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January 30, 2006

Mr. Amir K. Gholami, REHS
Hazardous Materials Specialist
Alameda County Health Agency
Division of Environmental Protection
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

SUBJECT: DRAFT SITE INVESTIGATION WORK PLAN

SITE: FORMER OLYMPIAN SERVICE STATION
1435 Webster Street
Alameda, California
Fuel Leak Case #RO0000193

Dear Mr. Gholami:

On behalf of Olympian, TEC Accutite is pleased to submit this Site Investigation Work Plan for the above referenced site.

If you have any questions or require additional information, please contact the undersigned at (650) 616-1208.

Sincerely,
TEC Accutite

A handwritten signature in black ink, appearing to read 'JH', written over a horizontal line.

Jing Heisler, P.G., C.HG
Project Manager

Cc: Ms. Janet Heikel, Olympian
Mr. David Harris, Esq.
Mr. Jeff Farrar

DRAFT SITE INVESTIGATION WORK PLAN

**FORMER OLYMPIAN SERVICE STATION
1435 WEBSTER STREET
ALAMEDA, CA**

JANUARY 2006

PREPARED FOR:

**OLYMPIAN
AND
ALAMEDA COUNTY ENVIRONMENTAL HEALTH**

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1.0 INTRODUCTION

On behalf of Olympian, TEC Accutite is pleased to submit the following Site Investigation Work Plan for the property located at 1435 Webster Street in Alameda, California, hereinafter referred to as the "site" (Figure 1). The site is the location of a subsurface release of petroleum hydrocarbons related to the former gasoline underground storage tanks (USTs) that were removed in 1989.

The Site Investigation Workplan has been prepared in response to the Alameda County Environmental Health (ACEH) e-mail, dated February 1, 2005. The work plan outlines the scope of work for the following activities:

- To conduct a soil vapor investigation to determine whether soil and/or groundwater volatilization to indoor air is a complete pathway.
- To conduct an off-site groundwater sampling to determine if groundwater contamination has migrated to the off-site.

The site background, conditions, and proposed scope of work are presented below.

2.0 SITE BACKGROUND AND ENVIRONMENTAL CONDITIONS

2.1 Site Description

The site is located on the corner of Webster Street and Taylor Avenue in Alameda, CA. Prior to 1989, the site was occupied by an Olympian Service Station. Station facilities consisted of two 10,000-gallon gasoline underground storage tanks (USTs), one 7,500-gallon diesel UST, one 500-gallon waste oil UST and two dispenser islands (Figure 2).

The surrounding topography is flat and the site is approximately 20 feet above mean sea level. The site is situated in a mixed commercial and residential area. The site is currently leased by the City of Alameda and operated as a metered parking lot.

2.2 Environmental Background

October 1988, Soil Gas Survey: CHIPS Environmental Consultants, Inc. performed soil gas analysis at the subject site. High soil gas readings were found on the eastern side of one of the pump islands, between the pump islands, and from backfill between the gasoline storage tanks.

September 1989, Tank Removal: In September 1989, TEC Accutite removed two 10,000-gallon gasoline USTs, one 7,500-gallon diesel UST and one 500-gallon waste oil UST. Analysis of soil samples collected during removal of the USTs detected hydrocarbons at a maximum concentration of 220 parts per million (ppm) Total Petroleum Hydrocarbons as gasoline (TPHg), 430 ppm Total Petroleum Hydrocarbons as diesel (TPHd), and 650 ppm Total Recoverable Petroleum Hydrocarbons as Oil and Grease (TRPH).

January & September 1991, Soil Excavation: Remedial excavation of the hydrocarbon impacted soil was conducted by AAA Tank Removal / Forcade Excavations Services. In January 1991, approximately 550 cubic yards of soil were removed from the former location of the USTs. This soil was bioremediated onsite. In September 1991 (following the bioremediation of the previously excavated soil), additional 300 cubic yards of contaminated soil were removed. Confirmation soil samples were free of detectable concentrations of TPH-g, benzene, toluene, ethyl-benzene, xylenes (BTEX), and TPH-oil but contained 21 to 24 ppm TPH in the diesel range. This "non-standard" TPH-d range material detected was composed of partially-degraded, extractable hydrocarbons which comprise of a portion of the tar wrap

material. The majority of the excavated soil had been biologically detoxified and returned to the former excavation under the approval of the Alameda County Health Care Services Agency.

January 1993, Well Installation: Uriah Environmental Services, Inc. installed three monitoring wells onsite (MW-1 through MW-3). Soil samples collected during the well installation contained no detectable concentrations of petroleum hydrocarbons. Bi-annual groundwater monitoring was initiated. Dissolved phase hydrocarbons have been detected in all wells at varying concentrations.

February 1999, Soil Borings: TEC Accutite advanced four borings onsite (B1 through B4) to determine the extent of hydrocarbon impact to soil and groundwater. The soil analytical results detected non-significant concentrations of TPHg, BTEX, and methyl tert-butyl ether (MTBE). The groundwater samples detected hydrocarbon concentrations up to 6,000 parts per billion (ppb) MTBE and 38,000 ppb benzene.

December 1999, Well Installations: TEC Accutite installed three additional wells MW-4 through MW-6 to define the dissolved phase hydrocarbons and assess plume stability. Analysis of soil samples detected hydrocarbon concentrations of 1,100 ppm TPHg, 200 ppm TPHd and 3.4 ppm benzene from soil collected at 9.5 feet below grade (fbg) in well MW-5. No hydrocarbons were detected in the soil samples collected during the installation of wells MW-4 and MW-6. Groundwater sampling from wells MW-6 and MW-3 defined the dissolved phase hydrocarbon plume upgradient of the former dispenser islands and cross-gradient of the former USTs.

