The Burrows Company
6 Southpoint Road
Orinda, CA 94563

June 30, 2014

Mr. Keith Nowell

Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: DATA GAP EVALUATION AND
SUBSURFACE INVESTIGATION WORK PLAN CERTIFICATION
RO 0000247
260 30th Street
Oakland, California

Dear Mr. Nowell:

You will find enclosed one copy of the following document prepared by P&D Environmental, Inc. for the subject site.

- Data Gap Evaluation and Subsurface Investigation Work Plan dated June 30, 2014 (document 0594.W1).

I declare, under penalty of perjury, that the information and/or recommendations contained in the above-mentioned work plan for the subject site is true and correct to the best of my knowledge.

Please don't hesitate to call me at (925) 788-5213 if you have any questions.

Sincerely,

Bruce Burrows

0594.L1

P&D ENVIRONMENTAL, INC.

55 Santa Clara Avenue, Suite 240
Oakland, CA 94610
(510) 658-6916

June 30, 2014
Work Plan 0594.W1

Mr. Keith Nowell
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

SUBJECT: DATA GAP EVALUATION AND
SUBSURFACE INVESTIGATION WORK PLAN
(B1 THROUGH B4 AND SG1)
County LOP Case Number RO 0000247
260 30th Street
Oakland, California

Dear Mr. Nowell:

P&D Environmental, Inc. (P&D) has prepared this data gap evaluation and subsurface investigation work plan for evaluation of a petroleum hydrocarbon release associated with one former 1,000-gallon capacity waste oil Underground Storage Tank (UST) at the subject site that was closed in-place in 1997. This work plan is prepared in response to a request in a letter from Ms. Barbara Jakub at the Alameda County Environmental Health Department (ACDEH) dated April 15, 2012.

The data gap evaluation compares available information for the site with State Water Resources Control Board (SWRCB) Low Threat Closure Policy (LTCP) case closure criteria to identify additional information that is needed to complete a LTCP evaluation of the site. Based on the data gap evaluation, the proposed work scope includes collection of groundwater grab samples at three locations, collection of soil samples from adjacent to the UST pit, and installation and sampling of one soil gas well. All work will be performed under the direct supervision of a California professional geologist.

A Site Location Map is attached as Figure 1, A Site Vicinity Aerial Photograph showing the location of the UST at the subject site, and a Site Map Aerial Photograph showing proposed borehole and soil gas well locations is attached as Figure 3.

BACKGROUND

It is our understanding that the subject site has historically been used as an automotive dealership and service center, and is currently occupied by an automotive warehouse. The subject site is located in an industrially zoned area and is bordered to the west by an automotive warehouse and Broadway, to the south by 30th Street and an automotive dealership, and to the east by Brook Street and Glen Echo Creek.

Review of available documents for the site at the ACDEH LOP website and at the GeoTracker website has identified the following two documents related to subsurface activities for the site UST.

- January 23, 1997 Work Plan/Site Safety Plan for Underground Storage Tank Closure prepared by TAC Environmental Services,
- September 22, 1997 Underground Storage Tank Closure Report prepared by Faultline Associates, Inc.

The 1997 work plan described the UST as containing heating/waste oil, and the results of a geophysical survey identified the orientation of the UST as shown in the Boring Location Plan (see Appendix A). The 1997 Underground Storage Tank Closure Report described soil sample collection from four soil borings located around the UST and the in-place closure of one 1,000-gallon heating oil UST on March 11, 1997. The four soil borings were drilled on March 11, 1997 to a maximum depth of 21.5 feet below the ground surface (bgs). The report stated that groundwater samples were not collected due to equipment failure.

Two boreholes designated as SB2 and SB4 were drilled at each end of the UST to maximum depths of 20 and 21.5 feet, respectively, and two soil borings designated as SB1 and SB3 were drilled on either side of the UST. Borehole SB3 was drilled at a 30 degree angle, and the report text identifies the maximum depths for boreholes SB1 and SB3 as 20 feet and 55 feet, respectively. However the boring logs identify the maximum depths as 21.5 feet for both boreholes SB1 and SB3. Additionally the boring logs for boreholes SB1, SB2, SB3, and SB4 report the depths of first encountered groundwater as 15, 9.5, 13, and 14 feet bgs, respectively. Soil samples were collected from each of the boreholes at 5-foot, 10-foot, 15-foot, and 20-foot depths, with the exception of SB2 which did not have a soil sample collected at a 20-foot depth.

All of the borehole soil samples were analyzed for Total Petroleum Hydrocarbons as Diesel (TPH-D), Total Petroleum Hydrocarbons as Gasoline (TPH-G), Methyl-tert Butyl Ether (MTBE), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and Petroleum Oil and Grease (POG). Additionally, soil sample SB1-15' was analyzed for Halogenated Volatile Organic Compounds (HVOCs) by EPA Method 8010 and for Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270. No VOCS or SVOCs were detected in soil sample SB1-15' with the exceptions of naphthalene and 2-methylnaphthalene at concentrations of 8.3 and 7.0 milligrams per kilogram (mg/kg), respectively. In addition, MTBE and benzene were not detected in any of the soil samples. The Faultline 1997 Underground Storage Tank Closure Report boring location plan, soil sample results summary table, and laboratory reports are attached with this work plan as Appendix A.

Figure 4 is a Site Vicinity Aerial Photograph showing creek locations in the vicinity of the subject site. In addition, Figure 4 identifies an Underground Culvert or Storm Drain beneath 30th Street that appears to discharge to Glen Echo Creek. Glen Echo Creek is located approximately 350 feet to the east of the UST that is closed in-place at the subject

site. Based on review of ground surface elevations obtained from Google Earth, the ground surface elevation above the subject site UST is approximately 20 feet higher than the elevation of Glen Echo Creek directly to the east of the subject site.

Figure 5 is a Site Vicinity Map showing the location of geologic cross section A-A', the locations of two 8,000-gallon capacity gasoline USTs, one 1,500-gallon capacity heating oil UST, and an oil-water separator at 2964 Broadway, which is located directly across 30th Street from the subject site. Figure 5 also shows the locations of underground utilities in the vicinity of the subject site, including a storm drain pipe located beneath the north side of 30th Street that extends to the west beneath Broadway and to the east to Glen Echo Creek. Figure 6 shows geologic cross section A-A'. Figures 5 and 6 were obtained from a November 30, 2006 Additional Site Investigation Report for the 2964 Broadway property prepared by Trinity Source Group, Inc. The two 8,000-gallon capacity USTs are located directly across 30th Street from the subject site UST. The Alameda County LOP case closure summary for County Case Number RO 438 for all three of the USTs at the 2964 Broadway property is dated March 22, 2007, and the County Remedial Action Completion Certificate for the case is dated April 17, 2007.

DATA GAP EVALUATION

The LCTP addresses general criteria for case closure consideration as follows:

(a) The unauthorized release is located within the service area of a public water system;
(b) The unauthorized release consists only of petroleum;
(c) The unauthorized release from the UST system has been stopped;
(d) Free Product has been removed to the maximum extent practicable;
(e) A conceptual site model that assesses the nature, extent, and mobility of the release has been developed;
(f) Secondary source removal has been removed to the extent practicable;
(g) Soil or groundwater has been tested for MTBE and results reported in accordance with Health and Safety Code section 25296.15; and
(h) Nuisance as defined by Water Code section 13050 does not exist at the site.

The LTCP general criteria have been addressed as follows. The subject site is located within the municipal water supply service area of the East Bay Municipal Utilities District (EBMUD), the release consists only of petroleum and has been stopped (UST closed in place), and no free product has been identified that would require removal to the maximum extent practicable. Based on the depth to petroleum-impacted soil and the proximity of the UST to the immediately adjacent building, secondary source removal does not appear practicable. MTBE has been tested for in soil samples collected from around the UST. Based on the available information for the site to date, a nuisance as defined by Water Code section 13050 does not exist at the site.

LTCP general criteria data gaps are as follows. A conceptual model has not yet been developed for the release, the extent of petroleum impact to groundwater has not yet been

defined, and groundwater samples have not yet been collected to evaluate the presence of MTBE.

The LTCP also addresses three media-specific criteria: 1) groundwater, 2) vapor intrusion to indoor air, and 3) direct contact and outdoor air exposure. Review of available soil sample results in Table 1 in Appendix A of this work plan shows that benzene was not detected in any of the borehole soil samples and that ethylbenzene was not detected in borehole soil samples at a depth of 10 feet or less with the following exceptions.

- Ethylbenzene was detected in borehole SB-1 at a depth of 10 feet (soil sample SB-1-10') at a concentration of 0.037 mg/kg.
- Ethylbenzene was detected in borehole SB-2 at a depth of 10 feet (soil sample SB-2-10') at a concentration of 0.015 mg/kg.
- Ethylbenzene was detected in borehole SB-3 at a depth of 10 feet (soil sample SB-3-10') at a concentration of 0.091 mg/kg.

