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By Alameda County Environmental Health at 10:14 am, Jul 19, 2013



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July 15, 2013

Ms. Dilan Roe, P.E.  
Alameda County  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Oakland, California 94502

Subject: Fuel Leak Case#RO0000346  
Site Location: 3519 Castro Valley Boulevard, Castro Valley

Dear Ms. Roe:

SOMA's "Revised Workplan for Soil Gas Study for Evaluation of Soil Vapor Intrusion" for the subject site has been uploaded to the State's GeoTracker database and to the Alameda County ftp site for your review.

If you have any questions or comments, please do not hesitate to call me. Your time is greatly appreciated in reviewing our report.

Sincerely,

A handwritten signature in black ink, appearing to read "Mansour Sepehr", is written over a horizontal line.

Mansour Sepehr, Ph.D., PE  
Principal Hydrogeologist

Enclosure

cc: Mr. Mirazim Shakoori w/enclosure



**Revised Workplan for Soil Gas Study  
for Evaluation of Soil Vapor Intrusion**

**3519 Castro Valley Boulevard  
Castro Valley, California 94546**

**July 15, 2013**

**Project 2760**

**Prepared for**

**Mr. Mirazim Shakoori  
4313 Mansfield Drive  
Danville, California 94506**



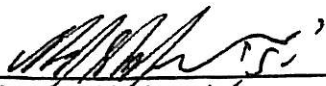
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## PERJURY STATEMENT

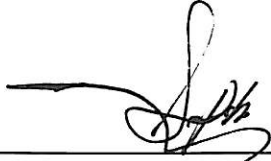
Site Location: 3519 Castro Valley Boulevard, Castro Valley, CA

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

  
\_\_\_\_\_  
Mirazim Shakoori  
4313 Mansfield Drive  
Danville, California 94506  
Responsible Party

## CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this workplan on behalf Mr. Mirazim Shakoori, for property located at 3519 Castro Valley Boulevard, Castro Valley, California. This report was prepared in response to June 14, 2013 correspondence from Alameda County Environmental Health Services, Environmental Protection Division.



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Mansour Sepehr, PhD, PE  
Principal Hydrogeologist



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## 1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of Mr. Mirazim Shakoori, for property located at 3519 Castro Valley Boulevard, Castro Valley, California. This report was prepared in compliance with Alameda County Environmental Health Services (ACEHS) Environmental Protection Division correspondence dated June 14, 2013. This report is a revised workplan for conducting soil gas survey utilizing Department of Toxic Substances Control (DTSC) October 2011 document entitled "Guidance For the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air and also DTSC Advisory Active Soil Gas Investigations document dated April 2012.

The site is located on the corner of Redwood Road and Castro Valley Boulevard (Figure 1). Prior to 1989, the site was a Mobil gasoline service station. In 1989, British Petroleum (BP) purchased and operated the station until ownership was transferred to Mr. Mirazim Shakoori in 1993. The station was operated under the Chevron brand until recently, and now operates as a Shell gasoline service station. Site features, including former and current USTs and former dispenser island, are shown in Figure 2.

In 1984, three single-walled fiberglass underground storage tanks (USTs) with capacities of 6,000 gallons, 8,000 gallons, and 10,000 gallons, were installed in the southeastern portion of the site. In 1988, a 1,000 gallon waste oil tank (WOT) was installed to replace the previous 380-gallon WOT. Holes were observed in the 380-gallon WOT. As a result, confirmation soil samples were collected from the bottom of the excavation and the analytical results confirmed contamination. Subsequently, groundwater monitoring wells were installed at the site and the site has been monitored since 1992. The other three USTs were removed and replaced in September 2003 with two new double-walled, fiberglass USTs with capacities of 12,000 gallons and 20,000 gallons. In addition, the dispensers, product lines, and vent lines were removed and replaced.

Petroleum hydrocarbon contamination has been detected in soils beneath the site and in groundwater beneath the site and in the downgradient areas and is related to a historical unauthorized release. A concise background of soil and groundwater investigations performed in connection with this case and an assessment of the residual impacts of chemicals of concern (COCs) for the site and the surrounding area are summarized in Appendix A.

As approved by ACEHS, SOMA proposes implementing a soil gas study adjacent to the southern property boundary to the west and east of and beneath the station building to establish whether vapor intrusion is a complete exposure pathway.

## 1.1 Site Overview

The following summarizes historical site findings and interprets all data obtained to date including soil and groundwater chemical plume stability, extent, and impact of site's contamination on public health and the environment.

## 1.2 Site Geology and Hydrogeology

The site is underlain with interbedded silty clay, sandy silt/silty sand, clayey sand, and clayey silt. Locations of geological cross-sections are shown in Figure 3. As shown in cross sections A-A', B-B', and B-A' (Figures 4, 5, and 6), an unconsolidated sequence of permeable and relatively impermeable sediments underlies the site. Borehole logs for TWB-1 through TWB-5 and SOMA-4 demonstrate that these unconsolidated sequences continue off-site to the south, with no obvious changes in lithology.

Depth to first-encountered groundwater has been recorded at approximately 12 feet bgs in the Shallow WBZ and between 18 and 31 feet bgs in the Semi-Confined WBZ, with groundwater later stabilizing to between 8.39 and 10.6 feet bgs (Shallow WBZ) and to between 6.5 and 11.50 feet bgs (Semi-Confined WBZ, except in DP-4 and DP-6, which stabilized only to 28 feet bgs and 19.79 feet bgs, respectively). Sometimes the Shallow WBZ was not encountered during drilling, suggesting an element of discontinuity for that zone. For example, borings SB-6 (SOMA-6) and SB-9 (SOMA-9) were left open for 7 days but no water accumulated in these boreholes, suggesting that the Shallow WBZ is discontinuous in their vicinity.

The Shallow WBZ is composed of silty sand, sand, and clayey sand. Preferential flow (stream) channels have also been observed south (downgradient) of the Xtra Oil station across Redwood Road.

The Semi-Confined WBZ appears to be continuous and extends off-site to the southeast. Below the Semi-Confined WBZ is a fairly homogenous silty clay unit that extends to 30 feet bgs, the greatest depths explored on-site during historical investigations. During historical soil and groundwater investigations, groundwater was observed in all explored areas of the Semi-Confined WBZ.

Groundwater monitoring wells have been installed at the site to monitor the encountered Shallow and Semi-Confined WBZs. The following wells are screened within the Shallow WBZ: SOMA-2, SOMA-3, SOMA-5, SOMA-7, SOMA-8 and the two recently installed observation wells OB-1 and OB-2. The table below summarizes well construction details.



Well ID	Total Depth (feet)	Screen Interval (feet bgs)
SOMA-2	15	10 to 15
SOMA-3	15	10 to 15
SOMA-5	15	5 to 15
SOMA-7	15	5 to 15
SOMA-8	15	5 to 15
OB-1	16	5 to 16
OB-2	17	5 to 17

The following wells are screened within the Semi-Confined WBZ: ESE-1R, ESE-2R, ESE-5R, MW-6R, MW-7R, SOMA-1, and SOMA-4. The table below summarizes the well construction details.

Well ID	Previous TD (feet)	Previous Screen Interval (feet bgs)	Current Total Depth (feet)	Current Screen Interval (feet bgs)
ESE-1R	30	10 to 30	25	18 to 25
ESE-2R	30	10 to 30	28	22 to 28
ESE-5R	24	9 to 24	24	18 to 24
MW-6R	30	18 to 30	28	22 to 28
MW-7R	30	18 to 30	30	24 to 30
SOMA-1	NA	NA	30	22 to 30
SOMA-4	NA	NA	23	16 to 23

During the most recent groundwater monitoring event (January 10, 2013), depth to groundwater in the Shallow WBZ ranged between 6.58 and 9.63, and in the Semi-Confined WBZ between 8.806 and 10.10 feet bgs. Groundwater in the Shallow WBZ flows south to southeasterly and groundwater in the Semi-Confined WBZ flows southwesterly across the site.

### 1.3 Identification of Chemicals of Potential Concern

Previously identified site-specific COCs include TPH-g, TPH-d, BTEX and MtBE. COCs have been detected in soil and groundwater beneath the site, including recently at concentrations that exceed Regional Water Quality Control Board, San Francisco Bay Region (RWQCB-SF) ESLs established for groundwater that is a current or potential source of drinking water (May 2008 Revision). Table 1 and Table 2 summarize detected soil and groundwater concentrations compared to respective ESLs. Soil and groundwater samples collected at this site have

historically demonstrated concentrations moderately above listed ESLs. There has been no historical or current observation of free product in groundwater wells at the site.

#### **1.4 Identification of Exposure Pathways and Potential Receptors**

The site is located in an area of mixed commercial and residential properties. Currently, the on-site, single-story building houses the station office and a food mini-mart. A commercial bank building abuts the site on the east and commercial buildings of various uses located behind the station building on the south. Residential properties are mainly located beyond, upgradient of the site to the north, northwest and east.

Based on data obtained from the sensitive receptor survey, as well as low to non detectable concentrations in the most downgradient site wells there is no immediate threat from exposure to site groundwater contaminants for individuals living or working in the vicinity of this site.

COCs detected in groundwater within the Shallow WBZ can volatilize and travel by diffusion toward the land surface and possibly enter into on-site as well as nearby commercial buildings and residential properties. At these exposure points, they may cause adverse health effects to workers in commercial buildings and residents living nearby. Current and future on-site workers, and workers of the downgradient commercial buildings adjacent to the site have been identified as potential receptors for vapor intrusion concerns.

The results of the proposed soil gas study will be utilized to determine the completeness of vapor intrusion exposure pathway for the on-site and off-site workers.

#### **1.5 Extent of Soil and Groundwater Contamination**

##### **1.5.1 Lateral and Vertical Extent of Soil Contamination**

Based on investigations conducted at the site from 2008 to 2011, residual soil impact (TPH-g) exists between 9 and 10 feet bgs in the western portion of the site to the south of former pump islands (980 mg/kg). High TPH-g levels have also been observed in the northeastern portion of the site at 720 mg/Kg. Historical sampling along the western property boundary exhibited TPH-g at 230 mg/kg between 7.5 and 8 feet bgs. The Environmental Screening Level (ESL) for TPH-g has been established at 83 mg/kg for shallow or deep soils where groundwater is a current or potential drinking water source.

During the recent observation wells installation (June 2011), the highest TPH-g concentrations were detected adjacent to the western boundary of former UST cavity at 120 mg/kg. Figure 7 shows contour map of TPH-g concentrations in soil

from 0 to 15 feet bgs. Soil analytical data, which includes concentrations for COCs, are presented in Table 1.

