><i>Groundwater, San Francisco Bay Hydrologic Region, Bulletin 118-2.</i></p> <p>ACFC. 1993. <i>Geologic Framework of the East Bay Plain Groundwater Basin.</i> August.</p> <p>SFBRWQCB. 2007. <i>San Francisco Bay Water Quality Control Plan (Basin Plan).</i> January 18.</p> <p>CH2MHill. 2005. <i>Bayside Groundwater Project, Draft EIR.</i> March.</p> <p>Muir, Kenneth S. 1996. <i>Groundwater Yield of the East Bay Plain.</i> November.</p> <p>The Source Group, Inc. 2015. <i>Groundwater Monitoring Report, DWA Plume, San Leandro, California.</i> May 11.</p>

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	Site	<p>Near surface soil encountered at the Site during ERA's limited Phase II ESA consisted of black to brown silty clay, brown gravelly sand, and very pale brown gravelly clay with sand to the maximum depth explored of 38 feet bgs.</p> <p>Groundwater was encountered at a depth of approximately 31 feet bgs beneath the Site during ERA's limited Phase II ESA. A number of groundwater monitoring wells associated with a regional groundwater plume (the "DWA Plume") are located upgradient, crossgradient, and downgradient of the Site. Monitoring events that have included these wells have established that groundwater flow direction beneath the Site is westward. A rose diagram prepared by ERA using data collected during monitoring events for the DWA Plume indicated that groundwater flow direction beneath the Site and site vicinity has historically been west to west-southwest.</p>	None	Not Applicable	<p>Boring logs from ERA. 2016.</p> <p>Figures from The Source Group, Inc. 2015. 3Q2014</p> <p>Figure 4: Rose Diagram from ERA. 2017.</p> <p>Soil and Groundwater Investigation Work Plan.</p>	<p>Environmental Risk Assessors. 2016. <i>Limited Phase II Environmental Site Assessment, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578</i>. March 3.</p> <p>The Source Group, Inc. 2015. <i>Groundwater Monitoring Report, DWA Plume, San Leandro, California</i>. May 11.</p> <p>URS Corporation. 2012. <i>DWA Plume – Groundwater Monitoring, October 2011</i>. January 12.</p> <p>Woodward-Clyde Consultants (WCC). 1993. <i>Hydrogeology of Central San Leandro and Remedial Investigation of Regional Groundwater Contamination, San Leandro Plume, San Leandro, California</i>. December 29.</p>



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SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
Surface Water Bodies		No surface water bodies were identified within 1,000 feet of the Site. The nearest surface water body is an unnamed creek located approximately 1.3 miles north of the Site (crossgradient). Estudillo Canal and San Francisco Bay are located approximately 1.5 miles south-southwest (crossgradient) and 2.4 miles southwest (downgradient) of the Site, respectively.	None	Not Applicable	Figure 1: 2012 USGS Map from ERA. 2017. Soil and Groundwater Investigation Work Plan.	1948 and 2012 USGS San Leandro, CA Quadrangle Topographic Maps
Nearby Wells		<p>The SWRCB GeoTracker GAMA website includes information regarding the approximate locations of water-supply wells in California. Review of this website indicated that no water-supply wells are located within 1,000 feet of the Site.</p> <p>The map of water well locations in 1910 prepared during the Bay Plain Beneficial Use Study was reviewed for locations of water wells in the site vicinity. Based on the available landmarks that are shown on the map and are still in existence, no water-supply wells were identified within a 1,000-foot radius of the Site.</p> <p>A sensitive receptor survey was conducted by Closure Solutions, Inc. in 2008 for a property located approximately 1,200 feet south-southeast of the Site at 14336 Washington Avenue. Closure Solutions reviewed records maintained by the California Department of Water Resources and the Alameda County Public Works Agency to identify water-supply wells in the site vicinity. ERA's review of Closure Solutions' sensitive receptor survey report indicated that six active water-supply wells are located</p>	None	Not Applicable	<p>Map of water well locations from Norfleet Consultants. 1998.</p> <p>Table 4 and Figure 3 from ERA. 2017. Soil and Groundwater Investigation Work Plan.</p> <p>Tables and figures from Closure Solutions, Inc. 2008.</p>	<p>SWRCB GeoTracker GAMA website</p> <p>Norfleet Consultants. 1998. <i>Location of Water Wells in 1910, East Bay Plain Beneficial Use Study</i>. June 15.</p> <p>Closure Solutions, Inc. 2008. <i>Sensitive Receptor Survey, Kerry &amp; Associates – Palace Garage, 14336 Washington Avenue, San Leandro, California</i>. August 27.</p>

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SCM Element	SCM Sub-Element	Description	Data Gap	Task Necessary to Address Data Gap	Tables/ Graphics	References
		<p>within a 1,000-foot radius of the Site. Available information for the wells is presented in Table 4 and the locations of the wells are shown on Figure 3.</p> <p>The closest water-supply well is an irrigation well located at 14143 Washington Avenue, approximately 280 feet south of the Site in a crossgradient direction. Two industrial water-supply wells are located at 14300 Washington Avenue, approximately 880 feet south of the Site in a crossgradient direction. Three wells are located in an upgradient direction with the closet being an irrigation well at 14201 Orchid Drive, approximately 895 feet northeast of the Site. No water-supply wells have been identified to the west (downgradient direction) of the Site.</p> <p>No water-supply wells are located within 1,000 feet to the west (downgradient) of the Site. This data suggests that no known water-supply well is likely to be impacted by groundwater impacted from the Site.</p>				
Releases	Off-Site	<p>According to information obtained by Basics Environmental during the Phase I ESA of the Site, no releases have been reported within a 1,000-foot radius of the Site. However, the Site is located with the DWA Plume which has been reported as a regional groundwater plume impacted by volatile organic compounds (VOCs), petroleum-related compounds, and metals, from multiple sites in San Leandro. The VOC tetrachloroethene (PCE) and its breakdown products are the</p>	None	Not Applicable	<p>Figures from The Source Group, Inc. 2015. 3Q2014 (Cintas wells, well GS-7)</p> <p>Figures from Woodward-Clyde. 1993. (wells GS-6, -8, -10)</p>	<p>Basics Environmental, Inc. 2015. <i>Phase I Environmental Site Assessment, 295 139<sup>th</sup> Avenue, San Leandro, California</i>. December 4.</p> <p>The Source Group, Inc. 2015. <i>Groundwater</i></p>

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		<p>primary compounds of concern (COCs); trichloroethene (TCE) is the most widespread of the COCs within the DWA Plume. PCE has been mapped within the shallow water-bearing zone beneath the site vicinity. PCE concentrations at the Cintas/DeDomenico site located approximately 425 feet west-northwest of the Site reported during the third quarter 2014 event ranged from 72 to 210 micrograms per liter (µg/L). PCE was reported at a concentration of 59 µg/L in well GS-7, located 200 feet north of the Site, during the third quarter 2014 event. In 1995, grab groundwater samples were collected from two hydropunch borings (DG-2 and DG-3) advanced just west of the Site; PCE concentrations were reported at 38 µg/L and 29 µg/L, respectively, in DG-2 and DG-3. PCE has also been consistently reported in wells located farther away from the Site.</p>			<p>Figures from Woodward-Clyde. 1995. (hydropunch samples DG-2, -3)</p> <p>Figure 4 from ERA. 2017. Soil and Groundwater Investigation Work Plan.</p>	<p><i>Monitoring Report, DWA Plume, San Leandro, California.</i> May 11.</p> <p>Woodward-Clyde Consultants (WCC). 1993. <i>Hydrogeology of Central San Leandro and Remedial Investigation of Regional Groundwater Contamination, San Leandro Plume, San Leandro, California.</i> December 29.</p> <p>WCC. 1995. <i>Data Report, Volume 1, Summary Tables and Figures, Remedial Investigation of Regional Groundwater Contamination, Industrial (Datagap) Area, San Leandro Plume Project, San Leandro, California.</i> March 29.</p>
	On-Site	<p><i>Primary Sources</i>                      No releases have been reported on the Site; however, hazardous substances have been used and stored on site by former and current tenants. These</p>	The potential for impacts from past site activities has not been assessed in some areas of known	Borings are planned in areas of known or suspected hazardous substance storage to collect soil and	Site map dated 1972 from Basics Environmental. 2015.	Basics Environmental. 2015. <i>Phase I Environmental Site Assessment, 295</i>

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		<p>substances included solvent in one 55-gallon drum, methyl ethyl ketone in two 5-gallon containers, and gasoline in a 500-gallon underground storage tank (UST) located immediately east of the building with an associated gas pump just inside the nearby service bay door. Current tenants use hazardous substances, including paints and thinners, in their auto repair and painting operations.</p> <p>Basics Environmental was unable to obtain installation or removal reports for the UST; however, a geophysical survey that included a ground penetrating radar study was reportedly conducted in the past and did not reveal evidence of an on-site UST. Therefore, it appears that the primary sources have been removed except for the hazardous substances used and stored by current tenants; information obtained by Basics Environmental indicated that these materials are used and stored in compliance with current regulations.</p> <p><i>Secondary Sources</i>            PCE was reported in shallow soil during ERA's limited Phase II ESA. Petroleum hydrocarbons were not reported in shallow soil at concentrations at or above their respective laboratory reporting limit.</p>	or suspected hazardous substance storage.	groundwater samples. See Items 3 and 4 in Table 3.	<p>Figures and tables from ERA. 2016.</p> <p>Figure 2 and Table 5 from ERA. 2017. Soil and Groundwater Investigation Work Plan.</p>	<p>139<sup>th</sup> Avenue, San Leandro, California. December 4.</p> <p>ERA. 2016. Limited Phase II Environmental Site Assessment Report, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578. March 3.</p>
	Site COCs	The COCs at the Site are VOCs and petroleum hydrocarbons. Although petroleum hydrocarbons were not reported in soil or groundwater samples collected from the Site, these compounds	The potential for COCs from past site activities to have impacted soil and groundwater has not	Borings are planned in areas of known or suspected hazardous substance storage to collect soil and	Figures and tables from ERA. 2016.	ERA. 2016. Limited Phase II Environmental Site Assessment Report, Body Repair Shops,

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		are still considered to be COCs based on known or suspected hazardous substances used by the former and current tenants.	been assessed in some areas of known or suspected hazardous substance storage.	groundwater samples. See Items 3 and 4 in Table 3.	Figure 2 and Table 5 from ERA. 2017. Soil and Groundwater Investigation Work Plan.	295 139 <sup>th</sup> Avenue, San Leandro, California 94578. March 3.
Residual and Dissolved Contamination	Residual Contamination	<p>PCE was the only VOC reported at concentrations at or above the laboratory reporting limit (lab RL) of 0.005 milligrams per kilogram (mg/kg) in the five on-site soil samples analyzed for VOCs during ERA's limited Phase II ESA. The results of the soil samples were compared to the Environmental Screening Levels (ESLs) for soil (SFBRWQCB, 2016). Comparison of the PCE concentrations (up to 0.032 mg/kg) to its' Tier 1 ESL (0.42 mg/kg) indicate that the concentrations of PCE in soil were below the Tier 1 ESL. PCE was not detected in soil samples SB-2-10 and SB-2-15 at concentrations at or above the lab RL of 0.005 mg/kg.</p> <p>Other VOCs, including benzene, toluene, ethylbenzene, and xylenes (collectively BTEX), methyl tert-butyl ether (MTBE), tert-Butyl Alcohol (TBA), 1,2-dichloroethane (EDC [or 1,2-DCA]), 1,2-dibromoethane (EDB), and naphthalene, were not reported in the soil samples at concentrations at or above their respective laboratory reporting limit (lab RL); the lab RL of 0.004 mg/kg for EDB was above its' Tier 1 ESL of 0.00033 mg/kg which is based on leaching to groundwater.</p>	The potential for soil impacts from past site activities has not been assessed in some areas of known or suspected hazardous substance storage.	Borings are planned in areas of known or suspected hazardous substance storage to collect soil samples. See Items 3 and 4 in Table 3.	<p>Figures and tables from ERA. 2016.</p> <p>Figure 2 and Table 5 from ERA. 2017. Soil and Groundwater Investigation Work Plan.</p>	<p>ERA. 2016. <i>Limited Phase II Environmental Site Assessment Report, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578.</i> March 3.</p> <p>SFBRWQCB. 2016. <i>Environmental Screening Levels Tier 1.</i> February.</p>



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		Total petroleum hydrocarbons (TPH) quantified as gasoline (TPHg) and TPH quantified as motor oil (TPHmo) were not reported in soil samples at concentrations at or above their respective lab RL of 0.25 mg/kg and 5 mg/kg, respectively.				
	Dissolved Contamination	<p>The VOCs PCE and TCE were detected in the one grab groundwater sample collected from the Site (boring SB-1). PCE and TCE were reported at concentrations of 9.5 µg/L and 1.2 µg/L, respectively. Comparison of the analytical results to the ESLs for groundwater (SFBRWQCB, 2016) indicated that the detected concentration of PCE (9.5 µg/L) was above its' Tier 1 ESL of 3 µg/L, which is based on direct exposure, but was below its' ESL for commercial/industrial land use shallow groundwater vapor intrusion human health risk level of 26 µg/L. The concentration of TCE (1.2 µg/L) was below its' Tier 1 ESL of 5 µg/L.</p> <p>No other VOCs were reported in the groundwater samples at concentrations at or above their respective lab RL; the lab RL of 0.5 µg/L for naphthalene was above its' Tier 1 ESL of 0.12 µg/L which is based on the Maximum Contaminant Level.</p> <p>TPHg and TPHmo were not detected in groundwater samples at concentrations at or above their respective lab RL of 50 µg/L and 500 µg/L, respectively. Evidence (staining, odors, etc.) of petroleum hydrocarbon impacts was not noted in the soil samples collected from the borings.</p>	The potential for groundwater impacts from past site activities has not been assessed in some areas of known or suspected hazardous substance storage. The length and stability of a groundwater plume from on-site sources, if any, are not known.	Borings are planned in areas of known or suspected hazardous substance storage to collect groundwater samples. See Items 3 and 4 in Table 3.	<p>Figures and tables from ERA. 2016.</p> <p>Figure 2 and Table 5 from ERA. 2017.</p> <p>Soil and Groundwater Investigation Work Plan.</p>	<p>ERA. 2016. <i>Limited Phase II Environmental Site Assessment Report, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578.</i> March 3.</p> <p>SFBRWQCB, Environmental Screening Levels Tier 1 ESLs, February 2016</p>

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Preferential Pathways	Groundwater Pumping/ Water Supply Wells (Ingestion)	<p>A water-supply well is not located on site as the Site is served by public utilities.</p> <p>No significant groundwater extraction is reported in the site vicinity by public utilities. Domestic water is provided to properties in the site vicinity by East Bay Municipal Utilities District (EBMUD). The source of water for EBMUD is surface water from areas outside of the East Bay Plain. Since urbanization of the site vicinity, use of groundwater from the area for domestic water purposes has decreased significantly.</p> <p>The closest water-supply well is an irrigation well located at 14143 Washington Avenue, approximately 280 feet south of the Site in a crossgradient direction. No water-supply wells have been identified to the west (downgradient direction) of the Site. The extent of groundwater impacts identified on site is not known; however, no wells are located within 1,000 feet to the west (downgradient) of the Site. This data suggests that no known water-supply well is likely to be impacted by a groundwater plume originating from the Site. Therefore, this exposure pathway is incomplete.</p>	None	Not Applicable	<p>Map of water well locations from Norfleet Consultants. 1998.</p> <p>Table 4 and Figure 3 from ERA. 2017.</p> <p>Soil and Groundwater Investigation Work Plan.</p> <p>Tables and figures from Closure Solutions, Inc. 2008.</p>	<p>SWRCB GeoTracker GAMA website</p> <p>Norfleet Consultants. 1998. <i>Location of Water Wells in 1910, East Bay Plain Beneficial Use Study.</i> June 15.</p> <p>Closure Solutions, Inc. 2008. <i>Sensitive Receptor Survey, Kerry &amp; Associates – Palace Garage, 14336 Washington Avenue, San Leandro, California.</i> August 27.</p>
	Utility Trenches (Inhalation and dermal exposure pathways)	Typically, only gravity drained utilities (sewer and storm drain) are installed at depths of more than 5 feet bgs. Available information indicates the following utilities are present beneath Washington Avenue:	None	Not Applicable	<p>City Utility As-Built Map</p> <p>EBMUD Utility Map</p>	<p>Muir, Kenneth S. 1996. <i>Groundwater Yield of the East Bay Plain.</i> November.</p>

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		<p>-two storm drain lines are present at a depth of approximately 10.5 feet bgs (City of San Leandro and Alameda County);</p> <p>-two sanitary sewer lines are present at a depth of approximately 8 feet bgs (Oro Loma Sanitary Sewer District); and</p> <p>-two water lines are present at a depth of approximately 35 to 39 inches bgs (EBMUD).</p> <p>Information on the depth of Pacific Gas and Electric Company (PG&amp;E) utilities (natural gas and electric) was not available; however, these utilities are typically placed at shallow depths (less than 5 feet bgs). Therefore, these utilities are unlikely to extend below the groundwater table in the site vicinity.</p> <p>Based on the depth to groundwater in the site vicinity of approximately 20 feet bgs or more (31 feet bgs at the Site), the utility trenches in the site vicinity are not expected to act as preferential pathways for groundwater movement at the Site.</p>			Geologic map by Graymer. 2000.	<p>City Utility As-Built Map</p> <p>EBMUD Utility Map</p> <p>Graymer, R.W., USGS. 2000. <i>Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California.</i></p>
	Surface Water (Inhalation, dermal, and ingestion exposure pathways)	No surface water bodies were identified within 1,000 feet of the Site. The nearest surface water body is an unnamed creek located approximately 1.3 miles north of the Site (crossgradient) and the nearest surface water body located in a downgradient direction from the Site is San Francisco Bay located approximately 2.4 miles southwest of the Site. Based on the distances of these surface water bodies, this exposure pathway is considered incomplete.	None	Not Applicable	Figure 1: 2012 USGS Map from ERA. 2017. Soil and Groundwater Investigation Work Plan.	

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	Vapor (Inhalation exposure pathway)	Potential impact to indoor air has not been evaluated at the Site. Silty clays extend from beneath the asphalt pavement and concrete floor slab to a depth of at least 24 feet bgs (except for layers of gravelly sand to silty sand at depths of 7 to 8 feet bgs in boring SB-1 and 15.5 to 16 feet bgs in boring SB-2). This thick layer of silty clay beneath the Site provides significant impediment to vertical migration of vapors.	The potential for vapor intrusion from residual subsurface sources, if any, has not been assessed.	Collection and analysis of soil gas samples from the Site is proposed to assess the potential for vapor intrusion. See Item 2 in Table 3.	Figure 2 and Table 5 from ERA. 2017. Soil and Groundwater Investigation Work Plan.	
	Direct Contact (Dermal exposure pathway)	PCE was the only VOC detected in soil with the highest concentration reported as 0.032 mg/kg (sample SB-2-2.5). The concentrations were below the Tier 1 ESL of 0.42 mg/kg (based on leaching to groundwater) and Direct Exposure Human Health Risk ESL for commercial/ industrial soil of 2.8 mg/kg. Based on available data, PCE concentrations in site soil at similar concentrations would not be of concern.	The potential for soil impacts from past site activities has not been completely assessed in areas of known or suspected hazardous substance storage.	Borings are planned in areas of known or suspected hazardous substance storage to collect soil samples. See Item 3 in Table 3.	Figures and tables from ERA. 2016.  Figure 2 and Table 5 from ERA. 2017. Soil and Groundwater Investigation Work Plan.	<i>ERA. 2016. Limited Phase II Environmental Site Assessment Report, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578. March 3.</i>
Sensitive Receptors		The Site is in a predominantly industrial area of San Leandro. No K-12 schools, day care centers, churches, or senior residential developments were identified within a 1,000-foot radius of the Site. The data suggest that no child or senior care centers are present within a 1,000-foot radius of the Site.  Domestic water to the Site is provided by EBMUD. Therefore, this exposure pathway is considered incomplete. No water-supply wells have been identified within 1,000 feet west (downgradient) of the Site. This data suggests that no known water-supply well is likely to be impacted	None	Not Applicable	Figure 3: Wells from ERA. 2017. Soil and Groundwater Investigation Work Plan.	

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		<p>by a groundwater plume, if present, originating from the Site.</p> <p>The nearest residential development (single-family residences) is located approximately 865 feet northeast (upgradient) of the Site. The only other residential development (apartment complex) identified within a 1,000-foot radius of the Site is located approximately 900 feet north (crossgradient) of the Site. This data suggests that no known residential development is likely to be impacted by a groundwater plume originating from the Site.</p>				

Table 3: Data Gaps and Proposed Investigation  
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Item	Data Gap	Proposed Investigation	Rationale	Analysis
1	Obtain additional lithological data from across the Site.	Advance eight borings on site to depths of up to approximately 38 feet bgs across the Site and log soil lithology. Two borings were previously advanced on site for a total of 10 borings.	Soil lithology has been logged in two borings advanced on site. Additional borings are proposed on site to evaluate potential impacts to the subsurface from past site activities. Soil lithology will be logged during advancement of these borings.	
2	Evaluate the potential for impacts to the subsurface from past site activities and migration of compounds of concern (COCs) in soil gas.	Advance four borings inside the building to depths of approximately 0.5 and 5 feet below the floor slab to collect soil gas samples.	<p>Volatile compounds have been used and stored at various on-site locations since the 1950s; however, no releases were reported at the Site. Soil gas samples have not been collected to evaluate the potential for vapor intrusion in the on-site building. Soil gas samples will be collected for analysis from four areas of known or suspected hazardous substance storage inside the building and near the former gasoline UST located immediately east of the building. The areas or items being investigated are described below.</p> <p>Soil gas samples will be collected from depths of 0.5 and 5 feet below the concrete floor slab at the following locations:  <b>SB-6:</b> Inside Unit E near spray paint booth and storage room with oily stains on concrete floor  <b>SB-8:</b> Inside Unit C near the paint mixing area, drum storage, and former machine shop  <b>SB-9:</b> Inside Unit A near the former store room, supply room, and former UST  <b>SB-10:</b> Inside Unit A near the paint mixing area, drum storage, spray paint booth, and stained concrete floor</p>	Eight soil gas samples at depths of approximately 0.5 and 5 feet below the floor slab from four sampling locations to be analyzed for VOCs by TO-15
3	Evaluate potential impacts to soil and/or groundwater from past site activities in areas of known or suspected hazardous substance storage.	Advance five borings on site to a depth of approximately 38 feet bgs to collect soil and grab groundwater samples and three borings on site to a depth of approximately 8 feet bgs to collect soil samples.	Various chemicals and compounds have been used and stored at various on-site locations since the 1950s; however, no releases were reported at the Site. Soil and/or groundwater samples have not been collected in each area of known or suspected hazardous substance storage to evaluate the potential for impacts to the subsurface. Soil and grab groundwater samples will be collected for analysis from areas of known or suspected hazardous substance storage inside and outside the building. Soil samples will be collected from each of the borings at various depths below the pavement outside the building or the concrete floor slab inside the building at select locations and groundwater samples will be collected from the borings. At least one soil sample from each boring and	A total of 16 soil and five grab groundwater samples to be analyzed for VOCs (including tetrachloroethene (PCE), Total Petroleum Hydrocarbons [TPH] quantified as gasoline [TPHg], and naphthalene), by U.S. EPA Method 8260B, and TPH quantified as diesel (TPHd) and TPH quantified as motor oil

Table 3: Data Gaps and Proposed Investigation  
 139<sup>th</sup> Avenue Property  
 295 139<sup>th</sup> Avenue  
 San Leandro, California 94578

Item	Data Gap	Proposed Investigation	Rationale	Analysis
			<p>grab groundwater samples from four borings will be submitted for analysis. The areas or items being investigated are described below.</p> <p>Borings will be advanced to the depths and at the locations noted below to collect soil and/or groundwater samples:  <b>SB-3:</b> To 8 feet bgs at the auto repair area in the parking lot on the northeastern portion of the Site; soil samples  <b>SB-4:</b> To 38 feet bgs at the Site's northeastern corner near used oil containers; soil and groundwater samples  <b>SB-5:</b> To 38 feet bgs at the Site's southeastern corner; soil and groundwater samples  <b>SB-6:</b> To 38 feet bgs inside Unit E near the spray paint booth and storage room with oily stains on concrete floor; soil and groundwater samples  <b>SB-7:</b> To 38 feet bgs inside Unit C near the spray paint booth, flammables cabinets, auto body parts, and stained concrete floor; soil and groundwater samples  <b>SB-8:</b> To 8 feet bgs inside Unit C near the paint mixing room, drum storage area, and former machine shop; soil samples  <b>SB-9:</b> To 8 feet bgs inside Unit A near the former store room, supply room, and former UST; soil samples  <b>SB-10:</b> To 38 feet bgs inside Unit A near the paint mixing room, drum storage area, spray paint booth, and stained concrete floor; soil and groundwater samples</p>	(TPHmo) by Method SW8015B
4	Evaluate potential migration onto the Site by the regional VOC plume (DWA Plume).	Advance four borings on the eastern (upgradient) and western (downgradient) border of the Site to a depth of approximately 38 feet bgs at select on-site locations to collect soil and grab groundwater samples for analysis.	<p>VOCs, including PCE, were reported in groundwater samples collected from monitoring wells located in the site vicinity and associated with the regional DWA Plume. PCE was detected in the one grab groundwater sample collected from the Site by ERA in 2016. To evaluate if the PCE detection could be related to on-site migration of the DWA Plume, grab groundwater samples will be collected for VOC analysis from borings on the eastern (upgradient) site border at the following locations:  <b>SB-4:</b> To 38 feet bgs at the Site's northeastern corner; groundwater samples  <b>SB-5:</b> To 38 feet bgs at the Site's southeastern corner; groundwater samples</p>	Grab groundwater samples to be analyzed for VOCs by U.S. EPA Method 8260B

Table 3: Data Gaps and Proposed Investigation  
 139<sup>th</sup> Avenue Property  
 295 139<sup>th</sup> Avenue  
 San Leandro, California 94578

Item	Data Gap	Proposed Investigation	Rationale	Analysis
			<p><b>SB-6:</b> To 38 feet bgs inside Unit E near the spray paint booth and storage room with oily stains on concrete floor; groundwater samples</p> <p><b>SB-7:</b> To 38 feet bgs inside Unit C near the spray paint booth, flammables cabinets, auto body parts, and stained concrete floor; groundwater samples</p>	



Table 4: Water-Supply Wells and Monitoring Wells Within 1,000 feet of Site  
 139<sup>th</sup> Avenue Property  
 295 139<sup>th</sup> Avenue  
 San Leandro, California 94578

Identification Number on Figure 3	Well Location	Reported Owner	Total Depth (feet)	Depth to Water (feet)	Well Casing Diameter (inches)	Well Type	Distance from Site (feet)	Direction from Site
<b>Active Water-Supply Wells</b>								
1	14143 Washington Ave	Earl Bolton	65	0	6	Irrigation	280	South (crossgradient)
2	501 143 <sup>rd</sup> Avenue	H. Mello	64	0	8	Irrigation	740	South-Southeast (crossgradient)
3	14300 Washington Ave	Stefanovic Milivoje	100	0	10	Industrial	880	South (crossgradient)
	14300 Washington Ave	Rhodes & Jamieson	253	20	12	Industrial	880	South (crossgradient)
4	14201 Orchid Drive	Mrs. Williams	72	22	6	Irrigation	895	Northeast (upgradient)
5	14221 Orchid Drive	Yren Steblina	60	26	0	Irrigation	925	Northeast (upgradient)
6	1124 139 <sup>th</sup> Avenue	Bill McMahon	80	25	8	Industrial	1,000	Northeast (upgradient)
<b>Groundwater Monitoring Wells</b>								
Well ID	Status	Reported Owner	Screened Interval (feet)	Casing Elevation (feet)	Well Type	Distance from Site (feet)	Direction from Site	
GS-7	Active	Cintas	20 - 30	40.41	MW	200	North	
PZ-1	Active	Cintas	12.7 – 27.7	43.98	MW	450	East-Northeast	
GS-8A	Active	Cintas	20 - 30	40.75	MW	600	North	
DH-3	Active	Cintas	13.5 – 27.5	44.14	MW	650	Northeast	
GS-1	Active	Cintas	20 - 30	43.70	MW	675	Northeast	
PZ-2	Active	Cintas	12.7 – 27.7	43.68	MW	675	Northeast	
PZ-3	Active	Cintas	14.7 – 29.7	Not Available	MW	800	North	
GS-9	Status Unknown	Not Available	Not Available	Not Available	MW	100	South-Southwest	
GS-10	Status Unknown	Not Available	Not Available	Not Available	MW	300	Southeast	
GS-8	Status Unknown	Not Available	Not Available	Not Available	MW	550	North	
GS-6	Status Unknown	Not Available	Not Available	Not Available	MW	550	East	
GD-6	Status Unknown	Not Available	Not Available	Not Available	MW	550	East	
GD-1	Status Unknown	Not Available	Not Available	Not Available	MW	675	Northeast	
MW-1	Status Unknown	Cintas	10 - 25	42.72	MW	900	Northeast	
GS-5	Status Unknown	Not Available	Not Available	Not Available	MW	900	East- Northeast	
GD-5	Status Unknown	Not Available	Not Available	Not Available	MW	900	East- Northeast	
GS-2	Status Unknown	Not Available	Not Available	Not Available	MW	1,000	Northeast	
GD-2	Status Unknown	Not Available	Not Available	Not Available	MW	1,000	Northeast	

Note: Data for active water-supply wells obtained from Closure Solutions, Inc. *Sensitive Receptor Survey, Kerry & Associates – Palace Garage, 14336 Washington Avenue, San Leandro, California*, dated August 27, 2008. Data for groundwater monitoring wells (MW) from The Source Group, Inc. *Groundwater Monitoring Report, DWA Plume, San Leandro, California*. May 11, 2015.

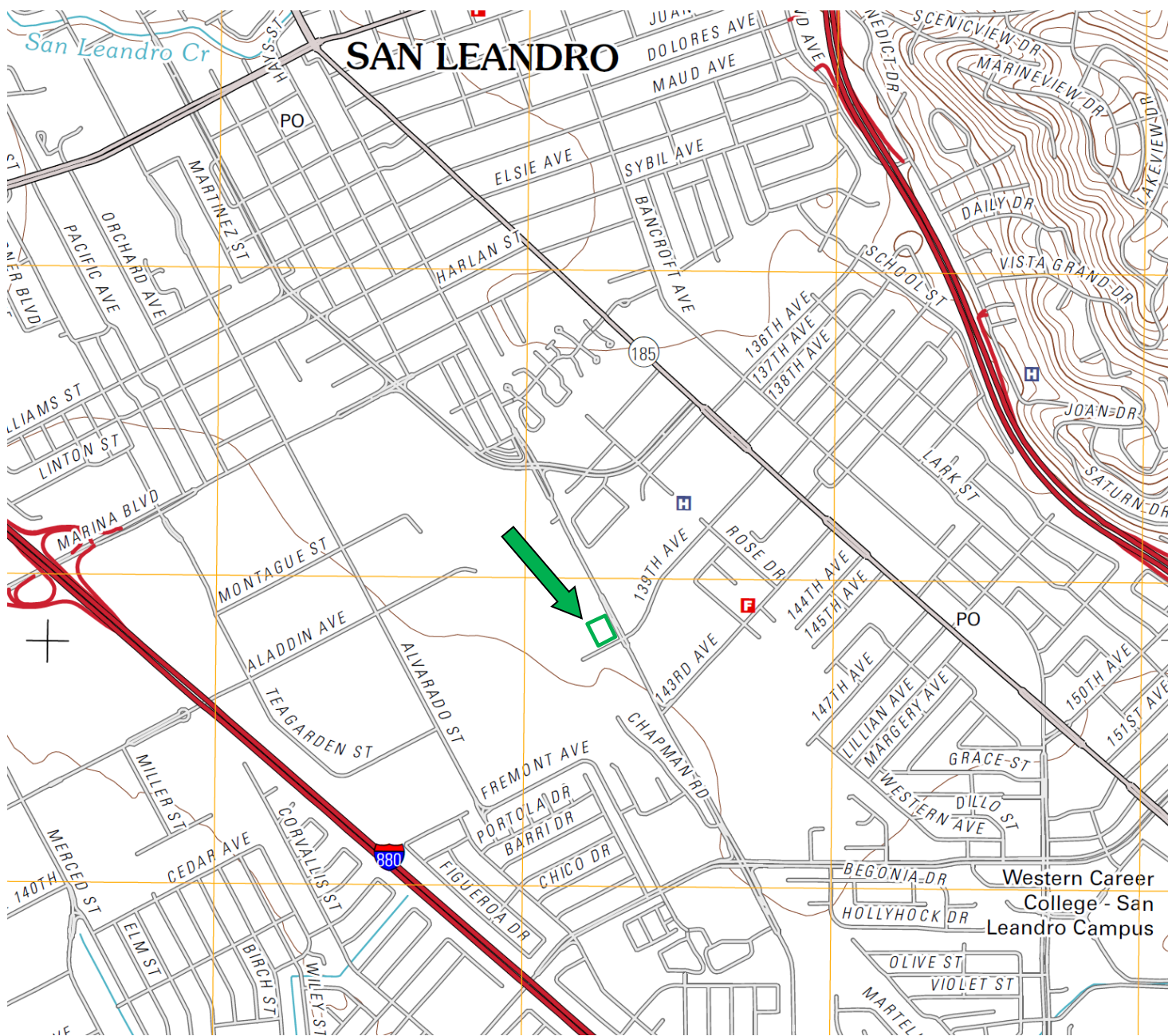
Table 5. Sampling and Analysis Summary  
 139<sup>th</sup> Avenue Property  
 295 139<sup>th</sup> Avenue  
 San Leandro, California 94578

Boring ID Number	Total Depth (feet bgs)	Location	Number of Soil Gas Samples/ Depth Interval <sup>1</sup>	Number of Soil Samples/ Depth Interval <sup>2</sup>	Number of Ground-water Samples <sup>3</sup>
SB-3	8	At auto repair area in parking lot	-	2 (0-5, 5-8)	-
SB-4	38	At northeastern corner of Site near used oil containers; upgradient direction	-	2 (0-5, 5-10)	1
SB-5	38	At southeastern corner of Site; upgradient direction	-	2 (0-5, 5-10)	1
SB-6	38	Inside Unit E near spray paint booth and storage room with oily stains on concrete floor	2 (0.5, 5)	2 (0-5, 5-10)	1
SB-7	38	Inside Unit C near spray paint booth, flammables cabinets, auto body parts, and stained concrete floor	-	2 (0-5, 5-10)	1
SB-8	8	Inside Unit C near the paint mixing area, drum storage, and former machine shop	2 (0.5, 5)	2 (0-5, 5-8)	-
SB-9	8	Inside Unit A near the former storage room, supply room, and former UST	2 (0.5, 5)	2 (0-5, 5-8)	-
SB-10	38	Inside Unit A near the paint mixing area, drum storage, stained concrete floor, paint spray booth and boring SB-2	2 (0.5, 5)	2 (0-5, 5-10)	1
<b>Total Number of Samples:</b>			<b>8</b>	<b>16</b>	<b>5</b>

Notes:

1. Soil gas samples to be analyzed for volatile organic compounds (VOCs) by Method 8260.
2. Soil samples will be collected from each boring from those intervals with evidence of chemical staining, if noted, and at depths of approximately 2 feet, 5 feet, and 8 or 10 feet (depending on the total depth of the boring). Soil samples will also be collected from the deeper borings at depths of 15 feet, 20 feet, and 30 feet bgs unless these depth intervals are saturated; soil samples will not be collected below the groundwater table. At least one soil sample collected within the 0 to 5-foot depth interval and at least one soil sample collected within the 5-foot to 10-foot depth interval from each boring and from those intervals where evidence of chemical staining is observed will be submitted for following analysis: VOCs, including tetrachloroethene (PCE), Total Petroleum Hydrocarbons (TPH) quantified as gasoline (TPHg), and naphthalene, by U.S. EPA Method 8260B, and TPH quantified as diesel (TPHd) and TPH quantified as motor oil (TPHmo) by Method SW8015B.
3. Groundwater samples to be analyzed for VOCs, including PCE, TPHg, and naphthalene by U.S. EPA Method 8260B, and TPHd and TPHmo by Method SW8015B.