All of the detected ethylbenzene soil sample concentrations at depths of 10 feet or less are below the LTCP Table 1 commercial/industrial screening level for soil from 5 to 10 feet bgs of 134 mg/kg, and are also below the residential screening level for soil of 32 mg/kg.

LTCP media-specific criteria data gaps are as follows. No groundwater or soil gas samples have been collected for comparison with LTCP case closure criteria. In addition, soil samples have not been evaluated in soil at a depth of 10 feet or less for PAHs (including naphthalene).

SCOPE OF WORK

To evaluate the extent of petroleum hydrocarbons at and near the subject site and to address LTCP data gaps, P&D will perform the following activities.

- Obtain City street obstruction and City excavation permits and County drilling permits.
- Prepare a health and safety plan and mark drilling locations for Underground Service Alert.
- Oversee continuous soil coring and groundwater grab sample collection at up to six offsite locations, and collect soil samples at one location adjacent to the former UST pit.
- Oversee installation and sampling of two permanent soil gas wells.
- Arrange for sample analysis.
- Prepare a subsurface investigation report and site conceptual model.

Each of these is discussed below.

Obtain Site Access and Permits

Obstruction and excavation permits will be obtained for work in the public right-of-way from the City of Oakland, an encroachment permit will be obtained from the City of Oakland for construction of one soil gas well in the public right-of-way, and permits will be obtained from the Alameda County Public Works Agency for borehole drilling. All necessary permit-related notifications will be made to the permitting agencies prior to drilling. In addition, notification will be provided to the ACDEH of the scheduled drilling dates.

Prepare a Health and Safety Plan

A health and safety plan will be prepared for the scope of work identified in this work plan. In addition, the drilling locations will be marked with white paint and Underground Service Alert will be notified for underground utility location.

Soil Coring and Sample Collection

Groundwater grab samples will be collected from first-encountered groundwater from proposed locations B1, B2, and B3 (see Figure 3). In addition, soil samples will be collected from one borehole (B4, see Figure 3) at a depth of less than 5 feet bgs and also between the depths of 5 and 10 feet bgs adjacent to the former UST pit for purposes of evaluating direct contact and outdoor air exposure.

All of the boreholes will be continuously cored by Vironex, Inc. of Concord, California (Vironex) using Geoprobe direct-push technology to drive a 2.5-inch outside diameter Geoprobe macrocore lined with transparent PVC sleeves. The soil from the borings will be logged in the field in accordance with standard geologic field techniques and the Unified Soil Classification System. All soil from the boreholes will be evaluated with a PID equipped with a 10.6 eV bulb and calibrated using a 100 ppm isobutylene standard.

The soil samples will be retained from boring B4 by selecting the interval to be sampled and cutting a 6-inch section of the liner corresponding to the sample collection depth. In addition, soil samples will be collected in boreholes where evidence of contamination is encountered based on odors, PID values, staining, and discoloration. The ends of the tubes will be sequentially capped with aluminum foil and plastic endcaps. The samples will then be labeled and stored in a cooler with ice pending delivery to a State-accredited hazardous waste testing laboratory. Chain of custody procedures will be observed for all sample handling.

Once groundwater is encountered in proposed boreholes B1 through B3, a 1-inch diameter temporary slotted PVC pipe will be placed in each borehole and a groundwater sample will be collected at each location using polyethylene tubing and a peristaltic pump. The groundwater samples will be transferred directly from the discharge tubing to 40-millileter VOA bottles, all of which will be supplied by the laboratory and contain hydrochloric acid

preservative. The sample bottles will be labeled and placed in a cooler with ice pending delivery to the laboratory. Chain of custody procedures will be observed for all sample handling.

All drilling and sampling equipment will be cleaned by steam cleaning or with an Alconox solution followed by a clean water rinse prior to use in each borehole. Following completion of logging and sample collection activities, the boreholes will be filled with neat cement grout. All soil and water generated during subsurface investigation will be stored in 55-gallon drums at the site and labeled pending characterization and proper disposal.

Soil Gas Well Construction and Sample Collection

One permanent soil gas well will be constructed at location SG1 (see Figure 3) to evaluate the presence of petroleum and oxygen soil vapor concentrations in the vicinity of the former UST and adjacent to the site building. Soil gas samples will be collected in accordance with procedures recommended in the December 2013 San Francisco Bay Regional Water Quality Control Board User's Guide: Derivation and Application of Environmental Screening Levels, and the following Department of Toxic Substances Control (DTSC) documents:

- March 2013 – FAQ for the 2012 Advisory,
- April 2012 Advisory - Active Soil Gas Investigations,
- October 2011 – Vapor Intrusion Guidance,
- October 2011 – Vapor Intrusion Mitigation Advisory.

Permanent soil gas well SG1 (see Figure 3) will be constructed by Vironex by driving a hollow 1.5-inch outside diameter drilling rod with an expendable tip to a depth of 5 feet bgs. The expendable tip will be dislodged and #2/16 Lonestar sack sand will be poured into the borehole to fill the lowermost 6 inches of the borehole with sand as the drilling rod is withdrawn from the ground. A 0.250-inch outside diameter (0.187-inch inside diameter) Teflon tube with a HDPE filter at the bottom of the tube will be inserted to the top of the 6-inch thick sand layer (a depth of 6 inches above the bottom of the borehole), and additional #2/16 Lonestar sack sand will be poured into the borehole to one foot above the bottom of the borehole (the lowermost one foot of the borehole will be filled with sand with the filter at the end of the tube in the middle of the sand interval).

Granular bentonite (measuring approximately 1 to 2 millimeters in diameter) will be placed in the annular space above the sand to 6 inches above the sand, and the remaining borehole will be filled with hydrated bentonite slurry. The tubing length will be 6.5 feet, and the top of the soil gas well will be enclosed in a well box with a lid that is secured with bolts.

Following construction, the soil gas well will not be sampled for a minimum of 48 hours. Soil gas samples will not be collected if more than ½ inch of precipitation has occurred during the five days prior to the scheduled sampling date.

A soil gas sampling manifold with a 1-liter Summa canister as the sampling canister (see Figure 7) will be assembled in a shroud consisting of a 35-gallon Rubbermaid bin that has been modified by cutting viewing ports into the sides of the shroud and covering the viewing ports with transparent polycarbonate sheets. A hole measuring approximately two inches square in the bottom of the shroud allows the shroud to cover the soil gas well while still allowing access to the temporary well through the bottom of the bin. At the time that the sampling manifold is assembled, the vacuum for the sample canister will be verified with a vacuum gauge and recorded.

Prior to sampling the soil gas, a 10 minute shut-in test of the sampling manifold will be performed by closing the valve located between the filter and the pressure gauge, opening the purge canister valve, and recording the manifold system vacuum (see Figure 7). No purge testing for purge volume determination will be performed because the sample will be collected using a Summa canister. Following successful verification of the manifold shut-in test, a default of three purge volumes will be extracted prior to sample collection. The purge volume will be calculated based on the void space surrounding the HDPE filter and the volume of the tube. The purge time will be calculated using a nominal flow rate provided by the flow controller of 150 cubic centimeters per minute. In addition, a dish containing 2-Propanol will be placed in the shroud to be used as a tracer gas for EPA Method TO-17 sample analysis.

Following completion of the purging of three volumes, a lid will be placed onto the shroud and a tracer gas 1,1-Difluoroethane (DFA) will be sprayed into the shroud interior for one second through a tube connected to a hole in the side of the shroud. Gloves in the lid of the shroud will be used to open the sample canister valve. After verifying that low flow conditions are not present associated with the soil gas sample, an air sample will be collected from the shroud atmosphere to quantify the shroud tracer gas concentration while the soil gas sample is being collected. The shroud atmosphere sample will be collected into a Tedlar bag that is placed into a vacuum chamber with the Tedlar bag inlet connected to a new piece of Teflon or polyethylene tubing that is inserted into the shroud atmosphere through a hole in the side of the shroud.

Once the vacuum for the sample canister valve has decreased to 5 inches of mercury, the gloves in the lid of the bin will be used to close the sample canister valve. The pressure gage on the inlet side of the flow controller (see Figure 7) will be monitored during sample collection to ensure that the vacuum applied to the soil gas well does not exceed 100 inches of water.

One duplicate soil gas sample will be collected into a Summa canister using a stainless steel sampling tee for the Summa canisters using methods described above. Following soil gas sample collection, a PID will be connected to the soil gas well Teflon tubing to

obtain a preliminary field value for the sample collection location. The soil gas Summa canisters will be stored in a box and promptly shipped to the laboratory for extraction and analysis.

In addition to collection of Summa canister samples as described above, sorbent tube samples will be collected as follows. The manifold will be equipped with a tee located downstream from the flow controller. At the time that the manifold is assembled (prior to the shut-in test), a sorbent tube will be connected inside the shroud to the tee that is located downstream from the flow controller with a valve located between the sorbent tube and the tee. The downstream side of the sorbent tube will be connected with a polyethylene tube to a flow meter and a vacuum pump. Following Summa canister sample collection, the valve between the manifold and the sorbent tube will be opened. A vacuum pump will be used to apply a vacuum to the sorbent tube and a flow meter will be used to measure the soil gas flow rate at a nominal flow rate of 150 cubic centimeters per minute for collection of a 200 cubic centimeter sample. In addition to collection of one sample at each soil gas well location, one sorbent tube replicate sample will be collected. Following collection of each sorbent tube soil gas sample the ends of the sorbent tube will be sealed. Before and after connection of the sorbent tubes to the manifold the sorbent tubes will be stored in a cooler with ice.