November 2000, Site Conceptual Model: TEC Accutite completed a site conceptual model. Based on historical quarterly monitoring data, it was determined that the contaminant plume is unstable and is undefined downgradient. An assessment of hydrological conditions, proximity to sensitive receptors and current groundwater usage, suggest that MTBE in groundwater is not the primary chemical of concern. Given the shallow groundwater elevation (9 fbg), estimated high permeability of soils beneath the site, the potential for benzene vapor phase migration from hydrocarbon affected groundwater to indoor and ambient air was identified as an exposure pathway requiring future evaluation.

June 2001, Soil Borings: TEC Accutite drilled additional four borings (B1 through B4) to assess the extent of the plume and sampled all wells. Soil samples were collected approximately 9 fbg within the capillary fringe from soil borings B1 through B4. No petroleum hydrocarbons were detected in the soil above laboratory reporting limits. Insignificant concentrations of petroleum hydrocarbons were detected in groundwater samples collected from downgradient and cross gradient soil borings B1 through B4. The greatest concentration of petroleum hydrocarbons was detected in boring B3 at 400 ppb TPHg and 3 ppb MTBE. MTBE was detected in all soil boring groundwater samples below 5 ppb.

The greatest concentration of dissolved phase petroleum hydrocarbons were detected in monitoring well MW-1 at 18,000 ppb TPHg, 1,200 ppb benzene, and 1,500 ppb MTBE. Dissolved phase concentrations of TPHg, benzene, and MTBE in surrounding monitoring wells were either non-detect or insignificant.

February 2002, Risk Assessment: To address the potential exposure pathway identified in the SCM, TEC Accutite performed a site-specific risk assessment. The risk assessment addressed the potential inhalation risk posed by hydrocarbon impacted groundwater beneath the site assuming both residential and commercial land use scenarios. The compounds of concern were identified as TPHg and benzene. TPHg was assessed using the TPH fractional methodology developed by TPH Criteria Working Group. The calculated annual regional mean concentrations for benzene and TPHg were 2,988 ppb and 23,137 ppb, respectively. The results of the risk assessment found that concentrations of TPHg in groundwater beneath the site were below the calculated site specific target level concentrations (SSTL's) for residential and commercial scenarios. Therefore, TPHg remaining in groundwater beneath the site does not present an inhalation risk. Benzene concentrations in groundwater exceed the SSTL for a residential scenario (110 ppb) but are less than the SSTL for a commercial scenario (6400 ppb).

The results of the risk assessment suggest that benzene in groundwater beneath the site may present an inhalation risk, assuming residential land use. The risk assessment was based on the Johnson & Ettinger

Vapor Fate and Transport Model, which often overestimates actual vapor concentrations at the point of exposure by factors of 10 to 100. Rather than proceed with site closure under restricted commercial land use, a soil vapor survey was recommended to validate the exposure pathway.

May 2003, Soil Vapor Investigation: In May 2003, TEC Accutite conducted a soil vapor investigation at the site. Eight soil vapor samples (SV1 through SV7, duplicate sample SV7) were collected at selected locations by advancing a 1-inch diameter chrome-moly steel probe equipped with a steel drop tip into the ground to a depth of 3.5 fbg. The objective of the soil vapor investigation was to evaluate potential human exposure to site contaminants created by vapors emanating off impacted groundwater and intruding into indoor air (inhalation risk). Soil vapor was withdrawn from the formation into a small calibrated syringe connected with an on-off valve. Following sample collection, the valve was closed and the sample immediately transferred to a State Certified onsite laboratory for analysis.

Soil vapor sampling results were either non-detectable or detected below the Environmental Screening Levels (ESLs). Inhalation risk associated with exposure to vapors emanating off impacted groundwater beneath the site determined to be an invalid exposure pathway.

October 2003, Case Closure Summary: TEC Accutite submitted the completed closure summary forms for the site to the Alameda County Environmental Health (ACEH). In a letter dated April 28, 2005, the ACEH requested a stand-alone document for closure review.

September 2005, Updated Site Conceptual Model: TEC Accutite completed an updated site conceptual model as required by the ACEH for site closure review. After careful evaluation of all available data, it was determined that there are uncertainties of benzene vapor concentration on-site and current groundwater conditions off-site. Therefore, TEC Accutite recommends verification sampling before the proposal for site closure.

In January 2006, ACEH requested a workplan to delineate plume and evaluate the course of action in an e-mail, dated January 26, 2006 (Attachment A). This work plan is to respond the ACEH's approval of our proposal.

3.0 SCOPE OF WORK

This workplan outlines the scope of work to complete further site characterization at the site as suggested by the ACEH. TEC Accutite proposes to complete the following objectives:

- 1) Collect three vapor samples on-site where elevated petroleum hydrocarbon concentration detected to determine whether soil and/or groundwater volatilization into indoor air from petroleum hydrocarbons is a complete exposure pathway or a potential risk to human health and the environment;
- 2) Advance four borings and collect four grab groundwater samples down-gradient to determine the plume migration status.

Task #1 Permitting

Once this workplan is approved, TEC Accutite will obtain drilling permits for the groundwater sampling from the ACEH. No permitting is required for the soil vapor sampling, since vapor points will be installed less than 10 feet below grade and will not encounter groundwater. TEC Accutite will notify the ACEH at least 72-hours prior to the performance of the vapor and groundwater sampling activities.

Task #2 Health and Safety Plan

Prior to conducting the soil vapor and grab groundwater sampling activities, a Health and Safety Plan will be prepared that outlines all field activities and associated hazards related to the implementation of the activities. A copy of the Health and Safety Plan will be available onsite at all times during each event.