At present time the soil impact is shallow and extends from 4 to approximately 14 feet (or slightly below groundwater surface). Historically groundwater has fluctuated between 7.33 and 12.02 feet bgs in shallow WBZ, creating a smear zone where residual contamination is located. The smear zone is defined as an area where free product occurred in the soil and was then smeared across the soil when the water table fluctuated between historical high and low water table elevations.

### **1.5.2 Lateral and Vertical Extent of Contamination in Groundwater**

Based on existing analytical data derived from the recent groundwater monitoring event (January 2013) and the well installation and replacement (August 2010), the Shallow WBZ appears to be the most impacted along the southern portion of the site.

Shallow WBZ: Observed concentrations in Shallow WBZ are elevated near former waste oil UST and UST pit, and the former pump island located in the western portion of the site. During the most recent groundwater monitoring event, the highest TPH-g, benzene, and MtBE were detected along the western boundary of former UST cavity at 21,000 µg/L (with rainbow sheen), 530 µg/L, and 79 µg/L. The ESLs for TPH-g, benzene, and TBA in groundwater are 100 µg/L and 1.0 µg/L, respectively. MtBE concentrations above ESL (5 µg/L) was also observed in southwestern portion of the site near former WOT. Figures 8 and 9 show the most recent (January 2013) contour maps of TPH-g and benzene concentrations in the Shallow WBZ.

## **2. SCOPE OF WORK**

The scope of work is to conduct a soil gas study to evaluate the potential for soil vapor intrusion into the station building as well as the neighboring properties located south and east of the property. The property to the south is a strip mall containing a variety of businesses while the property to the east is commercial property occupied by Fremont Bank. In addition, the results of this investigation will be used to evaluate if the site meets the conditions of Low Threat Closure Policy (LTCP) as set forth by the State Water Resources Control Board.

The scope of work will include the following tasks:

- Task 1: Permit Acquisition, Health and Safety Plan Preparation and Subsurface Utility Clearance
- Task 2: Installation of Permanent Soil Gas Sampling Probes
- Task 3: Soil Vapor Sampling
- Task 4: Soil Vapor Analysis
- Task 5: Report Preparation

The following are descriptions of the above tasks:

## **2.1 Permit Acquisition, Health and Safety Plan Preparation, and Subsurface Utility Clearance**

Prior to initiating field activities, SOMA will obtain all required drilling permits from Alameda County Department of Public Works.

SOMA will prepare a site-specific Health and Safety Plan (HASP). The HASP is a requirement of the Occupational Safety and Health Administration (OSHA), "Hazardous Waste Operation and Emergency Response" guidelines (29 CFR 1910.120) and the California Occupational Safety and Health Administration (Cal/OSHA) "Hazardous Waste Operation and Emergency Response" guidelines (CCR Title 8, section 5192). The HASP is designed to address safety provisions during field activities and protect the field crew from physical and chemical hazards resulting from drilling and sampling. It establishes personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards, decontamination procedures, and emergency action plans. The HASP will be reviewed and signed by field staff and contractors prior to beginning field operations.

SOMA will visit the site and mark boring locations using chalk-based white paint and then contact Underground Service Alert (USA) to verify that drilling areas are clear of underground utilities. Following USA clearance, SOMA will retain a private utility locator to survey proposed drilling areas and locate any additional subsurface conduits.

## **2.2 Installation of Soil Vapor Probes**

As directed by ACEHS, SOMA will implement the soil gas study adjacent to the southern property boundary to the west and east of and beneath the station building to establish whether vapor intrusion is a complete exposure pathway. Per ACEHS's directive, SOMA will utilize DTSC's October 2011 document entitled "Guidance For the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air and also DTSC Advisory Active Soil Gas Investigations document dated April 2012.

Several on-site and off-site buildings exist near the southern property boundary: the station building located on-site, an off-site strip mall building located immediately to the south and behind the station building, and a commercial building, currently occupied by "Fremont Bank" located immediately east of the site. Based on the known site contamination and the proximity of these structures to the site's contamination, five permanent soil gas probes sampling boreholes will be advanced utilizing a direct push technology (DPT) and three sub-slab sampling probes are proposed inside and next to the station building as part of this soil gas study. Locations of boreholes and probes are shown on Figure 10.

The following describes the installation and sampling procedures for these two proposed soil gas sampling techniques.

### 2.2.1 Installation of Permanent Soil Vapor Probes

Since precipitation increases the moisture content of subsurface soil which reduces subsurface vapor flow, prior to site mobilization, SOMA will confirm that no significant precipitation (recordable by National Geographic and Atmospheric Organization) has occurred near the site within the previous five days prior to soil gas sampling.

SOMA proposes advancing five soil vapor sampling boreholes (SV-1 through SV-5) adjacent to site boundary next to the off-site buildings and also in areas where elevated levels of petroleum hydrocarbons were encountered in the shallow soils. Figure 10 shows the proposed locations of the permanent soil vapor probes. The results will help for evaluation of vapor intrusion into the future on-site structures as well as current off-site structures and also will assist in analyzing the current site condition in context of Low Threat Closure Policy (LTCP).

Historical groundwater monitoring data at the site indicates that depth to groundwater ranges between 6.45 feet and 10.5 feet below ground surface (bgs). Using the historical groundwater elevation data at each proposed soil vapor probe location the depth of the soil vapor probe was determined so that the bottom of the soil vapor probes stay above the capillary fringe per recommendation of DTSC's guideline. Shallower samples are more prone to infiltration of surface air and sample variability. In case the vapor concentration at 5 feet bgs exceeds screening levels of benzene, ethylbenzene and naphthalene as given for soil gas criteria in LTCP document, the site will not meet LTCP conditions. Based on a previous site drilling, lean clays and sandy lean clays are expected to be encountered at the proposed sampling depth. Direct Push Technology (DPT) will be used for installation of soil vapor probes at different depths as presented below:

Soil Vapor Sampling Probe	Proposed Depth (ft)
SV-1	7.0
SV-2	8.5
SV-3	9.5
SV-4	10.0
SV-5	8.0

The samples will be collected according to established guidelines documented in DTSC Advisory Active Soil Gas Investigation dated April 2012.

Prior to beginning drilling activities at the site, SOMA will confirm that no significant precipitation has occurred near the sampling location within the previous five days.

The following is a step-by-step guide to soil gas well (probe) installation after drilling the borehole using DPT technology:

1. A sand pack will be placed at the bottom of the borehole to minimize disruption of airflow to the sampling tip. The thickness of sand will be at least six inches and the tip of the probe will be placed midway in the sand pack.
2. After placement of the sand pack at least six inches of dry granular bentonite will be placed at the top of the sand pack, as shown in Figure 11. Following the dry bentonite, the remainder of the borehole will be filled with hydrated bentonite. The purpose of placement of the dry granular bentonite between the sand pack and hydrated bentonite is to prevent hydrated bentonite from infiltrating into the sand pack.
3. A down-hole rod will be used to support the well tubing in the borehole. The support rod ensures that the probe tip is placed at the proper depth. The support rod will be constructed to avoid possible cross contamination or ambient air intrusion during sampling.

### **2.2.2 Installation of Permanent Sub-Slab Soil Vapor Probes**

As part of the proposed work, SOMA will install three shallow semi-permanent sub-slab vapor sampling probes SSG-1 through SSG-3 using a hammer drill, for evaluation of vapor intrusion concerns into the subject site building. Probes will be installed inside the on-site station building, their exact location will be determined in the field based on existing site conditions and with concurrence from the current site owner/operator.

Figure 10 shows the approximate (desirable) boring locations as well as the most recent groundwater concentrations of total petroleum hydrocarbons as gasoline (TPH-g) obtained from monitoring wells. As seen from this Figure 10, the proposed borings will be positioned as close as possible to the residual soil and groundwater contamination plume. The recent iso-concentration maps indicate that the contaminant plume is adjacent to the western and eastern walls of the station building and, to a certain degree, may have migrated under the building. However, no sampling beneath the building has been conducted to date to verify this conclusion.

Although no drilling permits are required for the proposed work, a minimum 72-hour notice will be given to ACEHS prior to start of any field work. Before drilling the sub-slab soil vapor borehole it will be determined if the structure is built on a moisture barrier and/ or a tension slab. This will be determined through a visual inspection or by using a metal detector device at the site. If the slab contains tension bars their locations will be determined by the metal detector device. The cutting of the tension slab during drilling could disrupt the integrity of the slab and potentially cause injury to the field crew.

In order to install each sub-slab sampling probe, a shallow outer hole, of larger diameter than the actual probe hole, will be drilled. This outer hole will only partially penetrate the concrete slab (2-3 inches) and will be advanced utilizing a hammer drill. Then a smaller diameter (approximately 5/16 inch) inner hole will be drilled through the outer hole and into the remainder of the slab and approximately five inches into the base material.

Similar to installation of soil vapor probe discussed Section 3.2.1, the annular space of sub-slab borehole should be sealed using dry granulated bentonite and hydrated bentonite in order to eliminate air intrusion into the soil gas probe. The vapor probe tip should be covered with sand to ensure proper airflow to the probe tip.

### **2.3 Installation of Vapor Sampling Probes**

Sub-slab thickness will be measured to ensure that the installed tube will “float” in the slab to avoid obstruction of the probe with sub-slab material. Stainless steel tubing (approximately 1/4-inch in diameter), or stainless steel ready-made sub-slab sampling train with fittings will be inserted into the hole. Stainless steel is preferred to ensure that construction materials are not a source of VOCs. Schematic diagram of a sub-slab vapor sampling probe is presented in Figure 12.

Prior to insertion of sampling train, the stainless steel tube will be equipped with a rubber spacer or fitting (approximately the size of the outer hole). The spacer will minimize cement grout (placed in the outer hole) from excessively leaking into the inner hole. The sampling tube will be installed inside the inner hole so that the lower end of the tube is even with the bottom of the slab and the upper end slightly above the slab. The tube will be cemented in place via quick-drying Portland cement, which expands upon drying. The upper part of the stainless steel tube will be connected with a Swagelok® ferrule compression fitting to a Swagelok® shut off valve (in the off position). A stainless steel or other appropriate cap will be affixed to the end of the installed sampling train. A minimum of 24-hours will be allowed for cement to set and for sub slab vapors to reach equilibrium prior to sampling.

Subsurface conditions are disturbed during drilling and probe placement. Therefore, prior to sampling enough time should be given to allow for the subsurface to equilibrate back to representative conditions.

### **2.4 Soil Gas Assembly Tests**

After the soil gas well installation is complete a series of tests need to be conducted before collecting soil gas samples. The following are the descriptions of these tests as recommended in DTSC's April 2012 Advisory Active Soil Gas Investigation.