Chain of custody procedures will be observed for all sample handling. Measurements of vacuums, purging and equilibration time intervals, and PID readings will be recorded on Soil Gas Sampling Data Sheets.

All soil gas well construction equipment will be cleaned with an Alconox solution wash followed by a clean water rinse prior to use at each location. New Teflon or polyethylene tubing and filters will be used at each sample collection location. Clean, unused vacuum gages and stainless steel sampling manifolds will be used at each sample collection location. All soil and water generated during soil gas well construction will be stored in 55-gallon drums at the site and labeled pending characterization and proper disposal.

Sample Analysis

All of the groundwater samples will be analyzed at McCampbell Analytical, Inc. (McCampbell) in Pittsburg, California for Total Petroleum Hydrocarbons as Gasoline (TPH-G), using EPA Method 5030B in conjunction with EPA Method 8021B and modified EPA Method 8015B, for TPH-D and Total Petroleum Hydrocarbons as Motor Oil (TPH-MO) by EPA Method 3510 in conjunction with EPA Method 8015B: and for Volatile Organic Compounds (VOCs), including MTBE, BTEX, and naphthalene by EPA Method 8260B.

All of the soil samples will be analyzed for TPH-G using EPA Method 5030B in conjunction with EPA Method 8021B and/or modified EPA Method 8015B, for TPH-D and TPH-MO using EPA Method 3550B in conjunction with EPA Method 8015B, for MTBE, BTEX and naphthalene using EPA Method 8260B, and for PAHs using EPA Method 8270.

The Summa canister and sorbent tube soil gas samples will be analyzed at Air Toxics Limited of Folsom California (Air Toxics). The samples collected in Summa canisters will be analyzed for TPH-G, MTBE, BTEX, and DFA (the tracer gas) using EPA Method TO-15, and for oxygen, methane and carbon dioxide using method ASTM D-1946. The samples collected on sorbent tubes will be analyzed for naphthalene and 2-Propanol (the tracer gas) using EPA Method TO-17. The analyses will be performed with detection limits that equal or are less than SFRWQCB December 2013 Table E-2 soil gas commercial/industrial Environmental Screening Levels (ESLs).

All of the Tedlar bags will be analyzed at Air Toxics using EPA Method TO-15 for the tracer gases DFA and 2-Propanol.

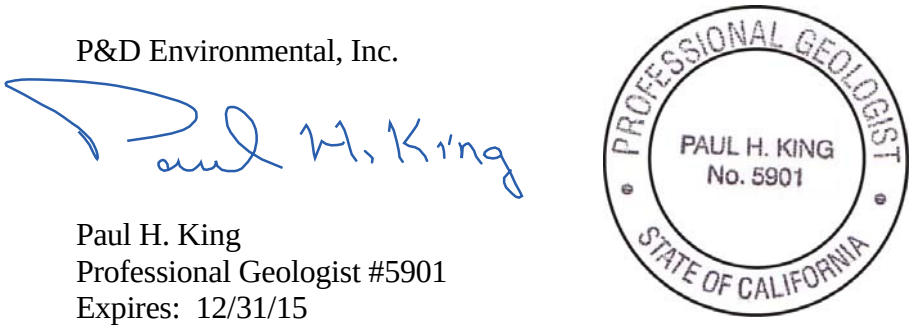
Report and Site Conceptual Model Preparation

Upon receipt of the laboratory analytical results, a report will be prepared. The report will document soil, soil gas, and groundwater sample collection procedures and sample results. The report will include a site vicinity map showing the drilling locations, tables summarizing the sample results, a site conceptual model, recommendations based on the results, and the stamp of an appropriately registered professional. PDF copies of the report will be uploaded to the County ftp site and to the SWRCB GeoTracker site.

Should you have any questions, please do not hesitate to contact us at (510) 658-6916.

Sincerely,

P&D Environmental, Inc.



Paul H. King
Professional Geologist #5901
Expires: 12/31/15

Attachments:

Figure 1 - Site Location Map
Figure 2 - Site Vicinity Aerial Photograph
Figure 3 - Site Map Aerial Photograph Showing Proposed Borehole and Soil Gas Well Locations
Figure 7 - Site Vicinity Aerial Photograph Showing Creek Locations
Figure 5 - Site Vicinity Map Showing Geologic Cross Section Location
Figure 6 - Geologic Cross Section A-A'
Figure 7 - Typical Soil Gas Sample Collection Manifold

Appendix A – Summary Data From Faultline Associates, Inc. September 22, 1997 Underground Storage Tank Closure Report

Cc: Bruce Burrows, The Burrows Company, 6 Southpoint Road, Orinda, CA 94563

PHK/mld/sjc
0594.W1

FIGURES

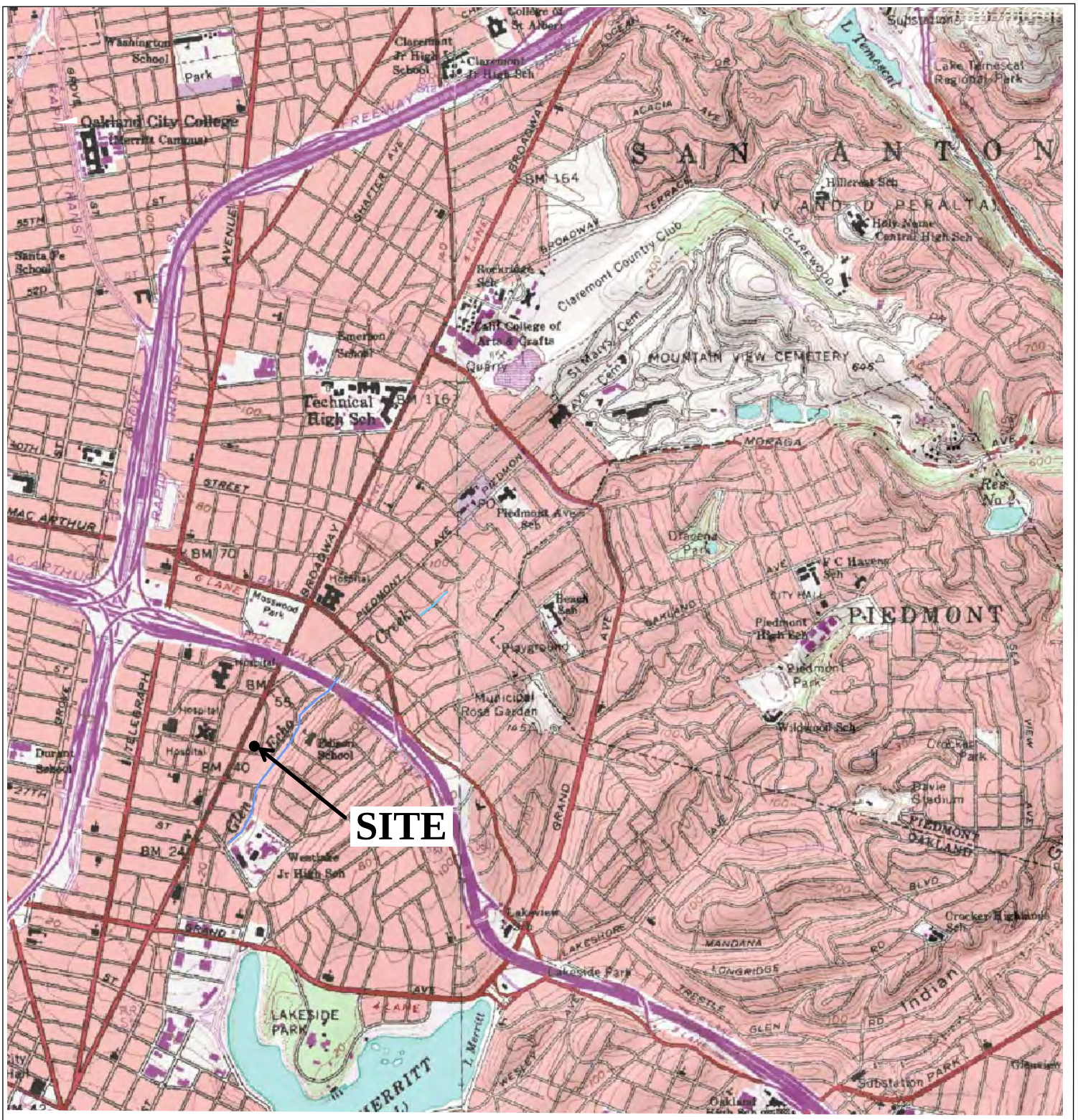


Figure 1
Site Location Map
260 30th Street
Oakland, California

Base Map From: US Geological Survey Oakland East, California, and Oakland West, California 7.5-Minute Quadrangles Photorevised 1980	P&D Environmental, Inc. 55 Santa Clara Avenue Oakland, CA 94610	0 1000 2000 Approximate Scale in Feet N

