



Technology, Engineering & Construction, Inc.

262 Michelle Court • So. San Francisco, CA 94080-6201 • Contractor's Lic. #762034
Tel: (650) 616-1200 • Fax: (650) 616-1244 • www.tecaccutite.com

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By dehloptoxic at 9:03 am, Oct 03, 2006

September 29, 2006

Mr. Steven Plunkett
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Division of Environmental Protection
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

SUBJECT: SITE CHARACTERIZATION WORKPLAN

SITE: Olympian Cardlock Station
8515 San Leandro Street,
Oakland, California
Fuel Leak Case #RO0002516

Dear Mr. Plunkett:

On behalf of Olympian, TEC Accutite is pleased to submit this site characterization workplan to conduct site assessment at the above listed property. This workplan has incorporated your comments on the Site Characterization Work Plan (draft version) and Site Conceptual Model submitted on March 27, 2006.

In January 2004, TEC Accutite reviewed the site status and recommended further investigation to fully assess the environmental conditions of the site. The site background and proposed scope of work are presented below.

SITE DESCRIPTION

The site is located near the corner of San Leandro Street and 85th Avenue in Oakland, CA (Figure 1). Since 1995, the site has been occupied by a cardlock gasoline service station. Station facilities consisted of one 12,000-gallon gasoline underground storage tank (UST), one 5,000-gallon gasoline UST, one 8,000-gallon gasoline UST, one 15,000-gallon diesel UST and dispenser islands (Figure 2). The USTs and dispensing facilities are in compliance with 1998 upgrade requirements (City of Oakland, EHS upgrade compliance certificate # 11815) (GHH, 2002).

The topography of the subject site is flat with an elevation of approximately 5 to 10 feet above mean sea level. The site is situated in a heavy industrial area. The site is currently owned by Nella Oil Company and operated as a fuel service station.

SITE HISTORY

June 1994, Phase I ESA and Phase II Soil Analysis: Artesian Environmental Consultants conducted a Phase I Environmental Site Assessment (ESA) and performed soil analysis at the subject site. Seven soil borings (B1 through B7) was advanced. Phase II sample results showed that the site was free of any petroleum hydrocarbons.

June 2002, Environmental Baseline Report: In May 2002, as part of a business transaction between Olympian and Nella Oil Companies, GHH Engineering, Inc. (GHH) conducted a baseline environmental review of the subject site. GHH staff inspected the property and stated that the subject property appeared clean and free of any notable petroleum hydrocarbon staining that could be indicative of surface spills. The oil/water separator appeared to be in good condition, with no evidence of cracks or significant staining.

GHH advanced a total of seven soil borings (GP-1 through GP-7), collected seven soil samples and one grab groundwater sample from the area of the underground storage tanks (USTs) and dispenser islands. Baseline sampling showed the presence of 238 milligram per kilogram (mg/kg) total petroleum hydrocarbons as motor oil (TPH-mo) in a soil sample taken near the dispenser area (GP6@5'), 80 mg/kg total recoverable petroleum hydrocarbons in a soil sample taken at the oil/water separator area (GP7@5'), and 7.0 microgram per liter ($\mu\text{g/L}$) methyl-tert-butyl ether (MTBE) in a groundwater sample taken in the UST area (GP-1).

March 2003, Notice of Responsibility: On March 14, 2003, Olympian received a letter from The Alameda County Environmental Health (ACEH) of notice of the site has been placed in the Local Oversight Program and has identified Olympian Oil as the primary or active responsible party.

January 2004, Site Status: On January 22, 2004, TEC Accutite prepared a letter report to summarize the site status. TEC Accutite recommended drilling and collecting additional soil and groundwater samples from this site to complete the site characterization. The ACEH concurred with TEC Accutite's recommendations in a regulatory letter dated March 6, 2006.