### **2.4.1 Shut -In Test**

Prior to purging or sampling, a shut-in test will be conducted to check for a possible leak in the above ground sampling system. To conduct a shut-in test, the above ground valves, lines fittings down-stream from the top of probe will be assembled. By using a purge pump the system will be evacuated using a minimum measured vacuum of about 100 inches of water. The test will be conducted while the connection to the purge pump is in closed position. While the system is under negative pressure, the pressure gauge will be observed and any possible vacuum drop will be recorded. If there is any vacuum loss the fitting will be tightened/adjusted until the vacuum loss stops. The vacuum gauge should be sensitive enough so that minor changes (a minimum of 0.5 inches of water) could be observed.

After the shut-in test is validated, the sampling train should not be altered. The shut-in test is not a replacement test for the leak test.

### **2.4.2 Leak Test**

The leak test is used to evaluate whether ambient air is introduced into the soil gas sample during the collection process. The atmospheric leakage occurs in three ways:

1. Advection through voids in the probe packing material and along the borehole sidewall;
2. Advection directly through the soil column; and
3. Through the fittings in the sampling train at the surface.

SOMA is planning to conduct a leak test at each vapor sampling well to ensure the integrity of the sample. Introducing ambient air may result in an underestimation of actual site contaminant concentrations or, alternatively, may introduce external contaminants into the sample from ambient air.

Two types of leak check compounds are available to use, gaseous and liquid tracer compounds. SOMA is planning to use liquid tracer compounds. Liquid tracer compounds such as hexane, pentane diflouroethane and isopropanol or Isopropyl alcohol (IPA), can be used to evaluate sample integrity. SOMA is planning to utilize IPA.

IPA will be applied to towels or clean rags and placed around all connections in the sampling train. The seal integrity will be confirmed by analyzing the soil gas sample for IPA. If the concentration of IPA is greater than or equal to 10 percent of the reporting limit for IPA, then a corrective action will become necessary. This will include repeating the test or decommissioning of the soil vapor well(s).



In addition to IPA, SOMA proposes analyzing atmospheric gases O<sub>2</sub>, CO<sub>2</sub>, and methane. Reporting limits for O<sub>2</sub>, CO<sub>2</sub>, and methane will be less than or equal to concentrations of these gases in the atmosphere. Also, SOMA will ensure that laboratory-reporting limits for chemicals of concern are below the RWQCB's Human Health Environmental Screening Levels (ESLs) that address inhalation of contaminants in an indoor setting, set forth by the RWQCB–San Francisco Bay Region.

### **2.4.3 Purge Volume Test**

The purpose of a purge volume test is to ensure that stagnant air is removed from the sampling system and to ensure that samples are representative of the subsurface conditions. The purge volume test will be conducted after conducting the shut-in and leak tests. The purge volume test will be conducted by collecting and analyzing a sample for target compounds after removing one, three and 10 purge volumes. The purge volume test samples will be analyzed with the same analytical method as the chemicals of concern. One purge volume will include the following volumes:

- The internal volume of tubing;
- The void space of the sand pack around the probe tip; and
- The void space of the dry bentonite in the annular space.

The purge volumes will be reduced to one purge volume during the second or third time sampling events since the time interval between the first and subsequent sampling events will exceed two weeks. Since SOMA will utilize evacuated sampling glass bulbs then the volume of the glass bulbs will not be included in calculation of purge volumes. The purge volume test will be conducted using the same flow rate and applied vacuum as will be used to collect actual soil gas samples. If VOCs are not detected in any of the step purge tests, a default of three purge volumes will be used. Flow rates between 100 and 200 milliliters per minute (mL/min) and vacuum less than 100 inches of water should be maintained during purging and sampling to minimize stripping (partitioning of vapors from pore water to soil gas), to prevent ambient air from diluting the soil gas samples.

The purge volume test results will be included in the report. The data will include the purge volume test as well as the flow rate, vacuum exerted on the formation and duration of each purge step.

## **2.5 Soil Vapor Sampling**

Once all field tests are conducted and results indicate that the sampling train is tight and no leak is detected and purge volume test results became available, the actual soil vapor sampling will be conducted. If the results of above mention tests show that the system is faulty and the samples will be representative of the

actual subsurface conditions the sampling will not be conducted until a proper corrective action is taken in order to remedy the situation.

To sample the soil gas a vacuum pump will be used. To calibrate the pump for a certain flow rate and vacuum the pump will be calibrated using a set up tube. Using the Tygon tubing the sampling pump will be connected to the outlet of the sorbent tube, then the flow will be calibrated using a calibrator. To sample the soil gas the set up tube will be replaced by the sample tube. At this time the sample pump will be started and start time will be recorded. After the desired duration the pump will be stopped and time will be recorded again. After sampling, the plugs at both ends of sample tube will be replaced, then sample ID tube Id and collection time and date will be recorded on the chain of custody. After completing each set of samples, the set-up tube will be re-attached to the calibrator and post sampling flow rate will be recorded. This should match within 10% of the pre-sampling flow rate. Finally the sample volume will be recorded on the chain of custody using the average of flow rates and duration of the sampling time. The sorbent tube will be sent to lab in cooler with ice. Figure 13 shows the sampling set-up diagram.

At least one sample per laboratory per day will be field duplicated. Each duplicate sample will be collected from areas of concern in a separate sample container, at the same location and depth and immediately after the original sample. The sampler will change to a new pair of gloves prior to assembling the sampling train and collection of each of the vapor samples to limit potential cross-contamination. Any reusable parts will be field decontaminated. The general procedure for decontaminating sampling equipment is as follows: clean equipment with a brush using a non-phosphate detergent solution, rinse equipment with control water (i.e., water having a known chemistry), use deionized/distilled water rinse to finish decontamination.

Sorbent tubes are used for naphthalene analysis by TO-17 Method. For naphthalene the sorbent material is usually Tenax GR or Tenax TA. The air flow rate through the tubes will be monitored during sample collection and a vacuum less than 100 inches of water will be maintained during sampling.

Soil vapor analytical results will be utilized to make sure no leaks have occurred during sampling and to evaluate potential risks and hazards associated with vapor intrusion at the site by comparing the obtained results to the established ESLs for vapor intrusion concerns. Detected COCs will be compared to the ESLs for shallow soil gas in a commercial/industrial land use scenario. SOMA's report will include a figure showing sampling locations, tabulated results, Chain-of-Custody Records, certified laboratory analytical results, and SOMA's conclusions and recommendations.

## 2.6 Waste Disposal

Any waste generated during boring activities will be temporarily stored on-site in separate DOT-rated, 55-gallon steel drums pending characterization, profiling and transport to an approved disposal/recycling facility.

## 2.7 Laboratory Analyses

As discussed earlier, one of the important objectives of the soil gas study at the site is to evaluate if the site can be categorized as low threat site and hence the LTCP can be adopted for the site. As such, one of the important chemicals that need to be included in dealing with LTCP in the soil gas analysis is naphthalene.

Soil gas analysis for naphthalene is more complex than the traditional soil gas analysis procedure using TO-15. This is largely due to lower vapor pressure of naphthalene (0.087 inches of Hg) and smearing of naphthalene to the sample tubing such as polyethylene and nylaflow. TO-17 is a new analysis method which allows greater flexibility in targeting lower vapor pressure compounds, and hydrophobic sorbents can trap a wide range of hydrocarbons (C7 to C20) without smearing problems. As such, SOMA is planning to utilize TO-17 for analyzing soil gas samples.

Soil vapor samples will be submitted to a California state-certified environmental laboratory for analysis under the appropriate sample handling protocol. The samples will be analyzed for the following:

- EPA Method TO-17: benzene, toluene, ethylbenzene, total xylenes (collectively termed BTEX); methyl tertiary-butyl ether (MtBE), and naphthalene; and volatile organic compounds (VOCs), and isopropyl alcohol.

In addition to isopropyl alcohol, SOMA recommends analyzing atmospheric gases O<sub>2</sub>, CO<sub>2</sub>, and methane. The reporting limit for O<sub>2</sub>, CO<sub>2</sub>, and methane will be less than or equal to concentrations of these gases in the atmosphere. These gases will be analyzed to provide an indication of aerobic/anaerobic sub-surface conditions.

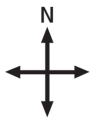
SOMA will ensure that laboratory-reporting limits for chemicals of concern are below shallow soil gas ESLs that address inhalation of contaminants in an indoor setting, set by California Regional Water Quality Control Board–San Francisco Bay Region.

## **2.8 Report Preparation**

Upon receiving the laboratory reports SOMA will prepare a report to discuss the field procedure including various leak tests results and validity of soil gas analysis results. The results of soil gas analysis will be used to evaluate the potential for intrusion of the subsurface soil gas into the off-site businesses and on-site convenient store.

The results will indicate if the site meets the conditions of low threat closure policy as requested by ACEHS.