Figure 2
Site Vicinity Aerial Photograph
260 30th Street
Oakland, California

Base Map From: Googl Earth, Image dated October 2011	P&D Environmental, Inc. 55 Santa Clara Avenue Oakland, CA 94610	0 75 150 Approximate Scale in Feet N

Figure 3
Site Map Aerial Photograph Showing Proposed Borehole and Soil Gas Well Locations
260 30th Street
Oakland, California

Base Map From: Googl Earth, Image dated October 2011	P&D Environmental, Inc. 55 Santa Clara Avenue Oakland, CA 94610	0 25 50 Approximate Scale in Feet N

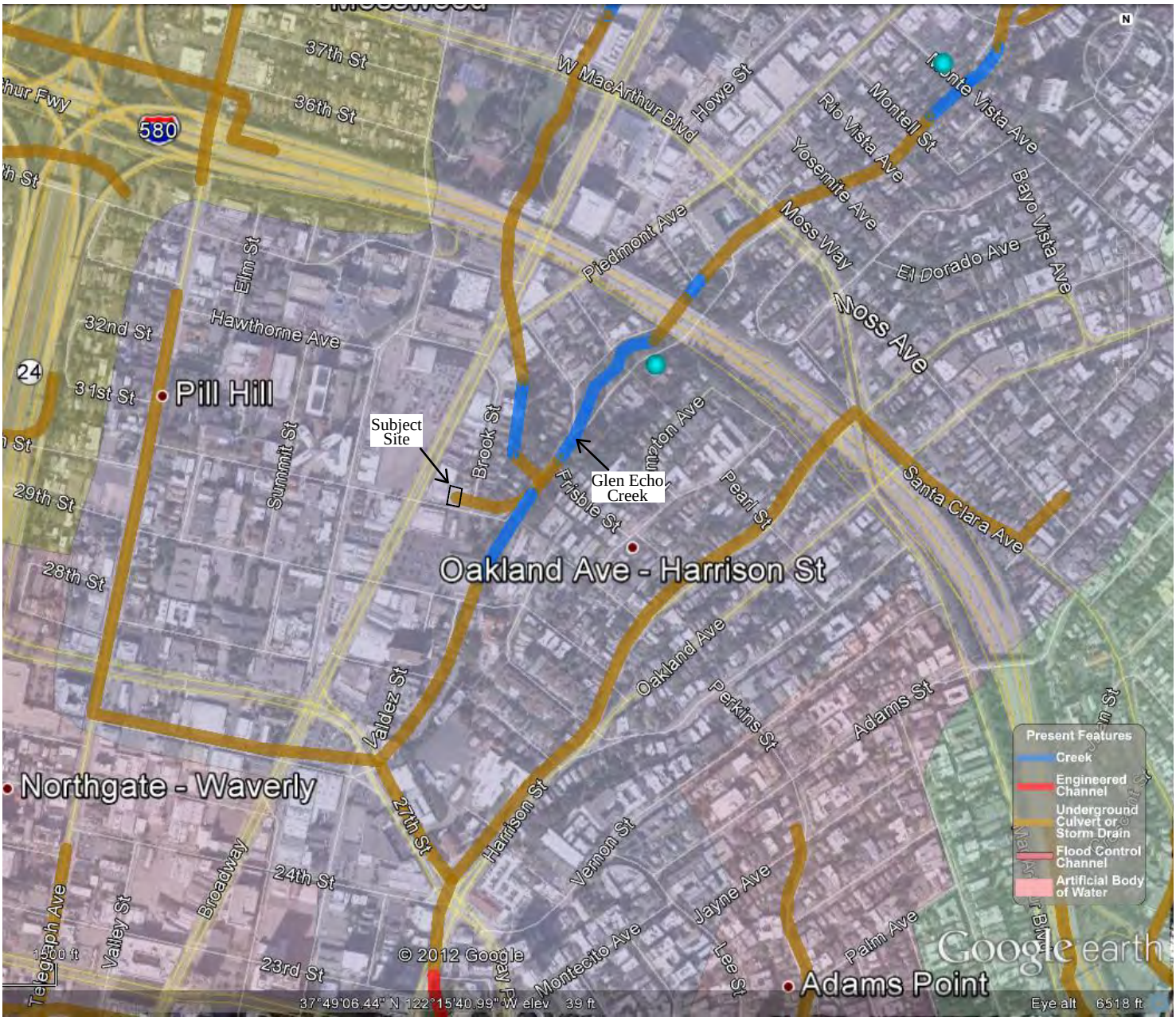


Figure 4
Site Vicinity Aerial Photograph Showing Creek Locations
260 30th Street
Oakland, California

Base Map From:
Google Earth, and Sowers J.M., and Richard, C.M., 2009, Creek and Watershed Map of Oakland & Berkeley (Fourth Edition): Oakland Museum of California, Oakland, CA

P&D Environmental, Inc.
55 Santa Clara Avenue
Oakland, CA 94610

0 400 800
Approximate Scale in Feet

N

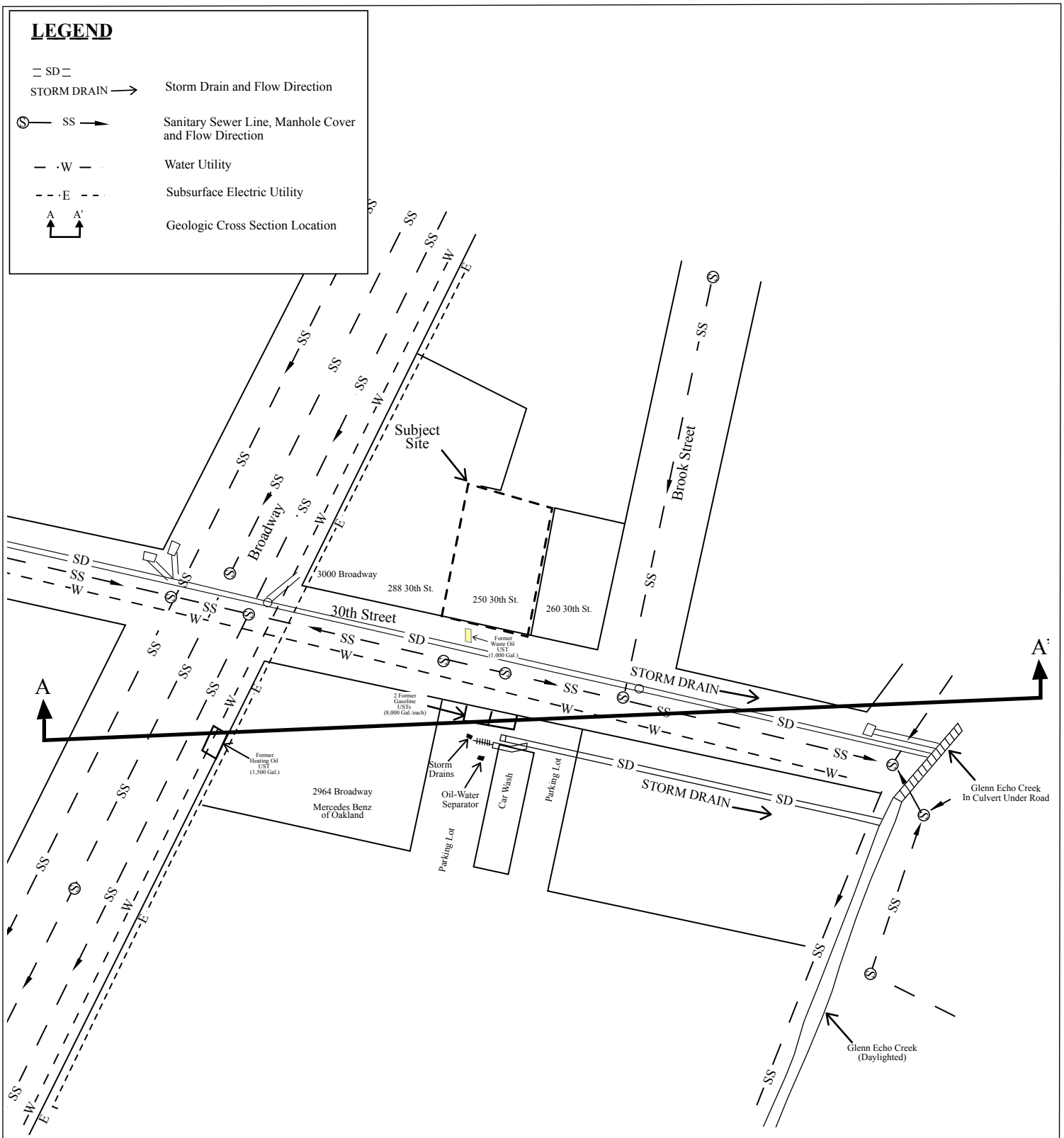


Figure 5
Site Vicinity Map Showing Geologic Cross Section Location
260 30th Street
Oakland, California