## FIGURES



**Legend**  
 — Site (boundaries approximate) Source: USGS San Leandro, CA Quadrangle Topographic Map, 2012



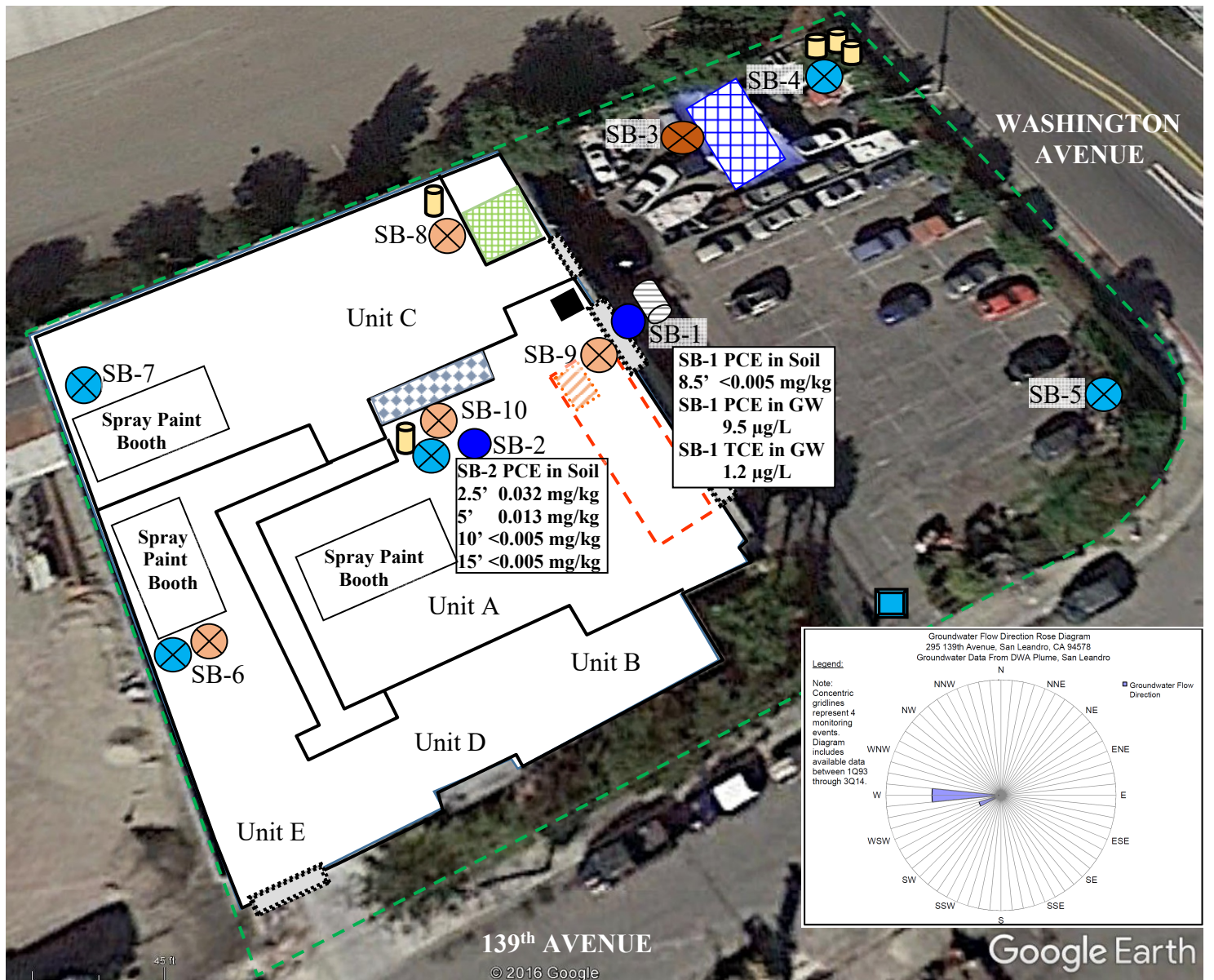
**Site Location Map**

**SOIL AND GROUNDWATER INVESTIGATION WORK PLAN**

295 139<sup>th</sup> Avenue, San Leandro, California 94578

PN: 01-2017-1500-001  
 Date: February 8, 2017  
 EP: Lita Freeman  
**Figure 1**





<b>Legend</b>		Current Paint Mixing/Storage Room
Approximate Property Boundary	Hazardous Substances Containers	Roll-Up Door
Former Gasoline Underground Storage Tank	Roll-Up Door	Storm Drain
Former Machine Shop Area		
Former Supply Room		
Former Store Room		
Auto Repair Area (under tarp)		
Sample Location (ERA, 2016)		
Proposed Soil Sampling Location		
Proposed Soil Gas and Soil Sampling Location		
Proposed Soil and Groundwater Sampling Location		

SB-1 PCE in Soil / Tetrachloroethene (PCE) in Soil  
8.5' <0.005 mg/kg / Sample Depth-Concentration  
in milligrams per kilogram

SB-1 PCE in GW / PCE in Groundwater-Concentration  
9.5 µg/L in micrograms per liter (µg/L)

SB-1 TCE in GW / TCE in Groundwater-Concentration  
1.2 µg/L in µg/L

↑ North

0 SCALE 60  
feet (approximate)



**Site Plan with Proposed Sampling Locations**

**SOIL AND GROUNDWATER INVESTIGATION WORK PLAN**

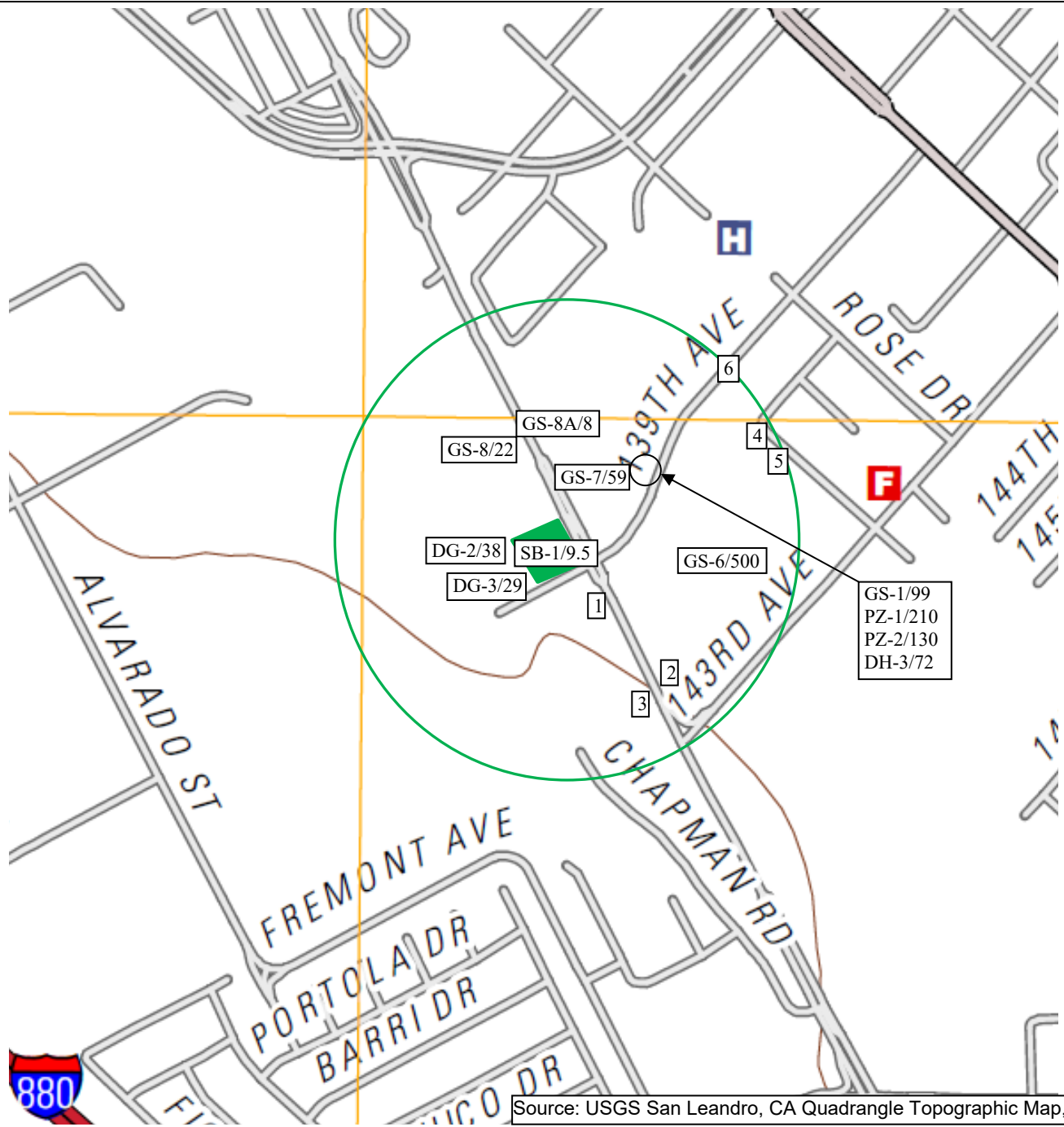
295 139<sup>th</sup> Avenue, San Leandro, California 94578

PN: 01-2017-1500-001

Date: February 8, 2017



EP: Lita Freeman

**Figure 2**



Source: USGS San Leandro, CA Quadrangle Topographic Map, 2012

**Legend**

-  Site (boundaries approximate)
-  1,000 Foot Radius
- 1 One irrigation well at 14143 Washington Ave
- 2 One irrigation well at 501 143<sup>rd</sup> Avenue
- 3 Two industrial wells at 14300 Washington Ave
- 4 One irrigation well at 14201 Orchid Drive
- 5 One irrigation well at 14221 Orchid Drive
- 6 One industrial well at 1124 139<sup>th</sup> Avenue
- SB-1/9.5 Boring/Well ID/PCE in micrograms per liter

PCE (Tetrachloroethene) data for SB-1 from Environmental Risk Assessor, *Limited Phase II Environmental Site Assessment, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578*, March 3, 2016. Data for GS-6, GS-8 from Woodward-Clyde Consultants (WCC), *Hydrogeology of Central San Leandro and Remedial Investigation of Regional Groundwater Contamination, San Leandro Plume, San Leandro, California*, December 29, 1993. Data for DG-2, DG-3 from WCC, *Data Report, Volume 1, Summary Tables and Figures, Remedial Investigation of Regional Groundwater Contamination, Industrial (Datagap) Area, San Leandro Plume Project, San Leandro, California*, March 29, 1995. Data for GS-7 GS-8A, GS-1, PZ-1, PZ-2, DH-3 from The Source Group, Inc., *Groundwater Monitoring Report, DWA Plume, San Leandro, California*. May 11, 2015.



**Active Water-Supply Wells and Monitoring Wells Within 1,000-Foot Radius of Site**

**SOIL AND GROUNDWATER INVESTIGATION WORK PLAN**

295 139<sup>th</sup> Avenue, San Leandro, California 94578

PN: 01-2017-1500-001

Date: February 8, 2017

EP: Lita Freeman

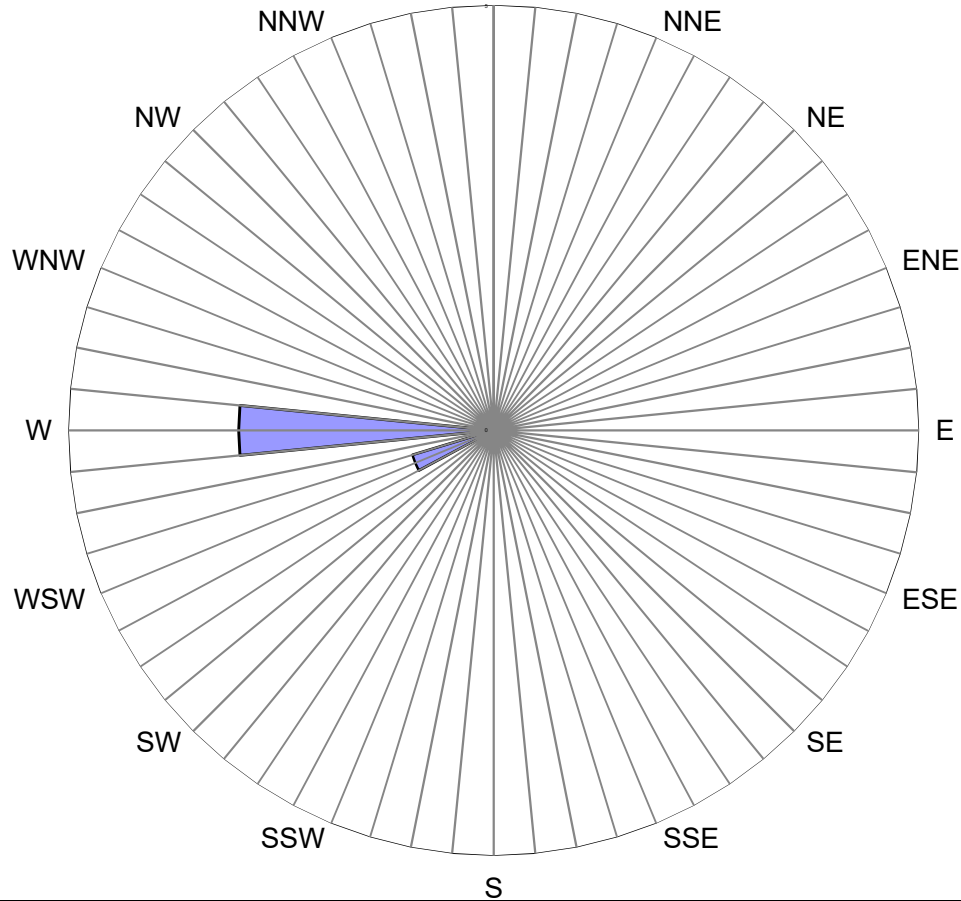
**Figure 3**

**Groundwater Flow Direction Rose Diagram  
 295 139th Avenue, San Leandro, CA 94578  
 Groundwater Data From DWA Plume, San Leandro**

Legend:

Note:  
 Concentric gridlines  
 represent 4 monitoring  
 events. Diagram  
 includes available data  
 between 1Q93 through  
 3Q14.

■ Groundwater Flow Direction



**Rose Diagram**

**SOIL AND GROUNDWATER INVESTIGATION WORK PLAN**

295 139<sup>th</sup> Avenue, San Leandro, California 94578

PN: 01-2017-1500-001

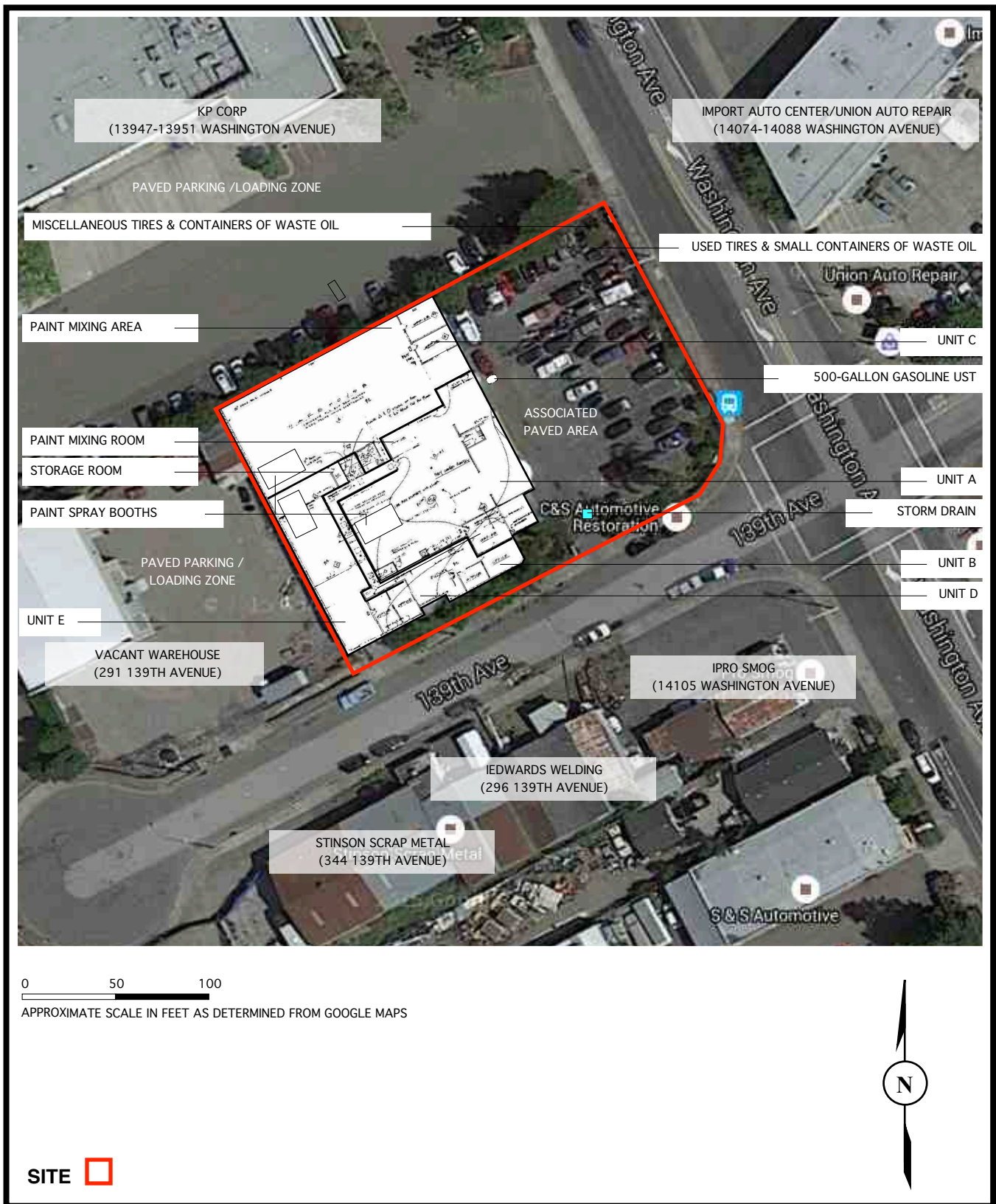
Date: February 8, 2017

EP: Lita Freeman

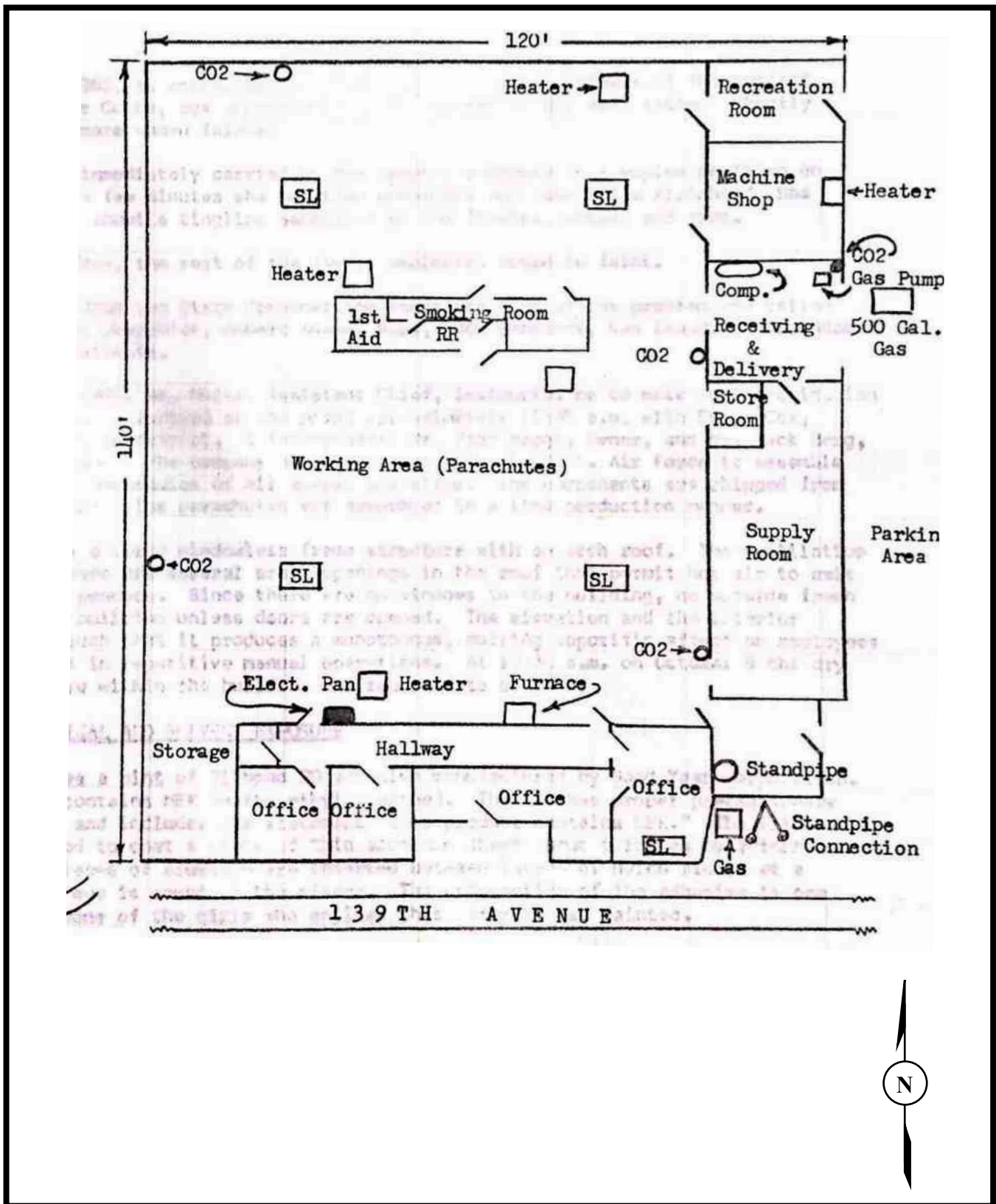
**Figure 4**

**APPENDIX A**  
Background Documentation





**Site Plan**



Site Plan 1972

**APPENDIX B**  
**Environmental Risk Assessor's**  
**Limited Phase II ESA Report**



Environmental Risk Assessors

## Limited Phase II Environmental Site Assessment Report

Body Repair Shops  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578

March 3, 2016

Prepared for:  
Basics Environmental, Inc.  
655 12<sup>th</sup> Street, Suite 126  
Oakland, CA 94607

Prepared by:  
Environmental Risk Assessors  
1420 East Roseville Parkway  
#140-262  
Roseville, CA 95661

ERA Project No. 01-2016-500-002





## Environmental Risk Assessors

March 3, 2016

Mr. Donovan Tom  
Basics Environmental, Inc.  
655 12<sup>th</sup> Street, Suite 126  
Oakland, CA 94607

**SUBJECT:** Limited Phase II Environmental Site Assessment  
Body Repair Shops  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578  
ERA Project No. 01-2016-500-002

Dear Mr. Tom,

Environmental Risk Assessors (ERA) is pleased to present this Limited Phase II Environmental Site Assessment (ESA) Report for the above referenced property (the Site). Our scope of work and findings are presented in the attached report.

It has been a pleasure working with you on this project. Please do not hesitate to contact me at (916) 677-9897 and via email at [litafreeman@gmail.com](mailto:litafreeman@gmail.com) if you have any questions or comments regarding this assessment.

Sincerely,

Environmental Risk Assessors

Lita D. Freeman, PG  
Professional Geologist

1420 East Roseville Parkway  
Suite 140-262  
Roseville, California 95661

Tel 916-677-9897  
[litafreeman@gmail.com](mailto:litafreeman@gmail.com)



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# Environmental Risk Assessors

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## 1. EXECUTIVE SUMMARY

Environmental Risk Assessors (ERA) is pleased to present this Limited Phase II Environmental Site Assessment (ESA) Report (the "Report") for the property located at 295 139<sup>th</sup> Avenue, San Leandro, Alameda County, California 94578 (the "Site"; Figure 1) to Basics Environmental, Inc. (Basics Environmental). The Site is currently a commercially developed property (Figure 2).

### 1.1 Background

The 0.6-acre site is improved with a one-story building occupied by various body repair shops. Records reviewed by Basics Environmental during their Phase I ESA indicated that the Site was developed in 1951 with an office and factory building owned by John Maggi Security Parachute & Equipment Company. By the mid-1980s, the on-site building appeared to have been divided into separate business units. Tenants included auto painting, auto body, and auto repair businesses, especially in Units A and C. Various hazardous materials, including paints, solvents, etc. were reportedly used and stored by these businesses. Spray paint booths were installed in Units A and C during the early 1990s and in Unit E during 2014. A paint/thinner storage and mixing room was observed in Unit A by Basics Environmental's staff during the Phase I ESA. Paint mixing was also noted to be conducted in Unit C.

Records reviewed by Basics Environmental during their Phase I ESA indicated that a 500-gallon underground storage tank (UST) and associated gas pump was present along the eastern side of the building. No specific information related to the UST (i.e. UST installation or removal documentation) was available in the local regulatory agency files reviewed by Basics Environmental. However, a geophysical survey that included a ground penetrating radar study that was reportedly conducted in the past did not reveal evidence of a UST on site.

Basics Environmental noted the following areas of concern during their Phase I ESA of the Site: the area of the UST; and the paint/thinner storage and mixing room observed in Unit A.

### 1.2 Investigation

The objective of the limited Phase II ESA was to evaluate current subsurface conditions in select on-site areas. To meet this objective, soil gas, soil, and groundwater samples were collected from sampling locations for analysis with comparison of the analytical results to established screening levels. The investigation consisted of the following:

- Advancing borings at two sampling locations: one boring (designated on Figure 2 as SB-1) outside the building in the area of the former UST and one boring (designated on Figure 2 as SB-2) inside the building in the area of the paint/thinner storage and mixing room. Boring SB-1 was advanced to a depth of 38 feet below ground surface (bgs) and boring SB-2 was advanced to a depth of 24 feet bgs;
- Collecting soil gas samples from each boring;
- Collecting soil samples from each boring;
- Collecting a groundwater sample from boring SB-1;
- Submitting the samples for analysis of volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH) quantified as gasoline (TPHg), and/or TPH quantified as motor oil (TPHmo); and,
- Preparing this report presenting the results of the Limited Phase II ESA.



Deviations from the work plan were as follows:

- Boring SB-1 was extended from a planned depth of 24 feet bgs to a depth of 38 feet bgs to collect a groundwater sample;
- Boring SB-2 was advanced to a total depth of 24 feet bgs but groundwater was not present in the borehole, therefore, a groundwater sample was not collected from this boring;
- The Summa canisters containing the soil gas samples were purged by the laboratory prior to analysis and, therefore, soil gas analytical results are not available; and
- Four soil samples (SB-2-2.5, SB-2-5, SB-2-10, and SB-2-15) from boring SB-2 were analyzed for VOCs to delineate the vertical extent of the VOC tetrachloroethene (PCE) detected in soil at this location.

### 1.3 Findings

PCE was the only VOC reported in soil samples analyzed for VOCs at concentrations above the laboratory reporting limit of 0.005 milligrams per kilogram (mg/kg). The results of the soil samples were compared to the Environmental Screening Levels (ESLs) for soil (SFBRWQCB, Environmental Screening Levels Tier 1 ESLs, February 2016). Comparison of the PCE concentrations (up to 0.032 mg/kg) to its' ESL (0.42 mg/kg) indicate that the concentrations of PCE in soil were below the ESL. PCE was not detected in soil samples SB-2-10 and SB-2-15 at concentrations at or above the laboratory reporting limit of 0.005 mg/kg.

The VOCs PCE and trichloroethene (TCE) were detected in the groundwater sample collected from boring SB-1. PCE and TCE were reported at concentrations of 9.5 micrograms per liter ( $\mu\text{g/L}$ ) and 1.2  $\mu\text{g/L}$ , respectively. Comparison of the analytical results to the ESLs for groundwater (SFBRWQCB, Environmental Screening Levels Tier 1 ESLs, February 2016), indicated that the detected concentration of PCE was above its' ESL (3  $\mu\text{g/L}$ ) but the concentration of TCE was below its' ESL (5  $\mu\text{g/L}$ ).

TPHg and TPHmo were not detected in soil or groundwater samples at concentrations at or above their respective laboratory reporting limit. The laboratory reporting limit for TPHmo in groundwater was above the ESL; however, no evidence (staining, odors, etc.) of petroleum hydrocarbon impacts was noted in the soil samples collected from the borings.

### 1.4 Conclusions

The results of this Limited Phase II ESA indicated that VOCs are present in soil and groundwater samples collected from the Site. The concentrations of PCE were below the applicable ESL in soil but above the applicable ESL for groundwater. TCE was not detected in soil at concentrations at or above its' laboratory reporting limit and was detected in groundwater at a concentration below the applicable ESL for groundwater. The presence of PCE in soil and groundwater indicate a past on-site release.

### 1.5 Recommendations

The detection of VOCs in soil and groundwater samples indicates that a release has occurred on site with reported concentration of PCE in groundwater above applicable ESL. In accordance with the requirements of the permit issued by the Alameda County Public Works Agency (ACPWA), a copy of this report must be submitted to the ACPWA.

**2. INTRODUCTION**

ERA is pleased to present this Limited Phase II ESA Report for the property located at 295 139<sup>th</sup> Avenue, San Leandro, California (Figure 1) to Basics Environmental. The Site is currently occupied by various body repair shops (Figure 2).

The findings and conclusions presented in this Report are based on the results of a limited assessment that included collecting and analyzing soil and groundwater samples from the Site and evaluating the data obtained during the field investigation and provided by the analytical laboratory.

**2.1 Site Description**

Basics Environmental requested that ERA conduct a limited Phase II ESA of the Site to facilitate their evaluation of the Site and current subsurface conditions. Site-specific information is presented in Table 1.

<b>Table 1. General Site Information</b>	
<b>Project Name:</b> Body repair shops	<b>Current Development:</b> One-story commercial building with paved parking lot
<b>Address:</b> 295 139 <sup>th</sup> Avenue, San Leandro, Alameda County	<b>Occupant(s):</b> A&C Auto Body, Street Shades Body Shop, JP Body and Paint
<b>Location:</b> Northwestern side of 139 <sup>th</sup> Avenue	

**2.2 Background**

The 0.6-acre site is improved with a one-story building occupied by various body repair shops. Records reviewed by Basics Environmental during their Phase I ESA indicated that the Site was developed in 1951 with an office and factory building owned by John Maggi Security Parachute & Equipment Company. By the mid-1980s, the on-site building appeared to have been divided into separate business units. Tenants included auto painting, auto body, and auto repair businesses, especially in Units A and C. Various hazardous materials, including paints, solvents, etc. were reportedly used and stored by these businesses. Spray paint booths were installed in Units A and C during the early 1990s and in Unit E during 2014. A paint/thinner storage and mixing room was observed in Unit A by Basics Environmental’s staff during the Phase I ESA. Paint mixing was also noted to be conducted in Unit C.

Records reviewed by Basics Environmental during their Phase I ESA indicated that a 500-gallon UST and associated gas pump was present along the eastern side of the building. No specific information related to the UST (i.e. UST installation or removal documentation) was available in the local regulatory agency files reviewed by Basics Environmental. However, a geophysical survey that included a ground penetrating radar study that was reportedly conducted in the past did not reveal evidence of a UST on site.

**2.3 Objectives and Scope of Work**

The objective of the limited Phase II ESA was to evaluate current subsurface conditions in select on-site areas. To meet this objective, soil and groundwater samples were collected from sampling

locations for analysis with comparison of the analytical results to established screening levels. The investigation consisted of the following:

- Advancing borings at two sampling locations: one boring (designated on Figure 2 as SB-1) outside the building in the area of the former UST and one boring (designated on Figure 2 as SB-2) inside the building in the area of the paint/thinner storage and mixing room. Boring SB-1 was advanced to a depth of 38 feet bgs and Boring SB-2 was advanced to a depth of 24 feet bgs;
- Collecting soil gas samples from each sampling location;
- Collecting soil samples from each boring;
- Collecting a groundwater sample from boring SB-1;
- Submitting the samples for analysis of VOCs, TPHg, and/or TPHmo; and,
- Preparing this report presenting the results of the Limited Phase II ESA.

Deviations from the work plan were as follows:

- Boring SB-1 was extended from a planned depth of 24 feet bgs to a depth of 38 feet bgs to collect a groundwater sample;
- Boring SB-2 was advanced to a total depth of 24 feet bgs but groundwater was not present in the borehole, therefore, a groundwater sample was not collected from this boring;
- The Summa canisters containing the soil gas samples were purged by the laboratory in error before analysis could be conducted and, therefore, soil gas analytical results are not available; and
- Four soil samples (SB-2-2.5, SB-2-5, SB-2-10, and SB-2-15) from boring SB-2 were analyzed for VOCs to delineate the vertical extent of the VOC PCE detected in soil at this location.

## 2.4 Limitations and Exceptions

The opinions and recommendations presented in this Report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ERA and the party for whom this report was originally prepared. This Report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. No representation, warranty, or guarantee, express or implied, is intended or given. To the extent that ERA relied upon any information prepared by other parties not under contract to ERA, ERA makes no representation as to the accuracy or completeness of such information.

This Report is expressly for the sole and exclusive use of the parties for which this Report was originally prepared for a particular purpose. Only the parties for which this Report was originally prepared and/or other specifically named parties, may make use of and rely upon the information in this Report. Reuse of this Report or any portion thereof for other than its intended purpose, or if modified, or if used by third parties without proper authorization, shall be at the user's sole risk.

The findings presented in this Report apply solely to site conditions existing at the time when ERA's assessment was performed. It must be recognized, however, that a Limited Phase II ESA is

conducted for the purpose of evaluating the potential for contamination through limited investigative activities and in no way represents a conclusive or complete site characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected. ERA's ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100 percent confidence in limited Phase II ESA conclusions cannot reasonably be achieved.

Nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and applicable laws, codes, regulations, or standards.

## 2.5 Special Terms and Conditions

The scope of work for this Limited Phase II ESA was presented in ERA's proposal dated January 29, 2016. The scope of work for this assessment did not include tasks not specifically noted in the proposal, with the exception of advancing two additional borings inside the equipment repair shop.

## 2.6 User Reliance

This Report is for the exclusive use of the parties for which it was prepared, their agents, and assignees, and for such other parties as ERA agrees may rely on the Report. Use of this Report by any other party shall be at such party's sole risk.

## 2.7 Qualifications

A summary of the ERA personnel who worked on this project follows:

- Ms. Lita Freeman, California Professional Geologist and California Asbestos Consultant, has over 25 years of experience providing site assessment services. This has included evaluating potential property impacts from historical on- and off-site operations, conducting subsurface investigations, and implementing site remediation plans. Ms. Freeman works with property owners, attorneys, and regulators to mitigate and resolve environmental issues.