# FIGURES



approximate scale in feet

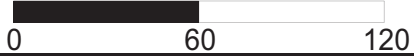
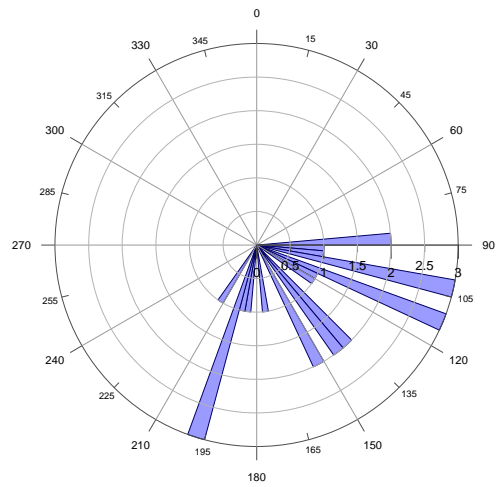
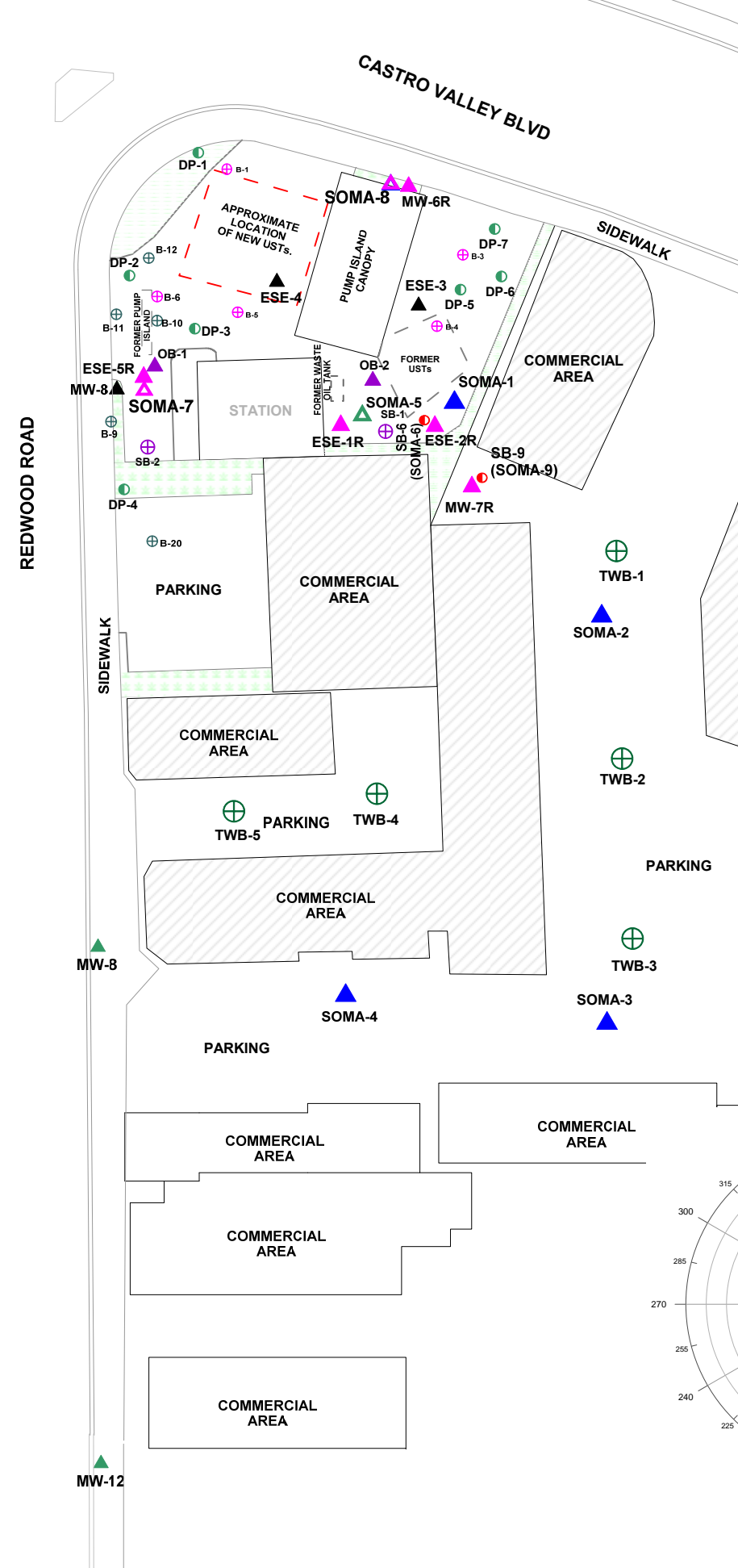
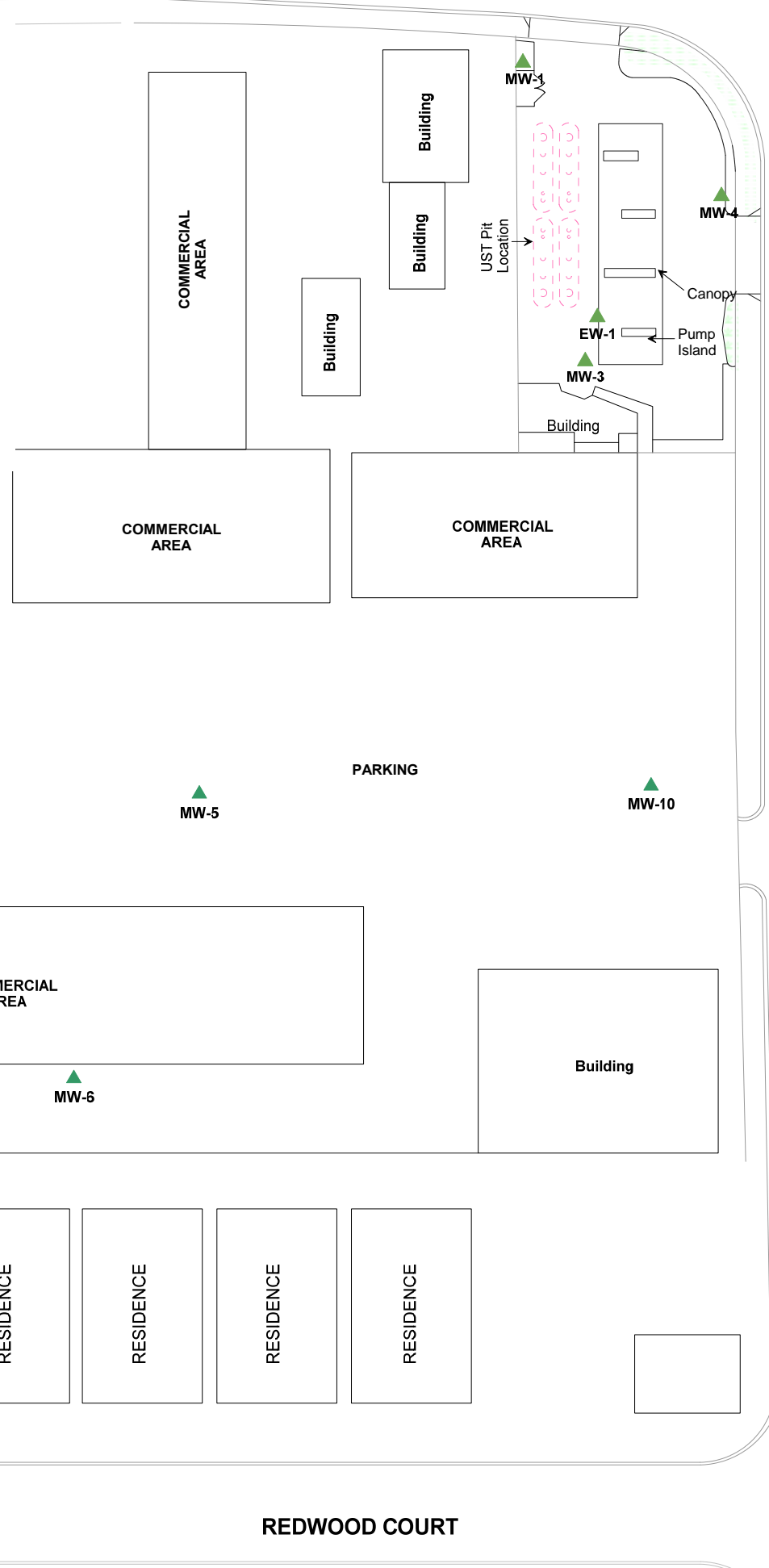


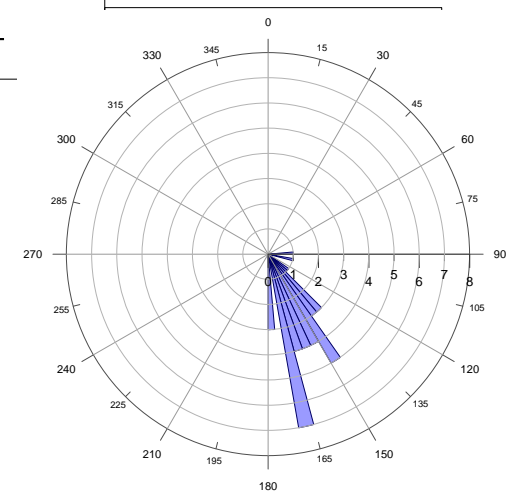
Figure 1: Site vicinity map.



Rose Diagram of Approximate Groundwater Flow Direction (3495 Castro Valley)



- ▲ Observation Wells June 2011
  - ▲ Reconstructed Wells August 2010
  - ▲ Shallow WBZ Wells, August 2010
  - Shallow Soil Borings, August 2010
  - ▲ MONITORING WELL, INSTALLED AUG. 2009
  - SOIL BORINGS - SOMA ENV., AUG. 2009
  - ⊕ SOIL BORINGS - DELTA CONS. SEPT. 2008
  - ⊕ SOIL BORINGS REDWOOD ROAD EXPANSION FEB 1995
  - ▲ MONITORING WELL
  - ▲ DECOMMISSIONED WELL
  - ⊕ COMPLETED OFFSITE TEMPORARY WELL BOREHOLE DRILLED DEC. 2003
  - ⊕ SOIL BORINGS DRILLED PRIOR TO UST REMOVAL AUG. 2003
  - ▲ MONITORING WELL (Located at 3495 Castro Valley Blvd.)
- NOTES:  
 ESE-3 and ESE-4 were decommissioned during UST tank excavation activities.  
 MW-8 was decommissioned by the previous consultant.  
 Proposed wells SOMA-6 and SOMA-9 were not installed and they subsequently became soil borings SB-6 and SB-9



Rose Diagram of Approximate Groundwater Flow Direction (3519 Castro Valley)