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 well locations prior to commencing drilling activities. TEC Accutite will try to hand clear any obstructions encountered less than 5 ft below ground during the drilling activity.

Task #4 Vapor Investigation

Due to the uncertainty of benzene vapor concentration on-site, TEC Accutite proposes to collect three vapor samples (SV8, SV9, and SV10) directly above the highly impacted area (Figure 2).

- Vapor samples (SV8, SV9, and SV10) will be collected at 4 fbg at the potential areas of concern, specifically near the former dispenser island areas, in the vicinity of wells MW-1 and MW-5, where elevated petroleum hydrocarbon concentrations detected. Vapor samples SV8, SV9, and SV10 will be analyzed to evaluate potential health risk posed by inhalation exposure of contaminant vapors from petroleum hydrocarbon impacted soil and groundwater at the site.

TEC Accutite will collect the vapor samples in accordance with the following guidelines¹:

- Samples will not be collected if measurable precipitation occurs five days prior to sampling.
- The vapor samples will be collected by temporarily inserting a 1-inch diameter chrome-molly steel drilling rod equipped with a steel drop off tip. The probe will be driven into the soil. Once the probe has reached the desired sampling depth, a 1/4-inch or 1/8-inch diameter nylaflo sampling tube will be inserted down the center of the probe and threaded into the sampling port at the end of the rod. The sampling tube will then be capped with a vapor tight valve and the probe will be retracted six inches and allowed to equilibrate for 30 minutes. The schematic diagram of a vapor sampling set-up is detailed in Attachment B.
- Hydrated bentonite will be placed around the top opening of the drill rod and on the ground surface surrounding the drill rod to inhibit surface air migration down the center or outer portion of the drill rod.
- A pre- and post-sample vacuum reading will be recorded for each sample Summa canister using a separate gauge.
- A tee fitting will be connected to the top of each purge and sample Summa canister (using Swagelok® type fittings).
- A 100 to 200 milliliter/minute (ml/min) flow regulator with built in vacuum gauge will be connected the downhole side of the tee fitting. A particulate filter will be installed on the downhole side of the regulator (all connections using Swagelok® type fittings).

¹ Guideline was based on 2005 draft guideline prepared by the San Mateo County Groundwater Protection Program entitled "Subsurface Vapor Sampling Using a Geoprobe and Summa Canisters".

- A vacuum test will be performed to test the connections between the Summa canisters and vapor tight valve for 10 minutes by opening and closing the purge canister valve to place a test vacuum on the assembly. If constant vacuum has been maintained for 10 minutes and it has been at least 30 minutes since the drill rod was sealed at the surface with bentonite, then the vapor tight valve and purge canister valve will be opened to purge three volumes of air from the sample tubing and borehole.
- The vapor tight valve and the purge canister valve will be closed when the purging time is reached (after three tubing volumes have been purged).
- Gauze moistened with isopropyl alcohol (leak test compound) will be placed on the downhole side of the vapor tight valve, the top of the rod and all rod joints exposed above grade. During the sampling collection, few drops of isopropyl alcohol will be added to the gauzes every 5 minutes.
- The vapor tight valve and sample canister valve will be opened to begin sample collection.
- The vapor tight valve and sample canister valve will be closed when the sample canister gauge indicates approximately 5 inches Hg of vacuum remaining in the canister (approximately 20% of the pre-sample vacuum). Record sample start and stop time.
- Once the vapor samples have been collected, the Summa canisters will be properly labeled, the final post-sample vacuum will be recorded, and the brass plug will be installed on the sample Summa canister. The tubing and drilling rod will be removed, and the borehole will be grouted with Portland cement to grade.

Following vapor sample collection, the samples will be transported to a State Certified laboratory for analysis. Vapor samples will be analyzed for TPHg, BTEX, MTBE and VOCs by EPA Method TO-15. Detection limits for the target compounds must be analyzed at a level less than the ESLs. As a quality control measure to ensure no atmospheric breakthrough occurred during sample collection, soil vapor samples will be analyzed for isopropyl alcohol (2-propanol) to a laboratory reporting limit of $\leq 10 \mu\text{g/l}$ (by EPA Method TO-15), and for O_2 , CO_2 , and methane to ensure laboratory reporting limits are below the concentrations of these gases in the atmosphere.

Task #5 Offsite Groundwater Characterization

Due to the uncertainty of present groundwater concentrations off-site, TEC Accutite proposes to advance four off-site borings (B5 through B8) and collect four grab groundwater samples from each boring (Figure 2). Once samples are collected, TEC Accutite will grout in place all borings.

Grab groundwater samples will be collected with a steel bailer (decontaminated in Alconox and clean water) and transferred into three 40-milliliter hydrochloric acid preserved vials. During June 2001's investigation, groundwater was encountered at approximately 9 fbg. Grab groundwater samples B5 through B8 will be collected from first encountered groundwater at approximately 10 fbg. Grab groundwater samples will be analyzed for TPHg by EPA Method 8015M, BTEX and MTBE by EPA Method 8260B.

How deep?

4.0 SCHEDULE OF ACTIVITIES

Upon receiving written approval of this workplan from the ACEH, TEC Accutite will begin the permitting process for drilling. Upon receipt of the drilling permit, TEC Accutite will implement the approved workplan within 60 days.

TEC Accutite will prepare a Site Investigation report that will include the results of the subslab vapor sampling event and the offsite groundwater investigation. A copy of the report will be submitted to the SMCHSA and the client.

5.0 LIMITATIONS

Our services consist of professional opinions, conclusions and recommendations made today in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties either expressed or implied. TEC Accutite's liability is limited to the dollar amount of the work performed.

