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Alameda County
Environmental Health

July 23, 2010

Mr. Akash Lal
President
Lal Real Estate & Development, LLC
4660 Natomas Blvd. Suite# 178
Sacramento, CA 95835

Subject: Property Assessment and Workplan for Site Soil and Groundwater Investigation: Former Brooks's Garage, 1101 28th Street, Oakland, CA (Alameda County Fuel Leak Case No. RO0000222 and CA Geotracker Global ID No. TO600102303)

Dear Mr. Lal:

INTRODUCTION

Stellar Environmental Solutions, Inc. (Stellar Environmental) has been retained by Mr. Akash Lal to complete this workplan for the subject property referenced above. This Site Soil and Groundwater Investigation and Characterization workplan is designed to evaluate residual contamination associated with the former underground storage tanks (USTs), associated dispenser island and piping. A review of historical site remedial investigations was evaluated to address the needs and concerns outlined in the Alameda County Environmental Health Department (ACEH) closure review that is summarized on the State Water Resources California GeoTracker website, dated February 18, 2010. The owners have requested this assessment and workplan to determine the necessary steps to bring this site to regulatory closure and evaluate development of the property.

SES has reviewed all of the historical environmental documents provided to us that are known to exist for this property. A previous site investigation workplan prepared by Tom Edwards and Associates (TEA), dated August 29, 1996 was reviewed by SES and determined to be outdated and inadequate to characterize the site under the current regulatory compliance standards. Though map scales or compass directions are not included on the historical TEA investigation maps and the relative locations of site features, roads and the former USTs are inconsistent

between the historical investigation maps, SES is confident that additional investigative borings proposed herein are accurately located.

BACKGROUND HISTORY AND SUMMARY ASSESSMENT

A summary of the site conditions and history of previous environmental activity includes:

- An auto repair shop listed by the State Water Board Control Board (Site No. T0600102303) and ACEH (Site No. RO0000222) as Brook's Auto Service was historically operated on the property since at least the 1950's. The site operated two underground fuel storage tanks (USTs) one 700-gallon (also reported as 750-gallon) gasoline UST located adjacent to 28th Street and one 700-gallon (also reported as 500-gallon) waste oil UST located adjacent to Chestnut Street that were used in support of the auto shop operation and not for resale of gasoline.

- The presence of three vent pipes implied the potential presence of a third UST, however historical investigations including an electronic survey have been inconclusive.

- The two USTs were removed from the property on May 30, 1996 under the oversight of the City of Oakland Fire Department and ACEH. Analytical results of soil samples collected beneath the USTs exceeded the regulatory Environmental Screening Levels (ESLs) and are summarized in the attached Table, with those exceeding the applicable ESLs shown in bold-face type.

- Analytical results of the California Assessment Manual 17 (CAM-17) metals detected in soil from beneath the USTs included: barium, chromium, lead, cobalt, copper, nickel, vanadium and zinc were all at concentrations below the regulatory ESLs.

- Approximately 30 cubic yards (CY) of petroleum contaminated soil was subsequently excavated and removed from the site in October 1996. Analytical results of excavation confirmation soil sampling on October 11, 1996 indicated remaining residual petroleum hydrocarbon contamination exists in site soils at levels exceeding the regulatory ESLs. The analytical results are summarized in the attached Table.

- ACEH has requested further investigation of the vertical and lateral extent of residual soil contamination and potential groundwater contamination as stipulated in their closure review summary posted on the State Water Board's GeoTracker website, dated February 18, 2010.

- In our professional opinion, the appropriate ESLs for the subject site are *commercial/industrial land use* and *groundwater is a potential drinking water resource.* This is based on both the property zoning status (commercial/industrial) and the designation of this area of Oakland as "Zone A – Potential Drinking Water Resource (Water Board, 1999).
- Groundwater at the site can be safely assumed to occur from 8 to 10 feet below ground surface (bgs) and flow in a west-northwest direction based upon groundwater monitoring data from two nearby (within 1000 feet) properties: 2836 Union Street (TO600105641) and 2499 Chestnut Street (SL0600124563).