March 2006, Site Conceptual Model: In response to the request of a stand-alone document of a Site Conceptual Model (SCM) from the ACEH in a letter, received December 19, 2005, TEC Accutite completed a SCM for the site and concluded that the site is qualified for "Site Closure" as a "Low Risk Groundwater Case".

In March 2006, TEC Accutite also received a directive letter, via fax from the ACEH requesting the completion of a site characterization workplan. A draft workplan was prepared and e-mailed to the ACEH for review on March 27, 2006. TEC Accutite received the comments from the ACEH in a letter dated August 11, 2006 regarding the draft workplan. Presented below is the workplan for additional site characterization.

SCOPE OF WORK

To confirm the previous site investigation results and fully characterize the extent of soil and groundwater impact beneath the subject site, TEC Accutite proposes to advance eight soil borings (SB1 through SB8) on the subject site (Figure 3). Four of the borings will be converted into temporary piezometers. These piezometers will be surveyed and the groundwater flow direction and gradient will be calculated. The analytical results from the soil and groundwater samples collected from the borings, and the calculated groundwater flow direction and gradient determined from the surveyed piezometers, will allow TEC Accutite to better characterize the extent of hydrocarbon impact to site soils and groundwater, and to direct any future site characterization activities. To complete this scope of work, TEC Accutite proposes to complete the following tasks:

TASK #1 PERMITTING

Once this workplan is approved, TEC Accutite will obtain drilling permit from the ACEH to drill eight soil borings.



TASK #2 HEALTH AND SAFETY PLAN

Prior to conducting field activities, a Health and Safety Plan will be prepared that outlines the procedures and associated hazards related to the implementation of the activities. A copy of the Health and Safety Plan will be available on-site at all times during the drilling activities.

TASK #3 CLEARING UTILITIES

Underground Service Alert (USA) will be contacted at least 48 hours prior to conducting fieldwork to identify underground utilities. In addition, a private utility locator will be contracted to identify any buried utilities located near the proposed boring locations prior to commencing drilling activities. TEC Accutite will also hand auger to 5 fbg at the proposed boring locations to ensure underground utilities or other obstructions are not encountered.

TASK #4 INSTALLATION OF EIGHT SOIL BORINGS AND FOUR PIEZOMETERS

TEC Accutite will drill eight soil borings (SB1 through SB8), using a direct-push geoprobe drilling rig at selected locations onsite (Figure 3). Soil borings will be drilled to a depth that can adequately identify the vertical extent of contamination. The final depth will be determined based on field observations (e.g., staining, odor, and PID readings). Borings SB1 and SB2 will be advanced to assess soil and groundwater conditions in the vicinity of the oil/water separator tank where motor oil was detected during the 2002 investigation. Borings SB3 to SB8 will be advanced surrounding the UST and dispenser island area.

Drilling will proceed by advancing direct push (Geoprobe) rods lined with 4-foot clear acetate tubes into undisturbed sediments at the bottom of the boring. Soil will be logged continuously according to the Unified Soil Classification System (USCS). Soil samples will be screened onsite with the use of a Photo-Ionization Detector (PID) to determine the presence of volatile organic compounds (VOCs). A portion of each soil sample will be placed into a Ziploc bag and left in a warm location where VOCs within the soil can accumulate within the headspace of the Ziploc bag. The PID probe will then be inserted into the Ziploc bag to measure the concentration of VOCs. Prior to field use, the PID will be calibrated according to the manufacturer's specifications.

TEC Accutite will collect soil samples from each boring. As requested by the ACEH, one soil sample will be collected from the capillary fringe (2 feet above first encountered groundwater) of each boring. Additional samples will be collected if contamination (stained soil and odor of petroleum hydrocarbons or solvents) at different depths is suspected or at distinct changes in lithology and at approximately 10 foot intervals until total depth of the boring is reached. In addition, one grab groundwater sample will be collected from each soil boring.