TEC Accutite would like to thank you in advance for your assistance and prompt attention to this project. If you have any questions, please call Jing Heisler at (650) 616-1208.

Sincerely,
TEC Accutite

Reviewed by:

Jing Heisler, P.G., C.HG
Project Manager

Nicholas B. Haddad
Environmental Director

Table 1: Soil Analytical Results

Former Olympian Station, 1435 Webster Street, Alameda CA.

Sample ID	Sample Date	Depth (ft bgs)	TPHg	TPHd	TPHo	B	T	E	X	MTBE
			Concentrations in parts per million (ppm)							
Confirmation Soil Samples after Excavation										
WEB1 (S. Wall)	9/27/1991	15	<1	23	<50	<0.003	<0.003	<0.003	<0.003	NA
WEB2 (E. Wall)	9/27/1991	15	<1	21	<50	<0.003	<0.003	<0.003	<0.003	NA
WEB3 (N. Wall)	9/27/1991	15	<1	23	<50	<0.003	<0.003	<0.003	<0.003	NA
WEB4 (W. Wall)	9/27/1991	15	<1	24	<50	<0.003	<0.003	<0.003	<0.003	NA
FS-18 (Floor)	9/27/1991	18	<1	<10	<50	0.12	0.016	<0.003	0.023	NA
On-Site Soil Samples										
MW-1	1/11/1993	5	<1	<1	<10	<0.005	<0.005	<0.005	<0.005	NA
MW-1	1/11/1993	10	<1	<1	<10	<0.005	<0.005	<0.005	<0.005	NA
MW-2	1/11/1993	5	<1	<1	<10	<0.005	<0.005	<0.005	<0.005	NA
MW-2	1/11/1993	10	<1	<1	<10	<0.005	<0.005	<0.005	<0.005	NA
MW-3	1/12/1993	5	<1	<1	<10	<0.005	<0.005	<0.005	<0.005	NA
MW-3	1/12/1993	10	<1	<1	<10	<0.005	<0.005	<0.005	<0.005	NA
B1-7.5	2/11/1999	7.5	0.65	<1.0	NA	<0.005	<0.005	<0.005	<0.010	<0.005
B2-7.5	2/11/1999	7.5	<0.5	<1.0	NA	<0.005	<0.005	<0.005	<0.010	<0.005
B3-6	2/11/1999	6	<0.5	<1.0	NA	<0.005	<0.005	<0.005	<0.010	<0.005
B4-7.5	2/11/1999	7.5	<0.5	<1.0	NA	<0.005	<0.005	<0.005	<0.010	<0.005
MW-4	11/11/1999	9.5	<0.5	<1.0	NA	<0.005	<0.005	<0.005	<0.010	<0.005
MW-5	11/10/1999	9.5	1,100	200	NA	3.4	21	14	70	<0.02
MW-6	11/10/1999	9	<0.5	<1.0	NA	<0.005	<0.005	<0.005	<0.010	<0.005
Off-Site Soil Samples										
B1-9	6/27/2001	9	<0.5	NA	NA	<0.005	<0.005	<0.005	<0.01	<0.005
B2-9	6/27/2001	9	<0.5	NA	NA	<0.005	<0.005	<0.005	<0.01	<0.005
B3-9	6/27/2001	9	<0.5	NA	NA	<0.005	<0.005	<0.005	<0.01	<0.005
B4-9	6/27/2001	9	<0.5	NA	NA	<0.005	<0.005	<0.005	<0.01	<0.005
ESLs			100	100	500	0.044	2.9	3.3	2.3	0.023

Table 1: Soil Analytical Results

Former Olympian Station, 1435 Webster Street, Alameda CA.

Abbreviations / Notes

TPHg = Total petroleum hydrocarbons as gasoline, EPA Method 8015.

TPHd = Total petroleum hydrocarbons as diesel, EPA Method 8015.

TPHo = Total petroleum hydrocarbons as oil and grease, SM 5520 E/F

B T E X = Benzene, Toluene, Ethylbenzene, Xylenes, EPA Method 8020.

MTBE = Methyl tert-butyl ether, EPA Method 8020

<X or ND = Concentration less than laboratory reporting limit

NA = not analyzed or not available

ft bgs = feet below ground surface

ESLs = Environmental Screening Levels obtained from Table A, assuming residential land use and groundwater is a current or potential drinking water resource (CARWQCB, Interim Final, February 2005).

Numbers in bold exceeded the respective ESL.

Table 2 Summary of Groundwater Monitoring Results
 Former Olympian Service Station
 1435 Webster Street, Alameda CA.