## 3. VAPOR ENCROACHMENT

Vapor encroachment occurs when vapors from volatile chemicals in polluted soil or groundwater are present in sufficient concentrations and under certain conditions such that volatile chemical vapors may migrate upwards into the indoor air of overlying buildings. Vapor encroachment chemicals of concern (COCs) include VOCs. Once contaminant vapors enter a structure, they may accumulate and potentially pose health hazards for building occupants.

To ensure that vapor encroachment is appropriately considered when performing an environmental site assessment, the American Society for Testing and Materials International (ASTM) released its Vapor Encroachment Standard (ASTM E2600-10) in 2010. In accordance with the new standard, two conditions are evaluated: Vapor Encroachment Condition (VEC) and potential Vapor Encroachment Condition (pVEC). A VEC results from "the presence or likely presence of any chemicals of concern in the indoor air environment of existing or planned structures on a property caused by the release of vapor from contaminated soil or groundwater on the property or within close proximity to the property, at a concentration that presents or may present an unacceptable health risk to occupants." A pVEC is "a condition that exists when screening indicates the possibility of a VEC, but where there is insufficient data to ascertain the presence or likely presence of COCs in the

indoor air environment.” “Chemicals of Concern” are defined by the ASTM to be “chemicals in the subsurface environment that are known or reasonably expected to be present, that can potentially migrate as a vapor into an existing or planned structure on a property, and that are generally recognized as having the potential for an adverse impact on human health.”

Based on the past site operations, a potential exists for vapor encroachment, therefore, soil gas sampling was conducted as part of this Limited Phase II ESA. As noted above, the Summa canisters were purged by the laboratory while preparing for analysis and soil gas samples were not available for analysis. Sub-slab soil samples were collected for analysis as discussed below.

## 4. FIELD INVESTIGATION

This Limited Phase II ESA was conducted to evaluate current conditions by collecting soil gas, soil, and groundwater samples from select on-site locations for analysis with comparison of the analytical results to established screening levels. The scope of work and results of this Limited Phase II ESA are presented below.

Photographs of the Site and the site investigation are included in Appendix A.

### 4.1 Pre-Field Activities

Before conducting field activities associated with the proposed assessment, the pre-field tasks described below were completed.

#### 4.1.1 Health and Safety

ERA prepared a site-specific *Health and Safety Plan* for the scope of work as required by the Occupational Health and Safety Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The document was reviewed and signed by ERA personnel and subcontractors performing work at the Site.

#### 4.1.2 Permitting

ERA obtained soil boring permits from the Alameda County Public Works Agency (ACPWA) before commencing intrusive field activities. ERA coordinated field activities with the ACPWA and scheduled an ACPWA inspector to document compliance with permit requirements. Copies of the approved permits are presented in Appendix B.

### 4.2 Field Activities

#### 4.2.1 Utility Clearance

Before conducting subsurface work at the Site, the sampling locations were cleared for underground utilities by notifying Underground Services Alert North (USA North) at least 48 hours prior to intrusive field activities. In addition, Cruz Brothers, a private utility locating contractor, cleared each proposed sampling location prior to intrusive field activities. Proposed sampling locations were adjusted, as necessary, to maintain a distance of at least 3 feet from identified underground utilities/structures.

## Environmental Risk Assessors

### 4.2.2 Drilling and Sampling

On February 11, 2016, ERA personnel provided oversight of a field crew from Cascade Drilling, L.P. (Cascade) of Richmond, California, a California licensed driller, during advancement of the borings using a Geoprobe direct-push drilling rig and installation of soil gas wells. Two sub-slab soil gas temporary wells were constructed at each sampling location to collect soil gas samples and soil borings were advanced at each sampling location to collect soil and groundwater samples (Figure 2). The boring locations were selected based on available historical information and site observations, as follows:

- the area of the UST (boring SB-1); and
- the paint/thinner storage and mixing room observed in Unit A (boring SB-2).

Down-hole drilling and sampling equipment was washed in a tri-sodium phosphate solution following the completion of sample collection activities for each soil boring.

Soil sampling was conducted during drilling using new acetate sleeves. Soil samples were screened in the field with a photoionization detector (PID) and observed for evidence of chemical staining. The soil screening procedures involved measuring approximately 30 grams of soil from a relatively undisturbed soil sample and placing this sample in a sealed zip-lock bag. The container was warmed in the sun for approximately 20 minutes, then the head space within the bag was tested for total organic vapor, measured in parts per million volume (ppmv). Elevated (above background) PID measurements were noted during sampling with the highest PID reading 2.9 ppmv in boring SB-2 at 2.5 feet. No evidence of impacted soil (i.e. staining, odors, sheen, etc.) was noted during sampling. The PID results were recorded on the field boring logs which are included in Appendix C.

#### 4.2.2.1 Soil Gas Sampling

Soil gas sampling equipment provided by McCampbell Analytical, Inc. (McCampbell Analytical) of Pittsburg, California, and used at each sampling location included a manifold with dual vacuum gauges and regulator, a purge canister containing helium, and an evacuated 1-liter stainless steel Summa canister (to contain the soil gas sample). The 1-liter canister-specific regulators were pre-set to not exceed a flow rate of 150 milliliters per minute (ml/min). Each canister was checked, tested, and certified by McCampbell Analytical for air tightness and proper vacuum prior to shipping. The serial numbers of the manifold, vacuum gauges, and Summa canister used at each sampling location were recorded, along with the initial and final vacuum readings.

The sub-slab soil gas samples were collected from temporary soil gas probes placed through the asphalt pavement (exterior locations) or concrete floor slab (interior locations) to a depth of 12 to 18 inches bgs. Inert nylon tubing was used to connect the sampling port at the bottom of the well to the manifold, which was then connected to the purge can and the Summa canister. The tubing was purged with helium for approximately 2 minutes at each location prior to sampling; the sampling canister was isolated during the purge by keeping the valve in a "Closed" position when the valves were opened on the purge can and on the manifold (between the sampling port and the purge can). The valve on the purge can was then closed and the valve on the sampling canister was opened, thereby placing a vacuum on the sampling port and drawing soil gas into the sampling canister.



A leak test was performed using a tracer gas to evaluate possible ambient air intrusion into the Summa canisters during the soil gas sampling. The tracer gas that was used during this project was 1,1-difluoroethane (1,1-DFA), which is the propellant found in duster spray. The leak test consisted of placing a cloth soaked in 1,1-DFA into a sealed plastic bag at each soil gas sample location. The plastic bag was placed adjacent the sampling train and opened after the valve on the Summa canister was opened to allow collection of the soil gas sample into the canister.

When an internal vacuum of approximately -5 inches mercury (Hg) was reached (from an initial vacuum of approximately -30 inches Hg), the Summa canister's valve was closed and the canister capped, labeled, and transported by the project laboratory's courier to the project laboratory under chain-of-custody documentation.

#### 4.2.2.2 Soil Sampling

A track-mounted direct-push unit was used to drive a steel probe lined with acetate tubes into the ground to the desired depth. The soil samples were retained in the acetate tubes, capped with Teflon squares and plastic end caps, labeled with the boring identification number and the bottom depth (e.g., 2 feet bgs) of the sampling interval, and sealed in zip-lock bags.

The soil samples were placed on ice and transported under chain-of-custody protocols to the project laboratory by a laboratory-provided courier.

#### 4.2.2.3 Groundwater Sampling

New polyvinyl chloride (PVC) casing (with slotted casing in the lower 10 feet and blank casing from above the slotted casing to the ground surface) was placed in boring SB-1. Boring SB-2 was dry and, therefore, PVC casing was not placed in the borehole. Groundwater was allowed to flow into the casing at boring SB-1 for approximately one hour. A sufficient quantity of groundwater collected in the casing to fill the laboratory-provided containers appropriate for the requested analysis.

The groundwater samples containers were labeled with the boring identification number and placed on ice and transported under chain-of-custody protocols to the project laboratory by a laboratory-provided courier.

#### 4.2.3 Borehole Abandonment and Investigation-Derived Waste Handling

After the sampling activities were complete, each boring was backfilled with cement grout and bentonite in accordance with the ACPWA permit requirements and the ACPWA inspector's directions.

Investigation-derived waste (IDW), which was limited to soil cuttings, produced during sampling activities were containerized in one 55-gallon container and left on the Site pending receipt of analytical results. Appropriate off-site disposal options will be presented to the client after evaluation of the analytical results.

#### 4.2.4 Deviations from the Work Plan

Deviations from the work plan were as follows:

- Boring SB-1 was extended from a planned depth of 24 feet bgs to a depth of 38 feet bgs to collect a groundwater sample;

- Boring SB-2 was advanced to a total depth of 24 feet bgs but groundwater was not present in the borehole, therefore, a groundwater sample was not collected from this boring;
- The Summa canisters containing the soil gas samples were purged by the laboratory in error before analysis could be conducted and, therefore, soil gas analytical results are not available; and
- Four soil samples (SB-2-2.5, SB-2-5, SB-2-10, and SB-2-15) from boring SB-2 were analyzed for VOCs to delineate the vertical extent of PCE detected in soil at this location.

## 5. ANALYSIS, RESULTS, AND EVALUATION

The soil gas, soil, and groundwater samples were submitted to McCampbell Analytical, a laboratory certified by the State of California to perform the requested analyses. As noted above, the soil gas samples were not analyzed due to a laboratory error.

The analytical methods, results, and evaluation of this Limited Phase II ESA are presented below. Copies of the laboratory analytical report and chain-of-custody documentation are presented in Appendix D.

### 5.1 Soil Analysis and Results

Soil samples SB-1-8.5 and SB-2-2.5, collected from borings SB-1 and SB-2, respectively, were submitted for analyses as follows:

- VOCs, including TPHg, benzene, toluene, ethylbenzene, and xylenes, using U.S. Environmental Protection Agency (U.S. EPA) Method 8260B; and
- TPHmo using U.S. EPA Method SW8015B.

Upon review of the initial analytical results for soil sample SB-2-2.5, the laboratory was directed to analyze the deeper soil samples from boring SB-2 since the soil gas samples were not analyzed. Soil samples SB-2-5, SB-2-10, and SB-2-15 were analyzed for PCE only using U.S. EPA Method 8260B.

VOCs were not detected in the soil samples at concentrations at or above their respective laboratory reporting limit with the exception of PCE which was detected in soil samples SB-2-2.5 and SB-2-5 at concentrations of 0.032 mg/kg and 0.013 mg/kg (see McCampbell Analytical report in Appendix D).

Petroleum hydrocarbons were not detected in soil samples SB-1-8.5 and SB-2-2.5 at concentrations at or above their respective laboratory reporting limit (see McCampbell Analytical report in Appendix D).

The analytical results for the compounds detected in the soil samples are presented in Table 2 and evaluation of the analytical results is presented below in Section 5.3.

### 5.2 Groundwater Analysis and Results

The groundwater sample collected from boring SB-1 was submitted for analyses as follows:

- VOCs, including TPHg, benzene, toluene, ethylbenzene, and xylenes, using U.S. EPA Method 8260B; and



- TPHmo using U.S. EPA Method SW8015B.

Analysis of the groundwater sample revealed the following:

- PCE was detected at a concentration of 9.5 µg/L; and
- TCE was detected at a concentration of 1.2 µg/L.

Petroleum hydrocarbons were not detected in the groundwater sample at concentrations at or above their respective laboratory reporting limit. The laboratory reporting limit for TPH-mo was elevated because of the amount of sediment in the sample.

The analytical results for the compounds detected in the groundwater samples are presented in Table 2 and evaluation of the analytical results is presented below in Section 5.3.

## 5.3 EVALUATION

The concentrations of compounds of concern detected in soil and groundwater samples were compared to applicable ESLs established by the SFBRWQCB (SFBRWQCB, 2016).

### 5.3.1 Soil Results Evaluation

Comparison of the analytical results to the ESLs for soil (SFBRWQCB, 2016) indicate that the concentrations of PCE in soil samples SB-2-2.5 (0.032 mg/kg) and SB-2-5 (0.013 mg/kg) were below the ESL of 0.42 mg/kg. PCE was not detected in soil samples SB-2-10 and SB-2-15 at concentrations at or above the laboratory reporting limit of 0.005 mg/kg (Table 2).

### 5.3.2 Groundwater Results Evaluation

Comparison of the analytical results to the ESLs for groundwater (SFBRWQCB, 2016) indicated that the detected concentration of PCE (9.5 µg/L) was above its' ESL (3 µg/L) but the concentration of TCE (1.2 µg/L) was below its' ESL (5 µg/L), as shown in Table 2.

The laboratory reporting limit (500 µg/L) for TPHmo in groundwater was above the ESL for TPH quantified as diesel of 100 µg/L (Note 2 of Tier 1 ESLs states sum of TPHmo and TPHd concentrations to be compared to ESL for TPHd; SFBRWQCB, 2016). However, no evidence (staining, odors, etc.) of petroleum hydrocarbon impacts was noted in the soil samples collected from the borings.

## 6. CONCLUSIONS

The results of this Limited Phase II ESA indicated that VOCs are present in soil and groundwater samples collected from the Site. The concentrations of PCE were below the applicable ESL in soil but above the applicable ESL in groundwater (SFBRWQCB, 2016). TCE was not detected in soil at concentrations at or above its' laboratory reporting limit and was detected in groundwater at a concentration below the applicable ESL (SFBRWQCB, 2016). The presence of PCE in soil and groundwater indicate a past on-site release.

## 7. RECOMMENDATIONS

The detection of VOCs in soil and groundwater samples indicates that a release has occurred on site with reported concentrations in groundwater above applicable ESLs. In accordance with the

requirements of the permit issued by the ACPWA, a copy of this report must be submitted to the ACPWA.

### 8. REFERENCES

American Society for Testing and Materials (ASTM). 2010. *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*, June.

California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board (SFBRWQCB). 2016. *Environmental Screening Levels, Tier 1 ESLs*. February.

SIGNATURES OF ENVIRONMENTAL PROFESSIONAL

Report Prepared By:



March 3, 2016

Lita D. Freeman, P.G.  
Principal Geologist  
California Professional Geologist No. 7368

Date

\* A professional geologist's certification of conditions comprises a declaration of his or her professional judgment. It does not constitute a warranty or guarantee, expressed or implied, nor does it relieve any other party of its responsibility to abide by contract documents, applicable codes, standards, regulations, and ordinances.

## TABLES

**Table 2**  
**Soil and Groundwater Samples Organics Analytical Summary**  
**Body Repair Shops**  
**295 139th Avenue**  
**San Leandro, California 94578**

On-Site Location/ Comments	Sample ID	Sample Depth (feet bgs) <sup>1</sup>	Matrix	Petroleum Hydrocarbons (Soil: mg/kg, GW: µg/L)		VOCs <sup>2</sup> (soil: mg/kg, GW: µg/L)	
				TPH <sub>g</sub> <sup>3</sup>	TPH <sub>mo</sub> <sup>3</sup>	PCE	TCE
<b>ESL for Soil</b>				100	100	0.42	0.46
Former UST	SB-1-8.5	1.0 - 1.5	Soil	<0.25	<5	<0.005	<0.005
Paint Mixing Area	SB-2-2.5	2.0 - 2.5	Soil	<0.25	<5	<b>0.032</b>	<0.005
Paint Mixing Area	SB-2-5	4.5 - 5	Soil	NA	NA	<b>0.013</b>	NA
Paint Mixing Area	SB-2-10	9.5 - 10	Soil	NA	NA	<0.005	NA
Paint Mixing Area	SB-2-15	14.5 - 15	Soil	NA	<b>NA</b>	<0.005	NA
<b>ESL for Groundwater</b>				100	100 <sup>4</sup>	3	5
Former UST	SB-1-W	NA	Ground-water	<50	<500	<b>9.5</b>	<b>1.2</b>

**Notes:**

UST = Underground Storage Tank

1. bgs = below ground surface

2. Volatile Organic Compound (VOCs) were analyzed using U.S. EPA Method 8260B.

3. TPH<sub>g</sub>, TPH<sub>mo</sub> = Total petroleum hydrocarbons (TPH) quantified as gasoline analyzed by U.S. EPA Method 8260; TPH quantified as motor oil were analyzed using U.S. EPA Method 8015B/C.

4. California Environmental Protection Agency, San Francisco Bay Regional Water Quality Control Board Tier 1 Environmental Screening Levels (SFBRWQCB, 2016), Note 2 states: TPH motor oil is not soluble. TPH motor oil detections in water most likely are petroleum degradates or less likely NAPL. If the detections are degradates, add TPH motor oil and TPH diesel results and compare to TPH diesel criterion. The noted ESL was established for TPH-d.

ESL = Environmental Screening Levels for soil and groundwater as established by the SFBRWQCB, Tier 1 ESLs, February 2016.

Units: mg/kg = milligrams per kilogram, µg/L = micrograms per liter

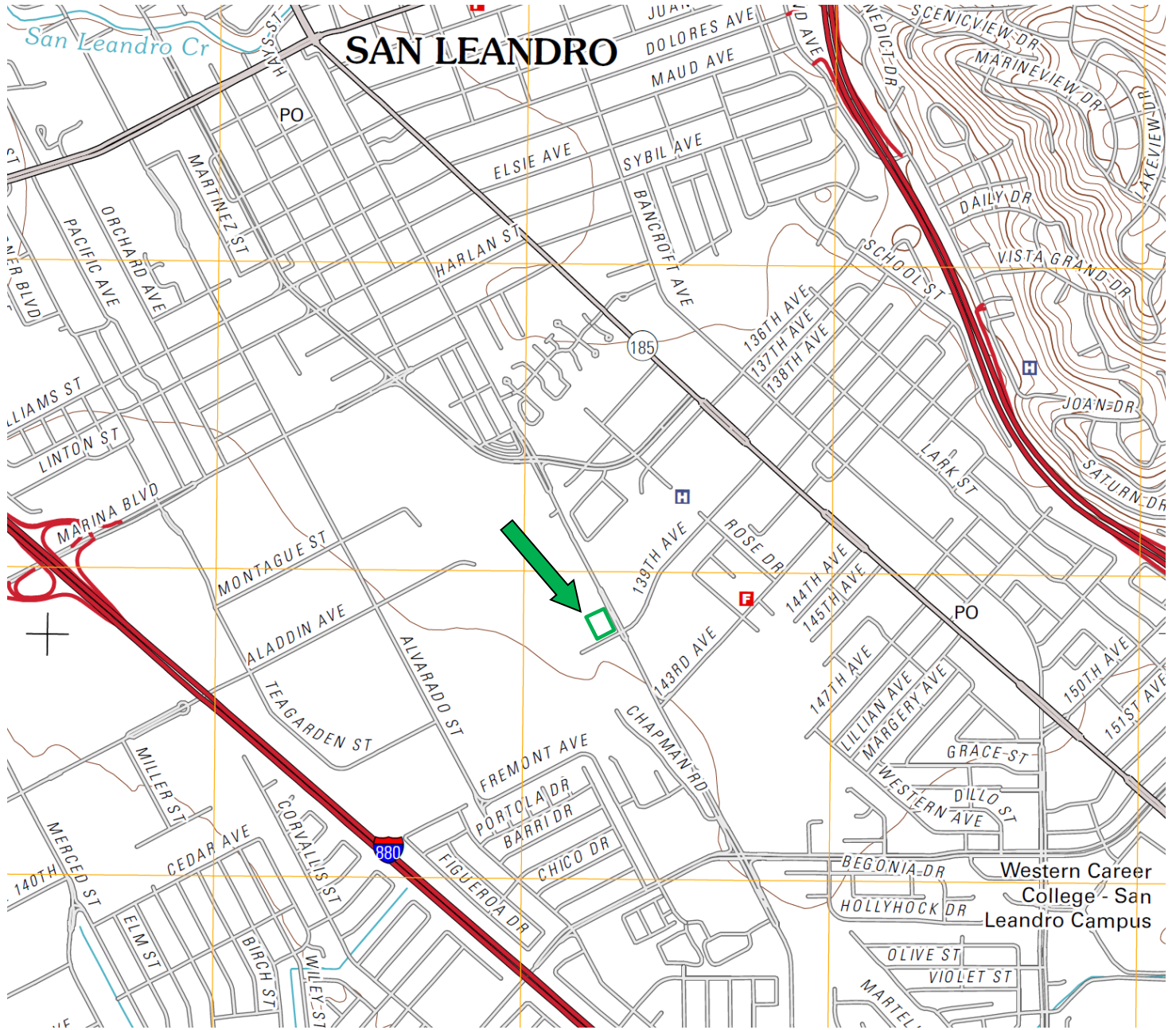
ND = Not detected

<10 = Not detected at stated concentration

**Bold** = Compound detected

**Bold** = Compound detected above ESL

## FIGURES



**Legend**

— Site (boundaries approximate)

Source: USGS San Leandro, CA Quadrangle Topographic Map, 2012



**Site Location Map**

**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT**

295 139<sup>th</sup> Avenue, San Leandro, California 94578

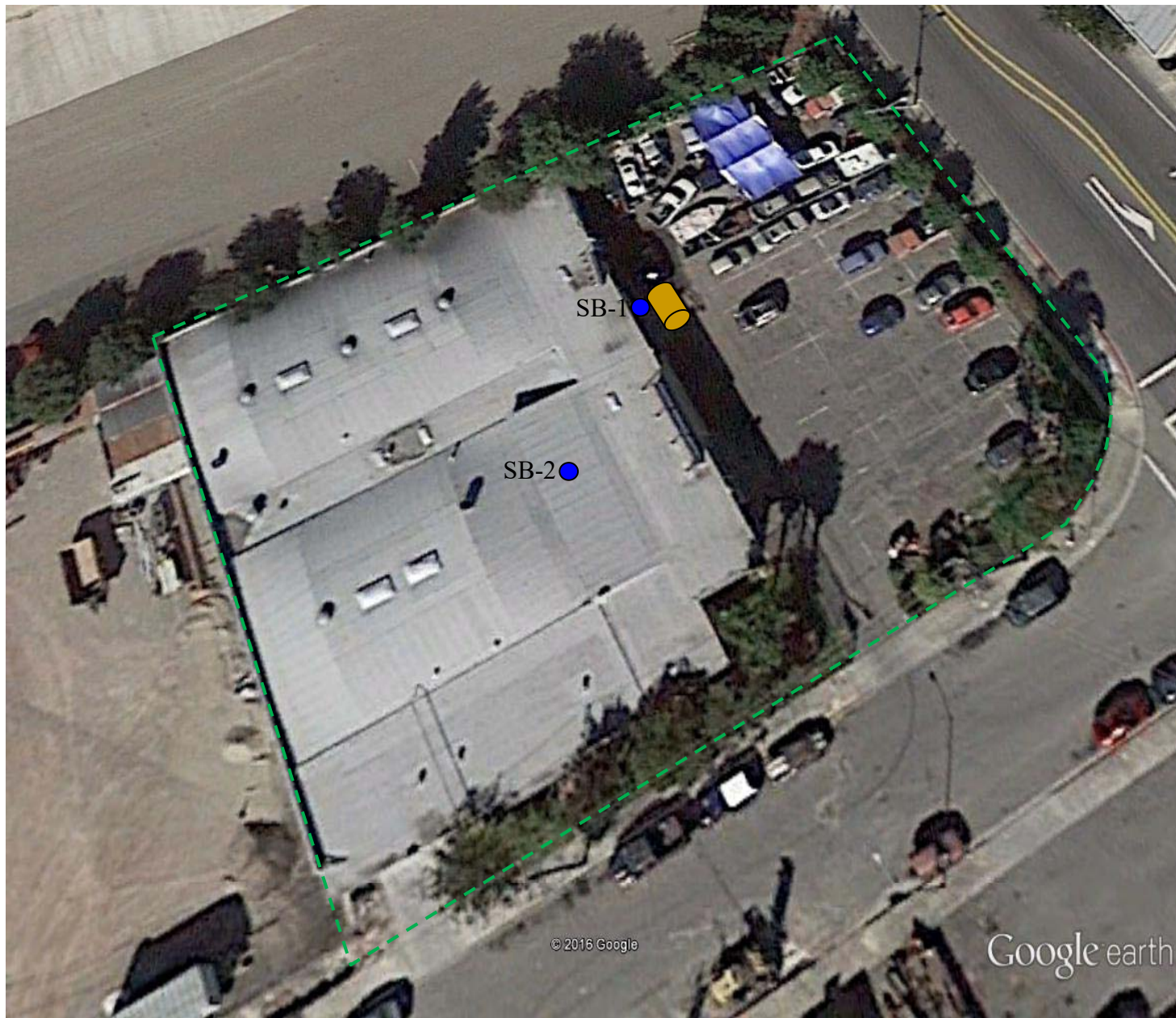
PN: 01-2016-500-002



Date: March 3, 2016

EP: Lita Freeman

**Figure 1**





<p>--- Approximate Property Boundary</p> <p>● Sampling Location</p>	<p> Former Gasoline Underground Storage Tank</p>	<p> North</p>
---------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------



**Site Plan**

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**LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT**

295 139<sup>th</sup> Avenue, San Leandro, California 94578

PN: 01-2016-500-002

Date: March 3, 2016

EP: Lita Freeman

**Figure 2**



## **Appendix A**

Site Photographs

Photographic Log  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578  
ERA Project No. 01-2016-500-002

**Photograph: 1**

**Description:**

Photo depicts the on-site building and entrance to the paved parking lot.



**Photograph: 2**

**Description:**

Photo depicts the track-mounted direct push drilling rig set up at sampling location (SB-1) near the former UST.



Photographic Log  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578  
ERA Project No. 01-2016-500-002

**Photograph: 3**

**Description:**

Photo depicts advancing boring SB-1 using the track-mounted direct push drilling rig.



**Photograph: 4**

**Description:**

Photo depicts sampling location (SB-2) near the paint/thinner storage and mixing room inside the on-site building.





Photographic Log  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578  
ERA Project No. 01-2016-500-002

**Photograph: 5**

**Description:**

Photo depicts backfilling of boring SB-1.



**Photograph: 6**

**Description:**

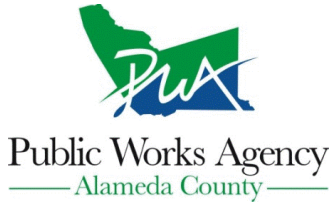
Photo depicts backfilled boring SB-1.



**Appendix B**

Soil Boring Permit

# Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street  
Hayward, CA 94544-1395  
Telephone: (510)670-6633 Fax: (510)782-1939

**Application Approved on: 01/27/2016 By jamesy**

**Permit Numbers: W2016-0056**  
**Permits Valid from 02/11/2016 to 02/11/2016**

<b>Application Id:</b>	1453916652429	<b>City of Project Site:</b>	San Leandro
<b>Site Location:</b>	295 139th Avenue - northwest corner of intersection of 139th Avenue and Washington Avenue	<b>Completion Date:</b>	02/11/2016
<b>Project Start Date:</b>	02/11/2016	<b>Assigned Inspector:</b> Contact Lindsay Furuyama at (925) 956-2311 or Lfuruyama@groundzonees.com	
<b>Applicant:</b>	Basics Environmental - Lita Freeman 655 12th Street Suite 126, Oakland, CA 94607	<b>Phone:</b>	510-834-9099
<b>Property Owner:</b>	Erin Tamer, Trustee The LEMR Trust PO Box 511 / 27 Mott Drive, Alamo, CA 94507	<b>Phone:</b>	925-683-9779
<b>Client:</b>	** same as Property Owner **	<b>Phone:</b>	916-677-9897
<b>Contact:</b>	Lita Freeman	<b>Cell:</b>	--

<b>Receipt Number: WR2016-0040</b>	<b>Total Due:</b>	\$265.00
<b>Payer Name : Environmental Risk</b>	<b>Total Amount Paid:</b>	\$265.00
<b>Assessor/Lita D Freeman</b>	<b>Paid By: VISA</b>	<b>PAID IN FULL</b>

**Works Requesting Permits:**

Borehole(s) for Investigation-Contamination Study - 2 Boreholes  
Driller: Cascade Drilling - Lic #: 938110 - Method: DP

**Work Total: \$265.00**

**Specifications**

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2016-0056	01/27/2016	05/11/2016	2	2.00 in.	25.00 ft

**Specific Work Permit Conditions**

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

## Alameda County Public Works Agency - Water Resources Well Permit

5. Applicant shall contact assigned inspector listed on the top of the permit at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
  6. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
  7. Electronic Reporting Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR) require electronic submission of any report or data required by a regulatory agency from a cleanup site. Submission dates are set by a Regional Water Board or by a regulatory agency. Once a report/data is successfully uploaded, as required, you have met the reporting requirement (i.e. the compliance measure for electronic submittals is the actual upload itself). The upload date should be on or prior to the regulatory due date.
  8. NOTE:  
Under California laws, the owner/operator are responsible for reporting the contamination to the governmental regulatory agencies under Section 25295(a). The owner/operator is liable for civil penalties under Section 25299(a)(4) and criminal penalties under Section 25299(d) for failure to report a leak. The owner/operator is liable for civil penalties under Section 25299(b)(4) for knowing failure to ensure compliance with the law by the operator. These penalty provisions do not apply to a potential buyer.
  9. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.
-

## **Appendix C**

### Soil Boring Logs



PROJECT: 295 139th Avenue, San Leandro, California

# Log of Boring

SB-1

PAGE 1 OF 2

Boring location: See Figure 2

Logged by:

Date started: 2/11/16

Date finished: 2/11/16

Lita Freeman

Drilling method: Direct Push

Hammer weight/drop: NA

Hammer type: NA

## LABORATORY TEST DATA

Sampler: Arturo-Cascade/Lita Freeman-ERA

DEPTH (feet)	SAMPLES					LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	PID (ppmv)	Sample	Blows/ 6"	SPT N-Value <sup>1</sup>									
							Ground Surface Elevation: --__ feet <sup>2</sup>						
1							Asphalt and Baserock - surface to 9 inches						
2	1.7						Silty Clay (CH), Black (N 2.5), high plasticity, dry						
3													
4													
5	2.5						- color change to Dark Brown (7.5 YR 3/2) at 5 feet						
6													
7							Gravelly Sand (SP), Brown (7.5 YR 4/6), fine-grained to coarse-grained sand, fine-grained to medium-grained gravel, angular to sub-angular gravel, dry						
8													
9							Silty Clay (CH), Brown (7.5 YR 4/6), high plasticity, dry						
10													
11													
12							- slightly moist at 12 feet						
13													
14													
15	1.9						- lense of fine-grained silty sand at 15.5 to 16 feet						
16							Silty Clay (CH), Brown (7.5 YR 4/6), high plasticity, dry						
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													

Boring terminated at a depth of 38 feet below ground surface.  
 Boring backfilled with cement grout.  
 Free groundwater not encountered during drilling but moist soil present below 12 feet.



Environmental Risk Assessors

Project No.: 01-2016-500-002

Figure: C-1

PROJECT: 295 139th Avenue, San Leandro, California

# Log of Boring

SB-1

PAGE 2 OF 2

Boring location: See Figure 2

Logged by:

Date started: 2/11/16

Date finished: 2/11/16

Lita Freeman

Drilling method: Direct Push

Hammer weight/drop: NA

Hammer type: NA

## LABORATORY TEST DATA

Sampler: Arturo - Cascade/Lita Freeman-ERA

DEPTH (feet)	SAMPLES					LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	PID (ppmv)	Sample	Blows/ 6"	SPT N-Value <sup>1</sup>									
							Ground Surface Elevation: --__ feet <sup>2</sup>						
31													
32							Gravelly Clay with Sand (CH), Very Pale Brown (10 YR 8/2), high plasticity, moist						
33													
34							Silty Clay (CH), Light Brown (7.5 YR 6/4), high plasticity, moist						
35													
36													
37													
38													
39							Bottom of Boring = 38 feet						
40													
41													
42													
43													
44													
45													
46													
47													
48													
49													
50													
51													
52													
53													
54													
55													
56													
57													
58													
59													
60													

Boring terminated at a depth of 38 feet below ground surface.  
 Boring backfilled with cement grout.  
 Free groundwater not encountered during drilling but moist soil present below 12 feet.



Environmental Risk Assessors

Project No.:  
01-2016-500-002

Figure: C-2

PROJECT: 295 139th Avenue, San Leandro, California

# Log of Boring SB-2

PAGE 1 OF 1

Boring location: See Figure 2

Logged by:

Date started: 2/11/16

Date finished: 2/11/16

Lita Freeman

Drilling method: Direct Push

Hammer weight/drop: NA

Hammer type: NA

## LABORATORY TEST DATA

Sampler: Arturo-Cascade/Lita Freeman-ERA

DEPTH (feet)	SAMPLES				LITHOLOGY	MATERIAL DESCRIPTION	Type of Strength Test	Confining Pressure Lbs/Sq Ft	Shear Strength Lbs/Sq Ft	Fines %	Natural Moisture Content, %	Dry Density Lbs/Cu Ft
	PID (ppmv)	Sample	Blows/ 6"	SPT N-Value <sup>1</sup>								
						Ground Surface Elevation: -- feet <sup>2</sup>						
1						Asphalt and Baserock - surface to 9 inches						
2	2.9					Silty Clay (CH), Black (N 2.5), high plasticity, dry						
3												
4												
5	1.6											
6												
7												
8												
9												
10	1.9											
11												
12						- slightly moist at 12 feet						
13												
14												
15	1.8					- lense of fine-grained silty sand at 15.5 to 16 feet						
16						- color change to Brown (7.5 YR 4/6) at 16 feet						
17												
18												
19												
20												
21												
22												
23												
24						Bottom of Boring = 24 feet						
25												
26												
27												
28												
29												
30												

Boring terminated at a depth of 24 feet below ground surface.  
 Boring backfilled with cement grout.  
 Free groundwater not encountered during drilling but moist soil present below 12 feet.



Environmental Risk Assessors

Project No.:  
01-2016-500-002

Figure: C-3

**Appendix D**

Laboratory Analytical Report and  
Chain-of-Custody Documentation



# McC Campbell Analytical, Inc.

"When Quality Counts"

## Analytical Report

**WorkOrder:** 1602473

**Report Created for:** Basics Environmental

655 12th Street, Suite 126  
Oakland, CA 94607

**Project Contact:** Donovan Tom

**Project P.O.:**

**Project Name:** 01-2016-500-002; 139th Ave Property

**Project Received:** 02/12/2016

Analytical Report reviewed & approved for release on 02/19/2016 by:

Angela Rydelius,  
Laboratory Manager

*The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.*





## Glossary of Terms & Qualifier Definitions

**Client:** Basics Environmental  
**Project:** 01-2016-500-002; 139th Ave Property  
**WorkOrder:** 1602473

### Glossary Abbreviation

95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test
DUP	Duplicate
EDL	Estimated Detection Limit
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

### Analytical Qualifiers

a3	sample diluted due to high organic content.
b1	aqueous sample that contains greater than ~1 vol. % sediment



## **Glossary of Terms & Qualifier Definitions**

**Client:** Basics Environmental  
**Project:** 01-2016-500-002; 139th Ave Property  
**WorkOrder:** 1602473

### **Quality Control Qualifiers**

F1 MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validated the prep batch.  
F3 the surrogate standard recovery and/or RPD is outside of acceptance limits.





## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/19/16-2/24/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Halogenated Volatile Organics by P&T and GC-MS (8010 Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-5	1602473-005A	Soil	02/11/2016 13:35	GC18	116913

Analytes	Result	RL	DF	Date Analyzed
Tetrachloroethene	0.013	0.0050	1	02/19/2016 13:11
Surrogates	REC (%)	Limits		
Toluene-d8	115	70-130		02/19/2016 13:11
Ethylbenzene-d10	96	60-140		02/19/2016 13:11

Analyst(s): KF

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-10	1602473-006A	Soil	02/11/2016 13:40	GC18	117057

Analytes	Result	RL	DF	Date Analyzed
Tetrachloroethene	ND	0.0050	1	02/23/2016 19:37
Surrogates	REC (%)	Limits		
Toluene-d8	117	70-130		02/23/2016 19:37
Ethylbenzene-d10	108	60-140		02/23/2016 19:37

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-15	1602473-007A	Soil	02/11/2016 13:45	GC18	117127

Analytes	Result	RL	DF	Date Analyzed
Tetrachloroethene	ND	0.0050	1	02/24/2016 13:41
Surrogates	REC (%)	Limits		
Toluene-d8	118	70-130		02/24/2016 13:41
Ethylbenzene-d10	94	60-140		02/24/2016 13:41

Analyst(s): AK



## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-8.5	1602473-001A	Soil	02/11/2016 10:25	GC16	116619

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	02/16/2016 10:37
tert-Amyl methyl ether (TAME)	ND	0.0050	1	02/16/2016 10:37
Benzene	ND	0.0050	1	02/16/2016 10:37
Bromobenzene	ND	0.0050	1	02/16/2016 10:37
Bromochloromethane	ND	0.0050	1	02/16/2016 10:37
Bromodichloromethane	ND	0.0050	1	02/16/2016 10:37
Bromoform	ND	0.0050	1	02/16/2016 10:37
Bromomethane	ND	0.0050	1	02/16/2016 10:37
2-Butanone (MEK)	ND	0.020	1	02/16/2016 10:37
t-Butyl alcohol (TBA)	ND	0.050	1	02/16/2016 10:37
n-Butyl benzene	ND	0.0050	1	02/16/2016 10:37
sec-Butyl benzene	ND	0.0050	1	02/16/2016 10:37
tert-Butyl benzene	ND	0.0050	1	02/16/2016 10:37
Carbon Disulfide	ND	0.0050	1	02/16/2016 10:37
Carbon Tetrachloride	ND	0.0050	1	02/16/2016 10:37
Chlorobenzene	ND	0.0050	1	02/16/2016 10:37
Chloroethane	ND	0.0050	1	02/16/2016 10:37
Chloroform	ND	0.0050	1	02/16/2016 10:37
Chloromethane	ND	0.0050	1	02/16/2016 10:37
2-Chlorotoluene	ND	0.0050	1	02/16/2016 10:37
4-Chlorotoluene	ND	0.0050	1	02/16/2016 10:37
Dibromochloromethane	ND	0.0050	1	02/16/2016 10:37
1,2-Dibromo-3-chloropropane	ND	0.0040	1	02/16/2016 10:37
1,2-Dibromoethane (EDB)	ND	0.0040	1	02/16/2016 10:37
Dibromomethane	ND	0.0050	1	02/16/2016 10:37
1,2-Dichlorobenzene	ND	0.0050	1	02/16/2016 10:37
1,3-Dichlorobenzene	ND	0.0050	1	02/16/2016 10:37
1,4-Dichlorobenzene	ND	0.0050	1	02/16/2016 10:37
Dichlorodifluoromethane	ND	0.0050	1	02/16/2016 10:37
1,1-Dichloroethane	ND	0.0050	1	02/16/2016 10:37
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	02/16/2016 10:37
1,1-Dichloroethene	ND	0.0050	1	02/16/2016 10:37
cis-1,2-Dichloroethene	ND	0.0050	1	02/16/2016 10:37
trans-1,2-Dichloroethene	ND	0.0050	1	02/16/2016 10:37
1,2-Dichloropropane	ND	0.0050	1	02/16/2016 10:37
1,3-Dichloropropane	ND	0.0050	1	02/16/2016 10:37
2,2-Dichloropropane	ND	0.0050	1	02/16/2016 10:37

(Cont.)



## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-8.5	1602473-001A	Soil	02/11/2016 10:25	GC16	116619
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.0050	1	02/16/2016 10:37	
cis-1,3-Dichloropropene	ND	0.0050	1	02/16/2016 10:37	
trans-1,3-Dichloropropene	ND	0.0050	1	02/16/2016 10:37	
Diisopropyl ether (DIPE)	ND	0.0050	1	02/16/2016 10:37	
Ethylbenzene	ND	0.0050	1	02/16/2016 10:37	
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	02/16/2016 10:37	
Freon 113	ND	0.0050	1	02/16/2016 10:37	
Hexachlorobutadiene	ND	0.0050	1	02/16/2016 10:37	
Hexachloroethane	ND	0.0050	1	02/16/2016 10:37	
2-Hexanone	ND	0.0050	1	02/16/2016 10:37	
Isopropylbenzene	ND	0.0050	1	02/16/2016 10:37	
4-Isopropyl toluene	ND	0.0050	1	02/16/2016 10:37	
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	02/16/2016 10:37	
Methylene chloride	ND	0.0050	1	02/16/2016 10:37	
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	02/16/2016 10:37	
Naphthalene	ND	0.0050	1	02/16/2016 10:37	
n-Propyl benzene	ND	0.0050	1	02/16/2016 10:37	
Styrene	ND	0.0050	1	02/16/2016 10:37	
1,1,1,2-Tetrachloroethane	ND	0.0050	1	02/16/2016 10:37	
1,1,2,2-Tetrachloroethane	ND	0.0050	1	02/16/2016 10:37	
Tetrachloroethene	ND	0.0050	1	02/16/2016 10:37	
Toluene	ND	0.0050	1	02/16/2016 10:37	
1,2,3-Trichlorobenzene	ND	0.0050	1	02/16/2016 10:37	
1,2,4-Trichlorobenzene	ND	0.0050	1	02/16/2016 10:37	
1,1,1-Trichloroethane	ND	0.0050	1	02/16/2016 10:37	
1,1,2-Trichloroethane	ND	0.0050	1	02/16/2016 10:37	
Trichloroethene	ND	0.0050	1	02/16/2016 10:37	
Trichlorofluoromethane	ND	0.0050	1	02/16/2016 10:37	
1,2,3-Trichloropropane	ND	0.0050	1	02/16/2016 10:37	
1,2,4-Trimethylbenzene	ND	0.0050	1	02/16/2016 10:37	
1,3,5-Trimethylbenzene	ND	0.0050	1	02/16/2016 10:37	
Vinyl Chloride	ND	0.0050	1	02/16/2016 10:37	
Xylenes, Total	ND	0.0050	1	02/16/2016 10:37	

(Cont.)



# Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-8.5	1602473-001A	Soil	02/11/2016 10:25	GC16	116619

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	100	70-130		02/16/2016 10:37
Toluene-d8	108	70-130		02/16/2016 10:37
4-BFB	106	70-130		02/16/2016 10:37
Benzene-d6	90	60-140		02/16/2016 10:37
Ethylbenzene-d10	94	60-140		02/16/2016 10:37
1,2-DCB-d4	65	60-140		02/16/2016 10:37

Analyst(s): AK



# Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

## Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-2.5	1602473-004A	Soil	02/11/2016 13:20	GC16	116619

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	0.10	1	02/16/2016 11:17
tert-Amyl methyl ether (TAME)	ND	0.0050	1	02/16/2016 11:17
Benzene	ND	0.0050	1	02/16/2016 11:17
Bromobenzene	ND	0.0050	1	02/16/2016 11:17
Bromochloromethane	ND	0.0050	1	02/16/2016 11:17
Bromodichloromethane	ND	0.0050	1	02/16/2016 11:17
Bromoform	ND	0.0050	1	02/16/2016 11:17
Bromomethane	ND	0.0050	1	02/16/2016 11:17
2-Butanone (MEK)	ND	0.020	1	02/16/2016 11:17
t-Butyl alcohol (TBA)	ND	0.050	1	02/16/2016 11:17
n-Butyl benzene	ND	0.0050	1	02/16/2016 11:17
sec-Butyl benzene	ND	0.0050	1	02/16/2016 11:17
tert-Butyl benzene	ND	0.0050	1	02/16/2016 11:17
Carbon Disulfide	ND	0.0050	1	02/16/2016 11:17
Carbon Tetrachloride	ND	0.0050	1	02/16/2016 11:17
Chlorobenzene	ND	0.0050	1	02/16/2016 11:17
Chloroethane	ND	0.0050	1	02/16/2016 11:17
Chloroform	ND	0.0050	1	02/16/2016 11:17
Chloromethane	ND	0.0050	1	02/16/2016 11:17
2-Chlorotoluene	ND	0.0050	1	02/16/2016 11:17
4-Chlorotoluene	ND	0.0050	1	02/16/2016 11:17
Dibromochloromethane	ND	0.0050	1	02/16/2016 11:17
1,2-Dibromo-3-chloropropane	ND	0.0040	1	02/16/2016 11:17
1,2-Dibromoethane (EDB)	ND	0.0040	1	02/16/2016 11:17
Dibromomethane	ND	0.0050	1	02/16/2016 11:17
1,2-Dichlorobenzene	ND	0.0050	1	02/16/2016 11:17
1,3-Dichlorobenzene	ND	0.0050	1	02/16/2016 11:17
1,4-Dichlorobenzene	ND	0.0050	1	02/16/2016 11:17
Dichlorodifluoromethane	ND	0.0050	1	02/16/2016 11:17
1,1-Dichloroethane	ND	0.0050	1	02/16/2016 11:17
1,2-Dichloroethane (1,2-DCA)	ND	0.0040	1	02/16/2016 11:17
1,1-Dichloroethene	ND	0.0050	1	02/16/2016 11:17
cis-1,2-Dichloroethene	ND	0.0050	1	02/16/2016 11:17
trans-1,2-Dichloroethene	ND	0.0050	1	02/16/2016 11:17
1,2-Dichloropropane	ND	0.0050	1	02/16/2016 11:17
1,3-Dichloropropane	ND	0.0050	1	02/16/2016 11:17
2,2-Dichloropropane	ND	0.0050	1	02/16/2016 11:17

(Cont.)



## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-2.5	1602473-004A	Soil	02/11/2016 13:20	GC16	116619

Analytes	Result	RL	DF	Date Analyzed
1,1-Dichloropropene	ND	0.0050	1	02/16/2016 11:17
cis-1,3-Dichloropropene	ND	0.0050	1	02/16/2016 11:17
trans-1,3-Dichloropropene	ND	0.0050	1	02/16/2016 11:17
Diisopropyl ether (DIPE)	ND	0.0050	1	02/16/2016 11:17
Ethylbenzene	ND	0.0050	1	02/16/2016 11:17
Ethyl tert-butyl ether (ETBE)	ND	0.0050	1	02/16/2016 11:17
Freon 113	ND	0.0050	1	02/16/2016 11:17
Hexachlorobutadiene	ND	0.0050	1	02/16/2016 11:17
Hexachloroethane	ND	0.0050	1	02/16/2016 11:17
2-Hexanone	ND	0.0050	1	02/16/2016 11:17
Isopropylbenzene	ND	0.0050	1	02/16/2016 11:17
4-Isopropyl toluene	ND	0.0050	1	02/16/2016 11:17
Methyl-t-butyl ether (MTBE)	ND	0.0050	1	02/16/2016 11:17
Methylene chloride	ND	0.0050	1	02/16/2016 11:17
4-Methyl-2-pentanone (MIBK)	ND	0.0050	1	02/16/2016 11:17
Naphthalene	ND	0.0050	1	02/16/2016 11:17
n-Propyl benzene	ND	0.0050	1	02/16/2016 11:17
Styrene	ND	0.0050	1	02/16/2016 11:17
1,1,1,2-Tetrachloroethane	ND	0.0050	1	02/16/2016 11:17
1,1,2,2-Tetrachloroethane	ND	0.0050	1	02/16/2016 11:17
Tetrachloroethene	<b>0.032</b>	0.0050	1	02/16/2016 11:17
Toluene	ND	0.0050	1	02/16/2016 11:17
1,2,3-Trichlorobenzene	ND	0.0050	1	02/16/2016 11:17
1,2,4-Trichlorobenzene	ND	0.0050	1	02/16/2016 11:17
1,1,1-Trichloroethane	ND	0.0050	1	02/16/2016 11:17
1,1,2-Trichloroethane	ND	0.0050	1	02/16/2016 11:17
Trichloroethene	ND	0.0050	1	02/16/2016 11:17
Trichlorofluoromethane	ND	0.0050	1	02/16/2016 11:17
1,2,3-Trichloropropane	ND	0.0050	1	02/16/2016 11:17
1,2,4-Trimethylbenzene	ND	0.0050	1	02/16/2016 11:17
1,3,5-Trimethylbenzene	ND	0.0050	1	02/16/2016 11:17
Vinyl Chloride	ND	0.0050	1	02/16/2016 11:17
Xylenes, Total	ND	0.0050	1	02/16/2016 11:17

(Cont.)



## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-2.5	1602473-004A	Soil	02/11/2016 13:20	GC16	116619

Analytes	Result	RL	DF	Date Analyzed
<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>		
Dibromofluoromethane	101	70-130		02/16/2016 11:17
Toluene-d8	106	70-130		02/16/2016 11:17
4-BFB	104	70-130		02/16/2016 11:17
Benzene-d6	84	60-140		02/16/2016 11:17
Ethylbenzene-d10	85	60-140		02/16/2016 11:17
1,2-DCB-d4	62	60-140		02/16/2016 11:17

Analyst(s): AK





## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/19/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-W	1602473-008A	Water	02/11/2016 13:50	GC28	116946
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	10	1	02/19/2016 11:37	
tert-Amyl methyl ether (TAME)	ND	0.50	1	02/19/2016 11:37	
Benzene	ND	0.50	1	02/19/2016 11:37	
Bromobenzene	ND	0.50	1	02/19/2016 11:37	
Bromochloromethane	ND	0.50	1	02/19/2016 11:37	
Bromodichloromethane	ND	0.50	1	02/19/2016 11:37	
Bromoform	ND	0.50	1	02/19/2016 11:37	
Bromomethane	ND	0.50	1	02/19/2016 11:37	
2-Butanone (MEK)	ND	2.0	1	02/19/2016 11:37	
t-Butyl alcohol (TBA)	ND	2.0	1	02/19/2016 11:37	
n-Butyl benzene	ND	0.50	1	02/19/2016 11:37	
sec-Butyl benzene	ND	0.50	1	02/19/2016 11:37	
tert-Butyl benzene	ND	0.50	1	02/19/2016 11:37	
Carbon Disulfide	ND	0.50	1	02/19/2016 11:37	
Carbon Tetrachloride	ND	0.50	1	02/19/2016 11:37	
Chlorobenzene	ND	0.50	1	02/19/2016 11:37	
Chloroethane	ND	0.50	1	02/19/2016 11:37	
Chloroform	ND	0.50	1	02/19/2016 11:37	
Chloromethane	ND	0.50	1	02/19/2016 11:37	
2-Chlorotoluene	ND	0.50	1	02/19/2016 11:37	
4-Chlorotoluene	ND	0.50	1	02/19/2016 11:37	
Dibromochloromethane	ND	0.50	1	02/19/2016 11:37	
1,2-Dibromo-3-chloropropane	ND	0.20	1	02/19/2016 11:37	
1,2-Dibromoethane (EDB)	ND	0.50	1	02/19/2016 11:37	
Dibromomethane	ND	0.50	1	02/19/2016 11:37	
1,2-Dichlorobenzene	ND	0.50	1	02/19/2016 11:37	
1,3-Dichlorobenzene	ND	0.50	1	02/19/2016 11:37	
1,4-Dichlorobenzene	ND	0.50	1	02/19/2016 11:37	
Dichlorodifluoromethane	ND	0.50	1	02/19/2016 11:37	
1,1-Dichloroethane	ND	0.50	1	02/19/2016 11:37	
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	02/19/2016 11:37	
1,1-Dichloroethene	ND	0.50	1	02/19/2016 11:37	
cis-1,2-Dichloroethene	ND	0.50	1	02/19/2016 11:37	
trans-1,2-Dichloroethene	ND	0.50	1	02/19/2016 11:37	
1,2-Dichloropropane	ND	0.50	1	02/19/2016 11:37	
1,3-Dichloropropane	ND	0.50	1	02/19/2016 11:37	
2,2-Dichloropropane	ND	0.50	1	02/19/2016 11:37	

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## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/19/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-W	1602473-008A	Water	02/11/2016 13:50	GC28	116946
Analytes	Result	RL	DF	Date Analyzed	
1,1-Dichloropropene	ND	0.50	1	02/19/2016 11:37	
cis-1,3-Dichloropropene	ND	0.50	1	02/19/2016 11:37	
trans-1,3-Dichloropropene	ND	0.50	1	02/19/2016 11:37	
Diisopropyl ether (DIPE)	ND	0.50	1	02/19/2016 11:37	
Ethylbenzene	ND	0.50	1	02/19/2016 11:37	
Ethyl tert-butyl ether (ETBE)	ND	0.50	1	02/19/2016 11:37	
Freon 113	ND	0.50	1	02/19/2016 11:37	
Hexachlorobutadiene	ND	0.50	1	02/19/2016 11:37	
Hexachloroethane	ND	0.50	1	02/19/2016 11:37	
2-Hexanone	ND	0.50	1	02/19/2016 11:37	
Isopropylbenzene	ND	0.50	1	02/19/2016 11:37	
4-Isopropyl toluene	ND	0.50	1	02/19/2016 11:37	
Methyl-t-butyl ether (MTBE)	ND	0.50	1	02/19/2016 11:37	
Methylene chloride	ND	0.50	1	02/19/2016 11:37	
4-Methyl-2-pentanone (MIBK)	ND	0.50	1	02/19/2016 11:37	
Naphthalene	ND	0.50	1	02/19/2016 11:37	
n-Propyl benzene	ND	0.50	1	02/19/2016 11:37	
Styrene	ND	0.50	1	02/19/2016 11:37	
1,1,1,2-Tetrachloroethane	ND	0.50	1	02/19/2016 11:37	
1,1,2,2-Tetrachloroethane	ND	0.50	1	02/19/2016 11:37	
Tetrachloroethene	<b>9.5</b>	0.50	1	02/19/2016 11:37	
Toluene	ND	0.50	1	02/19/2016 11:37	
1,2,3-Trichlorobenzene	ND	0.50	1	02/19/2016 11:37	
1,2,4-Trichlorobenzene	ND	0.50	1	02/19/2016 11:37	
1,1,1-Trichloroethane	ND	0.50	1	02/19/2016 11:37	
1,1,2-Trichloroethane	ND	0.50	1	02/19/2016 11:37	
Trichloroethene	<b>1.2</b>	0.50	1	02/19/2016 11:37	
Trichlorofluoromethane	ND	0.50	1	02/19/2016 11:37	
1,2,3-Trichloropropane	ND	0.50	1	02/19/2016 11:37	
1,2,4-Trimethylbenzene	ND	0.50	1	02/19/2016 11:37	
1,3,5-Trimethylbenzene	ND	0.50	1	02/19/2016 11:37	
Vinyl Chloride	ND	0.50	1	02/19/2016 11:37	
Xylenes, Total	ND	0.50	1	02/19/2016 11:37	

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## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/19/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-W	1602473-008A	Water	02/11/2016 13:50	GC28	116946
Analytes	Result	RL	DF	Date Analyzed	
Acetone	ND	10	1	02/19/2016 11:37	
tert-Amyl methyl ether (TAME)	ND	0.50	1	02/19/2016 11:37	
Benzene	ND	0.50	1	02/19/2016 11:37	
Bromobenzene	ND	0.50	1	02/19/2016 11:37	
Bromochloromethane	ND	0.50	1	02/19/2016 11:37	
Bromodichloromethane	ND	0.50	1	02/19/2016 11:37	
Bromoform	ND	0.50	1	02/19/2016 11:37	
Bromomethane	ND	0.50	1	02/19/2016 11:37	
2-Butanone (MEK)	ND	2.0	1	02/19/2016 11:37	
t-Butyl alcohol (TBA)	ND	2.0	1	02/19/2016 11:37	
n-Butyl benzene	ND	0.50	1	02/19/2016 11:37	
sec-Butyl benzene	ND	0.50	1	02/19/2016 11:37	
tert-Butyl benzene	ND	0.50	1	02/19/2016 11:37	
Carbon Disulfide	ND	0.50	1	02/19/2016 11:37	
Carbon Tetrachloride	ND	0.50	1	02/19/2016 11:37	
Chlorobenzene	ND	0.50	1	02/19/2016 11:37	
Chloroethane	ND	0.50	1	02/19/2016 11:37	
Chloroform	ND	0.50	1	02/19/2016 11:37	
Chloromethane	ND	0.50	1	02/19/2016 11:37	
2-Chlorotoluene	ND	0.50	1	02/19/2016 11:37	
4-Chlorotoluene	ND	0.50	1	02/19/2016 11:37	
Dibromochloromethane	ND	0.50	1	02/19/2016 11:37	
1,2-Dibromo-3-chloropropane	ND	0.20	1	02/19/2016 11:37	
1,2-Dibromoethane (EDB)	ND	0.50	1	02/19/2016 11:37	
Dibromomethane	ND	0.50	1	02/19/2016 11:37	
1,2-Dichlorobenzene	ND	0.50	1	02/19/2016 11:37	
1,3-Dichlorobenzene	ND	0.50	1	02/19/2016 11:37	
1,4-Dichlorobenzene	ND	0.50	1	02/19/2016 11:37	
Dichlorodifluoromethane	ND	0.50	1	02/19/2016 11:37	
1,1-Dichloroethane	ND	0.50	1	02/19/2016 11:37	
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	02/19/2016 11:37	
1,1-Dichloroethene	ND	0.50	1	02/19/2016 11:37	
cis-1,2-Dichloroethene	ND	0.50	1	02/19/2016 11:37	
trans-1,2-Dichloroethene	ND	0.50	1	02/19/2016 11:37	
1,2-Dichloropropane	ND	0.50	1	02/19/2016 11:37	
1,3-Dichloropropane	ND	0.50	1	02/19/2016 11:37	
2,2-Dichloropropane	ND	0.50	1	02/19/2016 11:37	

(Cont.)



## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/19/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L

### Volatile Organics by P&T and GC/MS (Basic Target List)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-W	1602473-008A	Water	02/11/2016 13:50	GC28	116946
<u>Analytes</u>	<u>Result</u>		<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
1,1-Dichloropropene	ND		0.50	1	02/19/2016 11:37
cis-1,3-Dichloropropene	ND		0.50	1	02/19/2016 11:37
trans-1,3-Dichloropropene	ND		0.50	1	02/19/2016 11:37
Diisopropyl ether (DIPE)	ND		0.50	1	02/19/2016 11:37
Ethylbenzene	ND		0.50	1	02/19/2016 11:37
Ethyl tert-butyl ether (ETBE)	ND		0.50	1	02/19/2016 11:37
Freon 113	ND		0.50	1	02/19/2016 11:37
Hexachlorobutadiene	ND		0.50	1	02/19/2016 11:37
Hexachloroethane	ND		0.50	1	02/19/2016 11:37
2-Hexanone	ND		0.50	1	02/19/2016 11:37
Isopropylbenzene	ND		0.50	1	02/19/2016 11:37
4-Isopropyl toluene	ND		0.50	1	02/19/2016 11:37
Methyl-t-butyl ether (MTBE)	ND		0.50	1	02/19/2016 11:37
Methylene chloride	ND		0.50	1	02/19/2016 11:37
4-Methyl-2-pentanone (MIBK)	ND		0.50	1	02/19/2016 11:37
Naphthalene	ND		0.50	1	02/19/2016 11:37
n-Propyl benzene	ND		0.50	1	02/19/2016 11:37
Styrene	ND		0.50	1	02/19/2016 11:37
1,1,1,2-Tetrachloroethane	ND		0.50	1	02/19/2016 11:37
1,1,2,2-Tetrachloroethane	ND		0.50	1	02/19/2016 11:37
Tetrachloroethene	<b>9.5</b>		0.50	1	02/19/2016 11:37
Toluene	ND		0.50	1	02/19/2016 11:37
1,2,3-Trichlorobenzene	ND		0.50	1	02/19/2016 11:37
1,2,4-Trichlorobenzene	ND		0.50	1	02/19/2016 11:37
1,1,1-Trichloroethane	ND		0.50	1	02/19/2016 11:37
1,1,2-Trichloroethane	ND		0.50	1	02/19/2016 11:37
Trichloroethene	<b>1.2</b>		0.50	1	02/19/2016 11:37
Trichlorofluoromethane	ND		0.50	1	02/19/2016 11:37
1,2,3-Trichloropropane	ND		0.50	1	02/19/2016 11:37
1,2,4-Trimethylbenzene	ND		0.50	1	02/19/2016 11:37
1,3,5-Trimethylbenzene	ND		0.50	1	02/19/2016 11:37
Vinyl Chloride	ND		0.50	1	02/19/2016 11:37
Xylenes, Total	ND		0.50	1	02/19/2016 11:37

(Cont.)





## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg

### TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-8.5	1602473-001A	Soil	02/11/2016 10:25	GC16	116619

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.25	1	02/16/2016 10:37

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	111	70-130	02/16/2016 10:37
Benzene-d6	101	60-140	02/16/2016 10:37

Analyst(s): AK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-2.5	1602473-004A	Soil	02/11/2016 13:20	GC16	116619

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	0.25	1	02/16/2016 11:17

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	111	70-130	02/16/2016 11:17
Benzene-d6	95	60-140	02/16/2016 11:17

Analyst(s): AK





# Analytical Report

**Client:** Basics Environmental

**WorkOrder:** 1602473

**Date Received:** 2/12/16 13:18

**Extraction Method:** SW5030B

**Date Prepared:** 2/19/16

**Analytical Method:** SW8260B

**Project:** 01-2016-500-002; 139th Ave Property

**Unit:** µg/L

## TPH(g) by Purge & Trap and GC/MS

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-W	1602473-008A	Water	02/11/2016 13:50	GC28	116946

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	ND	50	1	02/19/2016 11:37

Surrogates	REC (%)	Limits	Date Analyzed
Dibromofluoromethane	112	70-130	02/19/2016 11:37

Analyst(s): KF

Analytical Comments: b1





## Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW3550B  
**Analytical Method:** SW8015B  
**Unit:** mg/Kg

### Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-8.5	1602473-001A	Soil	02/11/2016 10:25	GC9a	116621

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Motor Oil (C18-C36)	ND	5.0	1	02/15/2016 16:47

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	83	70-130	02/15/2016 16:47

Analyst(s): TK

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-2-2.5	1602473-004A	Soil	02/11/2016 13:20	GC9a	116621

<u>Analytes</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Date Analyzed</u>
TPH-Motor Oil (C18-C36)	ND	5.0	1	02/15/2016 17:26

<u>Surrogates</u>	<u>REC (%)</u>	<u>Limits</u>	<u>Date Analyzed</u>
C9	83	70-130	02/15/2016 17:26

Analyst(s): TK



# Analytical Report

**Client:** Basics Environmental  
**Date Received:** 2/12/16 13:18  
**Date Prepared:** 2/12/16  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**Extraction Method:** SW3510C  
**Analytical Method:** SW8015B  
**Unit:** µg/L

## Total Extractable Petroleum Hydrocarbons w/out SG Clean-Up

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SB-1-W	1602473-008B	Water	02/11/2016 13:50	GC9b	116613

Analytes	Result	RL	DF	Date Analyzed
TPH-Motor Oil (C18-C36)	ND	500	1	02/16/2016 02:28

Surrogates	REC (%)	Limits	Date Analyzed
C9	93	70-130	02/16/2016 02:28

**Analyst(s):** TK      **Analytical Comments:** a3,b1



## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/18/16  
**Date Analyzed:** 2/19/16  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 116913  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-116913  
 1602751-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0400	0.0050	0.050	-	80	53-116
Benzene	ND	0.0443	0.0050	0.050	-	89	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.206	0.050	0.20	-	103	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0443	0.0050	0.050	-	89	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0414	0.0040	0.050	-	83	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0472	0.0040	0.050	-	94	58-135
1,1-Dichloroethene	ND	0.0382	0.0050	0.050	-	76	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/18/16  
**Date Analyzed:** 2/19/16  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 116913  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-116913  
 1602751-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0435	0.0050	0.050	-	87	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0431	0.0050	0.050	-	86	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0424	0.0050	0.050	-	85	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0449	0.0050	0.050	-	90	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0424	0.0050	0.050	-	85	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

<b>Client:</b>	Basics Environmental	<b>WorkOrder:</b>	1602473
<b>Date Prepared:</b>	2/18/16	<b>BatchID:</b>	116913
<b>Date Analyzed:</b>	2/19/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC16	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Soil	<b>Unit:</b>	mg/kg
<b>Project:</b>	01-2016-500-002; 139th Ave Property	<b>Sample ID:</b>	MB/LCS-116913 1602751-001AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
Dibromofluoromethane	0.123	0.125		0.12	98	100	70-130
Toluene-d8	0.162	0.154		0.12	129	123	70-130
4-BFB	0.0135	0.0142		0.012	108	114	70-130
Benzene-d6	0.124	0.117		0.10	124	117	60-140
Ethylbenzene-d10	0.143	0.136		0.10	143,F3	136	60-140
1,2-DCB-d4	0.0746	0.0777		0.10	75	78	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0598	0.0597	0.050	ND	120,F1	119,F1	56-94	0.266	20
Benzene	0.0564	0.0559	0.050	ND	113,F1	112,F1	60-106	0.924	20
t-Butyl alcohol (TBA)	0.245	0.249	0.20	ND	123	124	56-140	1.49	20
Chlorobenzene	0.0521	0.0517	0.050	ND	104	103	61-108	0.876	20
1,2-Dibromoethane (EDB)	0.0520	0.0573	0.050	ND	104	115	54-119	9.75	20
1,2-Dichloroethane (1,2-DCA)	0.0545	0.0556	0.050	ND	109	111	48-115	1.95	20
1,1-Dichloroethene	0.0497	0.0502	0.050	ND	99	100	46-111	1.13	20
Diisopropyl ether (DIPE)	0.0600	0.0602	0.050	ND	120,F1	120,F1	53-111	0	20
Ethyl tert-butyl ether (ETBE)	0.0589	0.0592	0.050	ND	118,F1	118,F1	61-104	0	20
Methyl-t-butyl ether (MTBE)	0.0562	0.0570	0.050	ND	112,F1	114,F1	58-107	1.43	20
Toluene	0.0478	0.0472	0.050	ND	96	94	64-114	1.20	20
Trichloroethene	0.0549	0.0556	0.050	ND	110	111	60-116	1.22	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.147	0.150	0.12		118	120	70-130	1.74	20
Toluene-d8	0.126	0.129	0.12		101	103	70-130	1.84	20
4-BFB	0.0127	0.0114	0.012		101	91	88-121	10.9	20
Benzene-d6	0.120	0.122	0.10		120	122	60-140	1.59	20
Ethylbenzene-d10	0.110	0.111	0.10		110	111	60-140	0.777	20
1,2-DCB-d4	0.107	0.110	0.10		107	110	60-140	2.95	20

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## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/22/16  
**Date Analyzed:** 2/23/16  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 117057  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-117057  
 1602863-041AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0400	0.0050	0.050	-	80	53-116
Benzene	ND	0.0459	0.0050	0.050	-	92	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.212	0.050	0.20	-	106	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0458	0.0050	0.050	-	92	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0469	0.0040	0.050	-	94	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0468	0.0040	0.050	-	94	58-135
1,1-Dichloroethene	ND	0.0437	0.0050	0.050	-	87	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/22/16  
**Date Analyzed:** 2/23/16  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 117057  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-117057  
 1602863-041AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0456	0.0050	0.050	-	91	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0441	0.0050	0.050	-	88	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0424	0.0050	0.050	-	85	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0459	0.0050	0.050	-	92	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0454	0.0050	0.050	-	91	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

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## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/22/16  
**Date Analyzed:** 2/23/16  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 117057  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-117057  
 1602863-041AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
Dibromofluoromethane	0.122	0.127		0.12	97	101	70-130
Toluene-d8	0.156	0.148		0.12	124	119	70-130
4-BFB	0.0133	0.0139		0.012	106	111	70-130
Benzene-d6	0.0929	0.113		0.10	93	113	60-140
Ethylbenzene-d10	0.108	0.132		0.10	108	132	60-140
1,2-DCB-d4	0.0705	0.0763		0.10	70	76	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0572	0.0561	0.050	ND	115,F1	112,F1	56-94	2.11	20
Benzene	0.0533	0.0526	0.050	ND	107,F1	105	60-106	1.32	20
t-Butyl alcohol (TBA)	0.240	0.238	0.20	ND	120	119	56-140	0.771	20
Chlorobenzene	0.0494	0.0488	0.050	ND	99	98	61-108	1.17	20
1,2-Dibromoethane (EDB)	0.0509	0.0501	0.050	ND	102	100	54-119	1.66	20
1,2-Dichloroethane (1,2-DCA)	0.0520	0.0518	0.050	ND	104	104	48-115	0	20
1,1-Dichloroethene	0.0449	0.0451	0.050	ND	90	90	46-111	0	20
Diisopropyl ether (DIPE)	0.0573	0.0558	0.050	ND	115,F1	112,F1	53-111	2.72	20
Ethyl tert-butyl ether (ETBE)	0.0562	0.0551	0.050	ND	112,F1	110,F1	61-104	1.97	20
Methyl-t-butyl ether (MTBE)	0.0537	0.0526	0.050	ND	107	105	58-107	2.24	20
Toluene	0.0436	0.0428	0.050	ND	87	85	64-114	1.97	20
Trichloroethene	0.0514	0.0511	0.050	ND	103	102	60-116	0.533	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.147	0.148	0.12		117	119	70-130	1.09	20
Toluene-d8	0.123	0.122	0.12		98	98	70-130	0	20
4-BFB	0.0119	0.0118	0.012		95	94	88-121	0.943	20
Benzene-d6	0.112	0.111	0.10		112	111	60-140	0.901	20
Ethylbenzene-d10	0.103	0.101	0.10		103	101	60-140	1.74	20
1,2-DCB-d4	0.102	0.102	0.10		102	102	60-140	0	20

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## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/23/16  
**Date Analyzed:** 2/24/16  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 117127  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-117127  
 1602941-011AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0388	0.0050	0.050	-	78	53-116
Benzene	ND	0.0432	0.0050	0.050	-	86	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.207	0.050	0.20	-	104	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0438	0.0050	0.050	-	88	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0460	0.0040	0.050	-	92	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0454	0.0040	0.050	-	91	58-135
1,1-Dichloroethene	ND	0.0413	0.0050	0.050	-	83	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-

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## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/23/16  
**Date Analyzed:** 2/24/16  
**Instrument:** GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 117127  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-117127  
 1602941-011AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0428	0.0050	0.050	-	86	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0426	0.0050	0.050	-	85	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0419	0.0050	0.050	-	84	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0452	0.0050	0.050	-	90	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0456	0.0050	0.050	-	91	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

(Cont.)