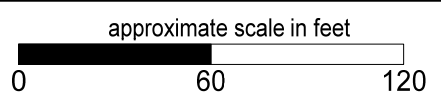
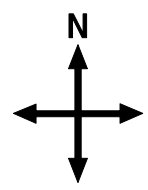
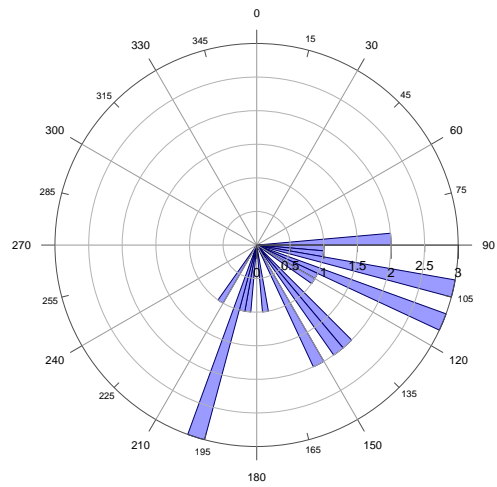
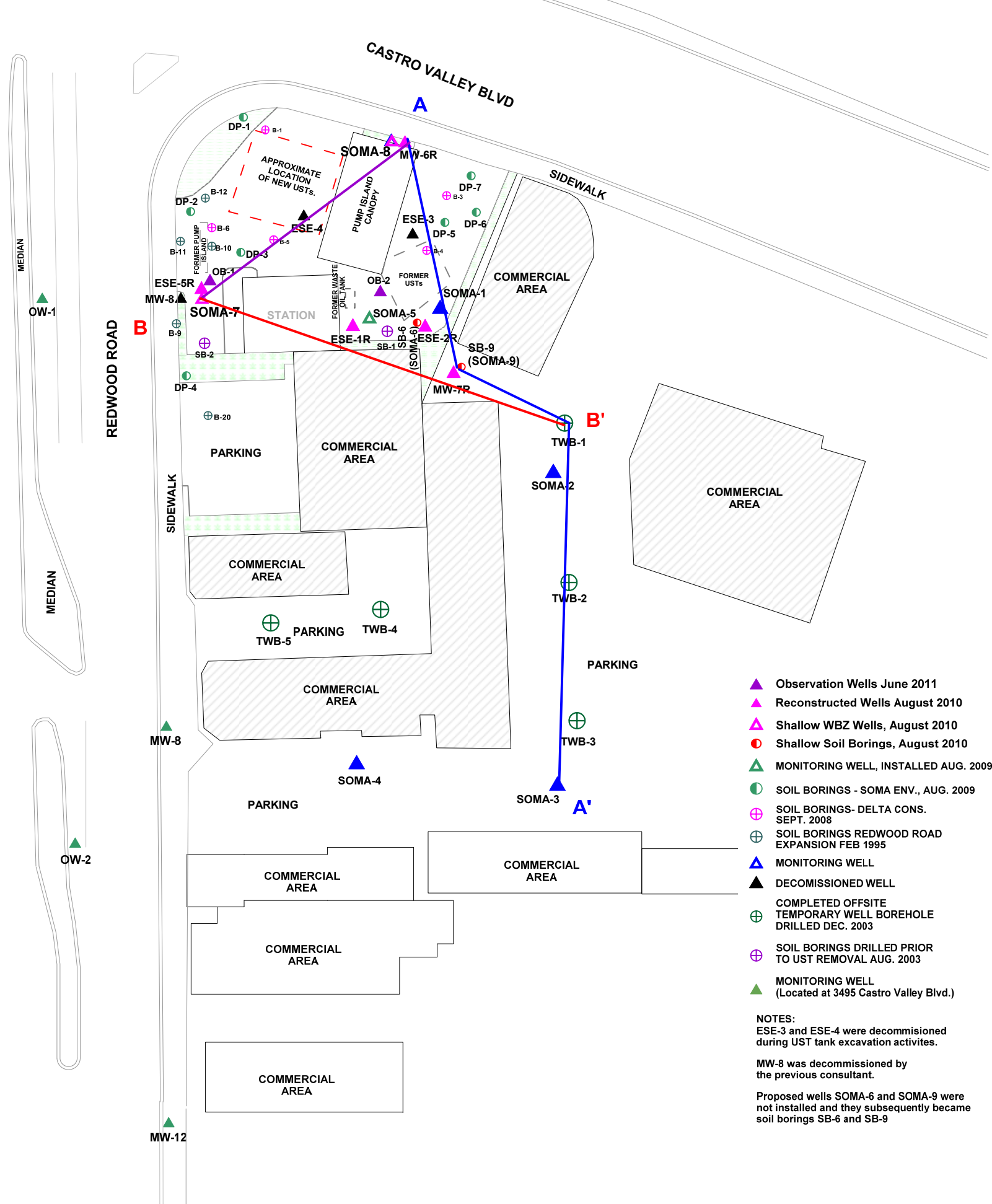
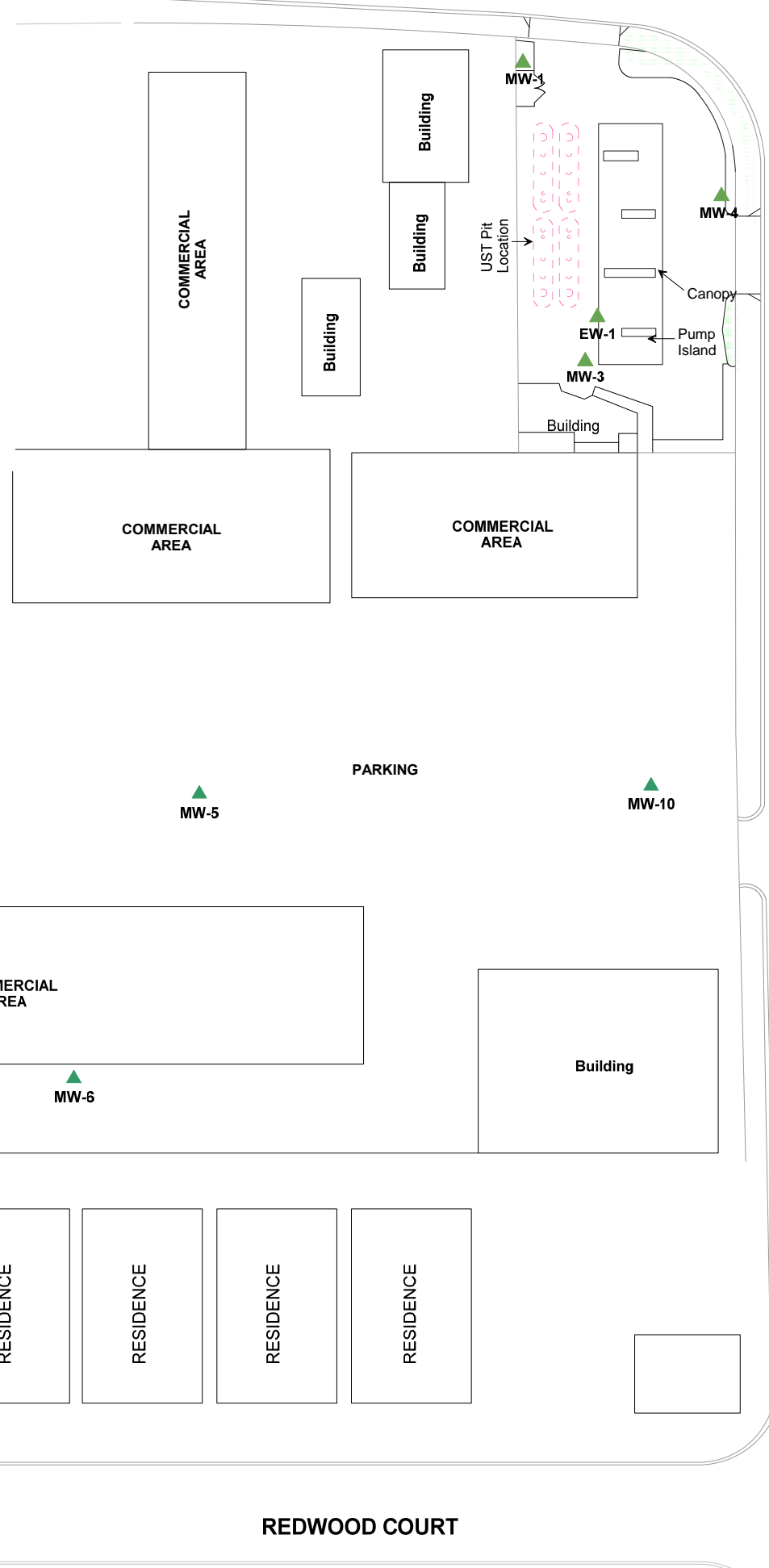
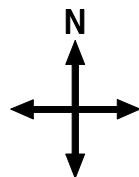


Figure 2: Site map showing locations of existing monitoring wells, decommissioned wells, offsite temporary well boreholes, monitoring wells installed by SOMA, and monitoring wells located at neighboring service station.





Rose Diagram of Approximate Groundwater Flow Direction (3495 Castro Valley)



- ▲ Observation Wells June 2011
- ▲ Reconstructed Wells August 2010
- ▲ Shallow WBZ Wells, August 2010
- Shallow Soil Borings, August 2010
- ▲ MONITORING WELL, INSTALLED AUG. 2009
- SOIL BORINGS - SOMA ENV., AUG. 2009
- ⊕ SOIL BORINGS - DELTA CONS. SEPT. 2008
- ⊕ SOIL BORINGS REDWOOD ROAD EXPANSION FEB 1995
- ▲ MONITORING WELL
- ▲ DECOMMISSIONED WELL
- ⊕ COMPLETED OFFSITE TEMPORARY WELL BOREHOLE DRILLED DEC. 2003
- ⊕ SOIL BORINGS DRILLED PRIOR TO UST REMOVAL AUG. 2003
- ▲ MONITORING WELL (Located at 3495 Castro Valley Blvd.)

NOTES:  
 ESE-3 and ESE-4 were decommissioned during UST tank excavation activities.  
 MW-8 was decommissioned by the previous consultant.  
 Proposed wells SOMA-6 and SOMA-9 were not installed and they subsequently became soil borings SB-6 and SB-9