Soil samples will be covered with Teflon liners and capped. Grab groundwater samples will be collected from all borings using a disposable bailer and transferred into three 40-ml HCL preserved VOAs and two unpreserved 1L Amber. The soil and groundwater samples will be logged in a chain of custody and transported to a California State Certified Laboratory, in a cooler at approximately 4°C. Soil and groundwater samples will be analyzed for total petroleum hydrocarbons as gasoline (TPH-g), total petroleum hydrocarbons as diesel (TPH-d), TPH-mo, and total recoverable hydrocarbons (TRPH) by EPA Method 8015M; benzene, toluene, ethylbenzene, and xylenes (BTEX) and MTBE by EPA Method 8260B. As requested by the ACEH, ethylene dibromide (EDB), ethylene dichloride (EDC, also commonly known as 1, 2-DCA), tert-amyl methyl ether (TAME), diisopropyl ether (DIPE), ethyl tert-butyl ether (ETBE), tert-butyl alcohol (TBA) and ethanol will also be analyzed for soil and groundwater samples collected below 5 fbg.

According to the first encountered depths to groundwater from borings B1 to B7, the groundwater flow direction is estimated toward the southwest (toward San Francisco Bay). This needs to be confirmed by the surveyed groundwater elevation. Borings SB1, SB3, SB5, and SB8 will be converted to temporary piezometers by installing 1-inch diameter PVC casing with a 0.010-inch



slotted PVC well screen. The temporary piezometers will be surveyed and the top of casing elevation determined so TEC Accutite can determine the relative groundwater elevation and overall groundwater flow direction and gradient beneath the site. Once the sampling and surveying area completed, all borings and piezometers will be closed by being filled with grout.

Considering non-detect to insignificant concentrations found in soil and groundwater from previous investigations at the site and undetermined groundwater flow direction, the necessity of off-site investigation will be evaluated after this round of investigation results.

TASK #5 REPORT PREPARATION AND REGULATORY LIAISON

TEC Accutite will prepare a detailed report summarizing all field activities and analytical findings. As requested by the ACEH, the report will include cross section(s) that depict the lateral and vertical extent of soil layers encountered, where groundwater was first encountered in borings and the static water levels, screen intervals in the proposed piezometers, observations of free product, staining, odor, and analytical results for soil and groundwater samples. TEC Accutite will submit this report to ACEH and the client.

SCHEDULE OF ACTIVITIES

Accutite will begin permitting after receiving written approval of this workplan from the ACEH and the budget approval from the client. Upon receiving the permit from the ACEH, TEC Accutite will implement the workplan within 90 days and prepare a subsurface investigation report documenting the activities within 60 days.

TEC Accutite would like to thank you in advance for your assistance and prompt attention to this matter. Please feel free to call Jing Heisler at (650) 616-1208 if you have any questions or comments.

Sincerely,
TEC ACCUTITE



Jing Heisler, PG. CHG
Project Manager



Tables: 1 – Soil Analytical Results
 2 – Groundwater Analytical Results

Figures: 1 - Vicinity Map
 2 – Site Map
 3 – Proposed Soil Boring Locations



References:

ACEH, 2006. TEC Accutite, "*Fuel Leak Case Number RO0002516, Olympian #975, 8515 San Leandro Street, Oakland, CA*", August 11, 2006.

Artesian, 1994. Artesian Environmental Consultants, Inc., "*Phase I Environmental Site Assessment Phase II Soil Analysis*", June 9 1994.

GHH, 2002. GHH Engineering, Inc., "*Environmental Baseline Report*", June 2002.

TEC, 2004. TEC Accutite, "*Site Status*", January 22, 2004.