## Quality Control Report

<b>Client:</b>	Basics Environmental	<b>WorkOrder:</b>	1602473
<b>Date Prepared:</b>	2/23/16	<b>BatchID:</b>	117127
<b>Date Analyzed:</b>	2/24/16	<b>Extraction Method:</b>	SW5030B
<b>Instrument:</b>	GC16	<b>Analytical Method:</b>	SW8260B
<b>Matrix:</b>	Soil	<b>Unit:</b>	mg/kg
<b>Project:</b>	01-2016-500-002; 139th Ave Property	<b>Sample ID:</b>	MB/LCS-117127 1602941-011AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
Dibromofluoromethane	0.123	0.129		0.12	98	103	70-130
Toluene-d8	0.156	0.160		0.12	125	128	70-130
4-BFB	0.0140	0.0158		0.012	112	126	70-130
Benzene-d6	0.0949	0.101		0.10	95	101	60-140
Ethylbenzene-d10	0.106	0.117		0.10	106	117	60-140
1,2-DCB-d4	0.0679	0.0752		0.10	68	75	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0488	0.0503	0.050	ND	98	101	70-130	3.09	20
Benzene	0.0452	0.0469	0.050	ND	90	94	70-130	3.75	20
t-Butyl alcohol (TBA)	0.196	0.200	0.20	ND	98	100	70-130	2.20	20
Chlorobenzene	0.0434	0.0443	0.050	ND	87	89	70-130	1.86	20
1,2-Dibromoethane (EDB)	0.0439	0.0456	0.050	ND	88	91	70-130	3.85	20
1,2-Dichloroethane (1,2-DCA)	0.0446	0.0459	0.050	ND	89	92	70-130	2.77	20
1,1-Dichloroethene	0.0374	0.0398	0.050	ND	75	80	70-130	6.24	20
Diisopropyl ether (DIPE)	0.0488	0.0507	0.050	ND	98	101	70-130	3.88	20
Ethyl tert-butyl ether (ETBE)	0.0479	0.0496	0.050	ND	96	99	70-130	3.35	20
Methyl-t-butyl ether (MTBE)	0.0460	0.0475	0.050	ND	92	95	70-130	3.01	20
Toluene	0.0393	0.0408	0.050	ND	79	82	70-130	3.71	20
Trichloroethene	0.0430	0.0446	0.050	ND	86	89	70-130	3.66	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.147	0.146	0.12		117	117	70-130	0	20
Toluene-d8	0.129	0.130	0.12		103	104	70-130	0.503	20
4-BFB	0.0122	0.0122	0.012		98	98	70-130	0	20
Benzene-d6	0.0950	0.0996	0.10		95	100	60-140	4.72	20
Ethylbenzene-d10	0.0907	0.0948	0.10		91	95	60-140	4.40	20
1,2-DCB-d4	0.0904	0.0942	0.10		90	94	60-140	4.15	20



## Quality Control Report

<b>Client:</b> Basics Environmental	<b>WorkOrder:</b> 1602473
<b>Date Prepared:</b> 2/11/16	<b>BatchID:</b> 116613
<b>Date Analyzed:</b> 2/13/16	<b>Extraction Method:</b> SW3510C
<b>Instrument:</b> GC39B	<b>Analytical Method:</b> SW8015B
<b>Matrix:</b> Water	<b>Unit:</b> µg/L
<b>Project:</b> 01-2016-500-002; 139th Ave Property	<b>Sample ID:</b> MB/LCS-116613

### QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	1110	50	1000	-	111	61-157
TPH-Motor Oil (C18-C36)	ND	-	250	-	-	-	-
<b>Surrogate Recovery</b>							
C9	638	641		625	102	103	65-122





## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/11/16  
**Date Analyzed:** 2/12/16  
**Instrument:** GC10, GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 116619  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-116619  
 1602450-004AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	0.10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.0442	0.0050	0.050	-	88	53-116
Benzene	ND	0.0500	0.0050	0.050	-	100	63-137
Bromobenzene	ND	-	0.0050	-	-	-	-
Bromochloromethane	ND	-	0.0050	-	-	-	-
Bromodichloromethane	ND	-	0.0050	-	-	-	-
Bromoform	ND	-	0.0050	-	-	-	-
Bromomethane	ND	-	0.0050	-	-	-	-
2-Butanone (MEK)	ND	-	0.020	-	-	-	-
t-Butyl alcohol (TBA)	ND	0.215	0.050	0.20	-	107	41-135
n-Butyl benzene	ND	-	0.0050	-	-	-	-
sec-Butyl benzene	ND	-	0.0050	-	-	-	-
tert-Butyl benzene	ND	-	0.0050	-	-	-	-
Carbon Disulfide	ND	-	0.0050	-	-	-	-
Carbon Tetrachloride	ND	-	0.0050	-	-	-	-
Chlorobenzene	ND	0.0468	0.0050	0.050	-	94	77-121
Chloroethane	ND	-	0.0050	-	-	-	-
Chloroform	ND	-	0.0050	-	-	-	-
Chloromethane	ND	-	0.0050	-	-	-	-
2-Chlorotoluene	ND	-	0.0050	-	-	-	-
4-Chlorotoluene	ND	-	0.0050	-	-	-	-
Dibromochloromethane	ND	-	0.0050	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.0040	-	-	-	-
1,2-Dibromoethane (EDB)	ND	0.0447	0.0040	0.050	-	89	67-119
Dibromomethane	ND	-	0.0050	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.0050	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.0050	-	-	-	-
Dichlorodifluoromethane	ND	-	0.0050	-	-	-	-
1,1-Dichloroethane	ND	-	0.0050	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.0511	0.0040	0.050	-	102	58-135
1,1-Dichloroethene	ND	0.0475	0.0050	0.050	-	95	42-145
cis-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.0050	-	-	-	-
1,2-Dichloropropane	ND	-	0.0050	-	-	-	-
1,3-Dichloropropane	ND	-	0.0050	-	-	-	-
2,2-Dichloropropane	ND	-	0.0050	-	-	-	-

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## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/11/16  
**Date Analyzed:** 2/12/16  
**Instrument:** GC10, GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 116619  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-116619  
 1602450-004AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.0050	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.0050	-	-	-	-
Diisopropyl ether (DIPE)	ND	0.0493	0.0050	0.050	-	99	52-129
Ethylbenzene	ND	-	0.0050	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.0484	0.0050	0.050	-	97	53-125
Freon 113	ND	-	0.0050	-	-	-	-
Hexachlorobutadiene	ND	-	0.0050	-	-	-	-
Hexachloroethane	ND	-	0.0050	-	-	-	-
2-Hexanone	ND	-	0.0050	-	-	-	-
Isopropylbenzene	ND	-	0.0050	-	-	-	-
4-Isopropyl toluene	ND	-	0.0050	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.0469	0.0050	0.050	-	94	58-122
Methylene chloride	ND	-	0.0050	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.0050	-	-	-	-
Naphthalene	ND	-	0.0050	-	-	-	-
n-Propyl benzene	ND	-	0.0050	-	-	-	-
Styrene	ND	-	0.0050	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.0050	-	-	-	-
Tetrachloroethene	ND	-	0.0050	-	-	-	-
Toluene	ND	0.0499	0.0050	0.050	-	100	76-130
1,2,3-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.0050	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.0050	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.0050	-	-	-	-
Trichloroethene	ND	0.0481	0.0050	0.050	-	96	72-132
Trichlorofluoromethane	ND	-	0.0050	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.0050	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.0050	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.0050	-	-	-	-
Vinyl Chloride	ND	-	0.0050	-	-	-	-
Xylenes, Total	ND	-	0.0050	-	-	-	-

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## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/11/16  
**Date Analyzed:** 2/12/16  
**Instrument:** GC10, GC16  
**Matrix:** Soil  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 116619  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** mg/kg  
**Sample ID:** MB/LCS-116619  
 1602450-004AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
Dibromofluoromethane	0.129	0.129		0.12	104	103	70-130
Toluene-d8	0.158	0.150		0.12	126	120	70-130
4-BFB	0.0115	0.0143		0.012	92	115	70-130
Benzene-d6	0.112	0.123		0.10	112	123	60-140
Ethylbenzene-d10	0.133	0.136		0.10	133	136	60-140
1,2-DCB-d4	0.103	0.0795		0.10	103	79	60-140

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	0.0372	0.0381	0.050	ND	74	76	56-94	2.53	20
Benzene	0.0422	0.0422	0.050	ND	84	84	60-106	0	20
t-Butyl alcohol (TBA)	0.181	0.183	0.20	ND	91	92	56-140	1.11	20
Chlorobenzene	0.0402	0.0407	0.050	ND	81	81	61-108	0	20
1,2-Dibromoethane (EDB)	0.0388	0.0389	0.050	ND	78	78	54-119	0	20
1,2-Dichloroethane (1,2-DCA)	0.0432	0.0438	0.050	ND	86	88	48-115	1.34	20
1,1-Dichloroethene	0.0389	0.0389	0.050	ND	78	78	46-111	0	20
Diisopropyl ether (DIPE)	0.0418	0.0422	0.050	ND	84	84	53-111	0	20
Ethyl tert-butyl ether (ETBE)	0.0408	0.0416	0.050	ND	82	83	61-104	1.94	20
Methyl-t-butyl ether (MTBE)	0.0398	0.0410	0.050	ND	80	82	58-107	2.95	20
Toluene	0.0430	0.0431	0.050	ND	86	86	64-114	0	20
Trichloroethene	0.0397	0.0399	0.050	ND	79	80	60-116	0.658	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	0.124	0.126	0.12		99	100	70-130	1.04	20
Toluene-d8	0.147	0.147	0.12		117	118	70-130	0.409	20
4-BFB	0.0138	0.0135	0.012		110	108	88-121	2.41	20
Benzene-d6	0.0936	0.0956	0.10		94	96	60-140	2.14	20
Ethylbenzene-d10	0.104	0.105	0.10		104	105	60-140	0.956	20
1,2-DCB-d4	0.0678	0.0700	0.10		68	70	60-140	3.16	20

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## Quality Control Report

<b>Client:</b> Basics Environmental	<b>WorkOrder:</b> 1602473
<b>Date Prepared:</b> 2/11/16	<b>BatchID:</b> 116621
<b>Date Analyzed:</b> 2/11/16	<b>Extraction Method:</b> SW3550B
<b>Instrument:</b> GC39B	<b>Analytical Method:</b> SW8015B
<b>Matrix:</b> Soil	<b>Unit:</b> mg/Kg
<b>Project:</b> 01-2016-500-002; 139th Ave Property	<b>Sample ID:</b> MB/LCS-116621 1602450-011AMS/MSD

### QC Report for SW8015B w/out SG Clean-Up

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
TPH-Diesel (C10-C23)	ND	45.2	1.0	40	-	113	70-130
TPH-Motor Oil (C18-C36)	ND	-	5.0	-	-	-	-
<b>Surrogate Recovery</b>							
C9	25.4	25.4		25	101	102	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
TPH-Diesel (C10-C23)	48.9	51.5	40	ND	122	129	70-130	5.14	30
<b>Surrogate Recovery</b>									
C9	25.3	25.3	25		101	101	70-130	0	30



## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/19/16  
**Date Analyzed:** 2/19/16  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 116946  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-116946  
 1602624-006AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	-	10	-	-	-	-
tert-Amyl methyl ether (TAME)	ND	9.92	0.50	10	-	99	54-140
Benzene	ND	11.6	0.50	10	-	116	47-158
Bromobenzene	ND	-	0.50	-	-	-	-
Bromochloromethane	ND	-	0.50	-	-	-	-
Bromodichloromethane	ND	-	0.50	-	-	-	-
Bromoform	ND	-	0.50	-	-	-	-
Bromomethane	ND	-	0.50	-	-	-	-
2-Butanone (MEK)	ND	-	2.0	-	-	-	-
t-Butyl alcohol (TBA)	ND	49.1	2.0	40	-	123	42-140
n-Butyl benzene	ND	-	0.50	-	-	-	-
sec-Butyl benzene	ND	-	0.50	-	-	-	-
tert-Butyl benzene	ND	-	0.50	-	-	-	-
Carbon Disulfide	ND	-	0.50	-	-	-	-
Carbon Tetrachloride	ND	-	0.50	-	-	-	-
Chlorobenzene	ND	10.9	0.50	10	-	109	43-157
Chloroethane	ND	-	0.50	-	-	-	-
Chloroform	ND	-	0.50	-	-	-	-
Chloromethane	ND	-	0.50	-	-	-	-
2-Chlorotoluene	ND	-	0.50	-	-	-	-
4-Chlorotoluene	ND	-	0.50	-	-	-	-
Dibromochloromethane	ND	-	0.50	-	-	-	-
1,2-Dibromo-3-chloropropane	ND	-	0.20	-	-	-	-
1,2-Dibromoethane (EDB)	ND	11.4	0.50	10	-	114	44-155
Dibromomethane	ND	-	0.50	-	-	-	-
1,2-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,3-Dichlorobenzene	ND	-	0.50	-	-	-	-
1,4-Dichlorobenzene	ND	-	0.50	-	-	-	-
Dichlorodifluoromethane	ND	-	0.50	-	-	-	-
1,1-Dichloroethane	ND	-	0.50	-	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	11.0	0.50	10	-	110	66-125
1,1-Dichloroethene	ND	11.3	0.50	10	-	113	47-149
cis-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
trans-1,2-Dichloroethene	ND	-	0.50	-	-	-	-
1,2-Dichloropropane	ND	-	0.50	-	-	-	-
1,3-Dichloropropane	ND	-	0.50	-	-	-	-
2,2-Dichloropropane	ND	-	0.50	-	-	-	-

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## Quality Control Report

**Client:** Basics Environmental  
**Date Prepared:** 2/19/16  
**Date Analyzed:** 2/19/16  
**Instrument:** GC28  
**Matrix:** Water  
**Project:** 01-2016-500-002; 139th Ave Property

**WorkOrder:** 1602473  
**BatchID:** 116946  
**Extraction Method:** SW5030B  
**Analytical Method:** SW8260B  
**Unit:** µg/L  
**Sample ID:** MB/LCS-116946  
 1602624-006AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
1,1-Dichloropropene	ND	-	0.50	-	-	-	-
cis-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
trans-1,3-Dichloropropene	ND	-	0.50	-	-	-	-
Diisopropyl ether (DIPE)	ND	12.0	0.50	10	-	120	57-136
Ethylbenzene	ND	-	0.50	-	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	10.9	0.50	10	-	109	55-137
Freon 113	ND	-	0.50	-	-	-	-
Hexachlorobutadiene	ND	-	0.50	-	-	-	-
Hexachloroethane	ND	-	0.50	-	-	-	-
2-Hexanone	ND	-	0.50	-	-	-	-
Isopropylbenzene	ND	-	0.50	-	-	-	-
4-Isopropyl toluene	ND	-	0.50	-	-	-	-
Methyl-t-butyl ether (MTBE)	ND	10.8	0.50	10	-	108	53-139
Methylene chloride	ND	-	0.50	-	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	-	0.50	-	-	-	-
Naphthalene	ND	-	0.50	-	-	-	-
n-Propyl benzene	ND	-	0.50	-	-	-	-
Styrene	ND	-	0.50	-	-	-	-
1,1,1,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
1,1,2,2-Tetrachloroethane	ND	-	0.50	-	-	-	-
Tetrachloroethene	ND	-	0.50	-	-	-	-
Toluene	ND	11.1	0.50	10	-	111	52-137
1,2,3-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,2,4-Trichlorobenzene	ND	-	0.50	-	-	-	-
1,1,1-Trichloroethane	ND	-	0.50	-	-	-	-
1,1,2-Trichloroethane	ND	-	0.50	-	-	-	-
Trichloroethene	ND	11.6	0.50	10	-	116	43-157
Trichlorofluoromethane	ND	-	0.50	-	-	-	-
1,2,3-Trichloropropane	ND	-	0.50	-	-	-	-
1,2,4-Trimethylbenzene	ND	-	0.50	-	-	-	-
1,3,5-Trimethylbenzene	ND	-	0.50	-	-	-	-
Vinyl Chloride	ND	-	0.50	-	-	-	-
Xylenes, Total	ND	-	0.50	-	-	-	-

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## Quality Control Report

<b>Client:</b> Basics Environmental	<b>WorkOrder:</b> 1602473
<b>Date Prepared:</b> 2/19/16	<b>BatchID:</b> 116946
<b>Date Analyzed:</b> 2/19/16	<b>Extraction Method:</b> SW5030B
<b>Instrument:</b> GC28	<b>Analytical Method:</b> SW8260B
<b>Matrix:</b> Water	<b>Unit:</b> µg/L
<b>Project:</b> 01-2016-500-002; 139th Ave Property	<b>Sample ID:</b> MB/LCS-116946 1602624-006AMS/MSD

### QC Summary Report for SW8260B

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
<b>Surrogate Recovery</b>							
Dibromofluoromethane	28.7	28.3		25	115	113	70-130
Toluene-d8	29.2	28.9		25	117	116	70-130
4-BFB	2.08	2.54		2.5	83	102	70-130

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
tert-Amyl methyl ether (TAME)	9.92	10.2	10	ND	99	102	69-139	2.46	20
Benzene	10.6	10.4	10	ND	106	104	69-141	1.73	20
t-Butyl alcohol (TBA)	48.4	42.9	40	ND	121	107	41-152	11.9	20
Chlorobenzene	9.56	9.43	10	ND	96	94	77-120	1.34	20
1,2-Dibromoethane (EDB)	10.4	10.4	10	ND	104	104	76-135	0	20
1,2-Dichloroethane (1,2-DCA)	10.5	10.3	10	ND	105	103	73-139	1.68	20
1,1-Dichloroethene	10.6	10.2	10	ND	106	101	59-140	4.42	20
Diisopropyl ether (DIPE)	11.2	10.9	10	ND	112	109	72-140	3.22	20
Ethyl tert-butyl ether (ETBE)	10.5	10.8	10	ND	105	109	71-140	3.71	20
Methyl-t-butyl ether (MTBE)	10.8	10.8	10	ND	108	108	73-139	0	20
Toluene	9.75	9.44	10	ND	98	94	71-128	3.30	20
Trichloroethene	10.5	10.5	10	ND	105	105	64-132	0	20
<b>Surrogate Recovery</b>									
Dibromofluoromethane	29.2	29.3	25		117	117	70-130	0	20
Toluene-d8	28.1	28.1	25		112	112	70-130	0	20
4-BFB	2.41	2.53	2.5		96	101	70-130	4.88	20



**CLIENT:** Basics Environmental  
**Work Order:** 1602473  
**Project:** 01-2016-500-002; 139th Ave Property

**ANALYTICAL QC SUMMARY REPORT**

**BatchID: 116619**

SampleID <b>MB-116619</b>	TestCode: <b>8260gas_S</b>	Units: <b>mg/kg</b>	Prep Date: <b>2/11/2016</b>
Batch ID: <b>116619</b>	TestNo: <b>SW8260B</b>	Run ID: <b>GC16_160219E</b>	Analysis Date: <b>2/12/2016</b>
Analyte	Result	PQL SPKValue SPKRefVal %REC Limits	RPDRefVal %RPD RPDLimit Qual

TPH(g)	ND	0.25	-
--------	----	------	---

**Surrogate Recovery**

Dibromofluoromethane	0.137	0.125	110	70 - 130
Benzene-d6	0.112	0.1	112	60 - 140

**Qualifiers:** ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits  
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits  
 B - Analyte detected in the associated Method Blank E - Value above quantitation range

CLIENT: Basics Environmental

# ANALYTICAL QC SUMMARY REPORT

Work Order: 1602473

Project: 01-2016-500-002; 139th Ave Property

BatchID: 116619

SampleID <b>LCS-116619</b>	TestCode: <b>8260GAS_s</b>	Units: <b>mg/kg</b>	Prep Date: <b>2/11/2016</b>
Batch ID: <b>116619</b>	TestNo: <b>SW8260B</b>	Run ID: <b>GC16_160213A</b>	Analysis Date: <b>2/12/2016</b>
Analyte	Result	PQL SPKValue SPKRefVal %REC Limits	RPDRefVal %RPD RPDLimit Qual

VOC (C6-C12)	2.85	0.25	3.2	0	89	74 - 142			
--------------	------	------	-----	---	----	----------	--	--	--

### Surrogate Recovery

Dibromofluoromethane	0.143		0.125		114	70 - 130			
Benzene-d6	0.124		0.1		124	60 - 140			

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range

CLIENT: Basics Environmental

# ANALYTICAL QC SUMMARY REPORT

Work Order: 1602473

Project: 01-2016-500-002; 139th Ave Property

BatchID: 116946

SampleID <b>MB-116946</b>	TestCode: <b>8260GAS_W</b>	Units: <b>µg/L</b>	Prep Date: <b>2/19/2016</b>
Batch ID: <b>116946</b>	TestNo: <b>SW8260B</b>	Run ID: <b>GC28_160219D</b>	Analysis Date: <b>2/19/2016</b>
Analyte	Result	PQL SPKValue SPKRefVal %REC Limits	RPDRefVal %RPD RPDLimit Qual

TPH(g)	ND	50	-
--------	----	----	---

### Surrogate Recovery

Dibromofluoromethane	27.7	25	111	70 - 130
----------------------	------	----	-----	----------

**Qualifiers:** ND - Not Detected at the Reporting Limit  
J - Analyte detected below quantitation limits  
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits  
R - RPD outside accepted recovery limits  
E - Value above quantitation range

CLIENT: Basics Environmental

# ANALYTICAL QC SUMMARY REPORT

Work Order: 1602473

Project: 01-2016-500-002; 139th Ave Property

BatchID: 116946

SampleID	<b>LCS-116946</b>	TestCode:	<b>8260GAS_W</b>	Units:	<b>µg/L</b>	Prep Date:	<b>2/19/2016</b>
Batch ID:	<b>116946</b>	TestNo:	<b>SW8260B</b>	Run ID:	<b>GC28_160219D</b>	Analysis Date:	<b>2/19/2016</b>
Analyte	Result	PQL	SPKValue	SPKRefVal	%REC	Limits	RPDRefVal %RPD RPDLimit Qual

VOC (C6-C12)	528	50	644	0	82	75 - 105	
--------------	-----	----	-----	---	----	----------	--

### Surrogate Recovery

Dibromofluoromethane	28.4		25		113	70 - 130	
----------------------	------	--	----	--	-----	----------	--

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range

1534 Willow Pass Rd  
Pittsburg, CA 94565-1701  
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD

WorkOrder: 1602473

ClientCode: BEO

WaterTrax     WriteOn     EDF     Excel     EQulS     Email     HardCopy     ThirdParty     J-flag

**Report to:**

Donavan Tom  
Basics Environmental  
655 12th Street, Suite 126  
Oakland, CA 94607  
(510) 834-9099    FAX: (510) 834-9098

Email: basicsenvironmental@gmail.com  
cc/3rd Party: litafreeman@gmail.com;  
PO:  
ProjectNo: 01-2016-500-002; 139th Ave Property

**Bill to:**

Accounts Payable  
Basics Environmental  
655 12th Street, Suite 126  
Oakland, CA 94607

**Requested TATs: 1 day;  
5 days;**  
  
**Date Received: 02/11/2016**  
**Date Logged: 02/12/2016**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1602473-001	SB-1-8.5	Soil	2/11/2016 10:25	<input type="checkbox"/>		A		A		A						
1602473-004	SB-2-2.5	Soil	2/11/2016 13:20	<input type="checkbox"/>		A		A		A						
1602473-005	SB-2-5	Soil	2/11/2016 13:35	<input type="checkbox"/>	A											
1602473-006	SB-2-10	Soil	2/11/2016 13:40	<input type="checkbox"/>	A											
1602473-007	SB-2-15	Soil	2/11/2016 13:45	<input type="checkbox"/>	A											
1602473-008	SB-1-W	Water	2/11/2016 13:50	<input type="checkbox"/>			A		A		B					

**Test Legend:**

1	8010BMS_S	2	8260B_S	3	8260B_W	4	8260GAS_S
5	8260GAS_W	6	TPH_S	7	TPH_W	8	
9		10		11		12	

**Project Manager: Blake Brown**

**Prepared by: Alexandra Iniguez**

The following SamplIDs: 001A, 004A, 008A contain testgroup.

**Comments:**    PCE by 8260 added to 005 2/19/16. PCE by 8260 added to 006 & 007 2/23/16.

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).  
Hazardous samples will be returned to client or disposed of at client expense.



## WORK ORDER SUMMARY

**Client Name:** BASICS ENVIRONMENTAL

**QC Level:** LEVEL 2

**Work Order:** 1602473

**Project:** 01-2016-500-002; 139th Ave Property

**Client Contact:** Donovan Tom

**Date Logged:** 2/12/2016

**Comments:** PCE by 8260 added to 005 2/19/16.

**Contact's Email:** basicsenvironmental@gmail.com

WaterTrax     WriteOn     EDF     Excel     Fax     Email     HardCopy     ThirdParty     J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1602473-001A	SB-1-8.5	Soil	SW8015B (TEPHs) <TPH-Motor Oil (C18-C36)> TPH(g) & 8260 (Basic List) by P&T GCMS	1	Acetate Liner	<input type="checkbox"/>	2/11/2016 10:25	5 days		<input type="checkbox"/>	
						<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1602473-002A	SB-1-15	Soil		1	Acetate Liner	<input type="checkbox"/>	2/11/2016 10:35			<input checked="" type="checkbox"/>	
1602473-003A	SB-1-20	Soil		1	Acetate Liner	<input type="checkbox"/>	2/11/2016 10:45			<input checked="" type="checkbox"/>	
1602473-004A	SB-2-2.5	Soil	SW8015B (TEPHs) <TPH-Motor Oil (C18-C36)> TPH(g) & 8260 (Basic List) by P&T GCMS	1	Acetate Liner	<input type="checkbox"/>	2/11/2016 13:20	5 days		<input type="checkbox"/>	
						<input type="checkbox"/>		5 days		<input type="checkbox"/>	
1602473-005A	SB-2-5	Soil	SW8260B (HVOCs List) <Tetrachloroethene>	1	Acetate Liner	<input type="checkbox"/>	2/11/2016 13:35	5 days		<input type="checkbox"/>	
1602473-006A	SB-2-10	Soil		1	Acetate Liner	<input type="checkbox"/>	2/11/2016 13:40			<input checked="" type="checkbox"/>	
1602473-007A	SB-2-15	Soil		1	Acetate Liner	<input type="checkbox"/>	2/11/2016 13:45			<input checked="" type="checkbox"/>	
1602473-008A	SB-1-W	Water	TPH(g) & 8260 (Basic List) by P&T GCMS	4	VOA w/ HCl	<input type="checkbox"/>	2/11/2016 13:50	5 days	10%+	<input type="checkbox"/>	
1602473-008B	SB-1-W	Water	SW8015B (TEPHs) <TPH-Motor Oil (C18-C36)>	2	aVOA	<input type="checkbox"/>	2/11/2016 13:50	5 days	10%+	<input type="checkbox"/>	

**NOTES:** - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.





### Sample Receipt Checklist

Client Name: **Basics Environmental**  
 Project Name: **01-2016-500-002; 139th Ave Property**  
 WorkOrder №: **1602473** Matrix: Soil/Water  
 Carrier: Bernie Cummins (MAI Courier)

Date and Time Received: **2/11/2016 16:00**  
 Date Logged: **2/12/2016**  
 Received by: **Alexandra Iniguez**  
 Logged by: **Alexandra Iniguez**

**Chain of Custody (COC) Information**

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   
 Sample IDs noted by Client on COC? Yes  No   
 Date and Time of collection noted by Client on COC? Yes  No   
 Sampler's name noted on COC? Yes  No

**Sample Receipt Information**

Custody seals intact on shipping container/cooler? Yes  No  NA   
 Shipping container/cooler in good condition? Yes  No   
 Samples in proper containers/bottles? Yes  No   
 Sample containers intact? Yes  No   
 Sufficient sample volume for indicated test? Yes  No

**Sample Preservation and Hold Time (HT) Information**

All samples received within holding time? Yes  No   
 Sample/Temp Blank temperature Temp: 5.4°C NA   
 Water - VOA vials have zero headspace / no bubbles? Yes  No  NA   
 Sample labels checked for correct preservation? Yes  No   
 pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)? Yes  No  NA   
 Samples Received on Ice? Yes  No

(Ice Type: WET ICE )

**UCMR3 Samples:**

Total Chlorine tested and acceptable upon receipt for EPA 522? Yes  No  NA   
 Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539? Yes  No  NA

\* NOTE: If the "No" box is checked, see comments below.

-----  
 Comments:



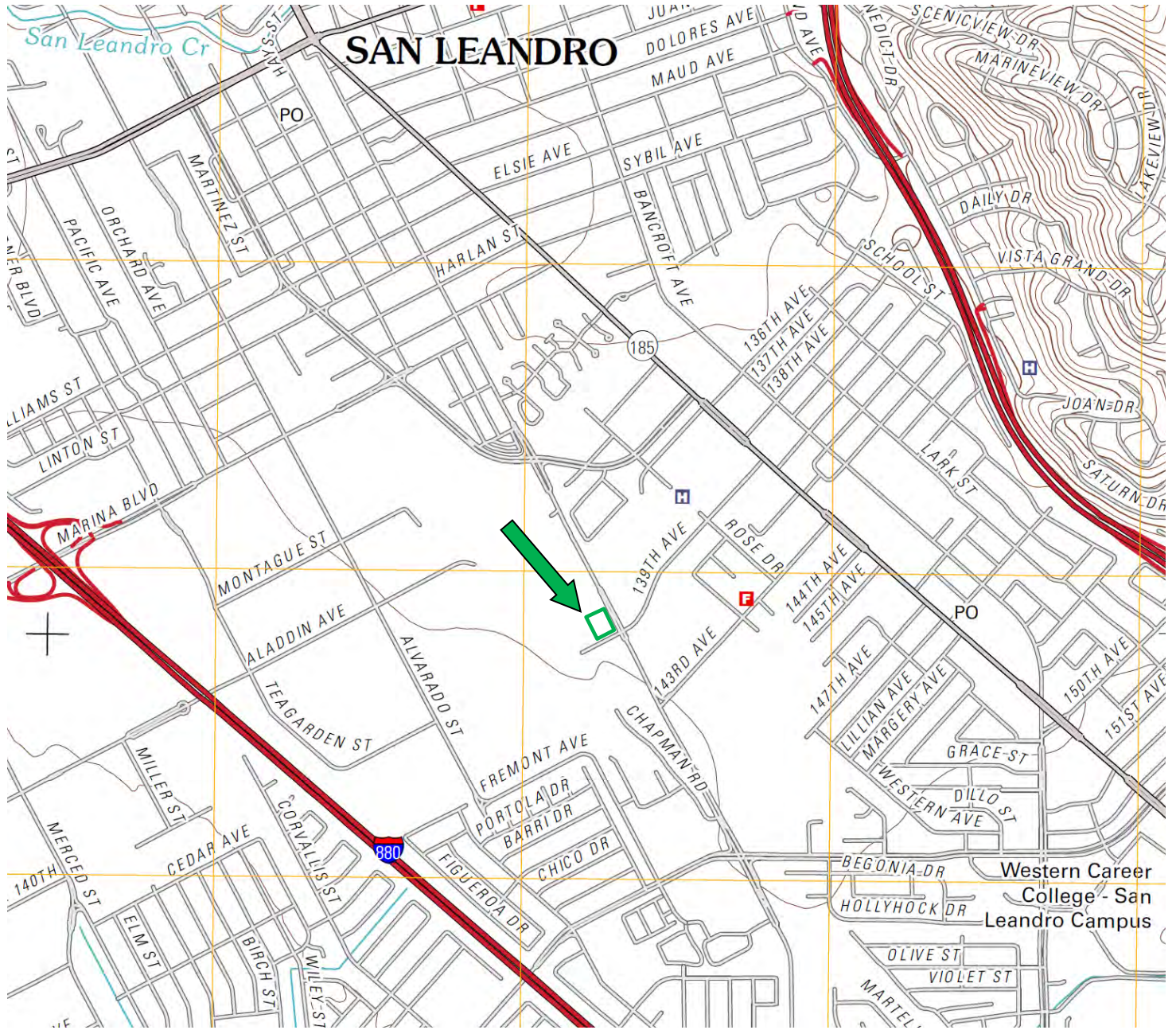
**APPENDIX C**  
**Initial Site Conceptual Model**  
**Supporting Documentations**

Tables and Figures from Environmental Risk Assessors, *Soil and Groundwater Investigation Work Plan*, 2017.

Table 4: Water-Supply Wells and Monitoring Wells Within 1,000 feet of Site  
139<sup>th</sup> Avenue Property  
295 139<sup>th</sup> Avenue  
San Leandro, California 94578

Identification Number on Figure 3	Well Location	Reported Owner	Total Depth (feet)	Depth to Water (feet)	Well Casing Diameter (inches)	Well Type	Distance from Site (feet)	Direction from Site
<b>Active Water-Supply Wells</b>								
1	14143 Washington Ave	Earl Bolton	65	0	6	Irrigation	280	South (crossgradient)
2	501 143 <sup>rd</sup> Avenue	H. Mello	64	0	8	Irrigation	740	South-Southeast (crossgradient)
3	14300 Washington Ave	Stefanovic Milivoje	100	0	10	Industrial	880	South (crossgradient)
	14300 Washington Ave	Rhodes & Jamieson	253	20	12	Industrial	880	South (crossgradient)
4	14201 Orchid Drive	Mrs. Williams	72	22	6	Irrigation	895	Northeast (upgradient)
5	14221 Orchid Drive	Yren Steblina	60	26	0	Irrigation	925	Northeast (upgradient)
6	1124 139 <sup>th</sup> Avenue	Bill McMahon	80	25	8	Industrial	1,000	Northeast (upgradient)
<b>Groundwater Monitoring Wells</b>								
Well ID	Status	Reported Owner	Screened Interval (feet)	Casing Elevation (feet)	Well Type	Distance from Site (feet)	Direction from Site	
GS-7	Active	Cintas	20 - 30	40.41	MW	200	North	
PZ-1	Active	Cintas	12.7 – 27.7	43.98	MW	450	East-Northeast	
GS-8A	Active	Cintas	20 - 30	40.75	MW	600	North	
DH-3	Active	Cintas	13.5 – 27.5	44.14	MW	650	Northeast	
GS-1	Active	Cintas	20 - 30	43.70	MW	675	Northeast	
PZ-2	Active	Cintas	12.7 – 27.7	43.68	MW	675	Northeast	
PZ-3	Active	Cintas	14.7 – 29.7	Not Available	MW	800	North	
GS-9	Status Unknown	Not Available	Not Available	Not Available	MW	100	South-Southwest	
GS-10	Status Unknown	Not Available	Not Available	Not Available	MW	300	Southeast	
GS-8	Status Unknown	Not Available	Not Available	Not Available	MW	550	North	
GS-6	Status Unknown	Not Available	Not Available	Not Available	MW	550	East	
GD-6	Status Unknown	Not Available	Not Available	Not Available	MW	550	East	
GD-1	Status Unknown	Not Available	Not Available	Not Available	MW	675	Northeast	
MW-1	Status Unknown	Cintas	10 - 25	42.72	MW	900	Northeast	
GS-5	Status Unknown	Not Available	Not Available	Not Available	MW	900	East- Northeast	
GD-5	Status Unknown	Not Available	Not Available	Not Available	MW	900	East- Northeast	
GS-2	Status Unknown	Not Available	Not Available	Not Available	MW	1,000	Northeast	
GD-2	Status Unknown	Not Available	Not Available	Not Available	MW	1,000	Northeast	

Note: Data for active water-supply wells obtained from Closure Solutions, Inc. *Sensitive Receptor Survey, Kerry & Associates – Palace Garage, 14336 Washington Avenue, San Leandro, California*, dated August 27, 2008. Data for groundwater monitoring wells (MW) from The Source Group, Inc. *Groundwater Monitoring Report, DWA Plume, San Leandro, California*. May 11, 2015.