Base Map From:
Google Earth, Image dated October 2011,
Trinity Source Group, Inc., November 2006

P&D Environmental, Inc.
55 Santa Clara Avenue
Oakland, CA 94610

0 50 100
Approximate Scale in Feet

N

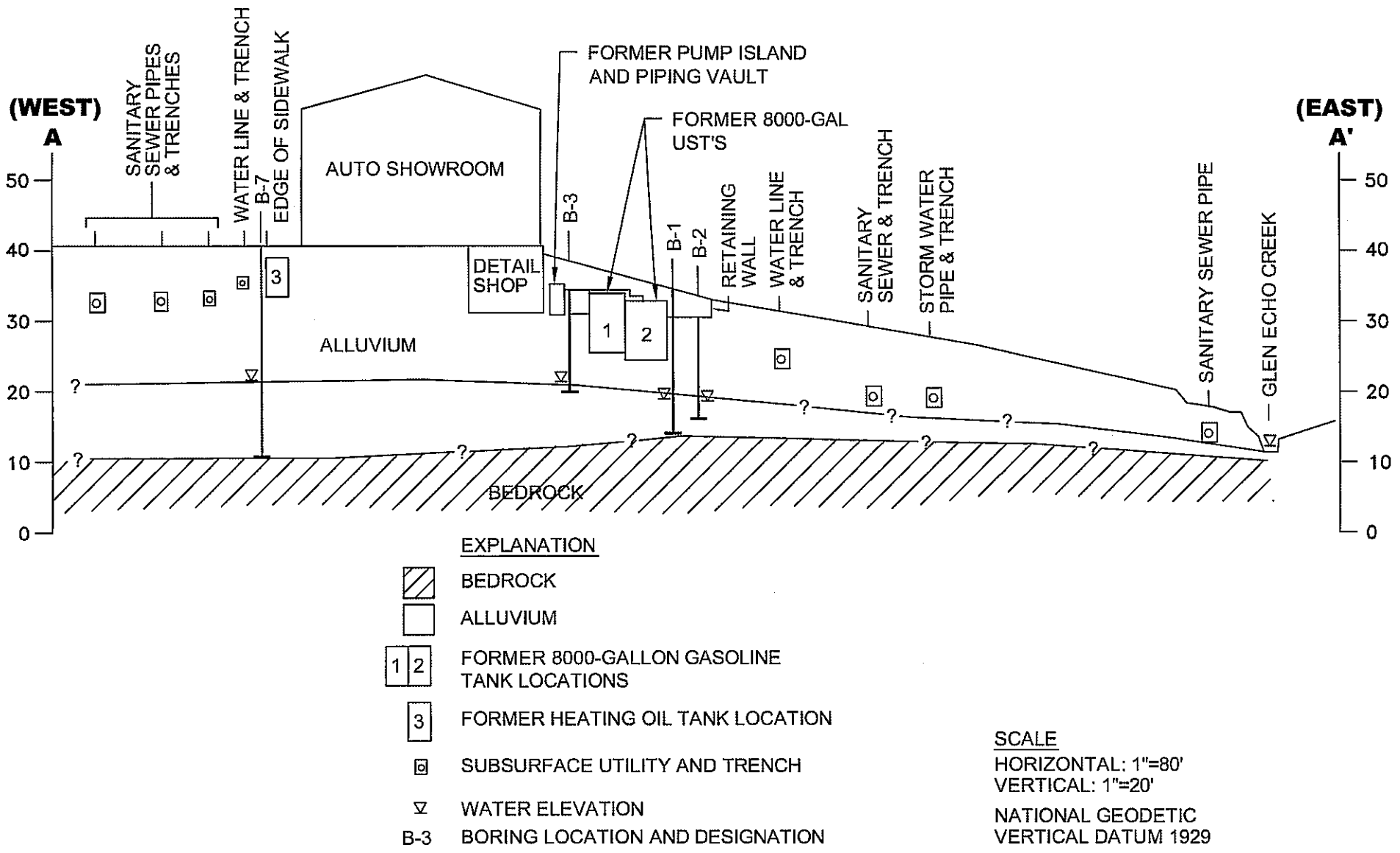


Figure 6
Geologic Cross Section A-A'
260 30th Street
Oakland, California

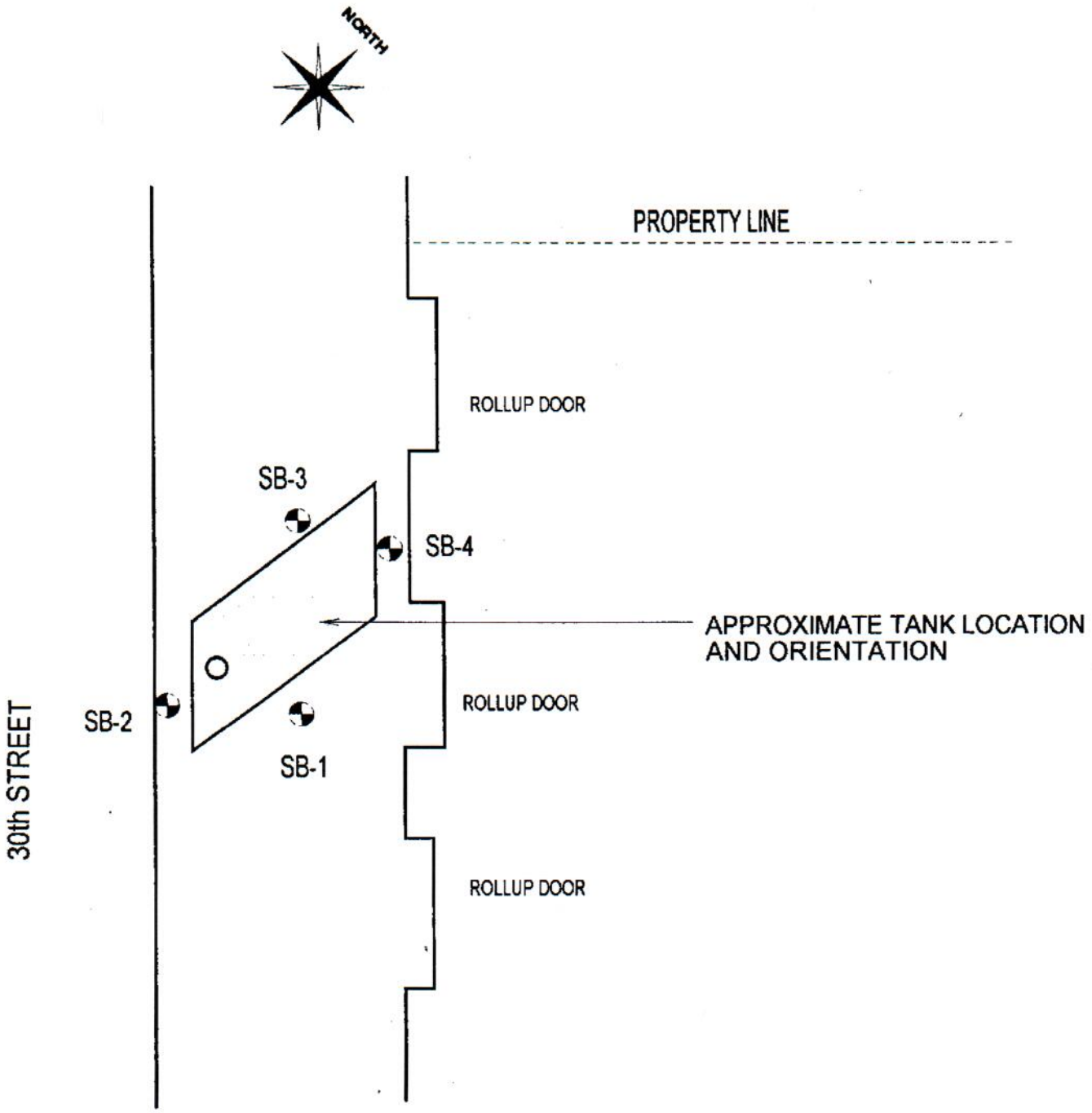
Base Map from: Trinity Source Group, Inc., November 2006	P&D Environmental, Inc. 55 Santa Clara Ave., Suite 240 Oakland, CA 94610	

Figure 7
Typical Soil Gas Sampling Manifold
260 30th Street
Oakland, California

APPENDIX A

Summary Data From Faultline Associates, Inc. September 22, 1997 Underground Storage Tank Closure Report

- **Boring Location Plan**
- **Summary of Soil Sample Analytical Results**
- **Laboratory Analytical Reports**



SCALE: 1" = 10'

FAULTLINE Associates, Inc. 1630 N. Main St., Walnut Creek, CA 94596			BORING LOCATION PLAN	
Project No.	Date:	Drawn By:	260 30th STREET OAKLAND, CALIF	Figure: 3
SF96-026-043	9/10/97	PLC		

SECTION THREE

SUMMARY OF SITE INVESTIGATION FINDINGS

The primary constituents encountered at this site are Total Petroleum Hydrocarbons as Diesel (TPH-d) and Oil and Grease (TPH-og) which exhibit low solubility and high absorption. Impact to the shallow soils is found within the vicinity directly adjacent to the UST. The extent of the lateral migration has not been defined, however, the vertical limits have been delineated to indicate that the TPH impact appears to be isolated to the upper 15 feet of the native subsurface soils. Due to equipment failure during the sampling event, groundwater grab samples were not obtained.