TEC, 2006. TEC Accutite, "*Site Characterization Workplan*", March 27, 2006.

cc: Ms. Janet Heikel, Olympian
Mr. and Mrs. Ruben Hausauer
Mr. Dan Koch, Nella Oil Company



TABLES



TABLE 1
Soil Sampling Results
8515 San Leandro Street
Oakland, California

Sample ID	Sample Depth (fbg)	Date Collected	TPH as					Volatile Organic Compounds (EPA 8260B)													Methanol (ug/kg)
			Gasoline (mg/kg)	Diesel (mg/kg)	TRPH (mg/kg)	Motor Oil (mg/kg)	Oil & Grease (mg/kg)	Benzene (ug/kg)	Toulene (ug/kg)	Ethyl-benzene (ug/kg)	Xylenes (ug/kg)	EDB (ug/kg)	1,2-DCA (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	MTBE (ug/kg)	TAME (ug/kg)	TBA (ug/kg)	Ethanol (ug/kg)		
Borings by Artesian Environmental																					
B5/B6	5	5/26/1994	NA	NA	NA	NA	<50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B1/B2/B3/B4/B7	5	5/25/1994	<1.0	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	NA	<5.0	NA	NA	NA	NA	NA	NA	NA
Borings by GHH Engineering																					
GP1 @5'	5	5/15/2002	ND	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GP2 @5'	5	5/15/2002	ND	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GP3 @5'	5	5/15/2002	ND	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GP4 @5'	5	5/15/2002	ND	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GP5 @5'	5	5/15/2002	ND	ND	NA	ND	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	ND	ND	ND
GP6 @5'	5	5/15/2002	ND	ND	NA	238	NA	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GP7 @5'	5	5/14/2002	NA	NA	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ESLs For Soil Assuming Groundwater as Non-Drinking Water Resource:																					
		Residential Land Use	100	100	100	500	500	180	9,300	32000	11000	NA	25	NA	NA	2,000	NA	57,000	45,000	NA	NA
		Commercial Land Use	400	500	500	1,000	1,000	380	9,300	32000	11000	NA	70	NA	NA	5,600	NA	110,000	45,000	NA	NA

Notes:

- fbg feet below grade
- TPH Total Petroleum Hydrocarbons
- mg/kg Milligrams per Kilogram
- ug/kg Micrograms per Kilogram
- ND Non-Detect, below the method detection limit
- NA Not analyzed or not available
- 1,2-DCA 1,2-dichloroethane
- DIPE Di-isopropyl ether
- EDB Ethyldibromide
- ETBE Ethyl tertiary butyl ether
- MTBE Methyl tert butyl ether
- TAME Tertiary amyl methyl ether
- TBA Tertiary butyl alcohol
- TRPH Total recoverable petroleum hydrocarbons
- ESL Environmental Screening Limit established by California Regional Water Quality Control Board – San Francisco Bay Region, Screening For Environmental Concerns At Sites With Contaminated Soil And Groundwater; February 2005.

TABLE 2
Groundwater Sampling Results
8515 San Leandro Street
Oakland, California

Sample ID	Sample Depth (fbg)	Date Collected	TPH as		Volatile Organic Compounds (EPA 8260B)												Methanol (ug/L)
			Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toulene (ug/L)	Ethyl-benzene (ug/L)	Xylenes (ug/L)	EDB (ug/L)	1,2-DCA (ug/L)	DIPE (ug/L)	ETBE (ug/L)	MTBE (ug/L)	TAME (ug/L)	TBA (ug/L)	Ethanol (ug/L)	
<i>Grab groundwater sample collected by Artesian Environmental</i>																	
WB1	9.5	5/25/1994	<70	<50	<0.5	<0.5	<0.5	<0.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
WB7	9.5	5/26/1994	<70	<50	<0.5	<0.5	<0.5	<0.8	NA	<2	NA	NA	NA	NA	NA	NA	NA
<i>Grab groundwater sample collected by GHH Engineering</i>																	
GP-1	7	5/15/2002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND	ND	ND	ND
ESLs For Groundwater Assuming Groundwater as Non-Drinking Water Resource:																	
			500	640	46	130	290	100	NA	200	NA	NA	1,800	NA	18,000	50,000	NA
ESLs For Groundwater Assuming Groundwater as Drinking Water Resource:																	
			100	100	1	40	30	20	NA	0.5	NA	NA	5	NA	12	50,000	NA