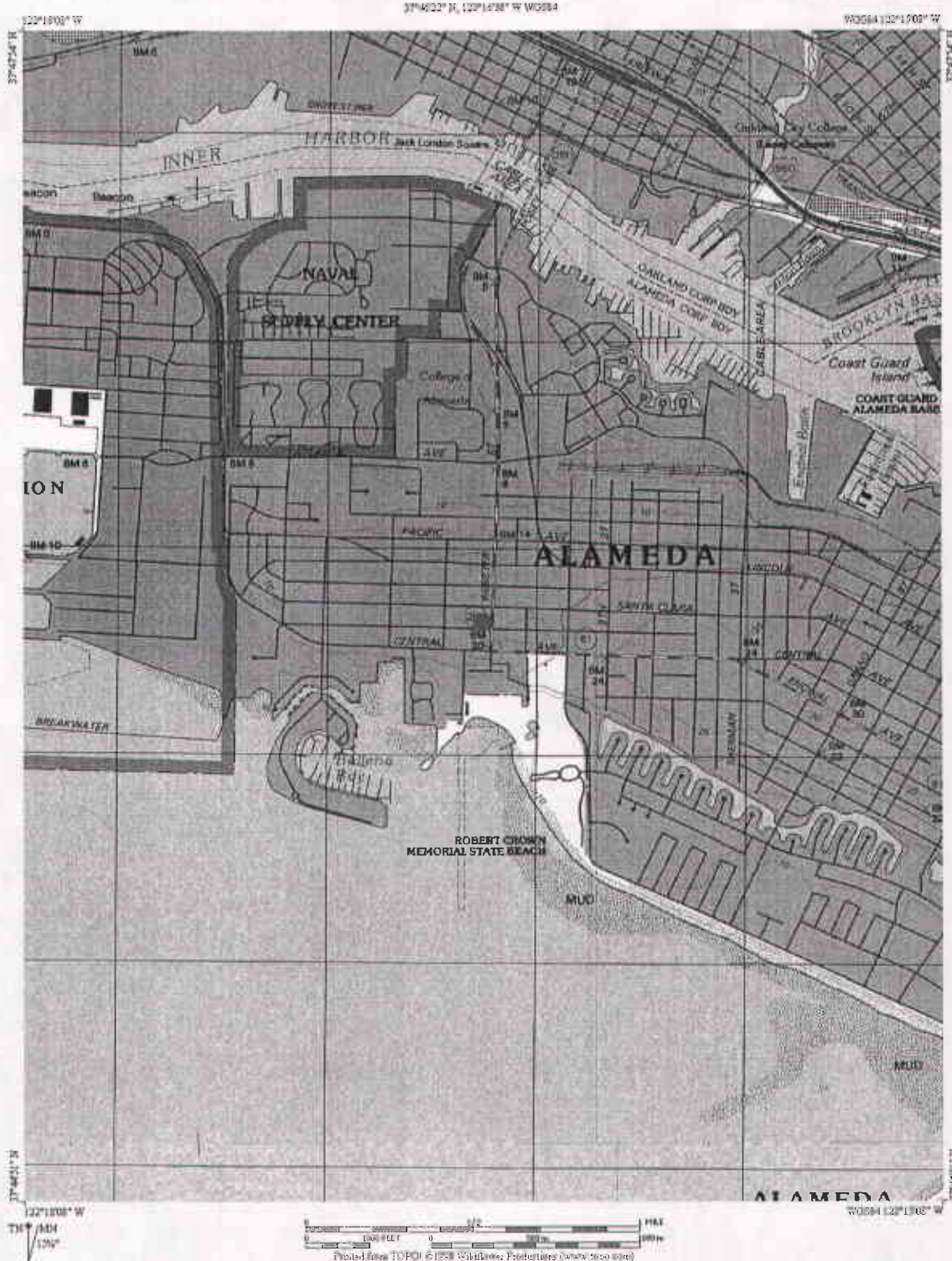
Well ID	Sample Date	Depth to Water (ft)	Groundwater Elevation (ft msl)	TPHd	TPHg	B	T	E	X	MTBE	TRPH
				Concentrations in parts per billion (ppb)							
MW-1	6/3/93	NA(1)		NA	NA	NA	NA	NA	NA	NA	NA
	9/14/94	11.46	8.07	<50	14,000	44	28	25	50	NA	800
	12/30/94	9.22	10.31	<50	4,000	12	9	6.8	30	NA	<500
	3/26/95	6.76	12.77	<50	1,000	21	10	7.1	25	NA	2,100
	7/9/95	8.92	10.61	<50	16,000	57	28	25	53	NA	NA
	7/31/98	8.30	11.23	1,700	4,700	1,300	48	140	150	6,600	<5000
	2/11/99	7.91	11.62	2000	25,000	18,000	1,600	1,400	500	28,000	NA
	6/23/99	9.03	10.50	4,900	42,000	11,000	1,100	1,500	2,300	15,000	NA
	12/6/99	10.86	8.67	4,000	44,000	8,900	3,400	1,800	5,100	11,000	NA
	3/16/00	8.93	12.60	700	5,100	2,400	100	280	460	2,700(2)	NA
	6/13/00	8.73	10.80	2,800	17,000	5,300	260	720	790	7,000(2)	NA
	9/29/00	10.18	9.35	5,200*	50,000	11,000	2,900	1,900	4,800	7,200(2)	NA
	3/22/01	8.24	11.29	1,500*	8,600	2,600	750	250	950	3,200(2)	NA
	8/25/01	9.73	9.80	NA	18,000	1,200	1,800	970	3,200	1500(2)	NA
	9/28/01	11.06	8.47	NA	48,000	5,200	6100	2200	8100	4000	NA
	12/26/2001	8.11	11.42	NA	524	216	1.2	8.6	7.4	721	NA
	07/0705	8.69	10.84	NA	1,500	190	15	36	29	1,100	NA
10/19/2005	10.25	9.28	NA	11,000	2,100	45	370	82	4,600	NA	
1/13/2006	7.09	12.44	NA	5,400	680	37	83	41	3,900	NA	
MW-2	6/3/93	9.54	10.26	<50	<50	5.8	<0.5	<0.5	<0.5	NA	<500
	9/14/94	11.82	7.98	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<500
	12/30/94	9.46	10.34	<50	160	1.4	1.4	0.8	5	NA	<500
	3/26/95	6.82	12.98	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<500
	7/9/95	9.22	10.58	NA	NA	NA	NA	NA	NA	NA	NA
	7/31/98	8.56	11.24	220	<50	<0.5	<0.5	<0.5	<0.5	73	<500
	2/11/99	8.12	11.68	<50	<50	<0.5	<0.5	<0.5	<0.5	75	NA
	6/23/99	9.33	10.47	420	<50	<0.5	<0.5	<0.5	<0.5	96	NA
	12/6/99	11.20	8.60	<110	300	28	45	6	37	210	NA
	3/16/00	6.88	12.92	<50	<50	1	<0.5	0.5	1	3	NA
	6/13/00	8.99	10.81	<50	68	0.8	<0.5	<0.5	<0.5	38	NA
	9/29/00	10.40	9.40	<50	67	0.8	0.5	<0.5	1	86(2)	NA
	3/22/01	8.46	11.34	<50	<50	1	0.5	<0.5	1	14	NA
	8/25/01	10.11	9.69	NA	<50	<0.5	<0.5	<0.5	<1.0	13	NA
	9/28/01	11.40	8.40	NA	300	4	6	3	10	130	NA
	12/26/01	8.28	11.52	NA	<50	<0.5	<0.5	<0.5	<1.0	<0.5	ND
	7/7/05	8.99	10.81	NA	<50	<0.5	<0.5	<0.5	<1.0	20	NA
10/19/2005	10.63	9.17	NA	29	1.4	<0.5 (3)	<0.5	<0.5	19	NA	
1/13/2006	7.15	12.65	NA	<25	<0.5	<0.5	<0.5	<0.5	<1.0	NA	
MW-3	6/3/93	9.80	9.99	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<500
	9/14/94	12.19	7.60	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<500
	12/30/94	9.72	10.07	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<500
	3/26/95	6.88	12.91	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	<500
	7/9/95	9.52	10.27	NA	NA	NA	NA	NA	NA	NA	NA
	7/31/98	8.40	11.39	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5000
	2/11/99	7.77	12.02	<50	<50	<0.5	<0.5	<0.5	<0.5	<0.5	NA
	6/23/99	9.21	10.58	<50	<50	<0.5	<0.5	<0.5	<0.5	3	NA
	12/6/99	11.12	8.67	<110	<50	3	1	<0.5	1	0.6	NA
	3/16/00	6.48	13.31	<50	<50	<0.5	<0.5	<0.5	<1.0	1	NA
	6/13/00	8.76	11.03	<50	490	0.8	<0.5	<0.5	9	2	NA
	9/29/00	10.20	9.59	<50	57	<0.5	<0.5	<0.5	<1.0	<1.0(2)	NA
	3/22/01	8.24	11.55	<50	<50	<0.5	<0.5	<0.5	<1.0	2	NA
	6/25/01	10.04	9.75	NA	<50	<0.5	<0.5	<0.5	<1.0	0.8	NA
	9/28/01	11.34	8.45	NA	91	<0.5	<0.5	<0.5	2	2	NA
	12/26/01	8.01	11.78	NA	<50	<0.5	<0.5	<0.5	<1.0	<0.5	NA
	7/7/05	8.84	10.95	NA	<50	<0.5	<0.5	<0.5	<1.0	<0.5	NA
10/19/2005	10.58	9.21	NA	<25	<0.5	<0.5 (3)	<0.5	<0.5	<1.0	NA	
1/13/2006	6.85	12.94	NA	<25	<0.5	<0.5	<0.5	<0.5	<1.0	NA	