As presented in the table below, the most concentrated areas of TPH impact are found within the SB-1 and 3 bore locations. These locations represent the sides and below the in-place tank. *(A summary of TPH soil sample analytical results generated during this phase of site characterization is provided as Table-1).* Certified analytical reports inclusive of the 8240 and 8270 results are provided as Appendix A.

TABLE 1
SOIL SAMPLE RESULTS
260 30TH ST., OAKLAND, CA

Sample ID	TPH-d	TPH-og	TPH-g	Benzene	Toluene	Ethyl-Benzene	Xylene	MTBE
SB-1- 5'	190	540	1.1	ND	ND	ND	0.011	ND
SB-1-10'	51	450	30	ND	0.037	0.037	0.12	ND
SB-1-15'	4500	18,000	9600	ND	21	54	89	ND
SB-1-20'	ND	ND	ND	ND	ND	ND	ND	ND
SB-2-5'	32	140	4.4	ND	ND	ND	0.015	ND
SB-2-10'	15	ND	83	ND	0.18	0.015	0.79	ND
SB-2-15'	ND	ND	ND	ND	ND	ND	ND	ND
SB-3-5'	ND	ND	ND	ND	ND	ND	ND	ND
SB-3-10'	160	950	71	ND	0.071	0.091	0.46	ND
SB-3-15'	5.0	ND	1.5	ND	0.006	0.010	0.006	ND
SB-3-20'	ND	ND	ND	ND	ND	ND	ND	ND
SB-4-5'	ND	ND	ND	ND	ND	ND	ND	ND
SB-4-15'	42	250	39	ND	0.099	0.077	0.37	ND
SB-4-20'	ND	ND	ND	ND	ND	ND	ND	ND
Detection limits		1.0 mg/kg	1.0 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.005 mg/kg	0.05 Mg/kg

ND = Non-detect
All samples are presented as ppm or parts per million
MTBE= Methyl Tert Butyl Ether

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

TAC Environmental Services 151 Link Road Cordelia, CA 94585	Client Project ID: # SF026-043; Burrow's	Date Sampled: 03/11/97
		Date Received: 03/12/97
	Client Contact: Dave Solis	Date Extracted: 03/12/97
	Client P.O:	Date Analyzed: 03/12-03/13/97

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & BTEX*
EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab ID	Client ID	Matrix	TPH(g)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
74296	SB-1-5'	S	1.1,j	ND	ND	ND	ND	0.011	99
74297	SB-1-10'	S	30,j	ND	ND	0.035	0.037	0.12	95
74298	SB-1-15'	S	9600,j	ND< 26	ND< 0.1	21	54	89	98
74299	SB-1-20'	S	ND	ND	ND	ND	ND	ND	97
74300	SB-2-5'	S	4.4,j	ND	ND	ND	ND	0.015	95
74301	SB-2-10'	S	83,j	ND< 0.08	ND	0.18	0.15	0.79	99
74302	SB-2-15'	S	ND	ND	ND	ND	ND	ND	97
74303	SB-3-5'	S	ND	ND	ND	ND	ND	ND	102
74304	SB-3-10'	S	71,j	ND< 0.08	ND	0.071	0.091	0.46	96
74305	SB-3-15'	S	1.5,j	ND	ND	0.006	0.010	0.006	96
74306	SB-3-20'	S	ND	ND	ND	ND	ND	ND	99
74307	SB-4-5'	S	ND	ND	ND	ND	ND	ND	99
74308	SB-4-15'	S	39,j	ND< 0.08	ND	0.099	0.077	0.37	95
74309	SB-4-20'	S	ND	ND	ND	ND	ND	ND	96
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment; j) no recognizable pattern.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

TAC Environmental Services 151 Link Road Cordelia, CA 94585	Client Project ID: # SF026-043; Burrow's	Date Sampled: 03/11/97
		Date Received: 03/12/97
	Client Contact: Dave Solis	Date Extracted: 03/12/97
	Client P.O:	Date Analyzed: 03/12-03/19/97

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
74296	SB-1-5'	S	190,g	106
74297	SB-1-10'	S	51,g,d	105
74298	SB-1-15'	S	4500,g,d	---#
74299	SB-1-20'	S	ND	99
74300	SB-2-5'	S	32,g,d	101
74301	SB-2-10'	S	15,d	103
74302	SB-2-15'	S	ND	110
74303	SB-3-5'	S	ND	98
74304	SB-3-10'	S	160,g,d	101
74305	SB-3-15'	S	5.0,g,d	101
74306	SB-3-20'	S	ND	99
74307	SB-4-5'	S	ND	100
74308	SB-4-15'	S	42,g,d	106
74309	SB-4-20'	S	ND	98
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

* water samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP and STLC extracts in mg/L

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+ The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

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TAC Environmental Services 151 Link Road Cordelia, CA 94585	Client Project ID: # SF026-043; Burrow's	Date Sampled: 03/11/97
		Date Received: 03/12/97
	Client Contact: Dave Solis	Date Extracted: 03/12-03/13/97
	Client P.O:	Date Analyzed: 03/12-03/13/97

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
74296	SB-1-5'	S	540
74297	SB-1-10'	S	450
74298	SB-1-15'	S	18,000
74299	SB-1-20'	S	ND
74300	SB-2-5'	S	140
74301	SB-2-10'	S	ND
74302	SB-2-15'	S	ND
74303	SB-3-5'	S	ND
74304	SB-3-10'	S	950
74305	SB-3-15'	S	ND
74306	SB-3-20'	S	ND
74307	SB-4-5'	S	ND
74308	SB-4-15'	S	250
74309	SB-4-20'	S	ND
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5 mg/L
		S	50 mg/kg

* water samples are reported in mg/L and soil and sludge samples in mg/kg

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5vol. % sediment.

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TAC Environmental Services 151 Link Road Cordelia, CA 94585	Client Project ID: # SF026-043; Burrow's	Date Sampled: 03/11/97
		Date Received: 03/12/97
	Client Contact: Dave Solis	Date Extracted: 03/21/97
	Client P.O:	Date Analyzed: 03/21/97

Volatile Halocarbons

EPA method 601 or 8010

Lab ID	74298			
Client ID	SB-1-15'			
Matrix	S			
Compound	Concentration*			
Bromodichloromethane	ND< 300			
Bromoform(b)	ND< 300			
Bromomethane	ND< 300			
Carbon Tetrachloride(c)	ND< 300			
Chlorobenzene	ND< 300			
Chloroethane	ND< 300			
2-Chloroethyl Vinyl Ether(d)	ND< 300			
Chloroform (e)	ND< 300			
Chloromethane	ND< 300			
Dibromochloromethane	ND< 300			
1,2-Dichlorobenzene	ND< 300			
1,3-Dichlorobenzene	ND< 300			
1,4-Dichlorobenzene	ND< 300			
Dichlorodifluoromethane	ND< 300			
1,1-Dichloroethane	ND< 300			
1,2-Dichloroethane	ND< 300			
1,1-Dichloroethene	ND< 300			
cis 1,2-Dichloroethene	ND< 300			
trans 1,2-Dichloroethene	ND< 300			
1,2-Dichloropropane	ND< 300			
cis 1,3-Dichloropropene	ND< 300			
trans 1,3-Dichloropropene	ND< 300			
Methylene Chloride(f)	ND< 300			
1,1,2,2-Tetrachloroethane	ND< 300			
Tetrachloroethene	ND< 300			
1,1,1-Trichloroethane	ND< 300			
1,1,2-Trichloroethane	ND< 300			
Trichloroethene	ND< 300			
Trichlorofluoromethane	ND< 300			
Vinyl Chloride(g)	ND< 300			
% Recovery Surrogate	101			
Comments	i			

* water and vapor samples are reported in ug/L, soil and sludge samples in ug/kg and all TCLP extracts in ug/L.