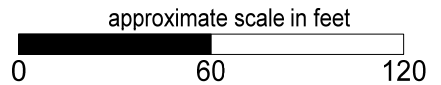
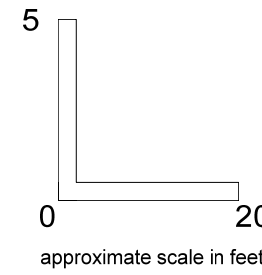
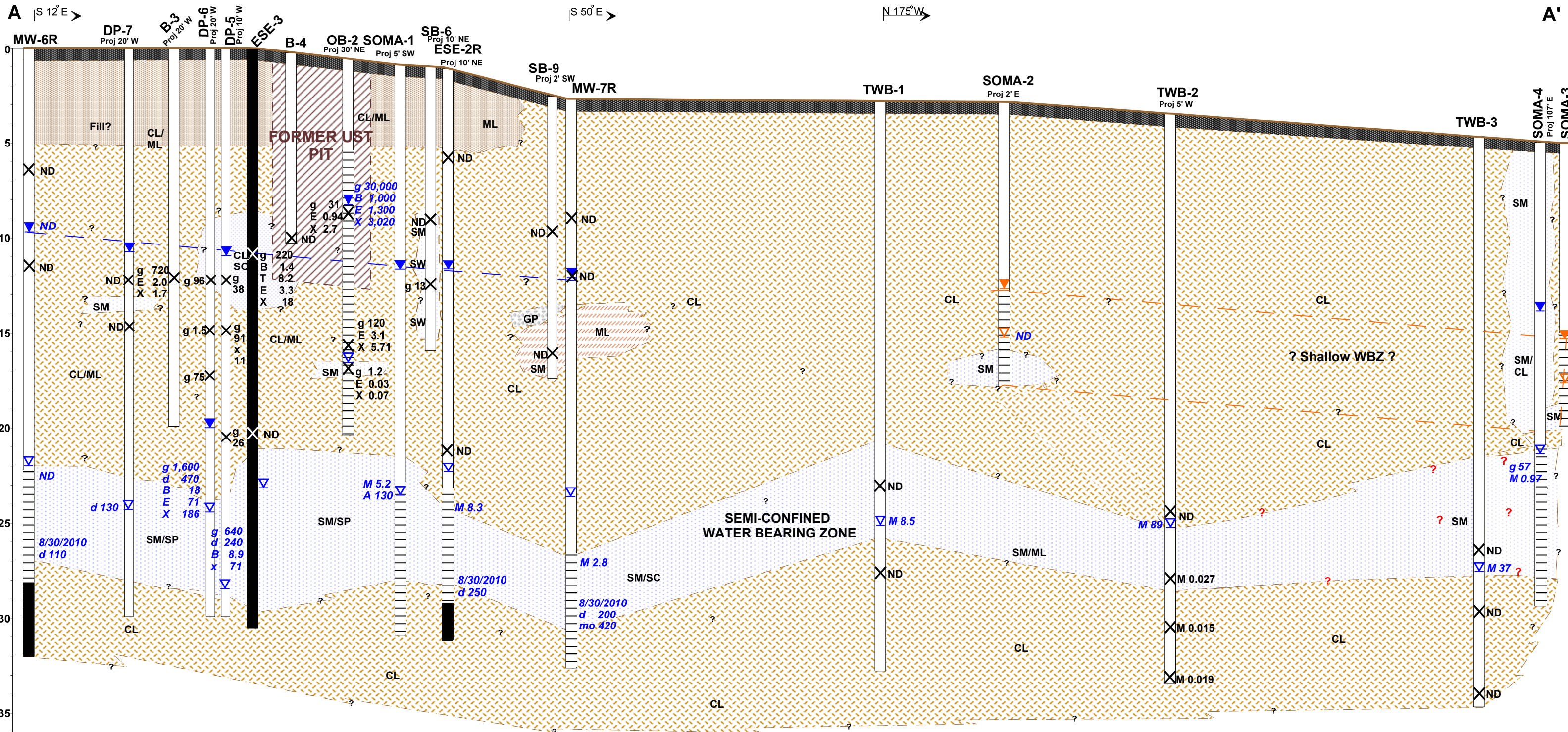


Figure 3: Site Map Showing the Locations of Geological Cross-Sections







100 Soil Sampling Data (mg/kg)  
 g - TPH-g  
 d - TPH-d  
 B - Benzene  
 T - Toluene  
 E - Ethyl Benzene  
 X - Total Xylenes  
 M - MtBE  
 ND - below detection limits

100 Groundwater Sampling Data (ug/L)  
 Samples 8/18/09, 7/19/11,  
 TWB Samples 12/2/03  
 g - TPH-g  
 d - TPH-d  
 B - Benzene  
 T - Toluene  
 E - Ethyl Benzene  
 X - Total Xylenes  
 M - MtBE  
 A - TBA  
 ND - below detection limits

**Legend**  
 ML Sandy Silt  
 CL Clay/Silty Clay  
 SM Silty Sand  
 SP Sand  
 SC Clayey Sand

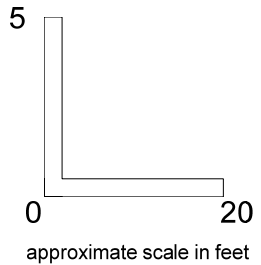
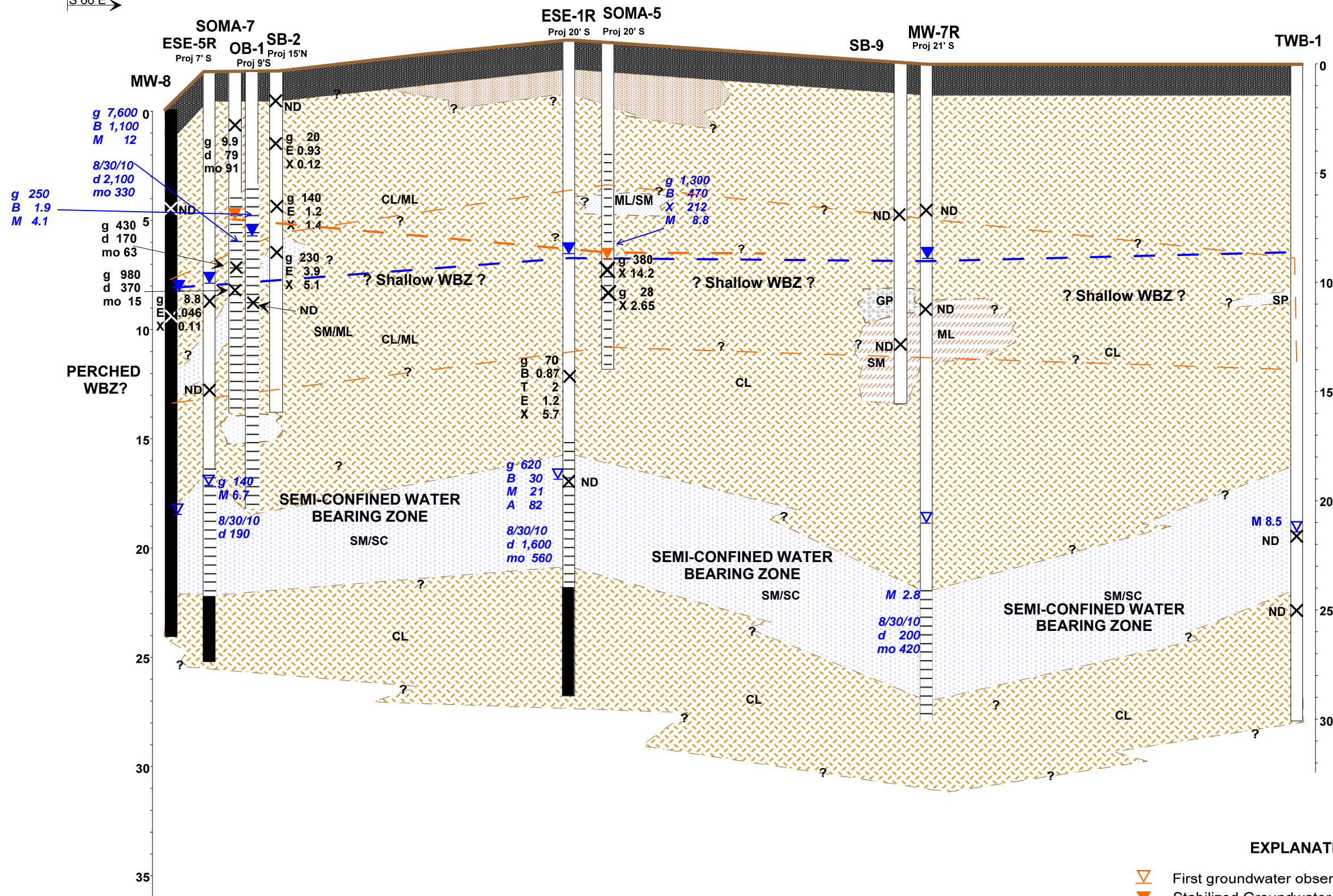
**EXPLANATION**  
 ▽ First groundwater observed in Shallow WBZ  
 ▾ Stabilized Groundwater Observed in Shallow WBZ  
 - - - Stabilized Groundwater Level - Shallow WBZ  
 ▽ First groundwater observed in Semi-Confining WBZ  
 ▾ Stabilized Groundwater Observed in Semi-Confining WBZ  
 - - - Stabilized Groundwater Level - Semi-Confining WBZ  
 [ ] Screened Interval  
 [█] Well Destroyed Dec 2003

Figure 4: Geologic Cross-Section A-A'

B

S 66° E

B'



100 Soil Sampling Data (mg/kg)  
 g - TPH-g  
 d - TPH-d  
 B - Benzene  
 T - Toluene  
 E - Ethyl Benzene  
 X - Total Xylenes  
 M - MtBE  
 ND - below detection limits

100 Groundwater Sampling Data (ug/L)  
 Samples 7/19/11 and 8/30/10, TWB Samples 12/2/03  
 g - TPH-g  
 d - TPH-d  
 B - Benzene  
 T - Toluene  
 E - Ethyl Benzene  
 X - Total Xylenes  
 M - MtBE  
 A - TBA  
 ND - below detection limits

Legend

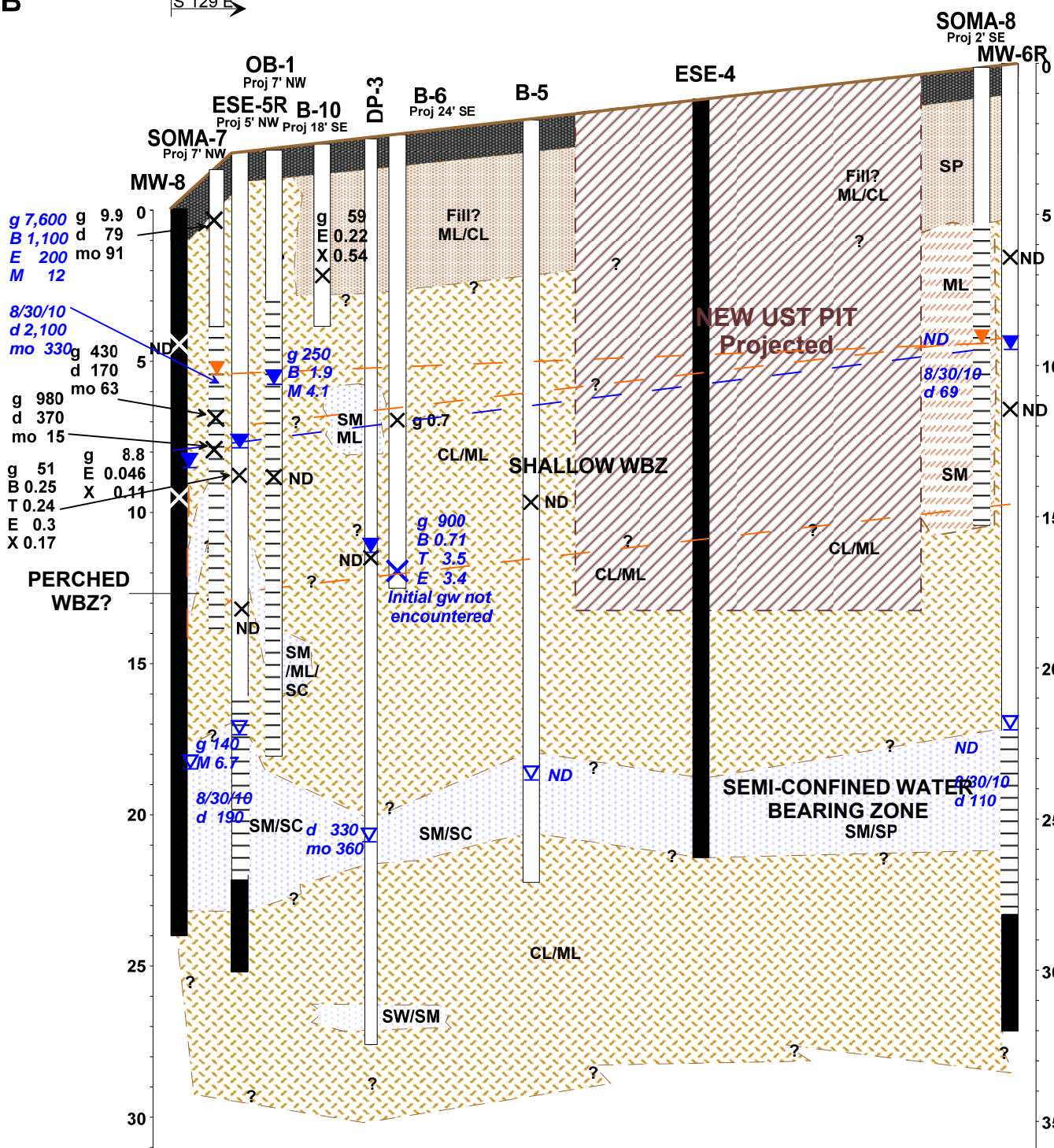
ML Sandy Silt  
 CL Clay/Silty Clay  
 SM Silty Sand  
 SP Sand  
 SC Clayey Sand