Abbreviations:

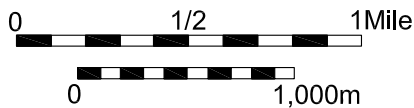
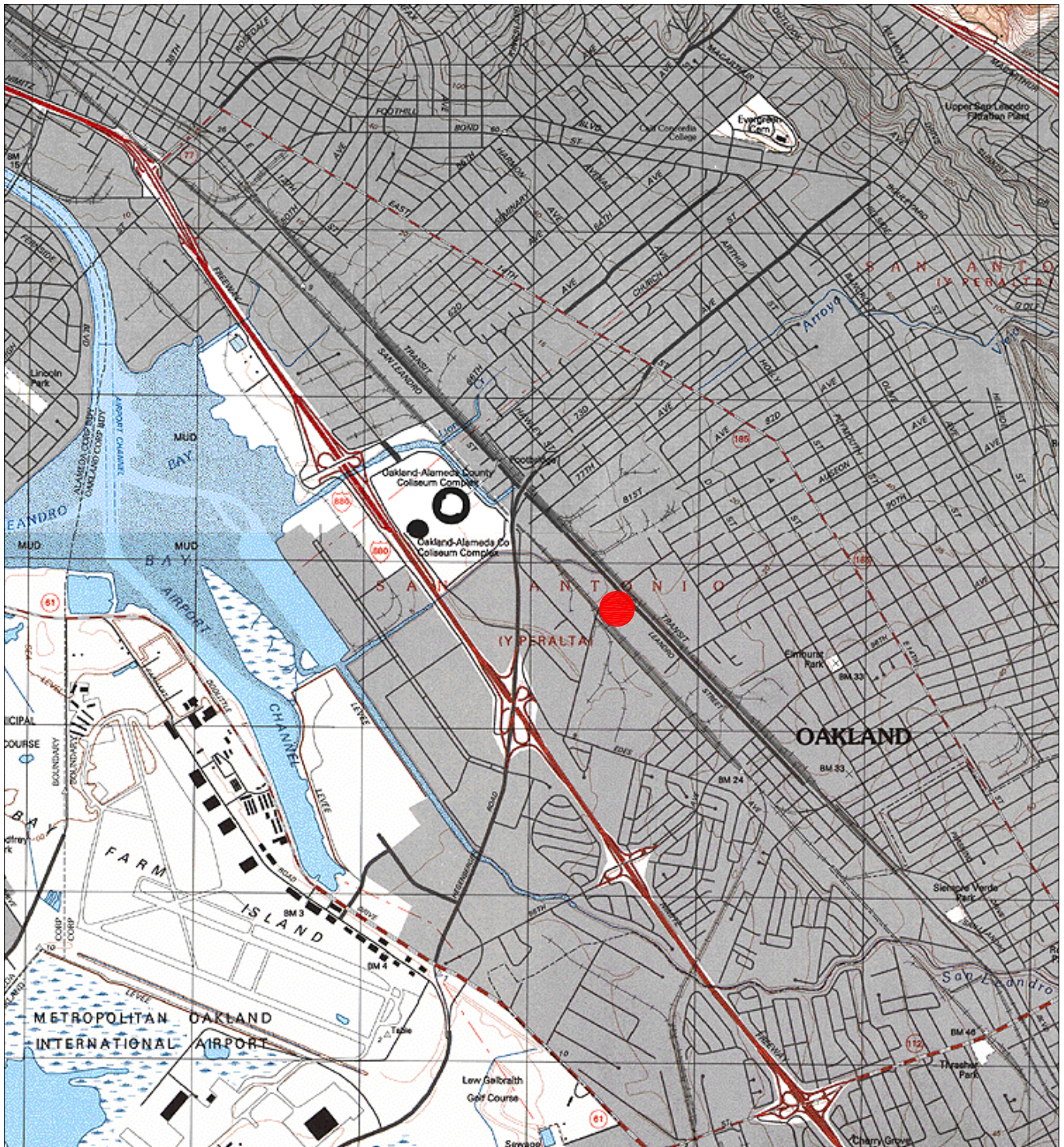
- fbg feet below grade
- TPH Total Petroleum Hydrocarbons
- mg/kg Milligrams per Kilogram
- ug/kg Micrograms per Kilogram
- ug/L Micrograms per Liter
- ND Non-Detect, below the method detection limit
- NA Not analyzed or not available
- 1,2-DCA 1,2-dichloroethane
- DIPE Di-isopropyl ether
- EDB Ethyldibromide
- ETBE Ethyl tertiary butyl ether
- MTBE Methyl tert butyl ether
- TAME Tertiary amyl methyl ether
- TBA Tertiary butyl alcohol
- TRPH Total recoverable petroleum hydrocarbons
- ESL Environmental Screening Limit established by California Regional Water Quality Control Board – San Francisco Bay Region, Screening For Environmental Concerns At Sites With Contaminated Soil And Groundwater; February 2005.