**Legend**

— Site (boundaries approximate)

Source: USGS San Leandro, CA Quadrangle Topographic Map, 2012



**Site Location Map**

**SOIL AND GROUNDWATER INVESTIGATION WORK PLAN**

295 139<sup>th</sup> Avenue, San Leandro, California 94578

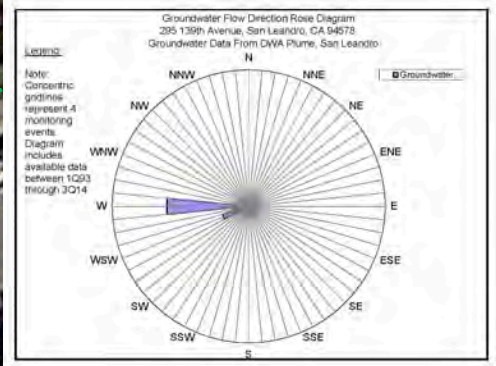
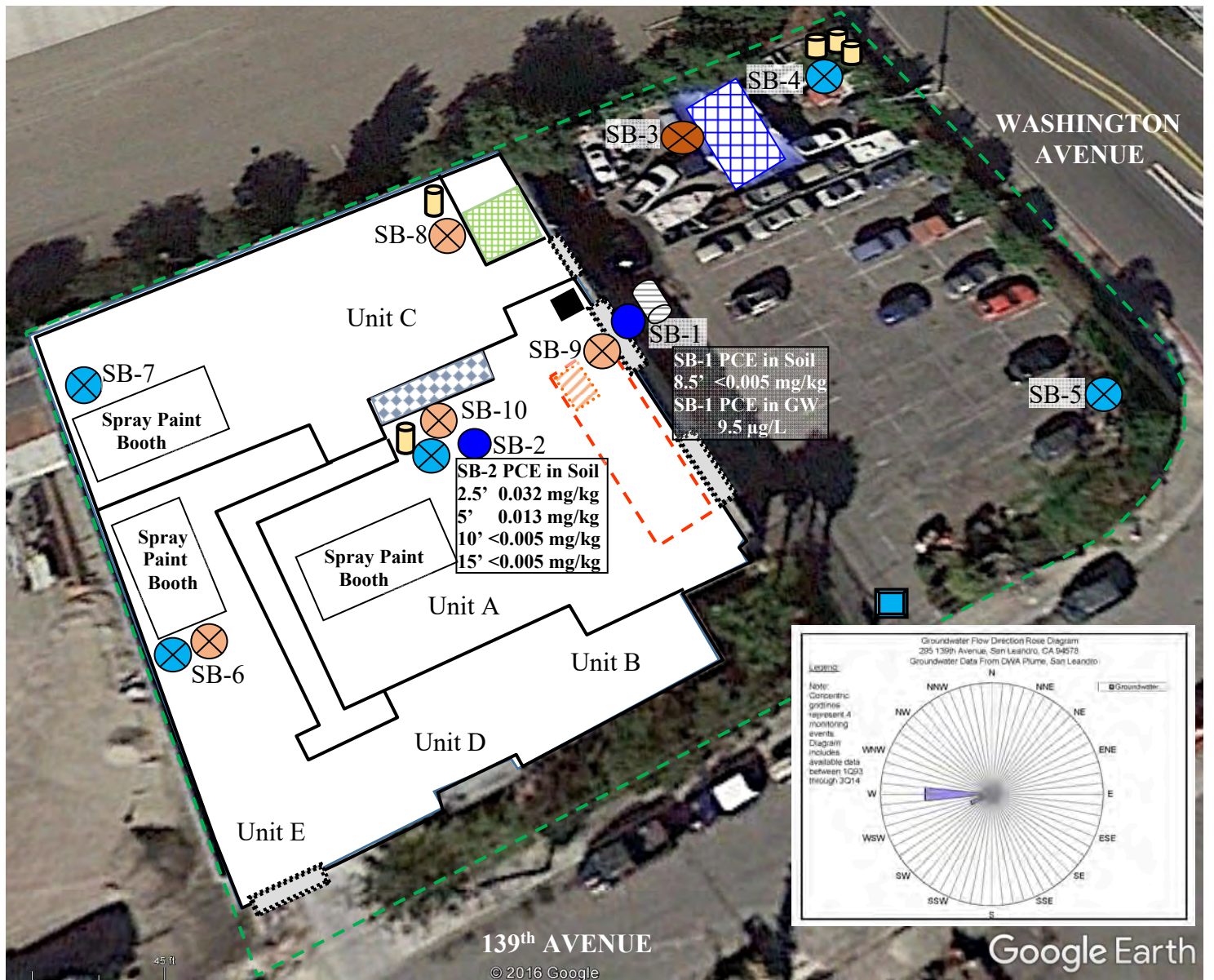
PN: 01-2017-1500-001

Date: January 24, 2017

EP: Lita Freeman

**Figure 1**





**Legend**

- Approximate Property Boundary
- Former Gasoline Underground Storage Tank
- Hazardous Substances Containers
- Auto Repair Area (under tarp)
- - - Former Supply Room
- - - Former Store Room
- Sample Location (ERA, 2016)
- Proposed Soil Sampling Location
- Proposed Soil Gas and Soil Sampling Location
- Proposed Soil and Groundwater Sampling Location
- Former Machine Shop Area
- Current Paint Mixing/Storage Room
- Roll-Up Door
- Storm Drain

SB-1 PCE in Soil / Tetrachloroethene in Soil  
8.5' <0.005 mg/kg / Sample Depth-Concentration  
in milligrams per kilogram  
SB-1 PCE in GW / PCE in Groundwater  
9.5 µg/L in micrograms per liter



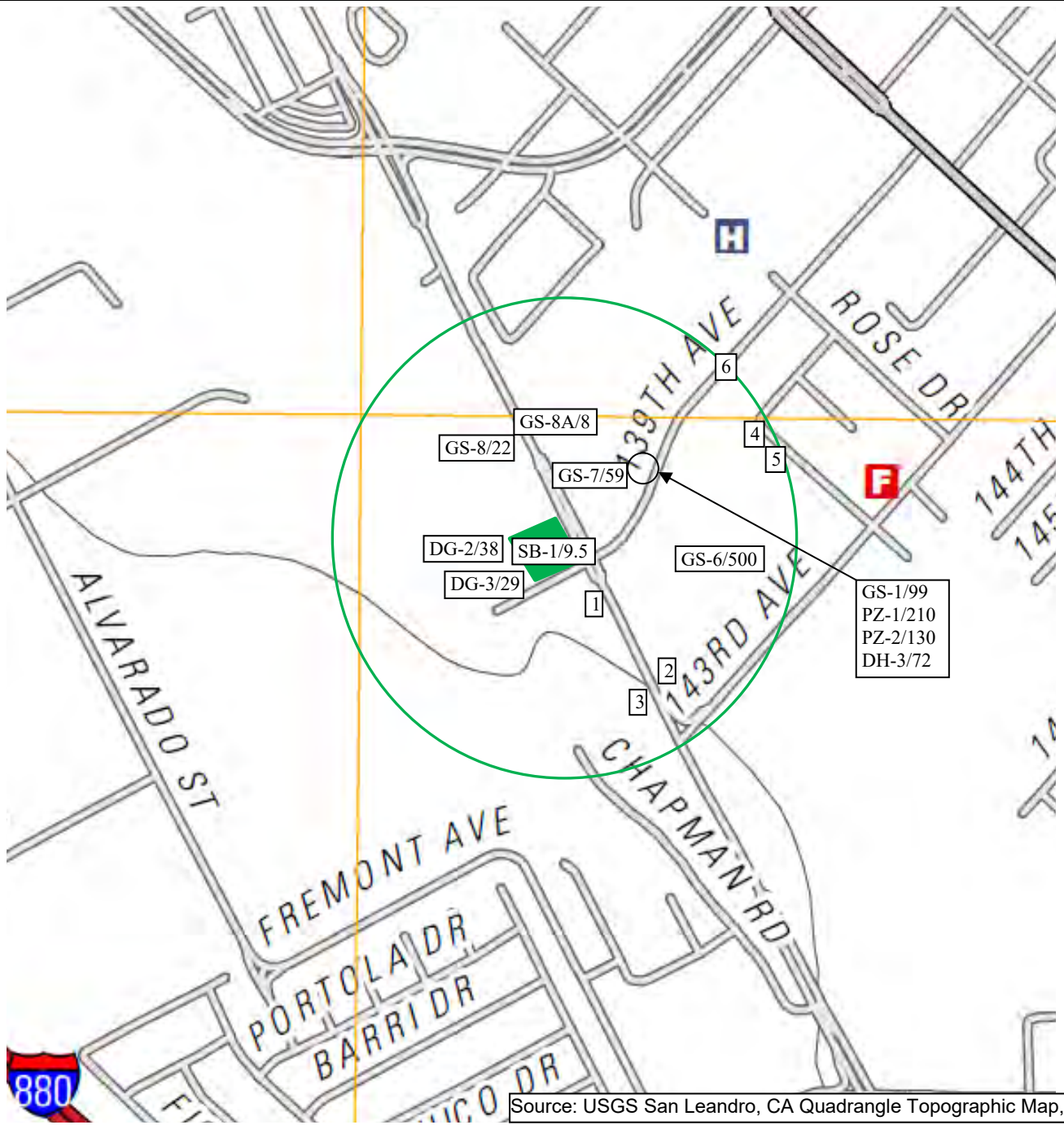
**Site Plan with Proposed Sampling Locations**

**SOIL AND GROUNDWATER INVESTIGATION WORK PLAN**

295 139<sup>th</sup> Avenue, San Leandro, California 94578



PN: 01-2017-1500-001  
Date: January 24, 2017  
EP: Lita Freeman

**Figure 2**



Source: USGS San Leandro, CA Quadrangle Topographic Map, 2012

**Legend**

-  Site (boundaries approximate)
-  1,000 Foot Radius
- 1 One irrigation well at 14143 Washington Ave
- 2 One irrigation well at 501 143<sup>rd</sup> Avenue
- 3 Two industrial wells at 14300 Washington Ave
- 4 One irrigation well at 14201 Orchid Drive
- 5 One irrigation well at 14221 Orchid Drive
- 6 One industrial well at 1124 139<sup>th</sup> Avenue
- SB-1/9.5 Boring/Well ID/PCE in micrograms per liter

PCE (Tetrachloroethene) data for SB-1 from Environmental Risk Assessor, *Limited Phase II Environmental Site Assessment, Body Repair Shops, 295 139<sup>th</sup> Avenue, San Leandro, California 94578*, March 3, 2016. Data for GS-6, GS-8 from Woodward-Clyde Consultants (WCC), *Hydrogeology of Central San Leandro and Remedial Investigation of Regional Groundwater Contamination, San Leandro Plume, San Leandro, California*, December 29, 1993. Data for DG-2, DG-3 from WCC, *Data Report, Volume 1, Summary Tables and Figures, Remedial Investigation of Regional Groundwater Contamination, Industrial (Datagap) Area, San Leandro Plume Project, San Leandro, California*, March 29, 1995. Data for GS-7 GS-8A, GS-1, PZ-1, PZ-2, DH-3 from The Source Group, Inc., *Groundwater Monitoring Report, DWA Plume, San Leandro, California*. May 11, 2015.



**Active Water-Supply Wells and Monitoring Wells Within 1,000-Foot Radius of Site**

**SOIL AND GROUNDWATER INVESTIGATION WORK PLAN**

295 139<sup>th</sup> Avenue, San Leandro, California 94578

PN: 01-2017-1500-001

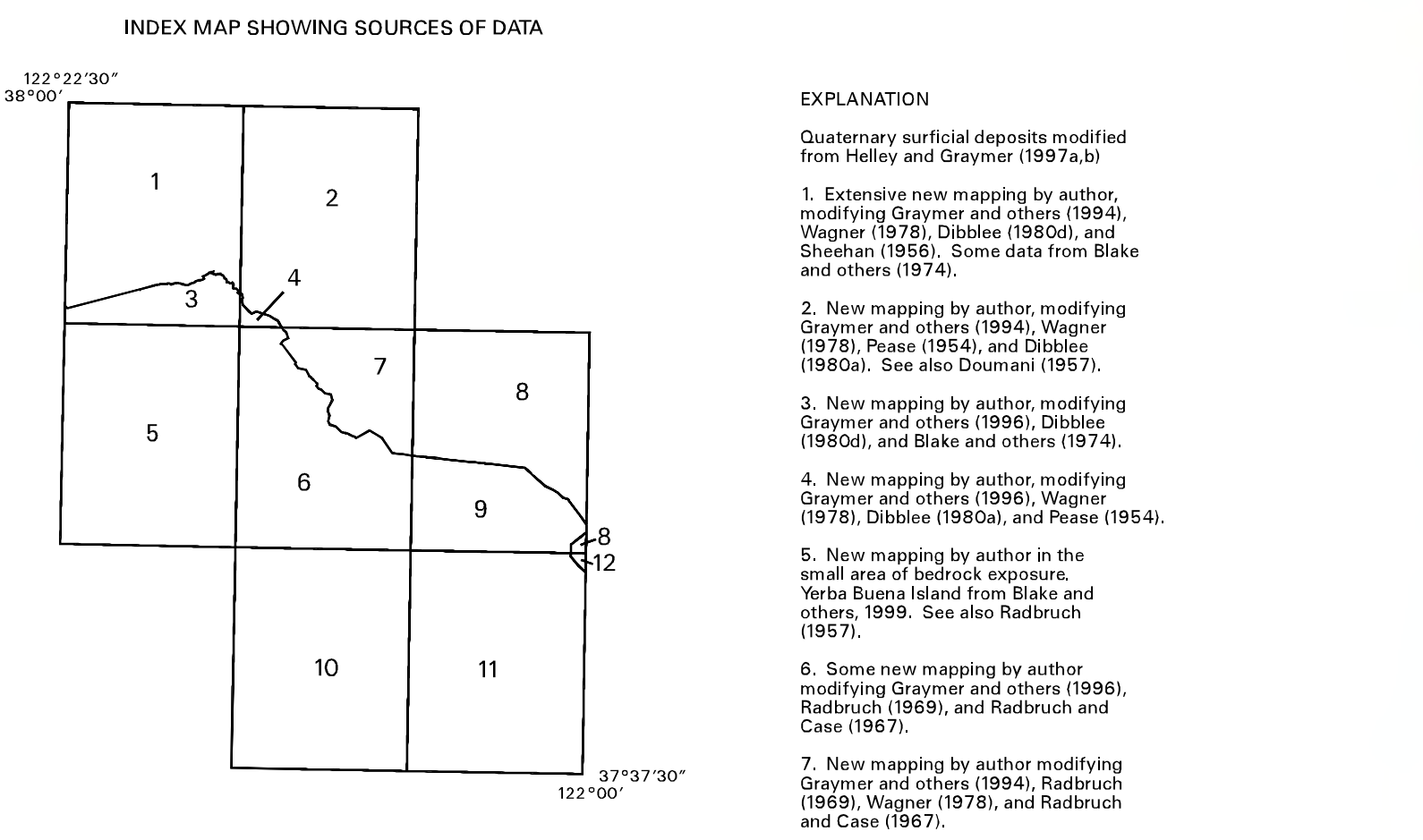
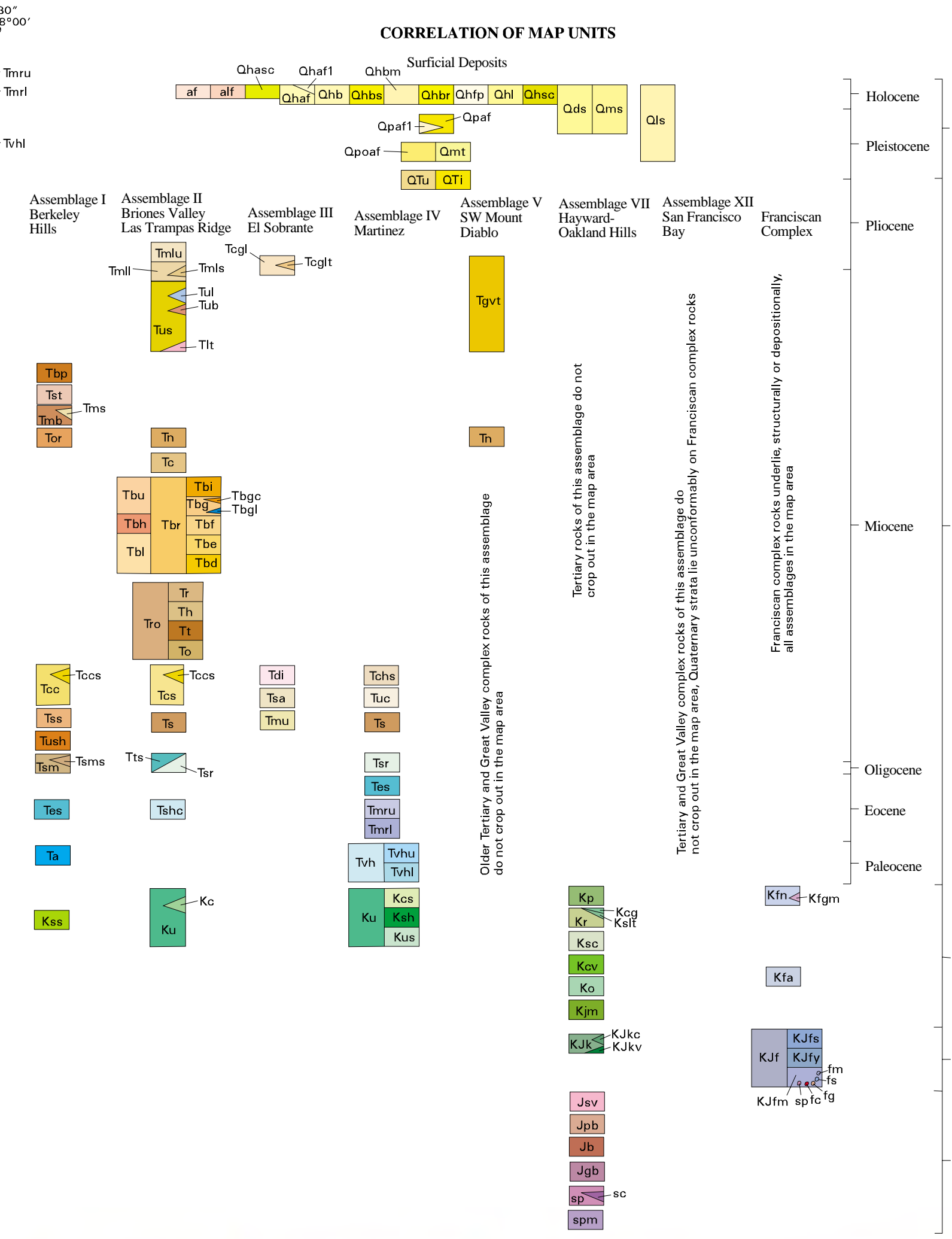
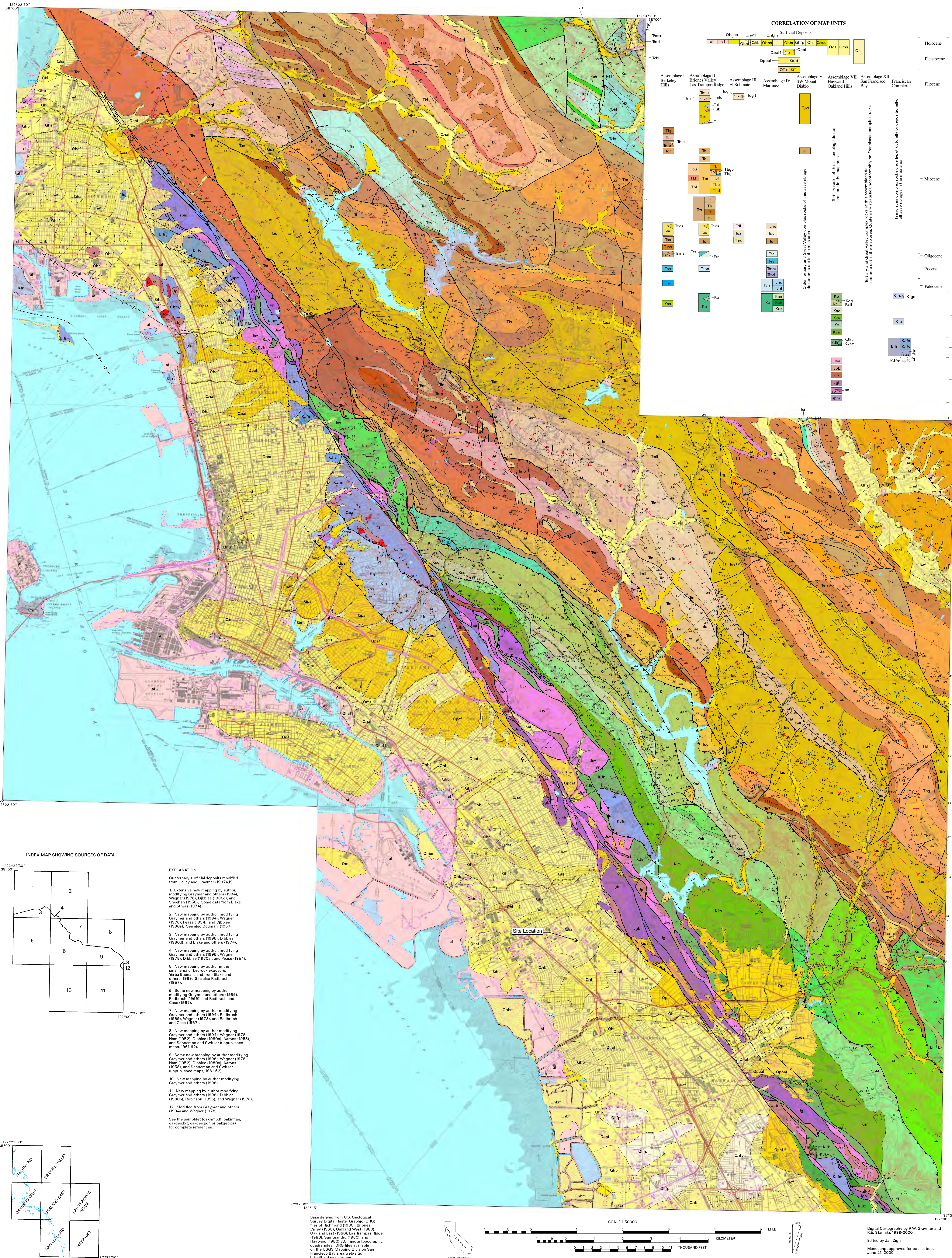
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EP: Lita Freeman

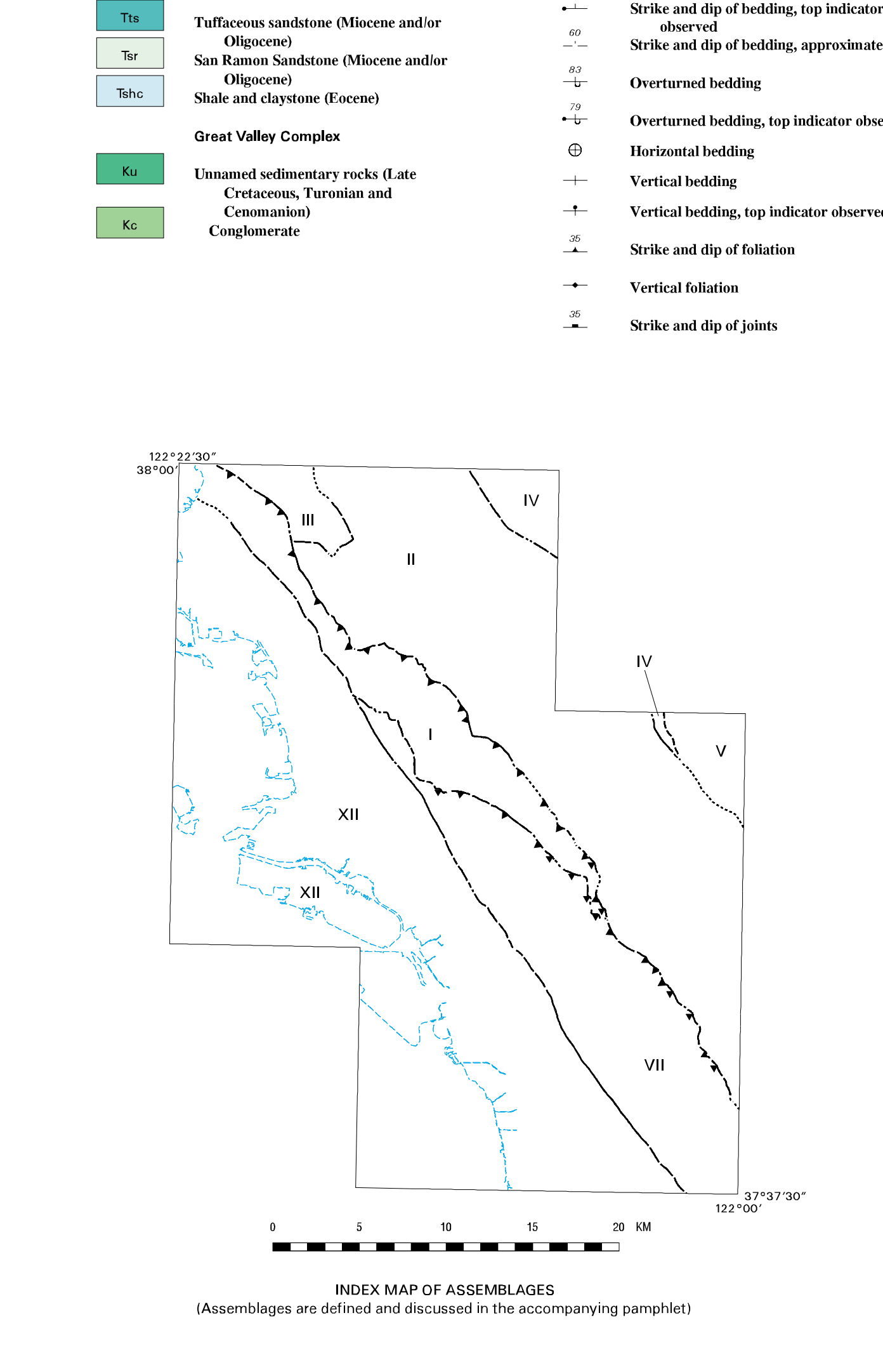
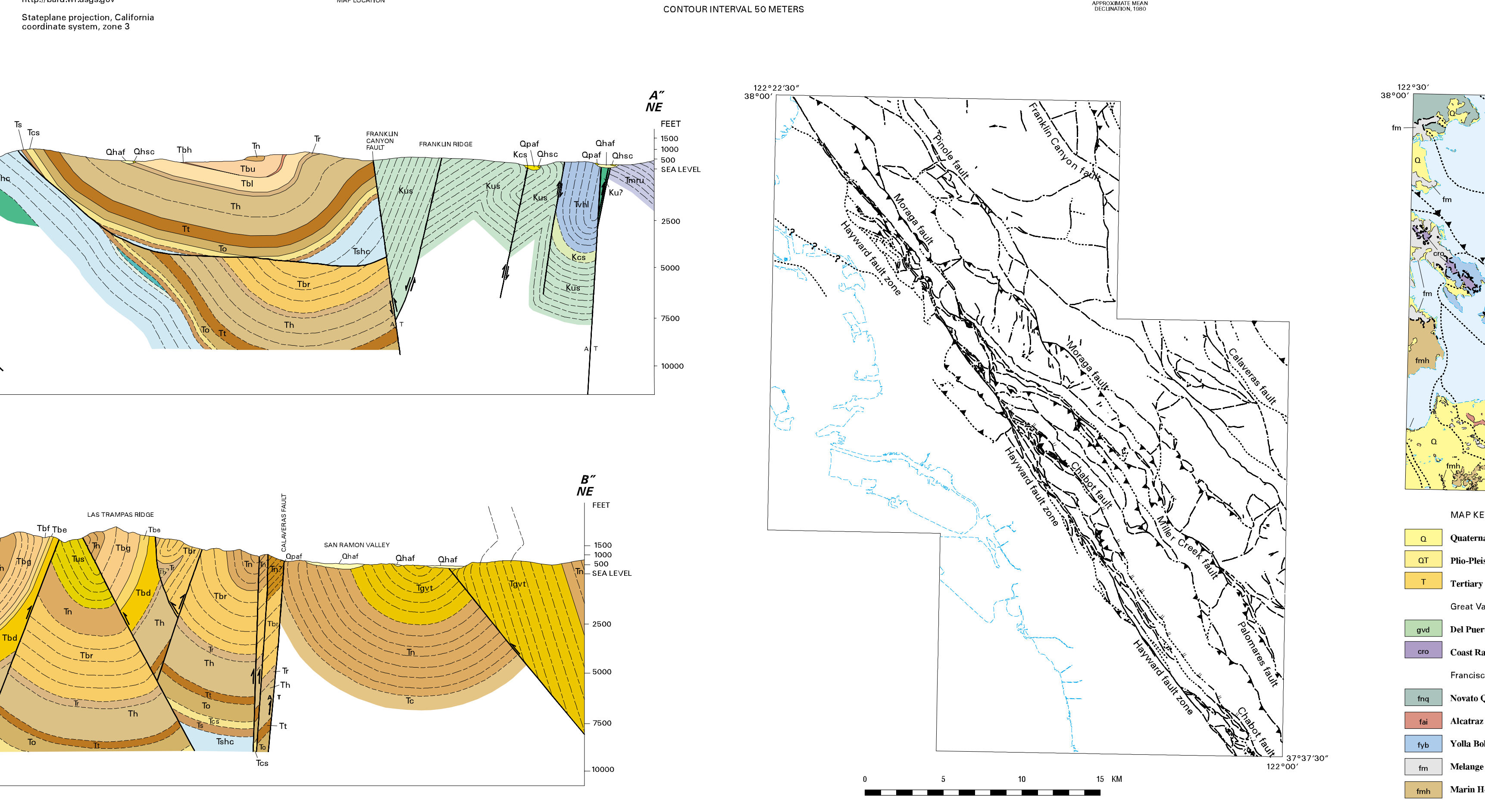
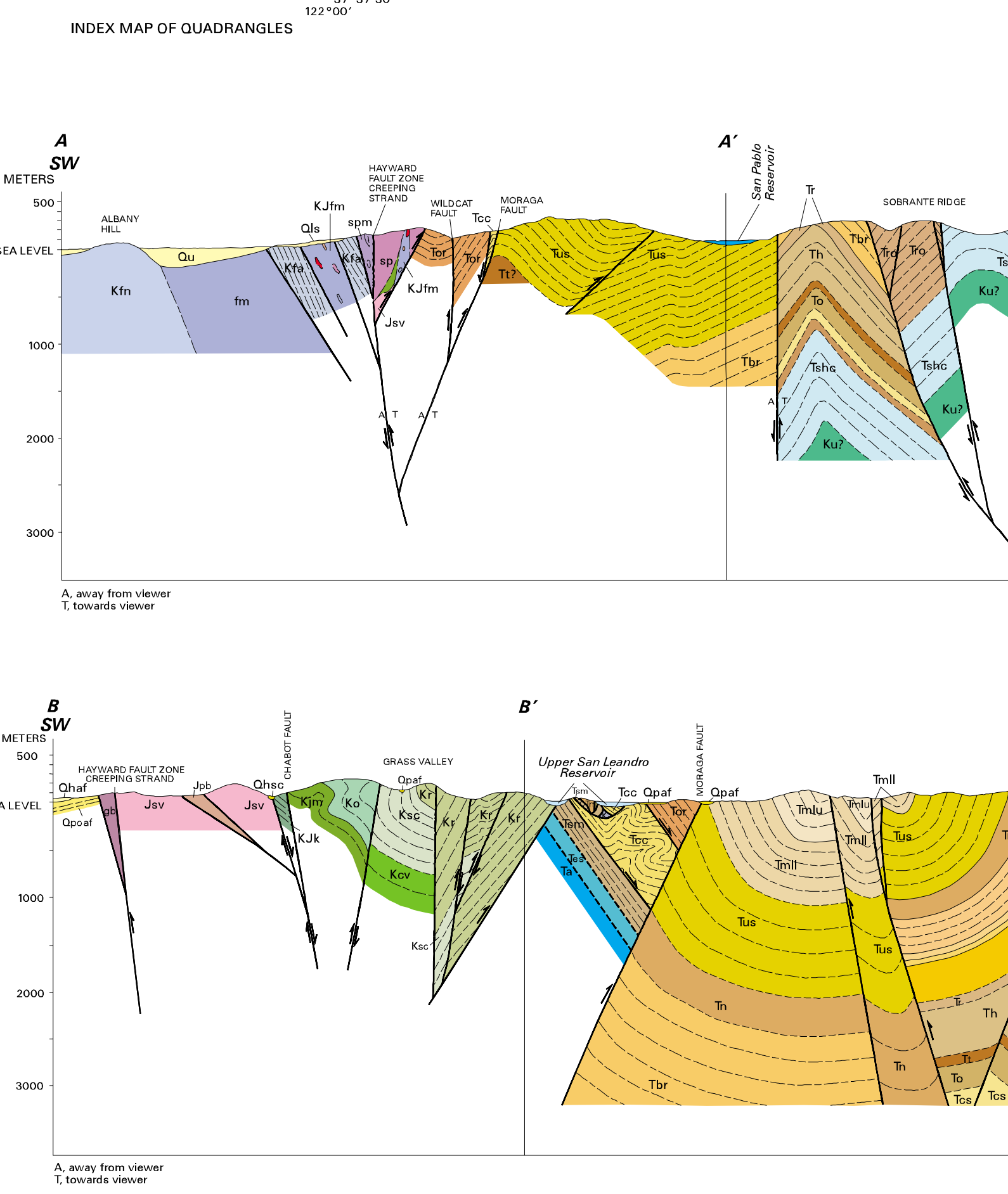
**Figure 3**

Figures from R.W. Graymer, USGS. *Geologic Map and Map Database of the Oakland Metropolitan Area, Alameda, Contra Costa, and San Francisco Counties, California*, 2000.