EXPLANATION

- First groundwater observed in Shallow WBZ
- Stabilized Groundwater Observed in Shallow WBZ
- Stabilized Groundwater Level - Shallow WBZ
- First groundwater observed in Semi-Confined WBZ
- Stabilized Groundwater Observed in Semi-Confined WBZ
- Stabilized Groundwater Level - Semi-Confined WBZ
- Screened Interval
- Well Destroyed Dec 2003, Bentonite Plug

Figure 5: Geologic Cross-Section B-B'

S 129° E



EXPLANATION

100 Soil Sampling Data (mg/kg)  
 100 Groundwater Sampling Data (ug/L)  
 Samples 7/26/10; 8/30/10; 7/19/11

Legend

- ML Sandy Silt
- CL Clay/Silty Clay
- SM Silty Sand
- SP Sand
- SC Clayey Sand

- g - g - TPH-g
- d - d - TPH-d
- B - B - Benzene
- T - T - Toluene
- E - E - Ethyl Benzene
- X - X - Total Xylenes
- M - M - MtBE
- A - A - TBA
- ND - ND - below detection limits

- First groundwater observed in Shallow WBZ
- Stabilized Groundwater Observed in Shallow WBZ
- Stabilized Groundwater Level - Shallow WBZ
- First groundwater observed in Semi-Confining WBZ
- Stabilized Groundwater Observed in Semi-Confining WBZ
- Stabilized Groundwater Level - Semi-Confining WBZ
- Screened Interval
- Well Destroyed Dec 2003

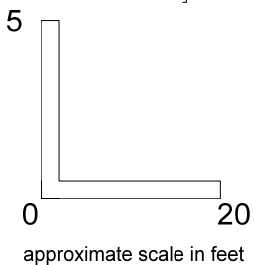


Figure 6: Geologic Cross-Section B-A'





- ▲ Observation Wells June 2011
  - ▲ Reconstructed Wells August 2010
  - ▲ Shallow WBZ Wells, August 2010
  - Shallow Soil Borings, August 2010
  - ▲ MONITORING WELL, INSTALLED AUG. 2009
  - SOIL BORINGS - SOMA ENV., AUG. 2009
  - ⊕ SOIL BORINGS - DELTA CONS. SEPT. 2008
  - ⊕ SOIL BORINGS REDWOOD ROAD EXPANSION FEB 1995
  - ▲ MONITORING WELL
  - ▲ DECOMMISSIONED WELL
  - ⊕ COMPLETED OFFSITE TEMPORARY WELL BOREHOLE DRILLED DEC. 2003
  - ⊕ SOIL BORINGS DRILLED PRIOR TO UST REMOVAL AUG. 2003
  - ▲ MONITORING WELL (Located at 3495 Castro Valley Blvd.)
- NOTES:  
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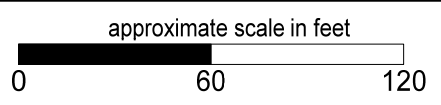
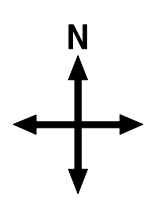
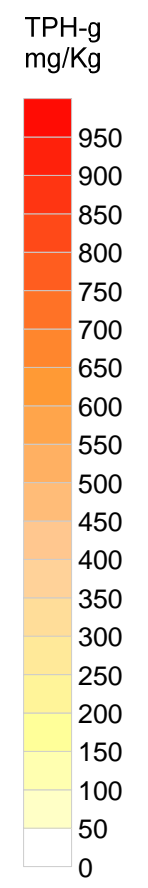


Figure 7: TPH-g Concentrations in Soil from 0 to 15 bgs



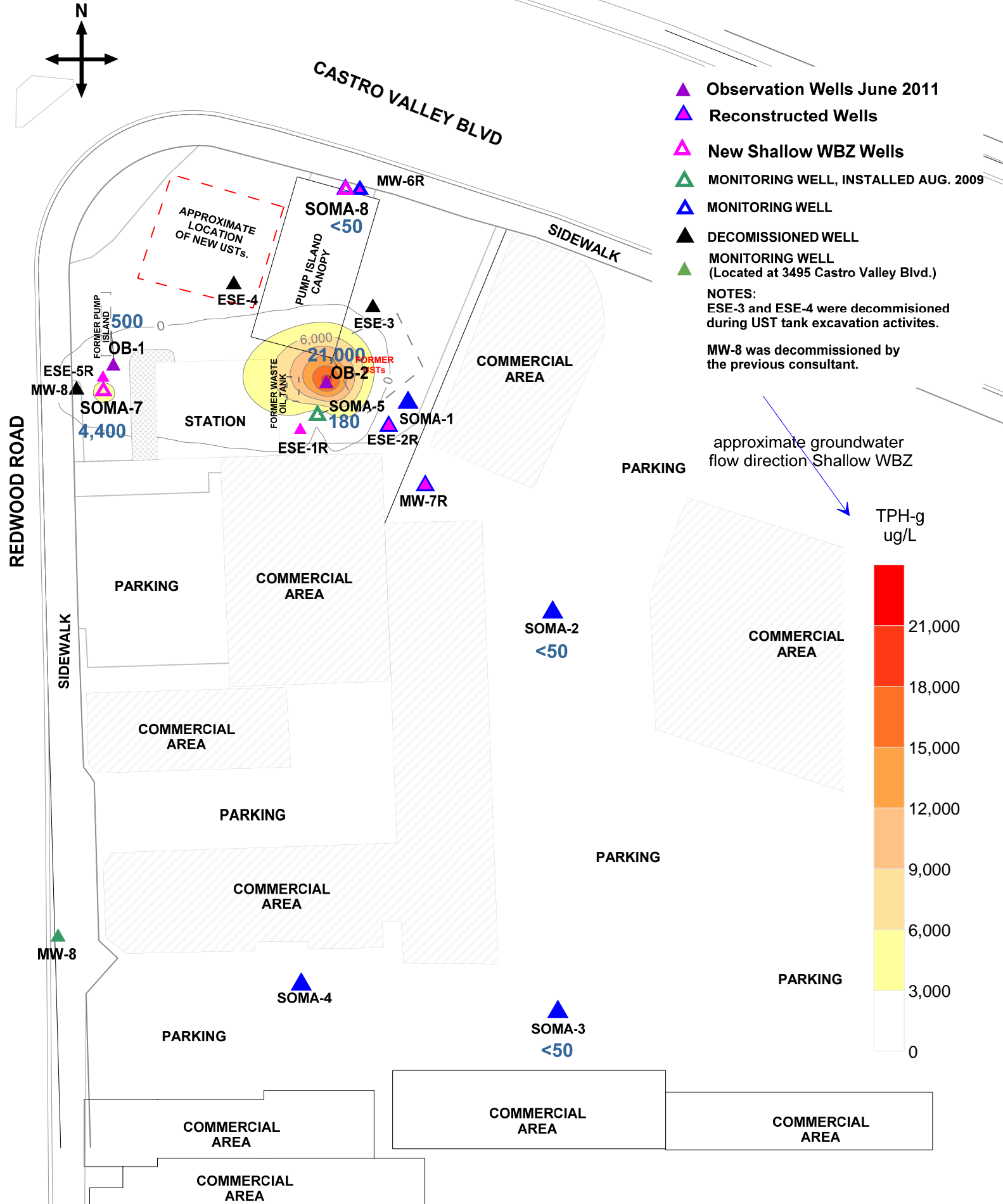
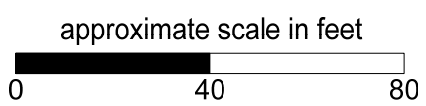


Figure 8: Contour Map of TPH-g Concentrations in Shallow WBZ Wells in Feet. January 9 and 10, 2013