Attachment A contains a site plan showing the former UST, previous and proposed sampling locations and a summary table of previous excavation confirmation analytical results.

TECHNICAL OBJECTIVES AND RECOMENDED SCOPE OF WORK

The objective of the proposed work is to address two of the generally-required regulatory criteria for site closure: 1) addressing impacts of remaining contaminant source (in this case residual contaminated soil that will act as a continued impact to groundwater); and 2) characterizing residual soil and/or groundwater contamination.

The proposed scope of work is specifically designed to: 1) evaluate whether residual soil or groundwater contamination warrants corrective action (i.e. excavation, remedial product injection, etc.); and 2) provide additional data on the extent and magnitude of soil and/or groundwater contamination.

Task 1 – Pre-Field Work Planning and Permits

SES will conduct the following the pre-field work planning and permitting elements for the proposed borehole program, including:

- Obtain workplan concurrence from ACEH, or proceed with the proposed investigation if ACEH does not respond within the 60-day lead agency review period stipulated by California Code of Regulations, Title 23, Division 3, Chapter 16, Underground Tank Regulations.
- Obtain a borehole drilling permit from Alameda County Public Works Agency;
- Make a site visit to mark drilling locations, and then notify Underground Service Alert for underground utility clearance; and

- Complete a site Health and Safety Plan.

Task 2 – Borehole Drilling and Sampling

The drilling and sampling will be completed using a licensed (C-57) drilling subcontractor under SES's direction. The boreholes will be advanced with a Geoprobe™ (direct-push) rig that advances approximately 2-inch diameter sampling rods. The boreholes will be continuously cored and soil samples will be geologically logged. Borehole soil samples will be screened with a field photoionization detector (PID) and visually inspected for evidence of contamination. Borehole locations may be moved as determined by the field investigation evidence.

We propose to advance and sample 5 exploratory boreholes labeled as B1 through B5, to supplement the data from the previous investigations, as shown on the attached Figure 1. Attachment A contains detailed technical specifications for the proposed drilling and sampling.

We expect to advance 5 soil borings as shown on attached Figure 1 and collect the following: 6 soil and 5 groundwater samples. The rationale for the proposed borehole and sampling locations are as follows:

- Two boreholes (B1 and B2) will be located within 3 feet of the former dispenser (represented by sample SS-1) and within 3 feet of the former gasoline UST (represented by sample SS-2), respectfully, where maximum soil contaminants were previously detected, to evaluate the vertical and lateral extent of potential residual soil contamination in the context of corrective action options. Soil samples will be collected at a depth of approximately 2 and 6 to 10 feet below grade or just above the first occurrence of shallow groundwater. Soil samples will not be collected below the encountered groundwater level. Each bore will be advanced deeper for the collection of grab-groundwater.

- Soil will be collected from two boreholes (B3 and B4) located approximately 25 feet downgradient from a depth of 8 to 10 feet bgs to evaluate potential hydrocarbon migration away from the source area. Each bore will be advanced deeper for the additional collection of grab-groundwater.

- An additional downgradient borehole (B5) will be located from 50 to 100 feet downgradient of the source area to evaluate potential migration and/or attenuation of the hydrocarbon contamination away from the residual source.

Following sampling, each borehole will be tremie-grouted to surface with a cement slurry. Samples will be securely sealed in appropriate containers, placed in an ice chest with ice at

approximately 4 degrees C., and transported to the analytical laboratory under chain-of-custody record the same day they are collected.

Waste soil from the drilling and groundwater from monitoring well sampling will be containerized in a labeled 5-gallon plastic bucket that will be temporarily stored onsite. As a cost-savings measure, we recommend, and this proposal assumes, that sampling and disposal of this soil be postponed until it is known that no further drilling work is required.