Handwritten notes:
 1/13/2006
 Oct - Sept
 MW-2
 MW-3

Table 2 Summary of Groundwater Monitoring Results
 Former Olympian Service Station
 1435 Webster Street, Alameda CA.

Well ID	Sample Date	Depth to Water (ft)	Groundwater Elevation (ft msl)	TPHd	TPHg	B	T	E	X	MTBE	TRPH
				Concentrations in parts per billion (ppb)							
MW-4	12/6/99	10.79	8.51	160	<50	3	2	0.6	4	140	NA
	3/16/00	8.86	12.44	90	<50	0.5	0.5	<0.5	2	34	NA
	6/13/00	8.18	11.12	<50	56	<0.5	<0.5	<0.5	<1.0	1	NA
	9/29/00	10.11	9.19	<50	92	0.7	<0.5	<0.5	3	<1.0(2)	NA
	4/5/01	8.26	11.04	<50	51	<0.5	0.5	<0.5	1	6.0(2)	NA
	6/25/01	9.68	9.62	NA	<50	<0.5	<0.5	<0.5	<1.0	<0.5	NA
	9/28/01	10.98	8.32	NA	<50	<0.5	<0.5	<0.5	2	2	NA
	12/26/01	8.18	11.12	NA	<50	1.6	1.7	1.6	4.4	2.7	NA
	7/7/05	8.77	10.53	NA	<50	<0.5	<0.5	<0.5	<1.0	<0.5	NA
	10/19/2005	10.24	9.06	NA	<25	<0.5	<0.5 (3)	<0.5	<0.5	<1.0	NA
	1/13/2006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-5	12/6/99	10.17	8.82	2,800	30,000	2,200	3,300	910	7000	670	NA
	3/16/00	8.28	12.71	1,100	3,500	1,100	260	210	6300	260	NA
	6/13/00	7.95	11.04	1,100	6,500	2200	360	360	730	480	NA
	9/29/00	9.54	9.45	700*	3,900	990	120	300	340	390(2)	NA
	3/22/01	7.48	11.51	380*	4,300	780	240	250	530	190	NA
	6/25/01	9.05	9.94	NA	3,100	1000	110	200	320	140	NA
	9/28/01	10.39	8.60	NA	3,000	1200	77	120	170	770	NA
	12/26/01	7.28	11.71	NA	3,240	738	282	218	626	66.4	NA
	8/24/05	7.87	11.12	NA	150	57	3	8	3.9	67	NA
	10/19/2005	9.51	9.48	NA	560	130	3.8	23	9.3	230	NA
	1/13/2006	6.35	12.64	NA	2,300	570	18	120	140	220	NA
MW-6	12/6/99	11.46	8.81	110	<50	2	2	0.8	8	1	NA
	3/16/00	8.32	11.95	<50	<50	8	8	5	18	<0.5	NA
	6/13/00	9.14	11.13	<50	75	0.7	1	0.9	2	0.6	NA
	9/29/00	10.81	9.46	<50	<50	<0.5	<0.5	<0.5	<1.0	<0.5	NA
	3/22/01	8.64	11.63	<50	66	0.5	<0.5	<0.5	<1.0	3	NA
	6/25/01	10.39	9.88	NA	<50	<0.5	<0.5	<0.5	<1.0	4	NA
	9/28/01	11.70	8.57	NA	63	2	ND	ND	1	3	NA
	12/26/01	8.40	11.87	NA	<50	<0.5	<0.5	<0.5	1.4	<0.5	NA
	7/7/05	9.10	11.17	NA	<50	<0.5	<0.5	<0.5	<1.0	<0.5	NA
	10/19/2005	10.88	9.39	NA	<25	<0.5	<0.5 (3)	<0.5	<0.5	<1.0	NA
	1/13/2006	7.33	12.94	NA	<25	<0.5	<0.5	<0.5	<0.5	<1.0	NA
ESLs for Drinking Water Resources				100	100	1	40	30	20	5	NA
SSTL for Residential Land Use Scenario				NA	7,200	110	NA	NA	NA	NA	NA