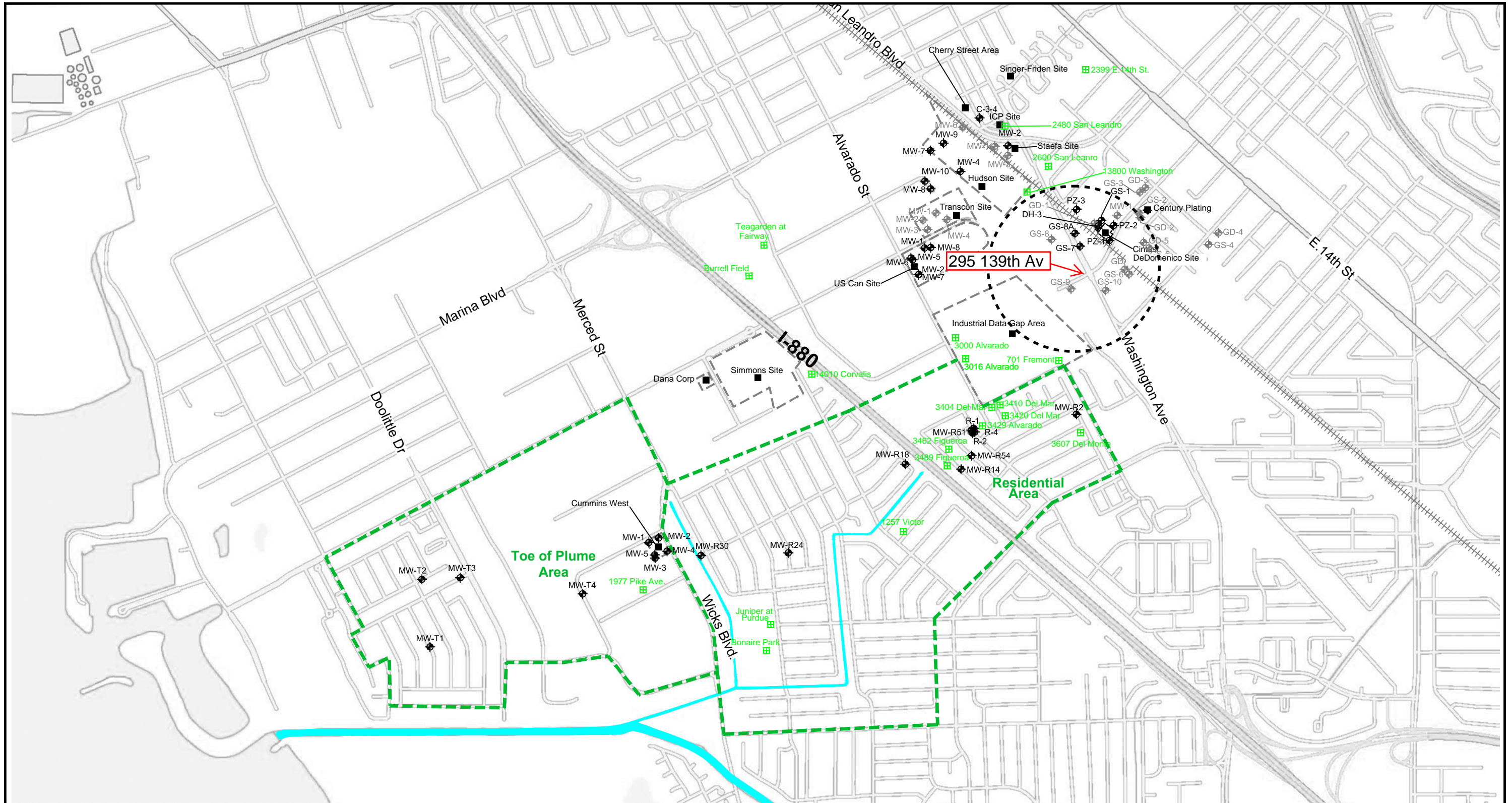


**EXPLANATION**  
 Quaternary surficial deposits modified from Helley and Graymer (1997a,b).  
 1. Extensive new mapping by author, modifying Graymer and others (1994), Wagner (1978), Dibble (1980), and Sherman (1982). Some data from Blake and others (1984).  
 2. New mapping by author, modifying Graymer and others (1994), Wagner (1978), Dibble (1980), and Sherman (1982). Some data from Blake and others (1984).  
 3. New mapping by author, modifying Graymer and others (1994), Dibble (1980), and Blake and others (1984).  
 4. New mapping by author, modifying Graymer and others (1994), Wagner (1978), Dibble (1980), and Paule (1954).  
 5. New mapping by author in the small area of industrial exposures. Well logs obtained from Blake and others (1989). See also Rabinovich (1997).  
 6. Some new mapping by author, modifying Graymer and others (1994), Rabinovich (1997), and Robinson and Case (1997).  
 7. New mapping by author, modifying Graymer and others (1994), Robinson (1985), Wagner (1978), and Robinson and Case (1997).  
 8. New mapping by author, modifying Graymer and others (1994), Wagner (1978), Hens (1952), Dibble (1980), Aarnes (1954), and Sorenson and S'wartz (unpublished maps, 1961-62).  
 9. Some new mapping by author, modifying Graymer and others (1994), Wagner (1978), Hens (1952), Dibble (1980), Aarnes (1954), and Sorenson and S'wartz (unpublished maps, 1961-62).  
 10. New mapping by author, modifying Graymer and others (1994).  
 11. New mapping by author, modifying Graymer and others (1994), Dibble (1980), Robinson (1985), and Wagner (1978).  
 12. Modified from Graymer and others (1994) and Wagner (1978).  
 See the pamphlet (available online) for complete references.





Figures and Tables from The Source Group, Inc., *Groundwater Monitoring Report, DWA Plume, San Leandro, California*, May 11, 2015.



- LEGEND**
- ◆ 2014 Monitoring Well Network
  - Private/Public Well
  - ◆ Monitoring Well - Status Unknown
  - Individual Sites

- DWA Study Areas
- Surface Water Channel

Note:  
Locations are approximate.

**DWA PLUME  
SAN LEANDRO, CALIFORNIA**

**WELL LOCATION MAP**

PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-DTSC-003	12/17/14	ZA	SD

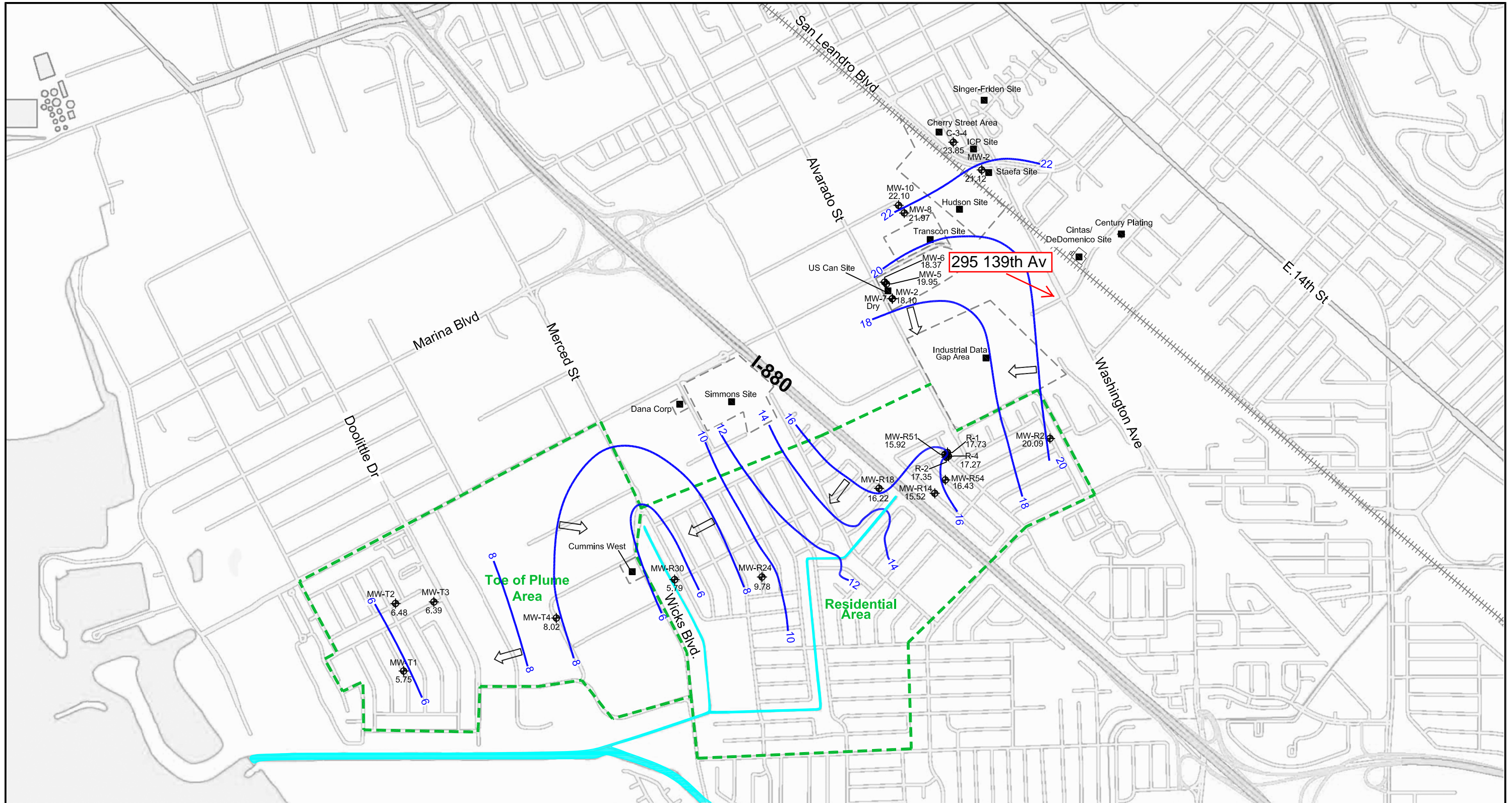
0 1500 3000  
HORIZONTAL SCALE IN FEET

**THE SOURCE GROUP, INC.**  
3478 BUSKIRK AVENUE, SUITE 100  
PLEASANT HILL, CA 94523

**FIGURE  
2**



S:\Clients A - EDTSC - DWA - DTSC-003\Report\2014 Groundwater Monitoring Report\Figures\Fig.3-GW Contours.dwg



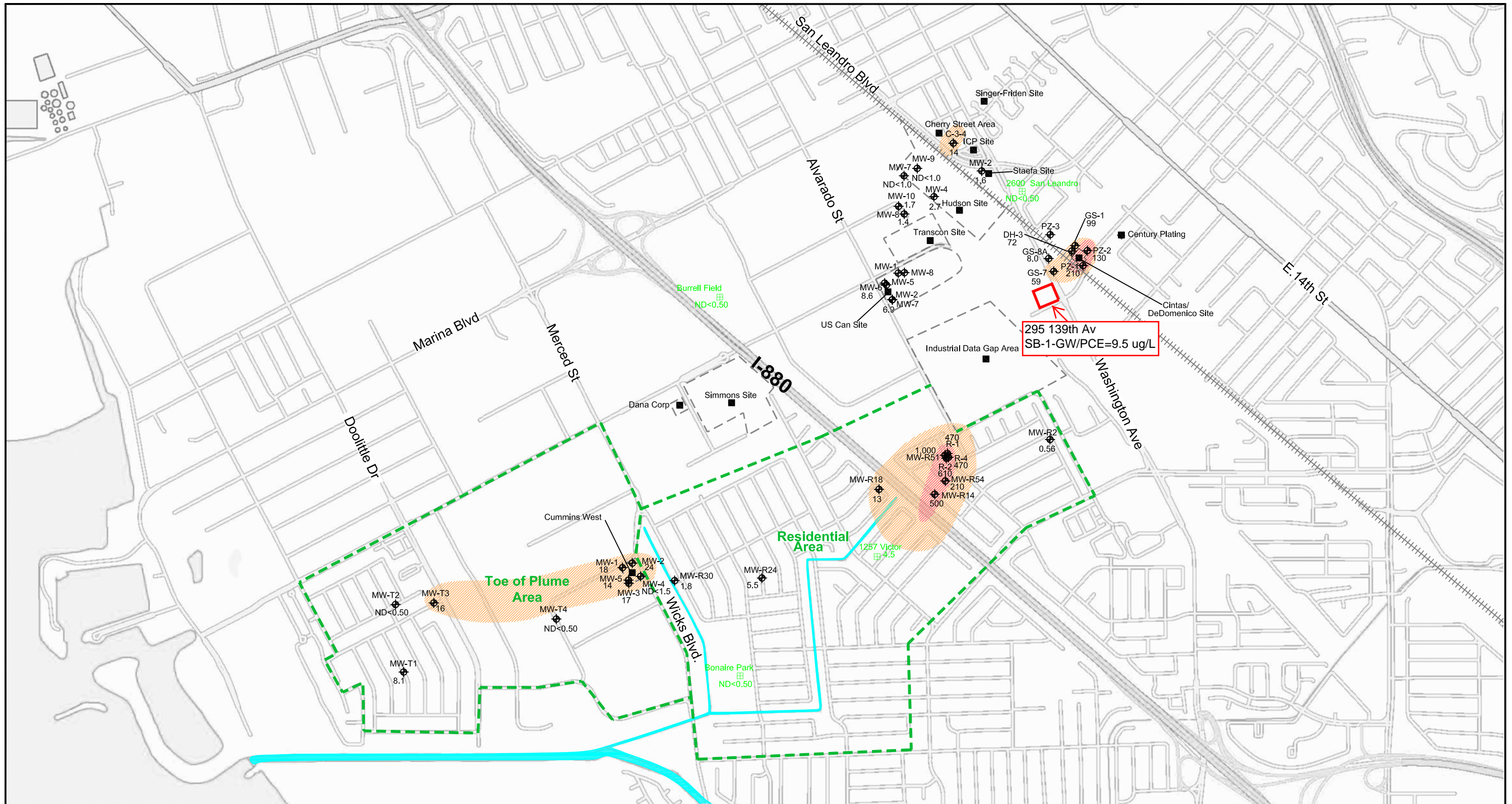
**LEGEND**

- ◆ 2014 Monitoring Well Network
- Individual Sites
- - - DWA Study Areas
- Approximate Groundwater Elevation Contour in Feet Above Mean Sea Level
- 5.35 Groundwater Elevation in Feet Above Mean Sea Level
- Surface Water Channel
- ⇒ Estimated Groundwater Flow Direction

DWA PLUME SAN LEANDRO, CALIFORNIA				<b>GROUNDWATER ELEVATION CONTOUR SEPTEMBER 2014</b>	
PROJECT NO.	DATE	DRAWN BY:	APP. BY:	<b>SGI THE SOURCE GROUP, INC.</b> <small>environmental</small> 3478 BUSKIRK AVENUE, SUITE 100 PLEASANT HILL, CA 94523	
01-DTSC-003	12/16/14	ZA	SD		
HORIZONTAL SCALE IN FEET				<b>FIGURE 3</b>	



S:\Clients A - F\DTSC - DWA - DTSC-003\Report\2014 Groundwater Monitoring Reporting\Figures\Fig.4-PCE Concentration map.dwg



LEGEND	
	2014 Monitoring Well Network
	Private/Public Well
	Individual Sites
	DWA Study Areas
	Surface Water Channel
	PCE Concentration >10 µg/L
	PCE Concentration >100 µg/L
PCE	Tertachloroethene
µg/L	Microgram per Liter
ND	Below Noted Reported Limit

Notes:  
 1. Analytical Results from October 2014 except as noted below:  
 Cintas/DeDomenico - October 2013 Data (Environ, 2014);  
 Hudson - May 2014 Data (Professional Service Industries (2014));  
 Cummins West - July 2013 Data (Antea Group, 2013)).  
 2. Locations are approximate.

DWA PLUME  
 SAN LEANDRO, CALIFORNIA

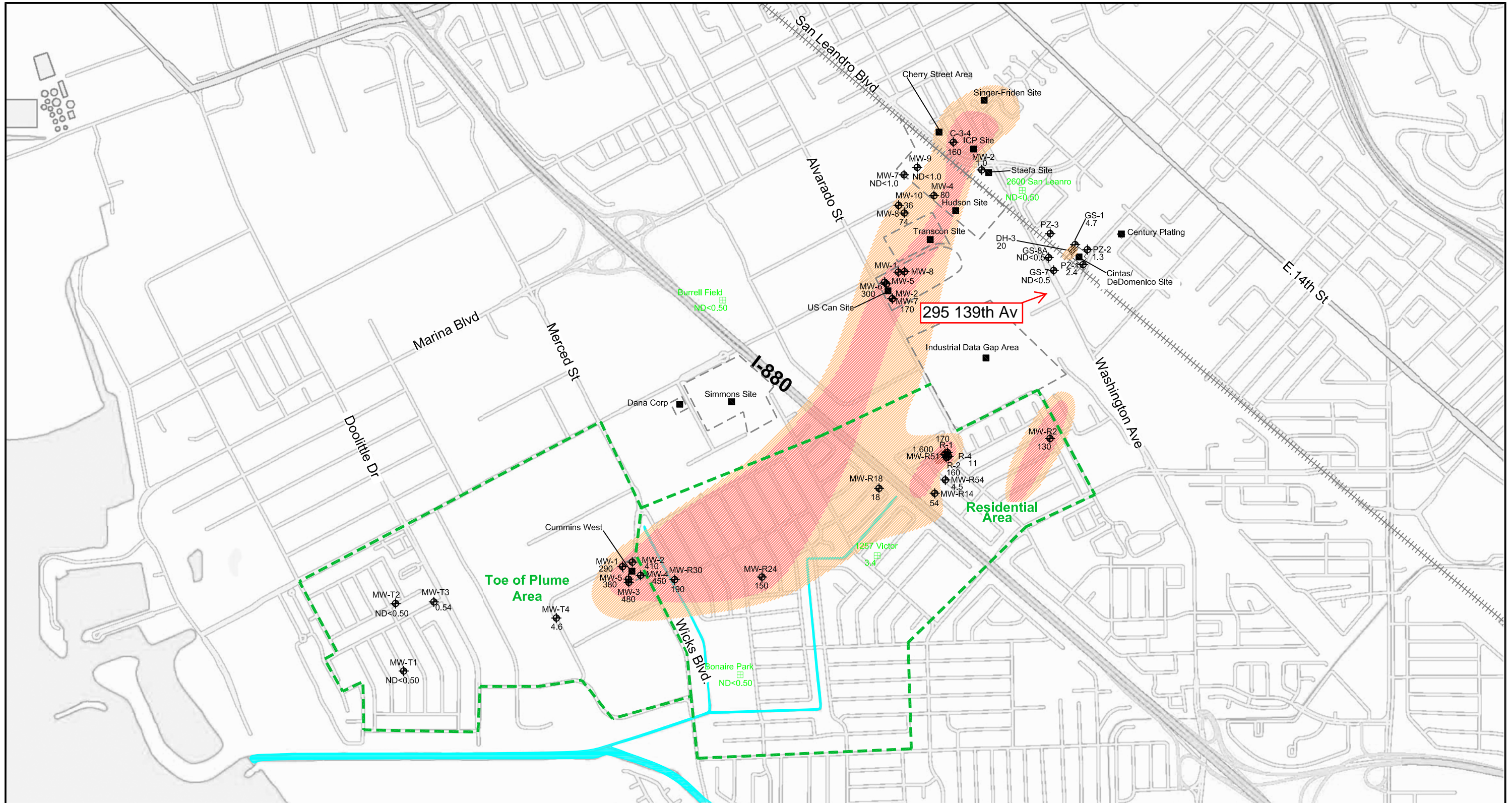
PROJECT NO.	DATE	DRAWN BY:	APP. BY:
01-DTSC-003	05/28/14	ZA	SD
 HORIZONTAL SCALE IN FEET			

PCE CONCENTRATIONS IN  
 GROUNDWATER

environmental  
 3478 BUSKIRK AVENUE, SUITE 100  
 PLEASANT HILL, CA 94523

**FIGURE**  
 4





<b>LEGEND</b> <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%; margin-right: 5px;"></span> 2014 Monitoring Well Network</li> <li><span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; margin-right: 5px;"></span> Private/Public Well</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: black; margin-right: 5px;"></span> Individual Sites</li> <li><span style="display: inline-block; border-bottom: 2px dashed green; width: 20px; margin-right: 5px;"></span> DWA Study Areas</li> <li><span style="display: inline-block; width: 20px; height: 10px; background-color: cyan; margin-right: 5px;"></span> Surface Water Channel</li> </ul>		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px; height: 15px; background-color: #FFDAB9;"></td> <td>TCE Concentration &gt;10 µg/L</td> </tr> <tr> <td style="width: 20px; height: 15px; background-color: #FFB6C1;"></td> <td>TCE Concentration &gt;100 µg/L</td> </tr> <tr> <td style="width: 20px; height: 15px; background-color: #FFA07A;"></td> <td>TCE Concentration &gt;1000 µg/L</td> </tr> </table> <p>TCE µg/L ND</p> <p>Trichloroethene Microgram per Liter Below Noted Reporting Limit</p>			TCE Concentration >10 µg/L		TCE Concentration >100 µg/L		TCE Concentration >1000 µg/L	<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>Analytical Results from October 2014 except as noted below: Cintas/DeDomenico - October 2013 Data (Environ, 2014); Hudson - May 2014 Data (Professional Service Industries (2014)); Cummins West - July 2013 Data (Antea Group, 2013)).</li> <li>Locations are approximate.</li> </ol>		<p><b>DWA PLUME SAN LEANDRO, CALIFORNIA</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">PROJECT NO.</td> <td style="width: 25%;">DATE</td> <td style="width: 25%;">DRAWN BY:</td> <td style="width: 25%;">APP. BY:</td> </tr> <tr> <td>01-DTSC-003</td> <td>05/28/14</td> <td>ZA</td> <td>SD</td> </tr> </table> <p style="text-align: center;">0                      1500                      3000 HORIZONTAL SCALE IN FEET</p>		PROJECT NO.	DATE	DRAWN BY:	APP. BY:	01-DTSC-003	05/28/14	ZA	SD	<p><b>TCE CONCENTRATIONS IN GROUNDWATER</b></p> <div style="display: flex; align-items: center;"> <p><b>THE SOURCE GROUP, INC.</b> environmental</p> </div> <p>3478 BUSKIRK AVENUE, SUITE 100 PLEASANT HILL, CA 94523</p>		 <p><b>FIGURE 5</b></p>
	TCE Concentration >10 µg/L																							
	TCE Concentration >100 µg/L																							
	TCE Concentration >1000 µg/L																							
PROJECT NO.	DATE	DRAWN BY:	APP. BY:																					
01-DTSC-003	05/28/14	ZA	SD																					



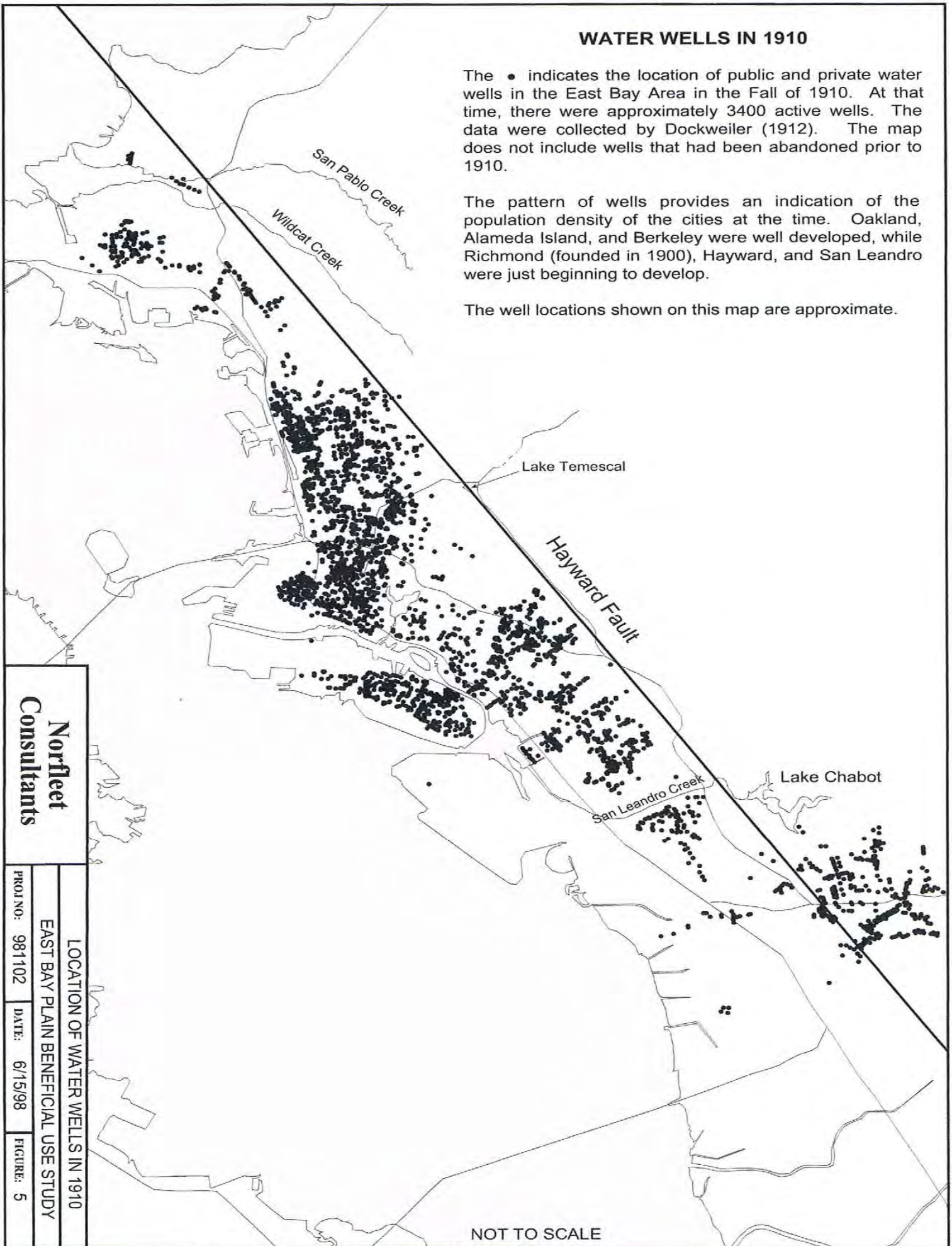
Figure from Norfleet Consultants, *Location of Water Wells in 1910, East Bay Plain Beneficial Use Study*, June 15, 1998.

## WATER WELLS IN 1910

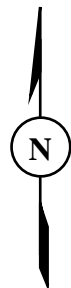
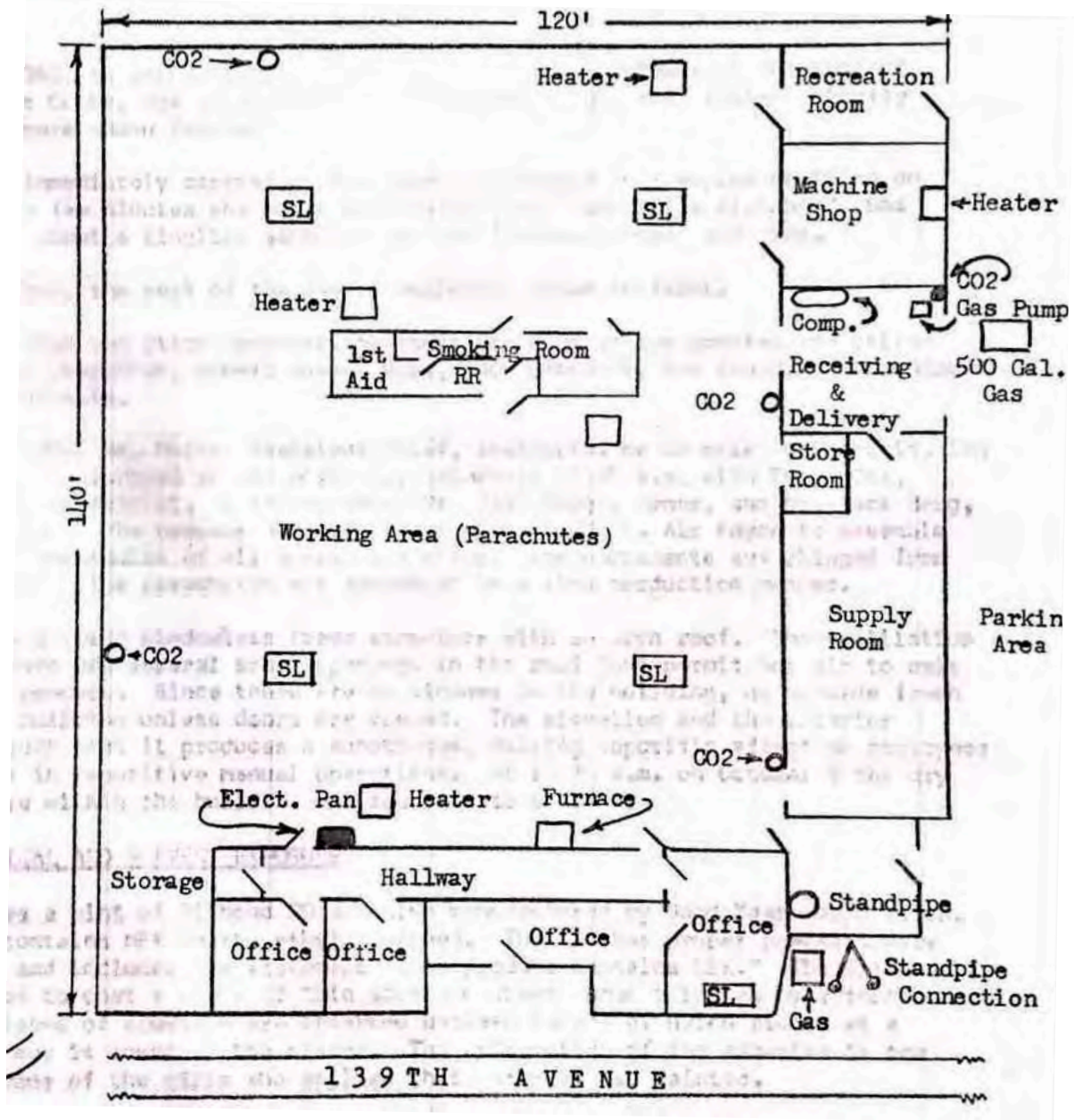
The • indicates the location of public and private water wells in the East Bay Area in the Fall of 1910. At that time, there were approximately 3400 active wells. The data were collected by Dockweiler (1912). The map does not include wells that had been abandoned prior to 1910.

The pattern of wells provides an indication of the population density of the cities at the time. Oakland, Alameda Island, and Berkeley were well developed, while Richmond (founded in 1900), Hayward, and San Leandro were just beginning to develop.

The well locations shown on this map are approximate.



Figures from Basics Environmental, Inc., *Phase I Environmental Site Assessment*, 295 139<sup>th</sup> Avenue, San Leandro, California, December 4, 2015.

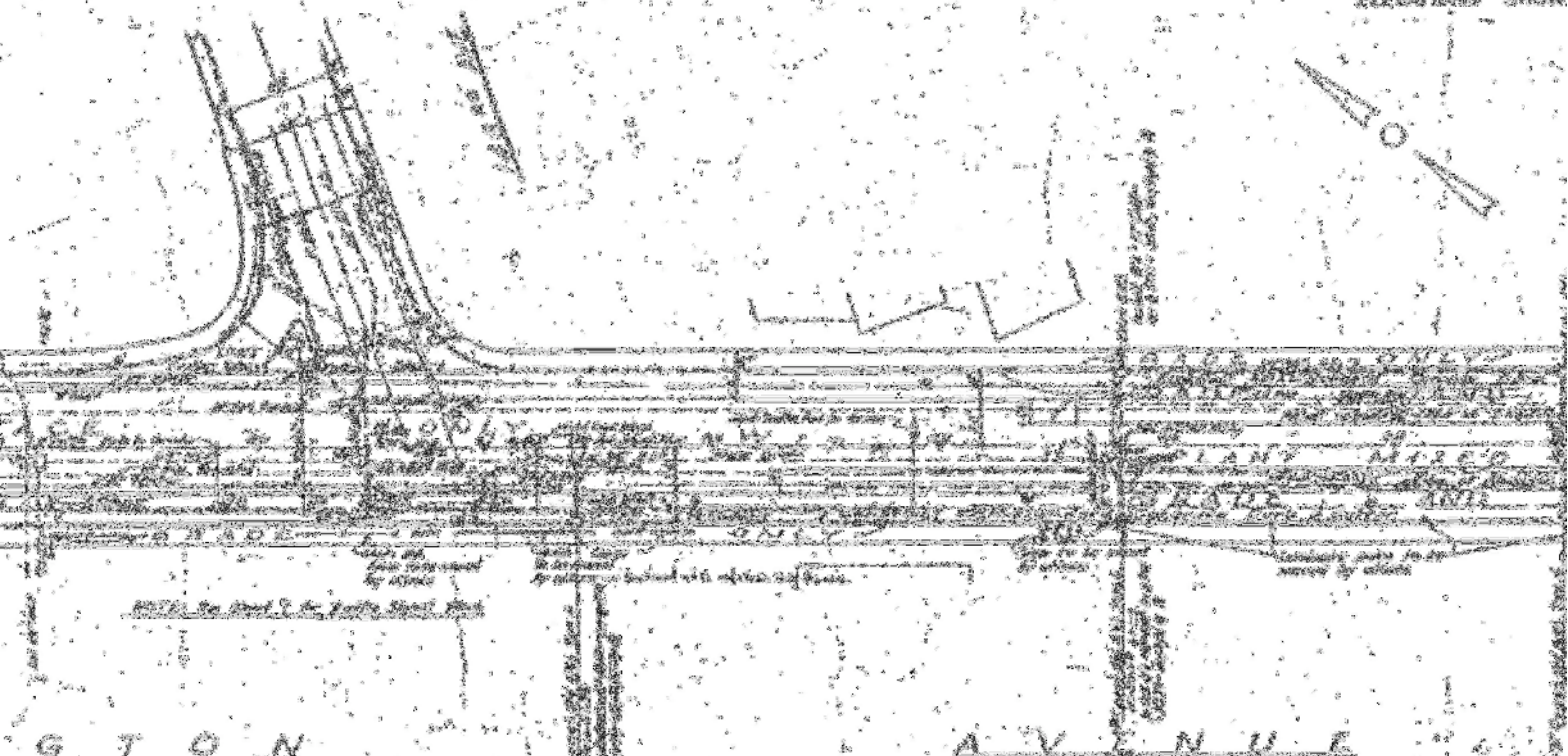
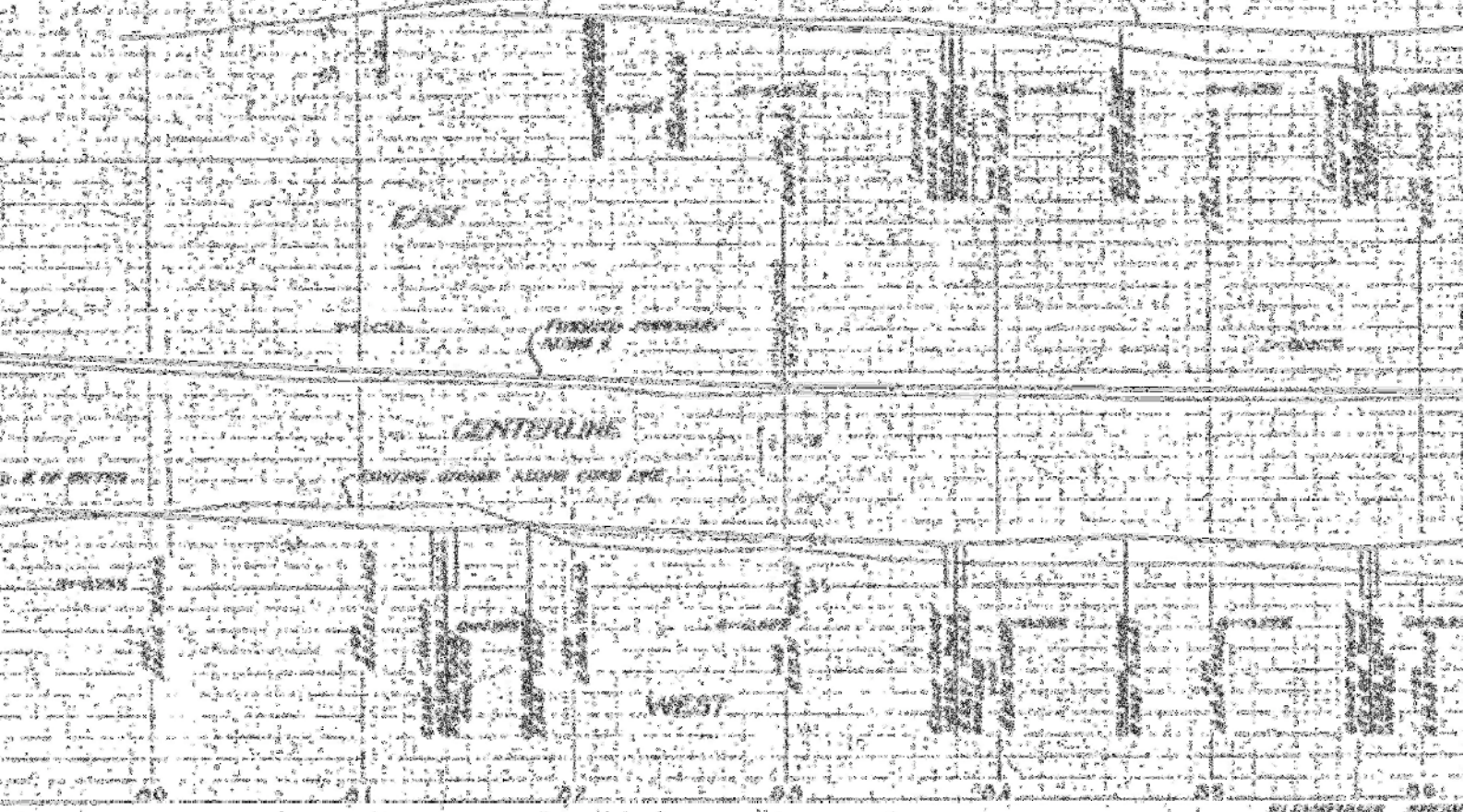


Site Plan 1972



## Utility Maps





**STATION AREA ELEVATION**  
 ELEVATION (FOOTING AND)

**STATION AREA PLAN**  
 PLAN (FOOTING AND)

**NOTE:**  
 1. Station area shown is subject to change.  
 2. Station area shown is subject to change.

**DESIGNER:**  
 [Name]

**DATE:**  
 [Date]

**REVISIONS**

NO.	DESCRIPTION	DATE	BY	CHKD.
1	Initial Design	10/1/50	[Name]	[Name]
2	Revised Design	10/15/50	[Name]	[Name]
3	Final Design	10/30/50	[Name]	[Name]

Figures and Tables from Closure Solutions, Inc., *Sensitive Receptor Survey, Kerry & Associates – Palace Garage, 14336 Washington Avenue, San Leandro, California*, dated August 27, 2008.