Task 3 – Laboratory Analyses

All soil (6) and water (5) samples will be analyzed by a California-certified analytical laboratory. The analytical results will be performed at a standard turnaround (2 weeks). All samples will be analyzed for the following site chemicals of concern:

- Total volatile hydrocarbons –gasoline range (TVH-g) by EPA method 8015M;
- Total extractable hydrocarbons –diesel range (TEH-d) by EPA method 8015M;
- Aromatic hydrocarbons benzene, toluene, ethylbenzene and total xylenes (BTEX) and MTBE by EPA Method 8020; and
- Leaking Underground Fuel Tank (LUFT) metals (cadmium, chromium, lead, nickel, and zinc) (soil samples only) by Method SW350B. (None of the LUFT metals previously analyzed for in soils beneath the USTs were detected at levels of regulatory concern and thus may not be required by ACEH for analysis).

Several other potential contaminants associated with gasoline USTs have not been previously analyzed for and may be required by ACEH. These include:

- Ethanol by EPA Method 8260; and
- Fuel oxygenates (*tertiary*-butyl alcohol [TBA], di-isopropyl ether [DIPE], ethyl *tertiary*-butyl ether [ETBE], and *tertiary*-amyl methyl ether [TAME]); and lead scavengers (1,2-dichloroethane [EDC] and 1,2-dibromoethane [EDB]) by EPA Method 8260.

In addition, because of the presence of the former waste oil UST, the following additional analyses may also be required:

- Chlorinated hydrocarbons by EPA Method 8260B
- 1,4-dioxane by EPA Method 8260B; and
- Polychlorinated biphenyls (PCBs) by EPA Method 8082.

Task 4 – Technical Report Preparation

We will prepare a comprehensive technical documentation report that will discuss the implementation of the borehole drilling program. Report elements will include:

- Summary of historical UST removals and associated data;
- Technical objectives of the borehole program;
- Discussion of borehole drilling and sampling protocols and methods;
- Tabular summary of analytical results;
- Figure(s) showing borehole locations;
- Evaluation of site hydrogeologic conditions;
- Description of a site conceptual model;
- Discussion of analytical results in the context of contaminant distribution, remedial options and site closure criteria; and
- Technical appendices (e.g. lab reports, borehole logs, permits, photodocumentation, etc.)

Task 5 – Electronic Data Reporting

As required and discussed in the ACEH correspondence, the site is subject to the California Water Board's GeoTracker requirements, for electronic uploads of investigation data and reports. The following GeoTracker electronic uploads will be made:

- Request that the site be assigned to SES (for electronic uploads)
- "GeoMap" – site plan showing all sampling locations
- "Geo Report" – electronic format of previous reports and proposed borehole drilling
- Electronic Data Deliverable (EDD) – analytical laboratory report for previous and proposed borehole soil and groundwater samples.

The site is also subject to the separate ACEH electronic upload system ("ftp") that requires upload of the previous and proposed borehole sampling reports to their system. We will make those uploads and provide notification to Alameda County Environmental Health when they have been uploaded.

Task 6 –California Tank Fund Assistance (OPTIONAL)

Inspection of the site documents provided to SES indicates that the UST owner shown as Mr. W.L Race "Trustee" on the UST permit at the time of the UST removals, is potentially eligible for monetary reimbursement from the California Underground Storage Tank Cleanup Fund (Tank Fund) and they would be the party to submit an application for reimbursement unless there is some legal documentation transfering an existing claim to the next owner. Eligibility is based upon the regulatory compliance of the former UST owner and continuity of ownership of the UST. There are some exceptions to the Tank Fund regulations [Section 2810.1(b)] pertaining to property owner's who have purchased property impacted by leaking USTs. Exceptions to the regulations include a requirement that a regulatory case closure had been previously issued for the property or that the property owner can demonstrate that they exercised reasonable due diligence when acquiring the property. SES has not been provided documentation that supports one of these exceptions. We have attached the current "Tank Fund Program Summary" downloaded from the Tank Fund website with this assessment for your review, specifically the eligibility requirements on page 4.