Notes:

Data of samples collected by Artesian Environmental obtained from Phase I Environmental Site Assessment Phase II Soil Analysis report, dated June 9, 1994.
 Data of samples collected by GHH Engineering obtained from Environmental Baseline Report, dated June 2002.

FIGURES





● Site Location

Map By: TOPO!

Date: 09/27/2006

Drafted By: LC

SITE
8515 San Leandro Street
Oakland, California



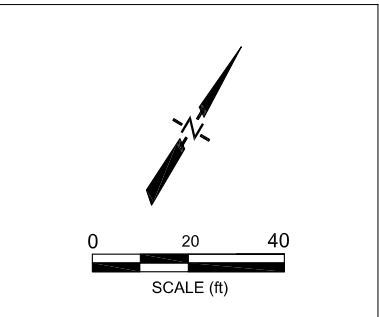
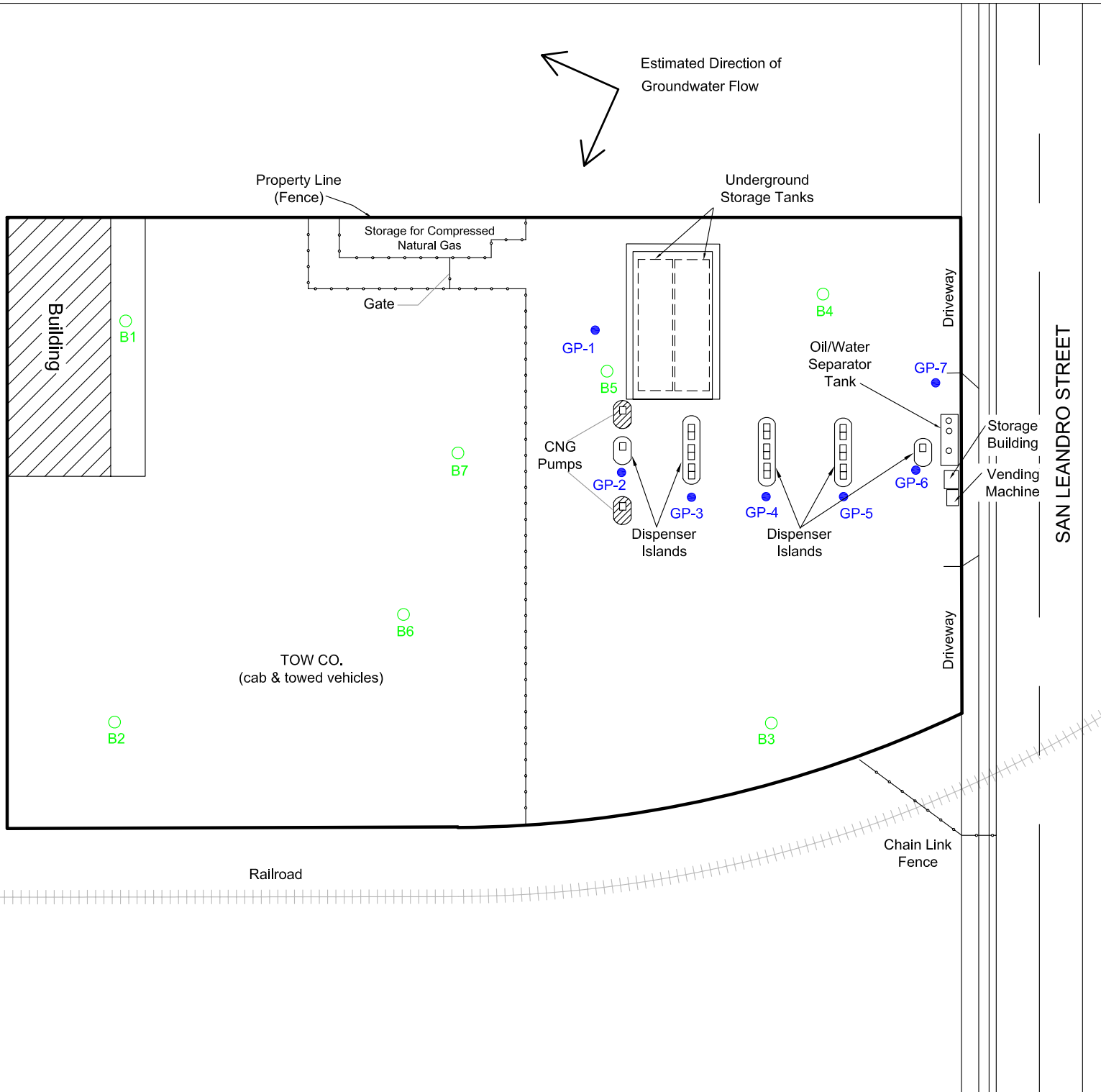
262 Michelle Court
So. San Francisco, CA 94080
Main: (650) 616-1200
Fax: (650) 616-1244

FIGURE

1

TITLE

Vicinity Map



LEGEND

Locations are estimated.
 Map source:
 Artesian, 1994
 GHH, 2002

- 1994 Borings (B-series)
 B1 by Artesian Environmental
- 2002 Borings (GP-series)
 GP-1 by GHH Engineering