Abbreviations / Notes
 TPHd = Total Petroleum Hydrocarbons as Diesel (EPA Method 8015)
 TPHg = Total Petroleum Hydrocarbons as Gasoline by EPA Method 8015; July 2005 by EPA 8280
 BTEX = Benzene, Toluene, Ethylbenzene, Xylenes by EPA Method 8020; July 2005 by EPA 826C
 MTBE = Methyl tert-butyl Ether by EPA Method 8020; July 2005 by EPA 826C
 TRPH = Total Recoverable Petroleum Hydrocarbons
 <X = Concentration less than laboratory reporting limit
 (1) Well not accessible because of a car obstruction
 NA = not analyzed or not available
 * Does not match diesel chromatogram pattern
 (2) Confirmed by EPA Method 8280
 (3) Toluene was detected at concentrations of 1 ppb in sample from well MW-2, 0.74 ppb in sample from well MW-3, 0.9 ppb in sample from well MW-4, and 0.66 ppt in sample from well MW-6. Data were adjusted to non-detect because of the presence of toluene (0.81 ppb) in method blank and the sample results were less than 5 times in the blank (EPA, Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses, December 1994).
 ESLs = Environmental Screening Levels obtained from Table F-1a, assuming groundwater is a current or potential drinking water resource (CARWQCB, Interim Final, February 2005).
 SSTLs = Site Specific Target Level developed by TEC Accutite detailed in a report entitled "Quarterly Monitoring Report for December 2002, Tier 2 RBCA Report", dated February 15, 2002