Reporting limit unless otherwise stated: water/TCLP extracts, ND< 0.5ug/L; soil and sludge, ND< 5ug/kg

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

(b) tribromomethane; (c) tetrachloromethane; (d) (2-chloroethoxy) ethene; (e) trichloromethane; (f) dichloromethane; (g) chloroethene; (h) a lighter than water immiscible sheen is present; (i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1997 *Submission #:* 9703231

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: T-BURROWS *Project#:* 8243
Received: March 18, 1997

re: One sample for Semivolatile Organic Compounds (B/NAs) analysis.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **SB-1-15'**
Spl#: 121687 *Matrix:* SOIL *Extracted:* March 19, 1997
Sampled: March 11, 1997 *Run#:* 5884 *Analyzed:* March 20, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
PHENOL	N.D.	1.0	N.D.	63.4	10
BIS(2-CHLOROETHYL)ETHER	N.D.	1.0	N.D.	--	10
2-CHLOROPHENOL	N.D.	1.0	N.D.	72.7	10
1,3-DICHLOROBENZENE	N.D.	1.0	N.D.	--	10
1,4-DICHLOROBENZENE	N.D.	1.0	N.D.	74.0	10
BENZYL ALCOHOL	N.D.	2.0	N.D.	--	10
1,2-DICHLOROBENZENE	N.D.	1.0	N.D.	--	10
2-METHYLPHENOL	N.D.	1.0	N.D.	--	10
BIS(2-CHLOROISOPROPYL)ETHER	N.D.	1.0	N.D.	--	10
4-METHYLPHENOL	N.D.	2.0	N.D.	--	10
N-NITROSO-DI-N-PROPYLAMINE	N.D.	1.0	N.D.	66.8	10
HEXACHLOROETHANE	N.D.	1.0	N.D.	--	10
NITROBENZENE	N.D.	1.0	N.D.	--	10
ISOPHORONE	N.D.	1.0	N.D.	--	10
2-NITROPHENOL	N.D.	1.0	N.D.	--	10
2,4-DIMETHYLPHENOL	N.D.	1.0	N.D.	--	10
BIS(2-CHLOROETHOXY)METHANE	N.D.	1.0	N.D.	--	10
2,4-DICHLOROPHENOL	N.D.	1.0	N.D.	--	10
1,2,4-TRICHLOROBENZENE	N.D.	1.0	N.D.	74.6	10
NAPHTHALENE	8.3	1.0	N.D.	--	10
4-CHLOROANILINE	N.D.	2.0	N.D.	--	10
HEXACHLOROBUTADIENE	N.D.	1.0	N.D.	--	10
4-CHLORO-3-METHYLPHENOL	N.D.	2.0	N.D.	75.8	10
2-METHYLNAPHTHALENE	7.0	1.0	N.D.	--	10
HEXACHLOROCYCLOPENTADIENE	N.D.	1.0	N.D.	--	10
2,4,6-TRICHLOROPHENOL	N.D.	1.0	N.D.	--	10
2,4,5-TRICHLOROPHENOL	N.D.	1.0	N.D.	--	10
2-CHLORONAPHTHALENE	N.D.	1.0	N.D.	--	10
2-NITROANILINE	N.D.	5.0	N.D.	--	10
DIMETHYL PHTHALATE	N.D.	5.0	N.D.	--	10
ACENAPHTHYLENE	N.D.	1.0	N.D.	--	10
3-NITROANILINE	N.D.	1.0	N.D.	--	10
ACENAPHTHENE	N.D.	1.0	N.D.	79.4	10
2,4-DINITROPHENOL	N.D.	5.0	N.D.	--	10
4-NITROPHENOL	N.D.	5.0	N.D.	75.8	10
DIBENZOFURAN	N.D.	1.0	N.D.	--	10
2,4-DINITROTOLUENE	N.D.	1.0	N.D.	57.6	10
2,6-DINITROTOLUENE	N.D.	2.0	N.D.	--	10
DIETHYL PHTHALATE	N.D.	5.0	N.D.	--	10
4-CHLOROPHENYL PHENYL ETHER	N.D.	1.0	N.D.	--	10

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CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1997

Submission #: 9703231
page 2

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: T-BURROWS *Project#:* 8243
Received: March 18, 1997

re: One sample for Semivolatile Organic Compounds (B/NAs) analysis, continued.
Method: *SW846 Method 8270A Nov 1990*

Client Sample ID: **SB-1-15'**
Spl#: 121687 *Matrix:* SOIL *Extracted:* March 19, 1997
Sampled: March 11, 1997 *Run#:* 5884 *Analyzed:* March 20, 1997

ANALYTE	RESULT (mg/Kg)	REPORTING LIMIT (mg/Kg)	BLANK RESULT (mg/Kg)	BLANK SPIKE (%)	DILUTION FACTOR
FLUORENE	N.D.	1.0	N.D.	--	10
4-NITROANILINE	N.D.	5.0	N.D.	--	10
2-METHYL-4,6-DINITROPHENOL	N.D.	5.0	N.D.	--	10
N-NITROSO-DI-N-PHENYLAMINE	N.D.	1.0	N.D.	--	10
4-BROMOPHENYL PHENYL ETHER	N.D.	1.0	N.D.	--	10
HEXACHLOROBENZENE	N.D.	1.0	N.D.	--	10
PENTACHLOROPHENOL	N.D.	5.0	N.D.	54.6	10
PHENANTHRENE	N.D.	1.0	N.D.	--	10
ANTHRACENE	N.D.	1.0	N.D.	--	10
DI-N-BUTYL PHTHALATE	N.D.	20	N.D.	--	10
FLUORANTHENE	N.D.	1.0	N.D.	--	10
PYRENE	N.D.	1.0	N.D.	74.8	10
BUTYL BENZYL PHTHALATE	N.D.	5.0	N.D.	--	10
3,3'-DICHLOROBENZIDINE	N.D.	2.0	N.D.	--	10
BENZO(A)ANTHRACENE	N.D.	1.0	N.D.	--	10
BIS(2-ETHYLHEXYL)PHTHALATE	N.D.	5.0	N.D.	--	10
CHRYSENE	N.D.	1.0	N.D.	--	10
DI-N-OCTYL PHTHALATE	N.D.	5.0	N.D.	--	10
BENZO(B)FLUORANTHENE	N.D.	1.0	N.D.	--	10
BENZO(K)FLUORANTHENE	N.D.	2.0	N.D.	--	10
BENZO(A)PYRENE	N.D.	0.50	N.D.	--	10
INDENO(1,2,3 C,D)PYRENE	N.D.	2.0	N.D.	--	10
DIBENZO(A,H)ANTHRACENE	N.D.	2.0	N.D.	--	10
BENZO(G,H,I)PERYLENE	N.D.	2.0	N.D.	--	10
BENZOIC ACID	N.D.	5.0	N.D.	--	10

Note: Reporting limits raised and surrogates outside of QA/QC limits due to matrix interference. See surrogate summary page.

Michael Lee
Chemist

Chip Poalinelli
Operations Manager

CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1997 *Submission #:* 9703231

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: T-BURROWS *Project#:* 8243
Received: March 18, 1997

re: **Surrogate** report for 1 sample for Semivolatile Organic Compounds
Method: SW846 Method 8270A Nov 1990
Lab Run#: 5884
Matrix: SOIL

Sample#	Client Sample ID	Surrogate	% Recovered	Recovery Limits
121687-1	SB-1-15'	2-FLUOROBIPHENYL	86.0	30-115
121687-1	SB-1-15'	P-TERPHENYL-D14	90.4	18-137
121687-1	SB-1-15'	2,4,6-TRIBROMOPHENOL	57.2	19-122

Sample#	QC Sample Type	Surrogate	% Recovered	Recovery Limits
122567-1	*Reagent blank (MDB)*	NITROBENZENE-D5	68.5	23-120
122567-1	*Reagent blank (MDB)*	2-FLUOROBIPHENYL	66.3	30-115
122567-1	*Reagent blank (MDB)*	P-TERPHENYL-D14	57.8	18-137
122567-1	*Reagent blank (MDB)*	PHENOL-D5	64.0	24-113
122567-1	*Reagent blank (MDB)*	2-FLUOROPHENOL	64.0	25-121
122567-1	*Reagent blank (MDB)*	2,4,6-TRIBROMOPHENOL	70.7	19-122
122568-1	*Spiked blank (BSP)*	NITROBENZENE-D5	76.6	23-120
122568-1	*Spiked blank (BSP)*	2-FLUOROBIPHENYL	77.1	30-115
122568-1	*Spiked blank (BSP)*	P-TERPHENYL-D14	72.0	18-137
122568-1	*Spiked blank (BSP)*	PHENOL-D5	74.0	24-113
122568-1	*Spiked blank (BSP)*	2-FLUOROPHENOL	71.9	25-121
122568-1	*Spiked blank (BSP)*	2,4,6-TRIBROMOPHENOL	86.5	19-122
122569-1	*Spiked blank duplicate (BSD)*	NITROBENZENE-D5	74.1	23-120
122569-1	*Spiked blank duplicate (BSD)*	2-FLUOROBIPHENYL	75.5	30-115
122569-1	*Spiked blank duplicate (BSD)*	P-TERPHENYL-D14	68.1	18-137
122569-1	*Spiked blank duplicate (BSD)*	PHENOL-D5	72.3	24-113
122569-1	*Spiked blank duplicate (BSD)*	2-FLUOROPHENOL	67.2	25-121
122569-1	*Spiked blank duplicate (BSD)*	2,4,6-TRIBROMOPHENOL	90.0	19-122
122570-1	*Matrix spike (MS)*	NITROBENZENE-D5	67.3	23-120
122570-1	*Matrix spike (MS)*	2-FLUOROBIPHENYL	67.8	30-115
122570-1	*Matrix spike (MS)*	P-TERPHENYL-D14	81.6	18-137
122570-1	*Matrix spike (MS)*	PHENOL-D5	66.1	24-113
122570-1	*Matrix spike (MS)*	2-FLUOROPHENOL	65.2	25-121
122570-1	*Matrix spike (MS)*	2,4,6-TRIBROMOPHENOL	78.1	19-122
122571-1	*Matrix spike duplicate (MSD)*	NITROBENZENE-D5	71.8	23-120

S101
QCSURR1229 MIKELEE 25-Mar-97 11

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CHROMALAB, INC.