SITE

8515 San Leandro Street
 Oakland, California

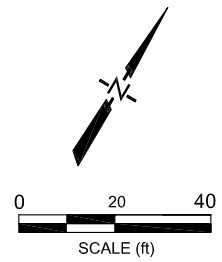
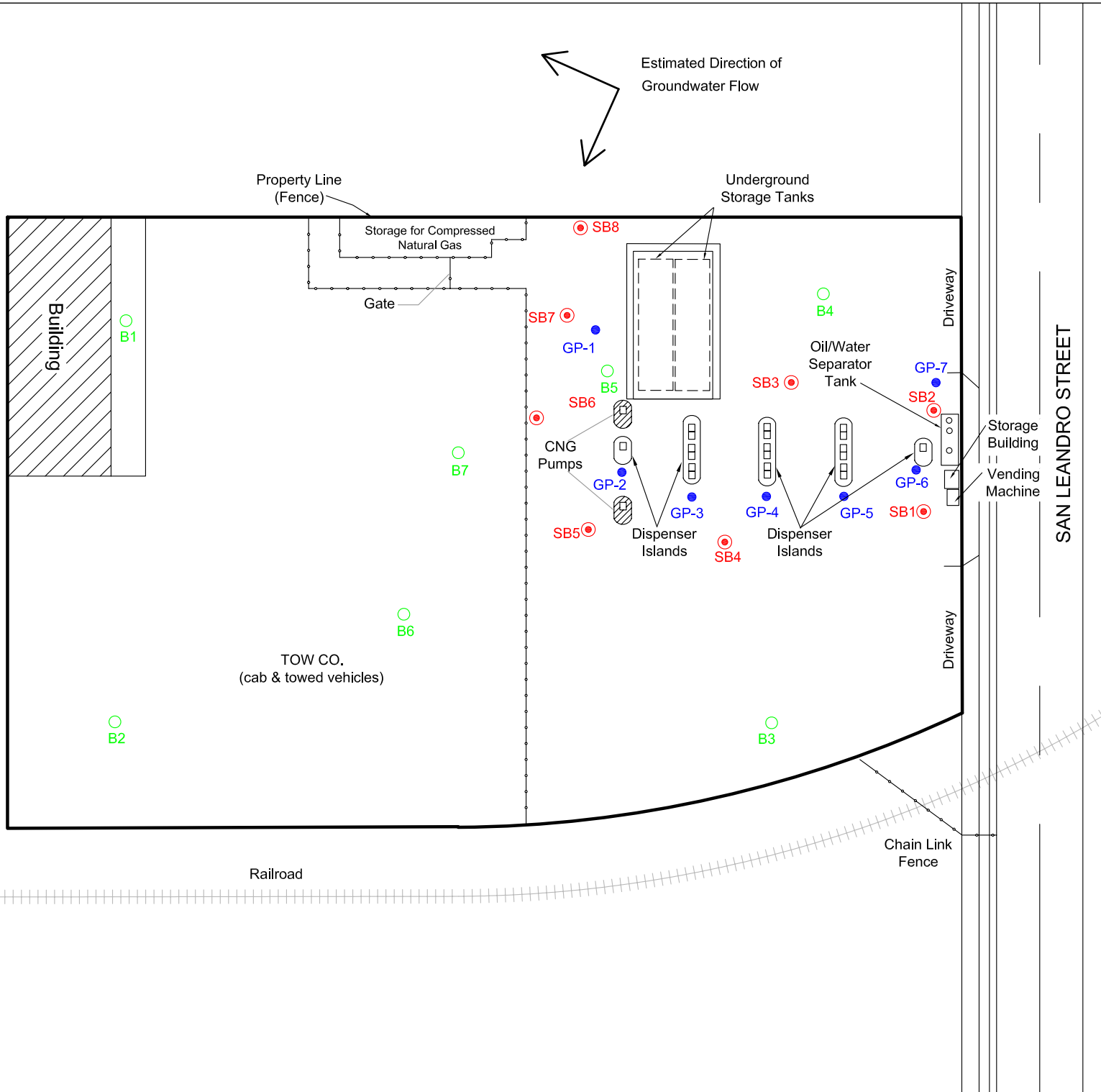
FIGURE

2

**Site Map
 With Sampling
 Locations**

Revision:	2
Date:	09/27/2006
Drafted By:	LC

TEC **ACCUTITE** 262 Michelle Court
 So. San Francisco, CA 94080
 Main: (650) 616-1200
 Fax: (650) 616-1244



LEGEND

Locations are estimated.
Map source:
Artesian, 1994
GHH, 2002

- 1994 Borings (B-series)
B1 by Artesian Environmental
- 2002 Borings (GP-series)
GP-1 by GHH Engineering
- ⊙ Proposed Boring Locations
SB5 (SB - series)

CNG = Compressed Natural Gas

SITE

8515 San Leandro Street
Oakland, California

FIGURE

3

Proposed Sampling Locations

Revision:	2
Date:	09/27/2006
Drafted By:	LC

TEC **ACCUTITE**

262 Michelle Court
So. San Francisco, CA 94080
Main: (650) 616-1200
Fax: (650) 616-1244