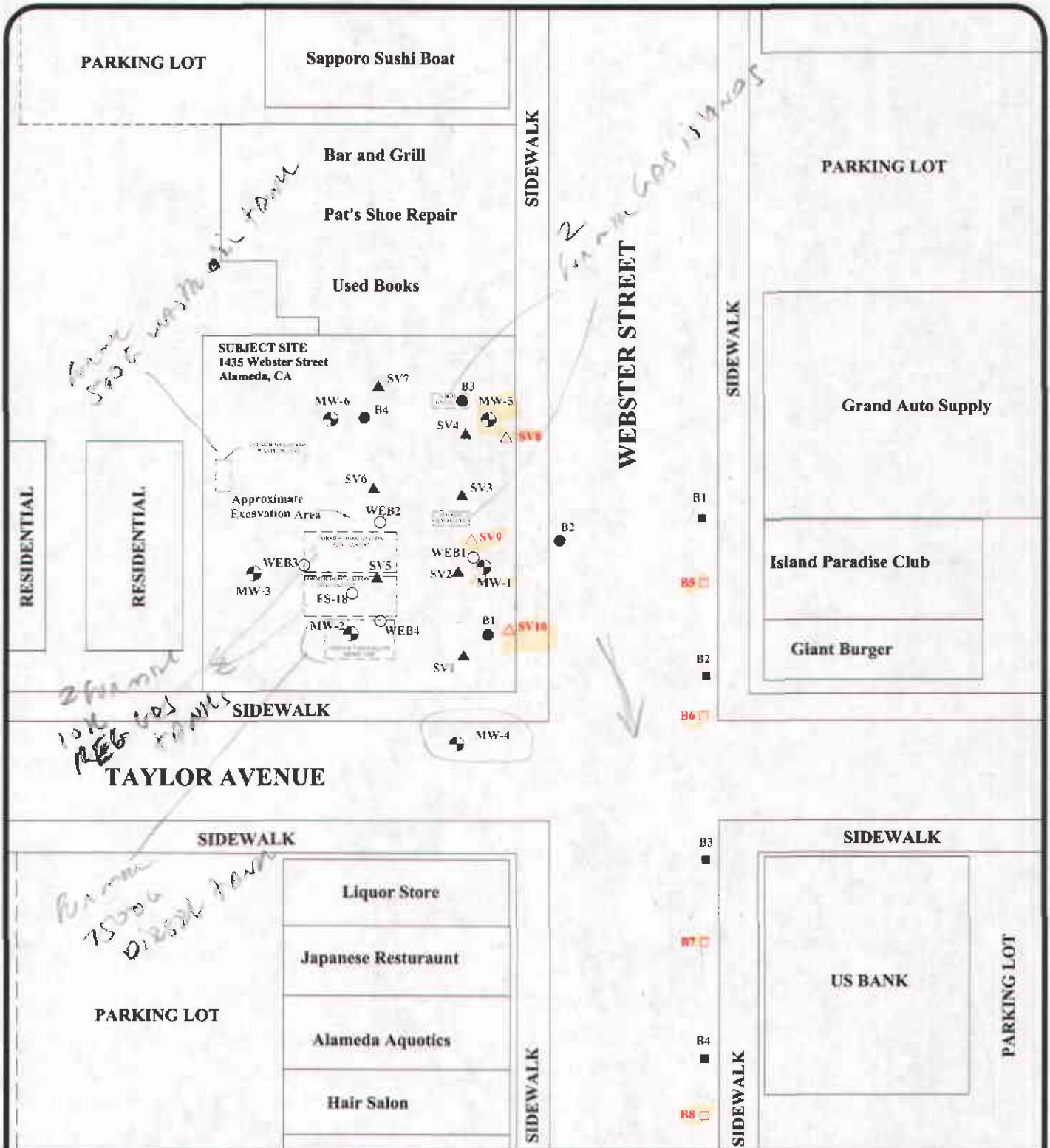


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<p>N</p> 	LEGEND:	
	 = SITE	



262 MICHELLE COURT
SOUTH SAN FRANCISCO

<p>FIGURE 1: VICINITY MAP</p>
<p>SITE: 1435 WEBSTER STREET ALAMEDA, CA</p>



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N ↑	SCALE:	
	0 ——— 45	

TEC
ACCUTITE

262 MICHELLE COURT
SOUTH SAN FRANCISCO

Figure 2:
Proposed Sampling Locations

KEY:

- △ Proposed vapor sampling location
- Proposed grab groundwater sampling location
- ⊕ Monitoring well location
- Soil boring location, February 1999
- Soil boring location, June 2001
- ▲ Soil vapor same location, May 2003
- Confirmation Sample Location

ATTACHMENT A

**E-MAIL REQUESTING WORKPLAN FROM
ALAMEDA COUNTY ENVIRONMENTAL HEALTH**

Jing Heisler

From: Gholami, Amir, Env. Health [amir.gholami@acgov.org]
Sent: Thursday, January 26, 2006 3:55 PM
To: Jing Heisler
Cc: janeth@ogpinc.net
Subject: RO 193 - 1435 Webster Street, Alameda

Hi Jing:

Per our discussion in the past and today, the concentrations are high and we can not close at this time. However, please submit a work plan to delineate plume and evaluate the course of action we need to take regarding the above subject site.

Thanks

Amir

1/30/2006

ATTACHMENT B

SCHEMATIC DIAGRAM OF SUBSURFACE VAPOR SAMPLING SET-UP

SCHEMATIC OF SUBSURFACE VAPOR SAMPLING SET-UP

V = VALVE

V_o = OPTIONAL VALVE

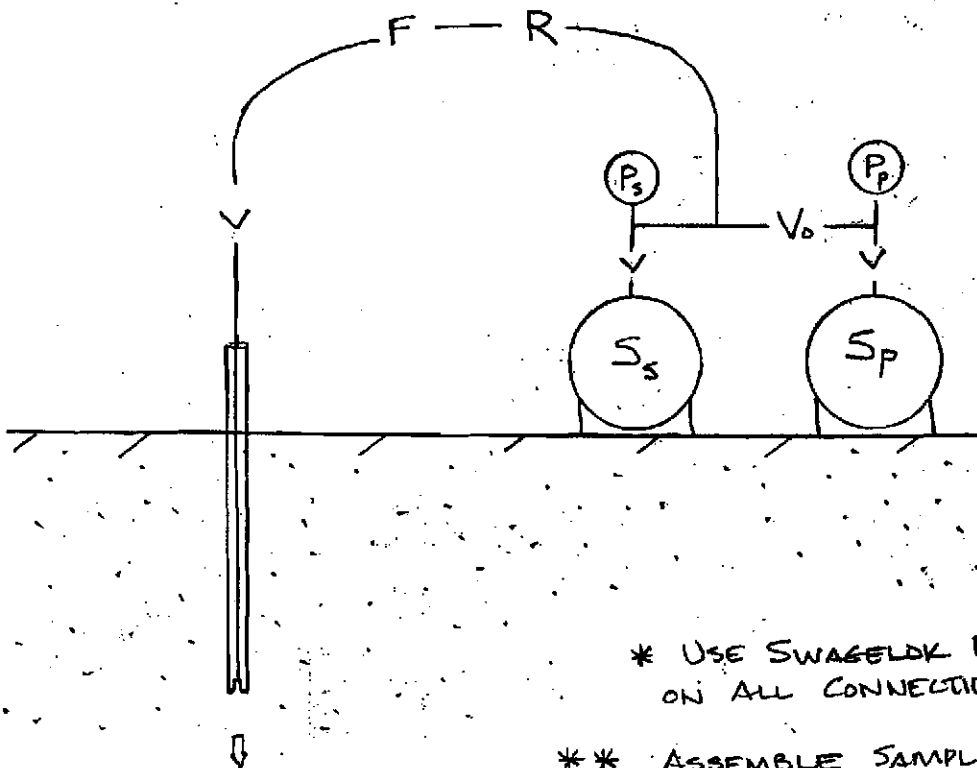
P = PRESSURE GAUGE

S_s = SAMPLE SUMMA CANISTER

S_p = PURGE SUMMA CANISTER

R = FLOW REGULATOR

F = FILTER



* USE SWAGELDK FITTINGS
ON ALL CONNECTIONS

** ASSEMBLE SAMPLING
APPARATUS AND LEAK TEST
PRIOR TO MOBILIZING TO
FIELD

6.3.04