This optional task includes the cost to review local regulatory agency files to establish eligibility and permit compliance, and to answer any questions the Tank Fund may have and potentially submit a formal eligibility application. Eligibility review/application approval generally takes from 6 to 12 months, before which reimbursement requests cannot be submitted. Therefore, the first reimbursement request would be submitted after the application is approved.

ESTIMATED SCHEDULE

SES will prepare a detailed proposal with a cost estimate and schedule to implement this workplan upon request from the property owner's and/or responsible party. Drilling implementation of this workplan can occur within 3 weeks of proposal acceptance. Analytical laboratory results will be completed on a normal turnaround (10 working days) and the documentation report will be submitted within approximately 2 weeks following SES' receipt of analytical results.

This estimated schedule is predicated on receiving ACEH's concurrence with this workplan. If ACEH concurrence is not received within the required 60 days of workplan receipt, we recommend the owner's proceed with the recommended drilling at the soonest possible time thereafter, and we will notify ACEH of the drilling date as soon as it is determined.

TEAM QUALIFICATIONS

Stellar Environmental Solutions, Inc. has completed dozens of similar projects, including numerous projects under oversight of ACEH. Our team will consist of the following:

- Stellar Environmental Solutions, Inc. (owner's consultant responsible for overall project coordination, geologic evaluation, sampling, data evaluation, and report certification by a California Registered Geologist);
- Borehole driller with a current C-57 license; and
- Analytical laboratory with current California Environmental Laboratory Accreditation Program (ELAP) certification.

We trust that this submittal meets your planning and property development needs. We suggest that you forward this workplan to ACEH for their review and concurrence and proceed with implementation of the work as soon as possible to move this site toward regulatory closure.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report are true and correct to the best of my knowledge. If you have any questions regarding this report, please contact us at (510) 644-3123.

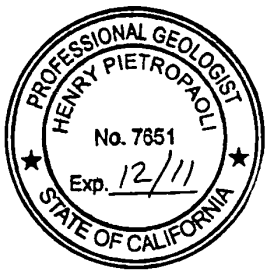
Sincerely,

Henry Pietropaoli, R.G., R.E.A.
Project Manager

Richard S. Makdisi, R.G, R.E.A
Principal

Attachments: Figures showing UST layout, previous and proposed sampling locations
Tables of previous analytical results
Drilling & sampling methods and protocols

cc: Mr. William Brew



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Alameda County Environmental Health, 2006. Letter approving technical workplan for corrective action investigation at 2836 Union Street, Oakland, California. March 20.

Calclean Inc, 2009. Groundwater Monitoring and Sampling, First Quarter, Linden Lofts (SL0600124563), 2499 Chestnut Street, Oakland California. April 6.

Regional Water Quality Control Board (Water Board), 1999. East Bay Plains Beneficial Use Study, San Francisco Bay. June 15.

Regional Water Quality Control Board (Water Board), 2007. San Francisco Bay Basin (Region 2) Water Quality Contra Board (Basin Plan). January 18.

Regional Water Quality Control Board (Water Board), 2008. Environmental Screening Levels for commercial/industrial sites where groundwater is and is not a drinking water resource. Revised May 2008.

Stellar Environmental Solutions, Inc., 2010. First Semiannual 2010 Groundwater Monitoring Report (TO600105641) – 2836 Union Street, Oakland, California. May 7.

Tom Edwards and Associates, 1996. Tank Removal and Soil Excavation Report, Brooks Auto Service, 1101 28th Street, Oakland, CA. October 25.

Tom Edwards and Associates, 1996. Excavation and Sampling Workplan, 1101 28th Street, Oakland, CA. August 29.