Environmental Services (SDB)

March 25, 1997

Submission #: 9703231
page 2

MCCAMPBELL ANALYTICAL, INC.

Atten: Ed Hamilton

Project: T-BURROWS *Project#:* 8243
Received: March 18, 1997

re: **Surrogate** report for 1 sample for Semivolatile Organic Compounds
Method: SW846 Method 8270A Nov 1990
Lab Run#: 5884

122571-1	*Matrix spike duplicate (MSD)* 2-FLUOROBIPHENYL	79.8	30-115
122571-1	*Matrix spike duplicate (MSD)* P-TERPHENYL-D14	83.1	18-137
122571-1	*Matrix spike duplicate (MSD)* PHENOL-D5	69.7	24-113
122571-1	*Matrix spike duplicate (MSD)* 2-FLUOROPHENOL	66.7	25-121
122571-1	*Matrix spike duplicate (MSD)* 2,4,6-TRIBROMOPHENOL	87.2	19-122

5101
QCSURR1229 MIKELEE 25-Mar-97 11

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QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/12/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#68829)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.007	1.929	2.03	99	95	4.0
Benzene	0.000	0.202	0.232	0.2	101	116	13.8
Toluene	0.000	0.218	0.240	0.2	109	120	9.6
Ethylbenzene	0.000	0.210	0.224	0.2	105	112	6.5
Xylenes	0.000	0.632	0.664	0.6	105	111	4.9
TPH (diesel)	0	323	307	300	108	102	5.0
TRPH (oil and grease)	0.0	21.2	22.4	20.8	102	108	5.5

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/13/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#68829)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.950	1.968	2.03	96	97	0.9
Benzene	0.000	0.192	0.206	0.2	96	103	7.0
Toluene	0.000	0.200	0.216	0.2	100	108	7.7
Ethylbenzene	0.000	0.194	0.208	0.2	97	104	7.0
Xylenes	0.000	0.578	0.620	0.6	96	103	7.0
TPH (diesel)	0	318	328	300	106	109	3.1
TRPH (oil and grease)	0.0	20.1	20.3	20.8	97	98	1.0

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR HYDROCARBON ANALYSES

Date: 03/19/97 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#68829)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.937	1.976	2.03	95	97	2.0
Benzene	0.000	0.208	0.194	0.2	104	97	7.0
Toluene	0.000	0.218	0.204	0.2	109	102	6.6
Ethylbenzene	0.000	0.206	0.196	0.2	103	98	5.0
Xylenes	0.000	0.628	0.596	0.6	105	99	5.2
TPH (diesel)	0	327	325	300	109	108	0.6
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL INC.
110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

QC REPORT FOR EPA 8010/8020/EDB

Date: 03/21/97 Matrix: Soil

Analyte	Concentration (ug/kg)				% Recovery		
	Sample (#68839)	MS	MSD	Amount Spiked	MS	MSD	RPD
1,1-DCE	0	113	119	100	113	119	5.2
Trichloroethene	0	95	100	100	95	100	5.1
EDB	0	80	84	100	80	84	4.9
Chlorobenzene	0	94	96	100	94	96	2.1
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorobz (PID)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

McCAMPBELL ANALYTICAL

110 2nd AVENUE, # D7
PACHECO, CA 94553

(510) 798-1620 FAX (510) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME: ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY ☐ ROUTINE

REPORT TO: Ed Hamilton BILL TO: MAI

PROJECT NUMBER: 8243 PROJECT NAME: T-Burrows

PROJECT LOCATION: OAKLAND

SUBM #: 9703231 REP: M
CLIENT: MCCAM
DUE: 03/25/97
REF #:32587

SAMPLE ID	LOCATION	SAMPLING DATE	SAMPLING TIME	# CONTAINERS	TYPE CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	OTHER	METHOD PRESERVED: HCL	HNO_3	ICE	OTHER	ANALYSIS REQUEST: EPA 601/8010	EPA 602/8020	EPA 608/8080	EPA 608/8080 - PCBs Only	EPA 624/8240/8260	EPA 625/8270	CAM - 17 Metals	EPA - Priority Pollutant Metals	LUFT Metals	LEAD (7240/7421/239.2/6010)	ORGANIC LEAD	RCI	COMMENTS
SB-1-15'		3/11/97		1	VOA		X						X							X							74298

RELINQUISHED BY: Heidi Rucca — DATE 3/18/97 — TIME 3:12:97 — RECEIVED BY:

RELINQUISHED BY: — DATE 3-18-97 — TIME 1500 — RECEIVED BY:

RELINQUISHED BY: — DATE 3/18/97 — TIME 15:02 — RECEIVED BY LABORATORY: C. Gonzalez

REMARKS:

TAC CHAIN OF CUSTODY

TAC ENVIRONMENTAL SERVICES
151 Link Road, Cordelia, CA. 94585

Project Name: BURROWS
Project #: SF026-043 | Location: OAKLAND
Laboratory: McCAMPBELL ANALYTICAL
Sampler Signature: N. C. Sali

Date: 3-12-91
Sheet 1 of 2

TURN AROUND TIME
RUSH ☐ | 24 HOUR ☐ | 48 HOUR ☐ | NORMAL ☒

SAMPLE I.D.	LOCATION	Sampling Date	Sampling Time	Matrix	# containers	BTEX & TPH as Gasoline (602/8020 & 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/5520 B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010 Purgeable Halocarbons	EPA 602/8020 Purgeable Aromatics	EPA 608/8080 Organochlorine Pesticides and PCB's	EPA 608/8080 PCB's - only	EPA 624/8240/8260 Purgeable Organics Add-on 3/7/91 per D.S. 5d TAT	CAM 17 metals	Pb, Cr, Cd, Ni, Zn	RCI	8270 Add-on 3/7/91 per D.S. 5d TAT				COMMENTS
SB-1	5'	3-11		S	1	X	X	X						X				X				74296
SB-1	10'	3-11		S	1																	74297
SB-1	15'	3-11		S	1									X				X				74298
SB-1	20'	3-11		S	1																	74299
SB-2	5'	3-11		S	1																	74300
SB-2	10'	3-11		S	1																	74301
SB-2	15	3-11		S	1																	74302
SB-3	5'	3-11		S	1																	74303
SB-3	10'	3-11		S	1																	74304
SB-3	15'	3-11		S	1																	74305
SB-3	20'	3-11		S	1	↓	↓	↓														74306

Relinquished by:	Date	Time	Received by:
Mary E Parker	3/12/91	1145	S.J. Harden
S.J. Harden	3/12/91	3:15	Linda Burca

Remarks:

ICE/T° ____
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATIVE APPROPRIATE ✓
CONTAINERS ✓

VOAS	O&G	METALS	OTHER

TAC FORM #F-004

CHAIN OF CUSTODY

TAC ENVIRONMENTAL SERVICES
151 Link Road, Cordelia, CA, 94585

Project Name: BURROWS
Project #: SF026-043 | Location: OAKLAND
Laboratory: McCAMPBELL ANALYTICAL
Sampler Signature: N.C. Sali

Date: 3-12-91
Sheet 2 of 2

TURN AROUND TIME
RUSH ☐ | 24 HOUR ☐
48 HOUR ☐ | NORMAL ☒

SAMPLE I.D.	LOCATION	Sampling Date	Sampling Time	Matrix	# containers	BTEX & TPH as Gasoline (602/8020 & 8015) / MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/ 5520 B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601/8010 Purgeable Halocarbons	EPA 602/8020 Purgeable Aromatics	EPA 608/8080 Organochlorine Pesticides and PCB's	EPA 608/8080 PCB's - only	EPA 624/8240/8260 Purgeable Organics	CAM 17 metals	Pb, Cr, Cd, Ni, Zn	RCI	OTHER: 8270
SB-4	5'	3-11		S	1	✓	✓	✓						✓				✓
SB-4	15'	3-11		S	1	✓	✓	✓										
SB-4	20'	3-11		S	1	✓	✓	✓										

COMMENTS
74307
74308
74309

Relinquished by:	Date	Time	Received by:
Mary E Potter	3/12/91	1145	S.J. Hawden
S.J. Hawden	3/12/91	3:15	Linda Rucia
Relinquished by:	Date	Time	Received by:

Remarks:

TAC FORM #F-004