FIGURE



# TABLES

**Table 1**

## Water Supply Wells on Map

14336 Washington Avenue  
San Leandro, CA

Map Symbol	Address	City	Owner	Total Depth (feet)	Water Depth (feet)	Diameter (inches)	Use	Feet from Site	Source
1	501 143 Avenue	San Leandro	H. Mello	64	0	8	IRR	500	ACPWA
2	14300 Washington Avenue	San Leandro	Stefanovic Milivoje	100	0	10	IND	450	ACPWA & DWR
2	14300 Washington Avenue	San Leandro	Rhodes & Jamieson	253	20	12	IND	450	ACPWA
3	14143 Washington Avenue	San Leandro	Earl Bolton	65	0	6	IRR	1000	ACPWA
4	14441 Washington Avenue	San Leandro	Avansino Mortensen Nursery	135	38	8	IRR	1700	ACPWA & DWR
4	14441 Washington Avenue	San Leandro	Avansino Mortensen Nursery	235	0	12	IRR	1700	ACPWA
4	14441 Washington Avenue	San Leandro	Avansino Mortensen Nursery	254	0	12	IRR	1700	ACPWA
4	14441 Washington Avenue	San Leandro	Avansino Mortensen Nursery	215	35	12	IRR	1700	ACPWA
4	14441 Washington Avenue	San Leandro	Avansino Mortensen Nursery	235	0	12	IRR	1700	ACPWA
5	Washington/ Floresta	San Leandro	Pacific Development Gp	185	65	6	IRR	1600	ACPWA
6	291 Halcyon Drive	San Leandro	Thomas Cambron	0	0	0	IRR	2000	ACPWA
7	3607 Del Monte Way	San Leandro	George Ervin	35	15	4	IRR	1400	ACPWA & DWR
8	2824 Halcyon Drive	San Leandro	Malcom Storm	125	0	6	IRR	1900	ACPWA
9	2780 Halcyon Drive	San Leandro	Robert Hauskins	96	0	0	DOM	1500	ACPWA
10	1124 139th Avenue	San Leandro	Bill McMahan	80	25	8	IND	1700	ACPWA & DWR
11	14245 Rose Drive	San Leandro	Edwin Menze	43	15	4	IRR	1700	ACPWA & DWR
12	13221 Ivy Court	San Leandro	Ferris Griffin	62	0	6	DOM	1600	ACPWA
13	14201 Orchid Drive	San Leandro	Mrs. Williams	72	22	6	IRR	1500	ACPWA & DWR
14	1200 144th Avenue	San Leandro	Merchora Lamas	58	18	6	IRR	1500	ACPWA & DWR
15	1245 145th Avenue	San Leandro	Robert Matthews	61	21	6	IRR	1800	ACPWA & DWR
15	1236 145th Avenue	San Leandro	Sam Alcantara	53	20.5	6	IRR	1800	DWR
16	Washington Avenue	San Leandro	E. F. Winter	152	21	8	IRR	1000	ACPWA
17	14221 Orchid Drive	San Leandro	Yren Steblina	60	26	0	IRR	1500	ACPWA & DWR
18	14252 Orchid Drive	San Leandro	C.L. Smith	35	12	4	IRR	1500	ACPWA & DWR
19	906 143rd Avenue	San Leandro	Nakashima Nursery	152	14	8	IRR	1000	ACPWA & DWR
20	3420 Del Mar Circle	San Leandro	Edward Hunt	23	11	6	DOM	2000	DWR
20	3410 Del Mar Circle	San Leandro	John B. Harrison	28.5	11.5	4	IRR	2000	DWR

## LEGEND:

IRR = Irrigational Well

IND = Industrial Well

DOM = Domestic Well

ACPWA = Alameda County Public Works Agency

DWR = Department of Water Resources



**Table 2**

## Destroyed or Abandoned Water Wells in Survey Area

14336 Washington Avenue  
San Leandro, CA

Address	City	Owner	Total Depth (feet)	Water Depth (feet)	Diameter (inches)	Use	Feet from Site	Source
14441 Washington Avenue	San Leandro	Avansino Mortensen Nursery	288	35	10	DES	1700	ACPWA & DWR
14441 Washington Avenue	San Leandro	K-Mart	701	50	12	ABN	1700	ACPWA & DWR
Washington & Floresta	San Leandro	Egs Metro	70	0	0	DES	1600	ACPWA & DWR
300 Floresta	San Leandro	Oles Home Centers	700	--	--	DES	1800	DWR
906 143rd Avenue	San Leandro	Nakashima Nursery	372	0	12	DES	1000	ACPWA & DWR
906 143rd Avenue	San Leandro	Nakashima Nursery (Old)	152	14	8	DES	1000	ACPWA & DWR
906 143rd Avenue	San Leandro	Nakashima Nursery	601	0	12	DES	1000	ACPWA & DWR
906 143rd Avenue	San Leandro	Nakashima Nursery	265	--	8	DES	1000	ACPWA & DWR
906 143rd Avenue	San Leandro	Nakashima Nursery	95	--	12	DES	1000	DWR

## Legend:

IRR = Irrigational Well

IND = Industrial Well

DOM = Domestic Well

DES = Destroyed

ABN = Abandoned

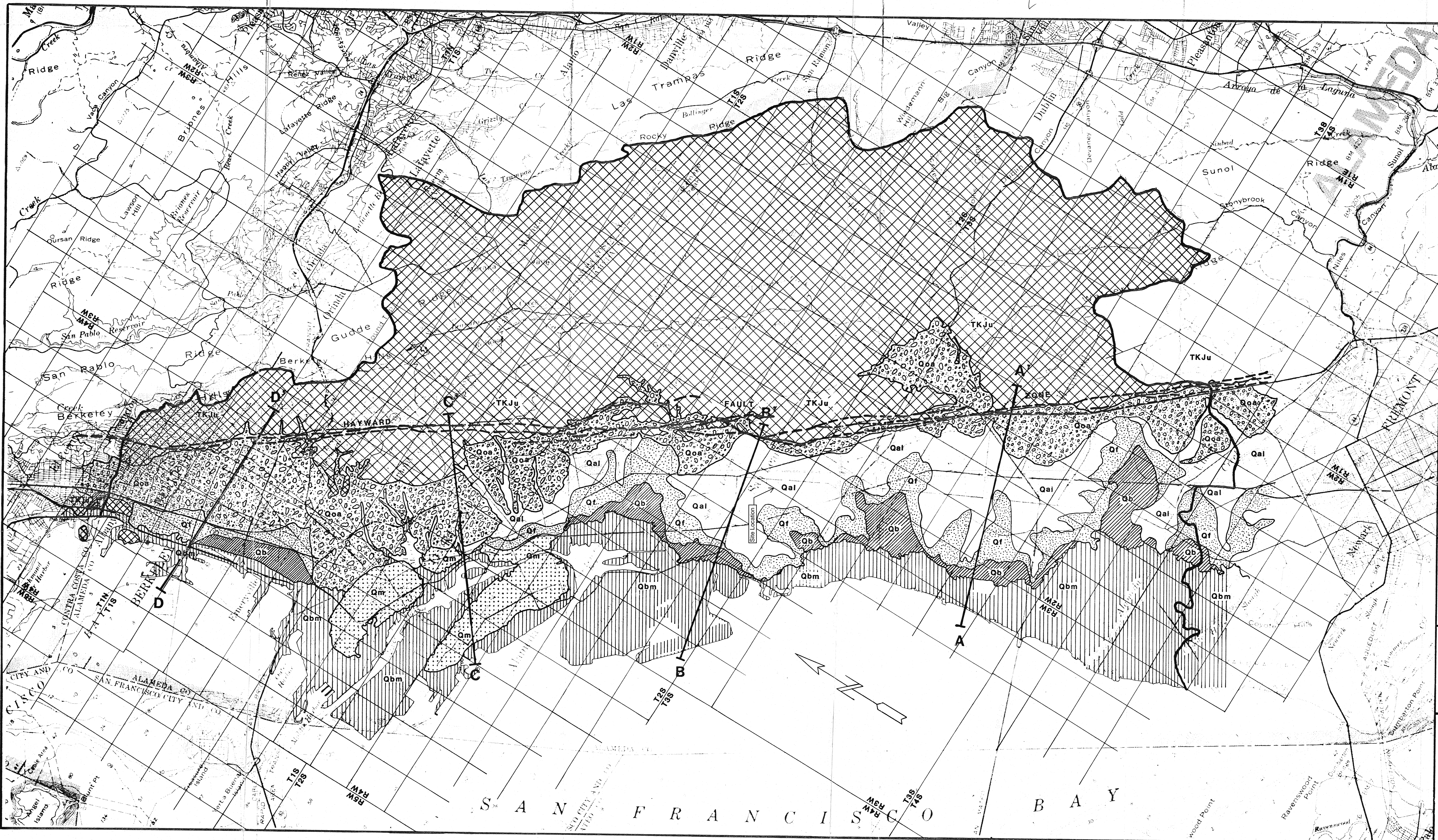
ACPWA = Alameda County Public Works Agency

DWR = Department of Water Resources

-- = Unknown/ Not Available

Figure from California Regional Water Quality Control Board - San Francisco Bay Region (SFBRWQCB) and Alameda County Flood Control and Water Conservative District (ACFC-WCD), *Geohydrology and Groundwater-Quality Overview of the East Bay Plain Area, Alameda County, California, 205 (j) Report*. Figure 8, *Generalized Geologic Map East Bay Plain Area*, June, 1988.





**CORRELATION OF MAP UNITS**

Qal	Holocene	QUATERNARY
Qf		
Qb		
Qbm	Pleistocene	
Qm		
Qoa		
TKJu	Pliocene and Older	TERTIARY, CRETACEOUS AND JURASSIC

**DESCRIPTION OF MAP UNITS**

Qal	YOUNGER ALLUVIUM
Qf	FLUVIAL DEPOSITS
Qb	INTERFLUVIAL BASIN DEPOSITS
Qbm	BAY MUD
Qm	MERRITT SAND
Qoa	OLDER ALLUVIUM
TKJu	UNDIVIDED BEDROCK UNITS

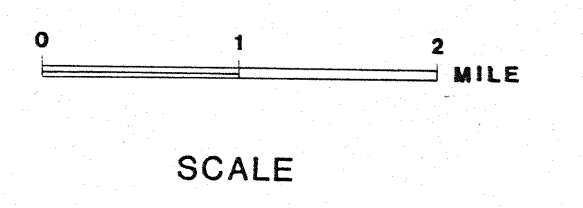
- CONTACT—Approximately located
- - - HAYWARD FAULT ZONE—Approximately located
- STUDY AREA DRAINAGE BOUNDARY
- A—A' LINE OF GEOLOGIC SECTIONS

Geology by Helley, Lajoie, and Burke (1972) and Helley and Lajoie (1979), with minor modifications by K. S. Muir, 1988.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION  
AND  
ALAMEDA COUNTY FLOOD CONTROL  
AND  
WATER CONSERVATION DISTRICT**

**GEOHYDROLOGY AND GROUNDWATER-QUALITY OVERVIEW  
OF THE  
EAST BAY PLAIN AREA, ALAMEDA COUNTY, CALIFORNIA  
205 (j) REPORT  
JUNE 1988**

**GENERALIZED GEOLOGIC MAP  
EAST BAY PLAIN AREA**



**FIGURE 8**



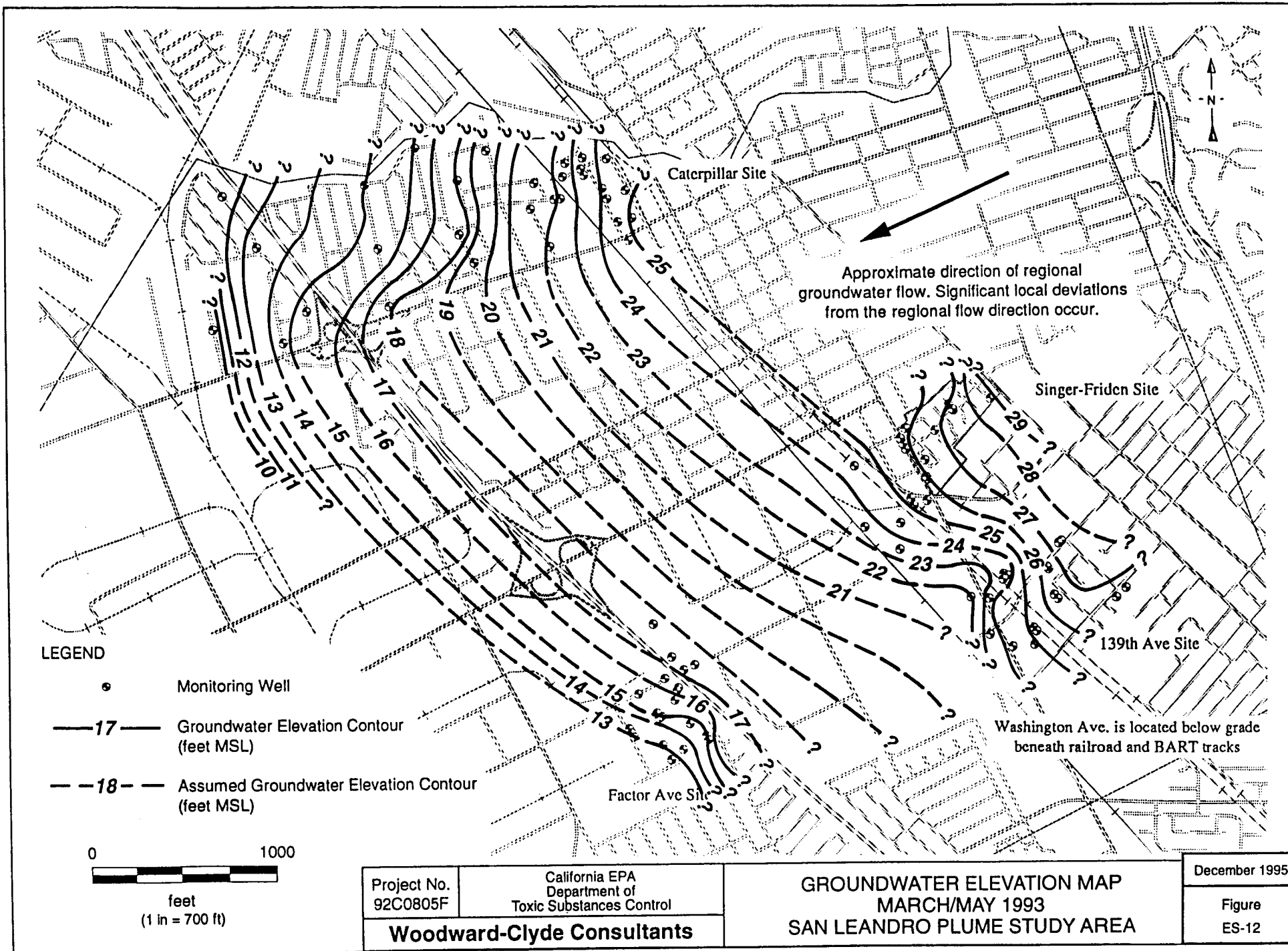
Tables and Figures from Woodward-Clyde Consultants (WCC), *Hydrogeology of Central San Leandro and Remedial Investigation of Regional Groundwater Contamination, San Leandro Plume, San Leandro, California*, December 29, 1993.



TABLE 1.4-2. SUMMARY OF WELL SAMPLING ANALYTICAL RESULTS, VOLATILE ORGANIC COMPOUNDS (EPA Method 8010) (µg/L)

REMEDIAL INVESTIGATION OF REGIONAL GROUNDWATER CONTAMINATION  
SAN LEANDRO PLUME, SAN LEANDRO, CA

SITE	SAMPLE NUMBER	SAMPLING DATE	TCE	PCE	1,1-DCA	1,2-DCA	1,1-DCE	trans-1,2 DCE	cis-1,2 DCE	1,1,1-TCA	Chloroform	Notes	Detection Limit	
139th Avenue Site (Continued)	GS-6	3-Feb-92	150	500	ND	ND	ND	ND	ND	ND	ND		1	
		17-Dec-92	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.50	
		17-May-93	ND	ND	ND	ND*	ND	ND	ND	ND*	ND	ND		0.4
	GD-6	4-Feb-92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		1
		19-Dec-92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.50
		17-May-93	ND	ND	ND	ND*	ND	ND	ND	ND*	ND	0.74		0.4
	GS-7	5-Feb-92	ND	8.5	ND	ND	ND	ND	ND	ND	ND	24		1
		16-Dec-92	94	280	ND	ND	ND	3.9	150	ND	ND	ND		2.5
		14-May-93	100	620	ND	ND*	ND	ND	130	ND	ND	ND		0.4
	GS-8	Not Sampled	-	-	-	-	-	-	-	-	-	-		
		22-Dec-92	ND	6.4	ND	ND	ND	ND	ND	ND	ND	ND		0.50
		17-May-93	ND	22	ND	ND*	ND	ND	ND*	5.4	ND	ND		2
GS-10	4-Feb-92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		1	
	17-Dec-92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.50	
	17-May-93	ND	ND	ND	ND*	ND	ND	ND*	ND	ND	ND		0.4	
Larsen's MW	17-Dec-92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		0.50	
	17-May-93	ND	ND	ND	ND*	ND	ND	ND*	ND	ND	ND		0.4	
Factor Avenue Site	GW-1A	30-Jan-92	110	78	ND	ND	210	ND	ND	76	ND		10	
		18-Dec-92	110	80	7.8	7.4	130	ND	11	74	ND		2.5	
		21-May-93	100	74	6.1	1.0	210	ND	12	54	1.5		0.4	
	GW-2A	30-Jan-92	130	<30	<20	ND	98	ND	ND	<30	ND		10	
		22-Dec-92	190	40	21	ND	100	ND	14	16	3.9	E	2.5	
		21-May-93	190	42	20	ND*	150	ND	22	19	2.0		0.4	
	GW-3A	4-Feb-92	<2	ND	ND	ND	<5	ND	ND	ND	ND		1	
		19-Dec-92	2.6	ND	ND	ND	3.4	ND	ND	0.64	ND		0.50	
		25-May-93	0.58	ND	ND	ND*	0.5	ND	ND*	ND	ND		0.4	

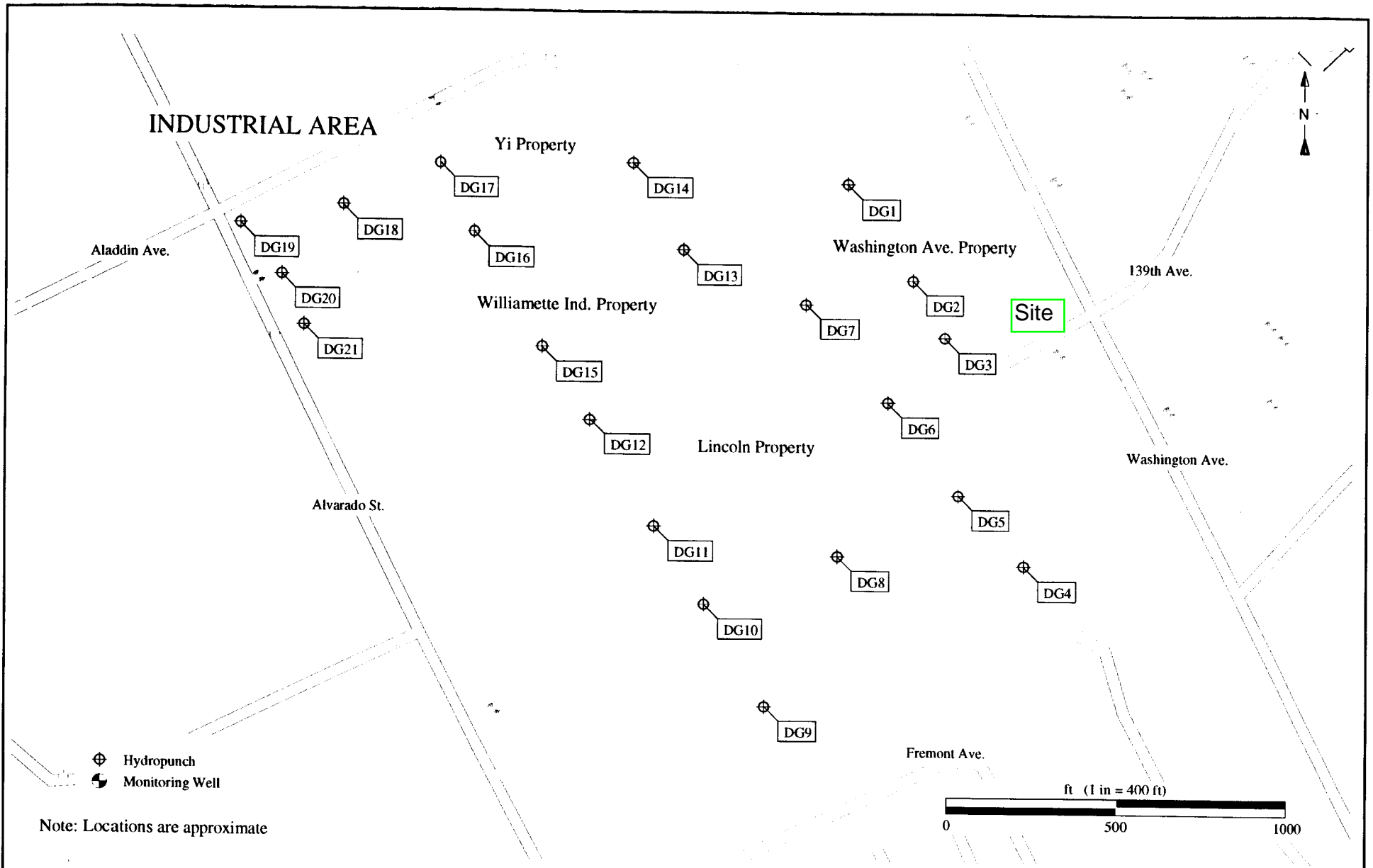


Tables and Figures from Woodward-Clyde Consultants, *Data Report, Volume 1, Summary Tables and Figures, Remedial Investigation of Regional Groundwater Contamination, Industrial (Datagap) Area, San Leandro Plume Project, San Leandro, California, March 29, 1995.*

TABLE 1. SUMMARY OF GROUNDWATER REMEDIAL INVESTIGATION OF GROUNDWATER CONTAMINATION  
 ANALYTICAL RESULTS, INDUSTRIAL AREA SAN LEANDRO PLUME, SAN LEANDRO, CA.  
 VOLATILE ORGANIC COMPOUNDS, EPA METHOD 8010 (ug/L) (1)

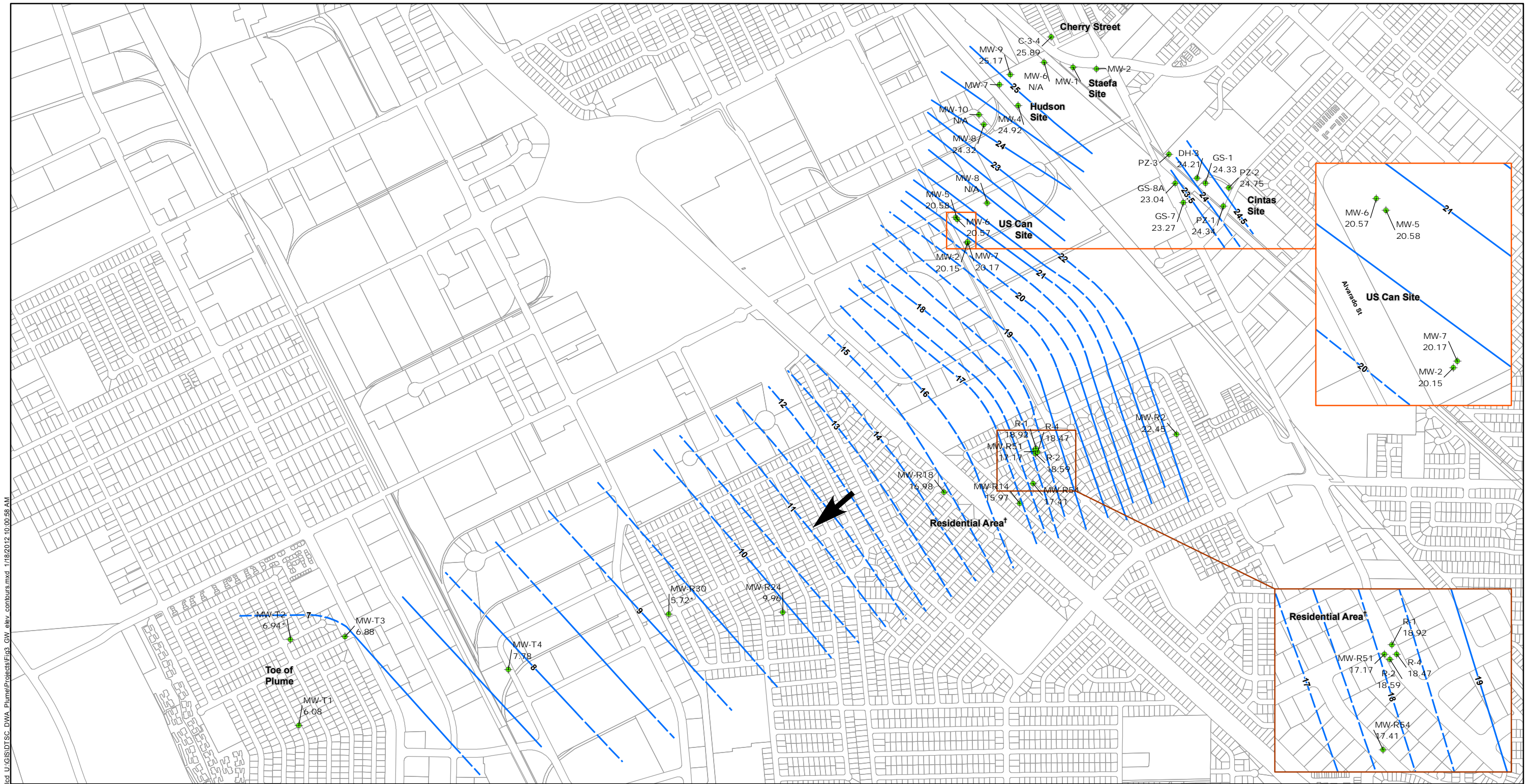
Sample Name	Report Page No. (2)	Location	Depth (3)	Date Sampled	TCE	PCE	Trichlorotrifluoromethane	1,1-DCE	cis 1,2 DCE	Chloroform	TOTAL VOC	DF
<b>POWERPUNCH SAMPLES</b>												
DG2-pp	7	DG2	18.2	12/1/94	ND	38	ND	ND	ND	ND	38	1
DG3-pp	6	DG3	19.2	12/1/94	ND	29	ND	ND	ND	ND	29	1
DG4-pp	116	DG4	15.5	12/22/94	ND	ND	ND	ND	ND	ND	0	1
DG5-pp	109	DG5	13.2	12/21/94	ND	ND	ND	ND	ND	ND	0	1
DG6-pp	114	DG6	12.5	12/22/94	ND	7.4	ND	ND	ND	ND	7.4	1
DG7-pp	112	DG7	13.0	12/22/94	5.1	16	ND	ND	ND	ND	21.1	1
DG8-pp	108	DG8	12.8	12/21/94	ND	ND	ND	ND	ND	ND	0	1
DG9-pp	106	DG9	10.7	12/21/94	ND	ND	ND	ND	ND	ND	0	1
DG10-pp	107	DG10	12.2	12/21/94	ND	ND	ND	ND	ND	ND	0	1
DG11-pp	115	DG11	11.6	12/22/94	7.7	64	ND	ND	ND	ND	71.7	2
DG12-pp	105	DG12	14.6	12/21/94	ND	66	ND	ND	ND	ND	66	2
DG13-pp	233	DG13	17.1	1/19/95	ND	48	ND	ND	ND	ND	48	2
DG14-pp	38	DG14	17.5	12/6/94	ND	2	ND	ND	ND	ND	2	1
DG15-pp	8	DG15	18.3	12/2/94	0.96	0.82	ND	ND	ND	ND	1.78	1
DG15-pp	111	DG15	18.3	12/22/94	1.2	0.81	ND	ND	ND	ND	2.01	1
DG-15-pp(D)	110	DG-15	18.3	12/22/94	1.1	0.79	ND	ND	ND	ND	1.89	1
DG16-pp	235	DG16	17.3	1/20/95	0.59	2.3	ND	ND	ND	ND	2.89	1
DG16-pp(D)	236	DG16	17.3	1/20/95	0.58	2.5	ND	ND	ND	ND	3.08	1
DG17-pp	237	DG17	17.6	1/20/95	120	74	ND	ND	52	ND	246	5
DG18-pp	234	DG18	17.6	1/19/95	82	3.7	ND	ND	ND	ND	85.7	5
DG19-pp	7.5	DG19	17.5	12/2/94	41	ND	ND	ND	790	ND	831	50
DG20-pp	9	DG20	18.0	12/2/94	340	ND	ND	ND	93	ND	433	20
DG21-pp	24	DG21	18.5	12/5/94	370	15	ND	ND	ND	ND	385	20
<b>HYDROPUNCH SAMPLES</b>												
DG2-81.9	23	DG2	81.9	12/5/94	ND	ND	ND	ND	ND	ND	0	1
DG3-79	21	DG3	79.0	12/2/94	ND	ND	ND	ND	ND	ND	0	1
DG4-68.4	185	DG4	68.4	1/10/95	ND	ND	ND	ND	ND	3.3	3.3	1
DG4-82.7	187	DG4	82.7	1/10/95	ND	ND	ND	ND	ND	ND	0	1
DG5-62.5	202	DG5	62.5	1/12/95	1	ND	ND	ND	ND	1.5	2.5	1
DG5-67.9	203	DG5	67.9	1/12/95	ND	ND	ND	ND	ND	ND	0	1
DG5-79.1	204	DG5	79.1	1/12/95	ND	ND	ND	ND	ND	ND	0	1
DG6-78.2	136	DG6	78.2	12/29/94	ND	ND	ND	ND	ND	ND	0	1
DG7-31.7	165	DG7	31.7	1/5/95	130	50	ND	ND	ND	ND	180	5
DG7-31.7(D)	164	DG7	31.7	1/5/95	64	25	ND	ND	ND	ND	89	2
DG7-67.6	166	DG7	67.6	1/5/95	6.1	ND	ND	ND	ND	1.4	7.5	1
DG7-76.2	167	DG7	76.2	1/5/95	ND	ND	ND	ND	ND	ND	0	1
DG7-97.1	169	DG7	97.1	1/5/95	ND	ND	ND	ND	ND	ND	0	1
DG8-61.4	205	DG8	61.4	1/13/95	ND	ND	ND	ND	ND	2.3	2.3	1
DG8-82.2	207	DG8	82.2	1/13/95	ND	ND	ND	ND	ND	ND	0	1
DG9-59.4	137	DG9	59.4	12/29/94	ND	ND	ND	ND	ND	0.84	0.84	1
DG10-26.4	198	DG10	26.4	1/11/95	1.8	ND	ND	ND	ND	ND	1.8	1
DG10-26.4(D)	199	DG10	26.4	1/11/95	2	ND	ND	ND	ND	ND	2	1
DG10-64.5	200	DG10	64.5	1/11/95	ND	ND	ND	ND	ND	4.6	4.6	1
DG10-69.2	201	DG10	69.2	1/11/95	ND	ND	ND	ND	ND	1.3	1.3	1
DG11-30.0	148	DG11	30.0	1/4/95	25	94	ND	ND	ND	ND	119	5
DG11-50.7	149	DG11	50.7	1/4/95	24	ND	ND	ND	3.3	0.83	28.13	1
DG11-62.8	150	DG11	62.8	1/4/95	1.2	ND	ND	ND	ND	0.86	2.06	1
DG11-68.4	151	DG11	68.4	1/4/95	ND	ND	ND	ND	ND	ND	0	1
DG11-93.0	163	DG11	93.0	1/5/95	ND	ND	ND	ND	ND	ND	0	1
DG12-33.6	181	DG12	33.6	1/9/95	ND	78	ND	ND	ND	ND	78	2
DG12-51.2	182	DG12	51.2	1/9/95	ND	ND	ND	ND	ND	ND	0	1
DG12-61.2	183	DG12	61.2	1/9/95	ND	ND	ND	ND	ND	ND	0	1
DG12-66.3	184	DG12	66.3	1/9/95	ND	24	ND	ND	ND	ND	24	1
DG12-70.5	219	DG12	70.5	1/17/95	ND	24	ND	ND	ND	ND	24	1
DG13-39	36	DG13	39.0	12/5/94	6.9	38	ND	ND	0.78	ND	45.68	1





Project No. 931083NC	California EPA Department of Toxic Substances Control	Locations of CPT and Powerpunch/Hydropunch Sampling	March 1995
<b>Woodward-Clyde Consultants</b>			Figure 1

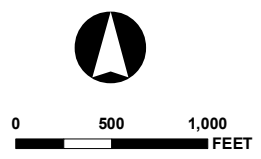
Figures from URS Corporation, *DWA Plume – Groundwater Monitoring, October 2011, January 12, 2012.*



I:\GIS\DTSC\_DWA\_Plume\Projects\Fig3\_GW\_elev\_contours.mxd 1/18/2012 10:00:58 AM  
 Source: Parcels, Alameda County, 2009

- MW-T1  
6.08  
 Monitoring Well  
GW Elevation (feet mean sea level)
- 11  
 GW Elevation Contour (0.5-1.0' contours)
- Approximate Groundwater Flow Direction

**Notes:**  
 † In this area due to irregular GW readings in such close proximity, a general GW elevation was given to show the GW flow direction across the entire site.  
 \* These GW elevations were excluded from calculating GW elevation contours because they were considered anomalies across the site.  
 \*\*Cintas groundwater contours are based on groundwater depths measured by Environ on October 18, 2011. The absolute groundwater elevations may be based on a local datum.



**GROUNDWATER ELEVATION  
 CONTOUR MAP - OCTOBER 2011**

December 2011  
 28067988

DWA Plume  
 San Leandro, California

**URS**

**FIGURE 3**