ATTACHMENT A

Figures and Historical Analytical Results

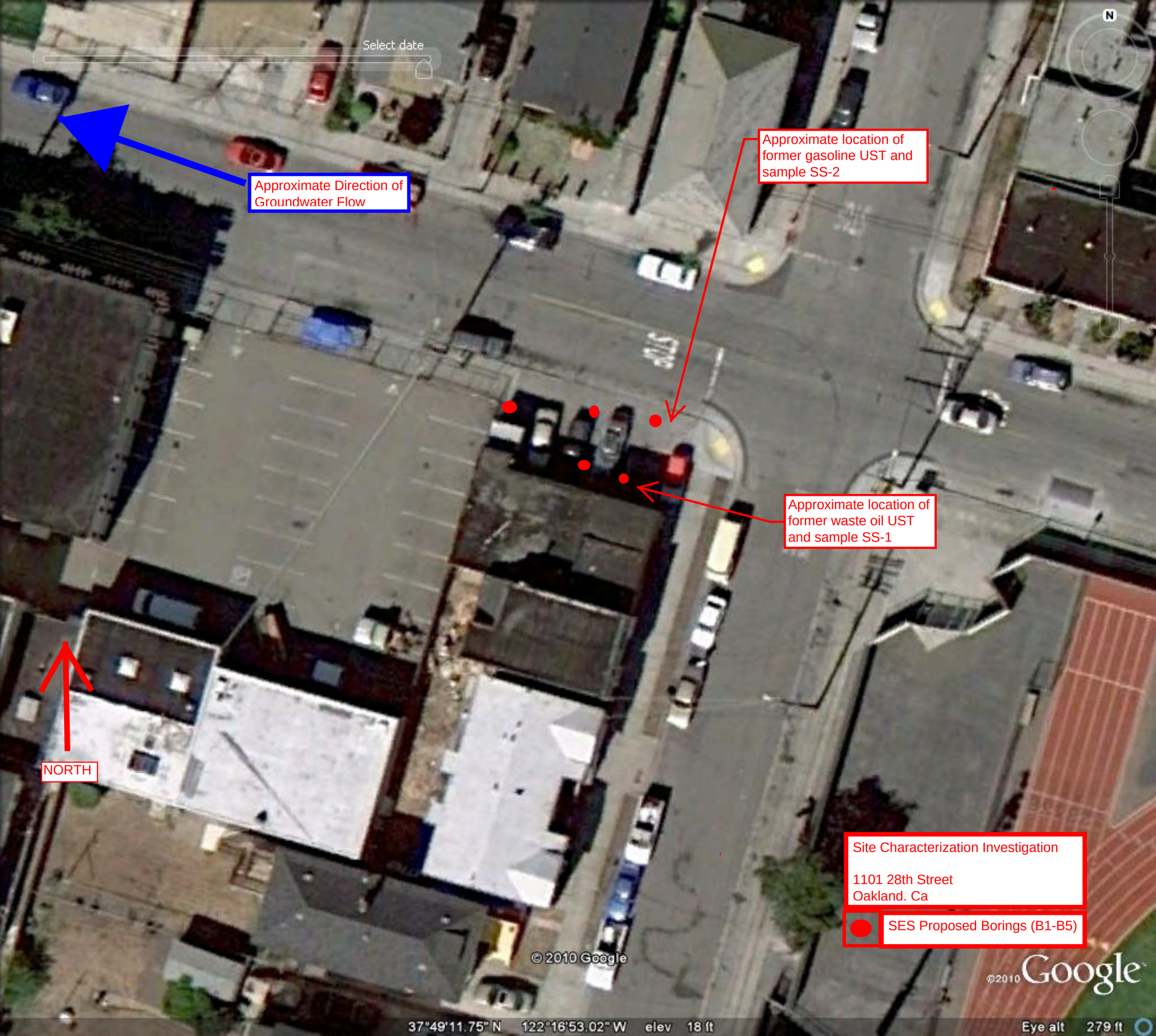
Select date
Approximate Direction of Groundwater Flow
Approximate location of former gasoline UST and sample SS-2
Approximate location of former waste oil UST and sample SS-1
NORTH
Site Characterization Investigation
1101 28th Street
Oakland. Ca
SES Proposed Borings (B1-B5)
© 2010 Google
©2010 Google
37°49'11.75" N 122°16'53.02" W elev 18 ft
Eye alt 279 ft

Table 1
Summary of Soil Analytical Results
1101 28th Avenue, Oakland, California

Sample ID	Sample Depth (feet bgs)	TVHg	TEHd	O&G	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE
May 30, 1996 Tank Removal Soil Samples (mg/kg)									
T1-W	-	**530**	**870**	1,800	**1.5**	**8.1**	**7.1**	**35**	NA
T1-E	-	**120**	**320**	1,900	**1.5**	**4.1**	1.8	**9.1**	NA
T-2	-	**350**	NA	NA	**3.5**	0.51	1.2	**4.1**	NA
October 11, 1996 Excavation Confirmation Soil Samples (mg/kg)									
SS-1	10.0	**20,000**	**13,000**	ND	**13**	**220**	**110**	**1,250**	ND
SS-2	10.0	**175**	**150**	540	**0.14**	0.93	1.6	**5.5**	ND
SS-3	1-2 (a)	9.0	4.6	60	0.0062	0.0075	0.014	0.059	ND
Soil ESLs		83/180	83/180	2,500	0.044/0.27	3.3/4.7	2.3/11	2.9/9.3	0.023/8.4

Notes:
T1-W, T1-E and T-2 soil samples collected 18 inches below of USTs
SS-1 = Soil sample from area of dispenser island
SS-2 = Soil sample from area of gasoline UST
SS-3 = Soil sample from area of waste oil UST
(a) depth is assumed from reported location being directly beneath dispenser pad reported
ESLs = Water Board Environmental Screening Levels for commercial/industrial sites where groundwater *is/is not* a potential drinking water resource.
Samples in **bold-face type** exceed the ESL criterion where groundwater *is* a drinking water resource.
MTBE = methyl tertiary-butyl ether
TEHd = total extractable hydrocarbons as diesel
TVHg = total volatile hydrocarbons as gasoline
NA = not analyzed
ND = none detected above laboratory reporting limit
bgs = below ground surface

Drilling & Sampling Methods and Protocols

DRILLING & SAMPLING METHODS AND PROTOCOLS

The boreholes will be advanced with a Geoprobe™ (direct-push) or equivalent rig that advances approximately 2-inch-diameter sampling rods into undisturbed soil. Soil samples are collected in either acetate or metal sleeves inside the sampling rods. The sleeves selected for off-site laboratory analysis are then capped (with non-reactive plastic caps) and labeled. Depth-specific "grab" groundwater samples will be collected by advancing into undisturbed soil a stainless steel sampling rod with a sacrificial tip and integral well screen. Upon reaching the water table, the sampling string will be raised by approximately 1 foot, dropping the sacrificial tip and exposing the screen interval. The sample will then be collected through new Tygon™ tubing connected to a vacuum pump. The water will then be transferred directly to the appropriate sampling containers. Alternatively, grab-groundwater samples will be collected by inserting temporary PVC casing into the open borehole, and then withdrawing groundwater with a clean bailer or plastic tubing connected to a peristaltic pump.

Samples will be securely sealed in appropriate containers, placed in an ice chest with ice at approximately 4 degrees C., and transported to the analytical laboratory under chain-of-custody record.

Waste soil (unused samples) will be temporarily containerized on-site in labeled, 5-gallon plastic pails with sealing tops. This soil will be appropriately profiled and disposed of when it has been determined that no further waste soil will be generated, or will be combined with any future generated waste soil from subsequent investigation phases.