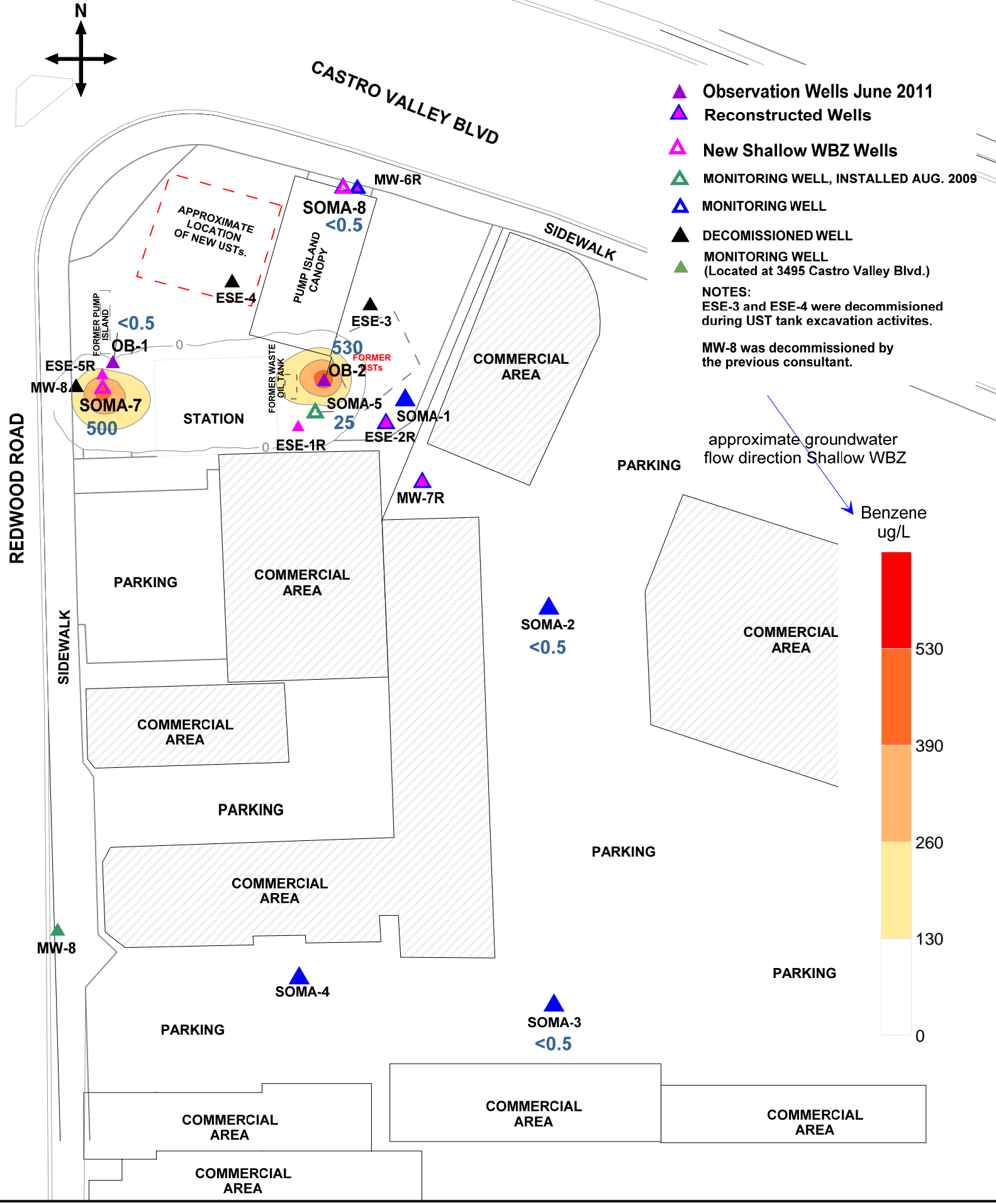


Figure 9: Contour Map of Benzene Concentrations in Shallow WBZ Wells in Feet. January 9 and 10, 2013



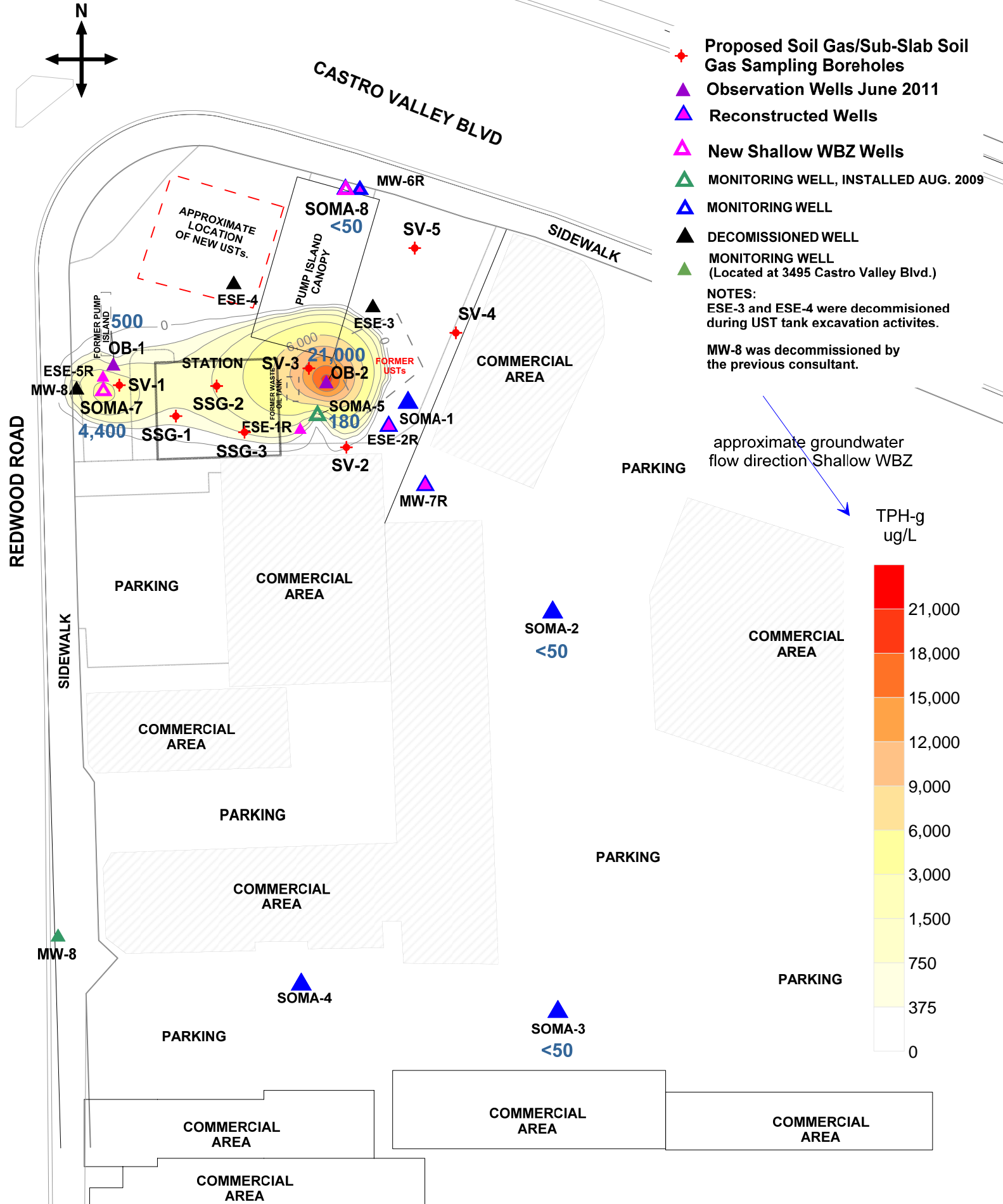
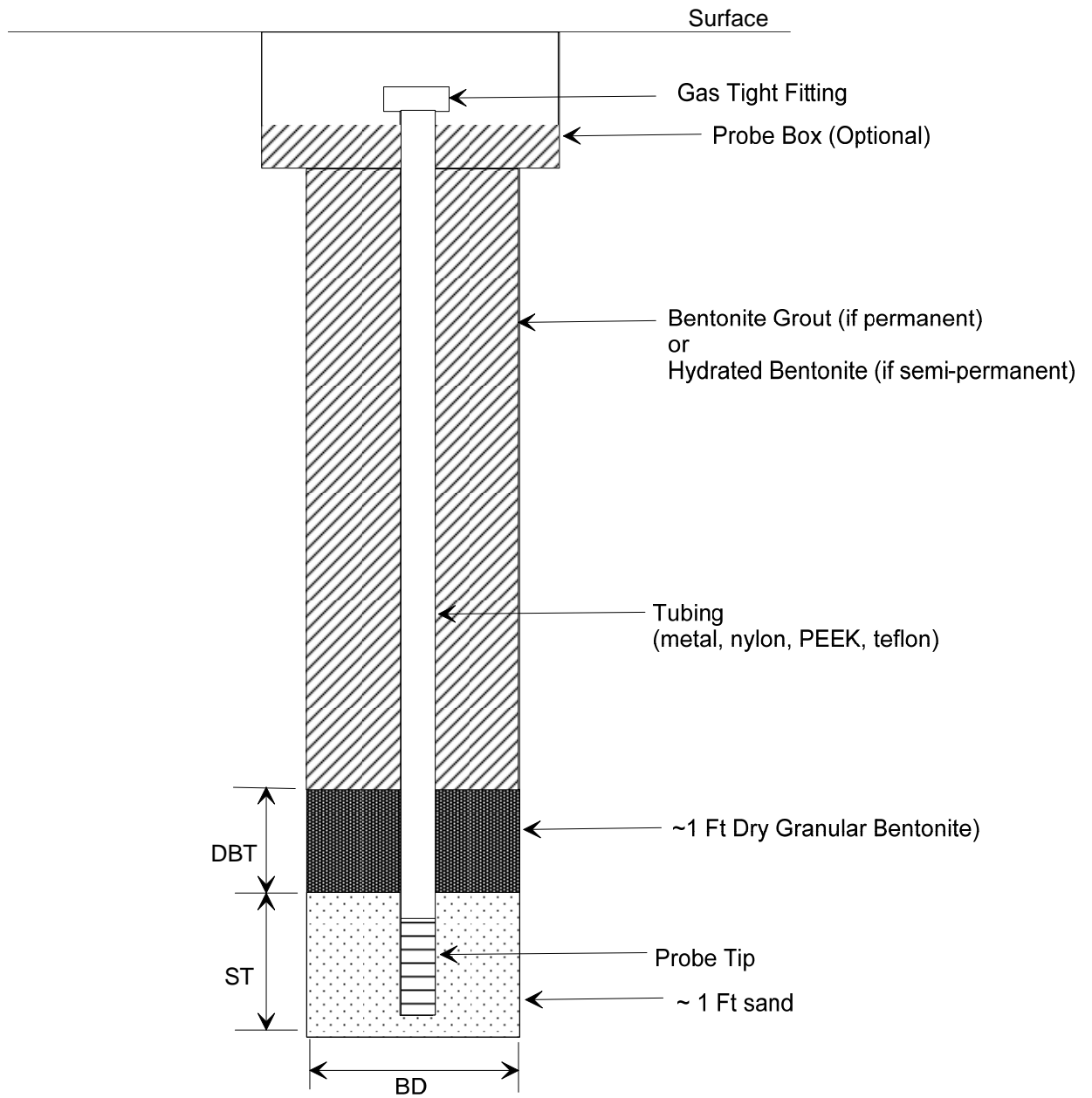


Figure 10: Locations of Soil Gas Sampling Boreholes and Sub-Slab Soil Gas Sampling Probes



LEGEND

BD = borehole diameter (inches)  
 DBT = dry bentonite thickness (ft)  
 ST = sand pack thickness (FT)  
 PEEK = Polyetheretherketone



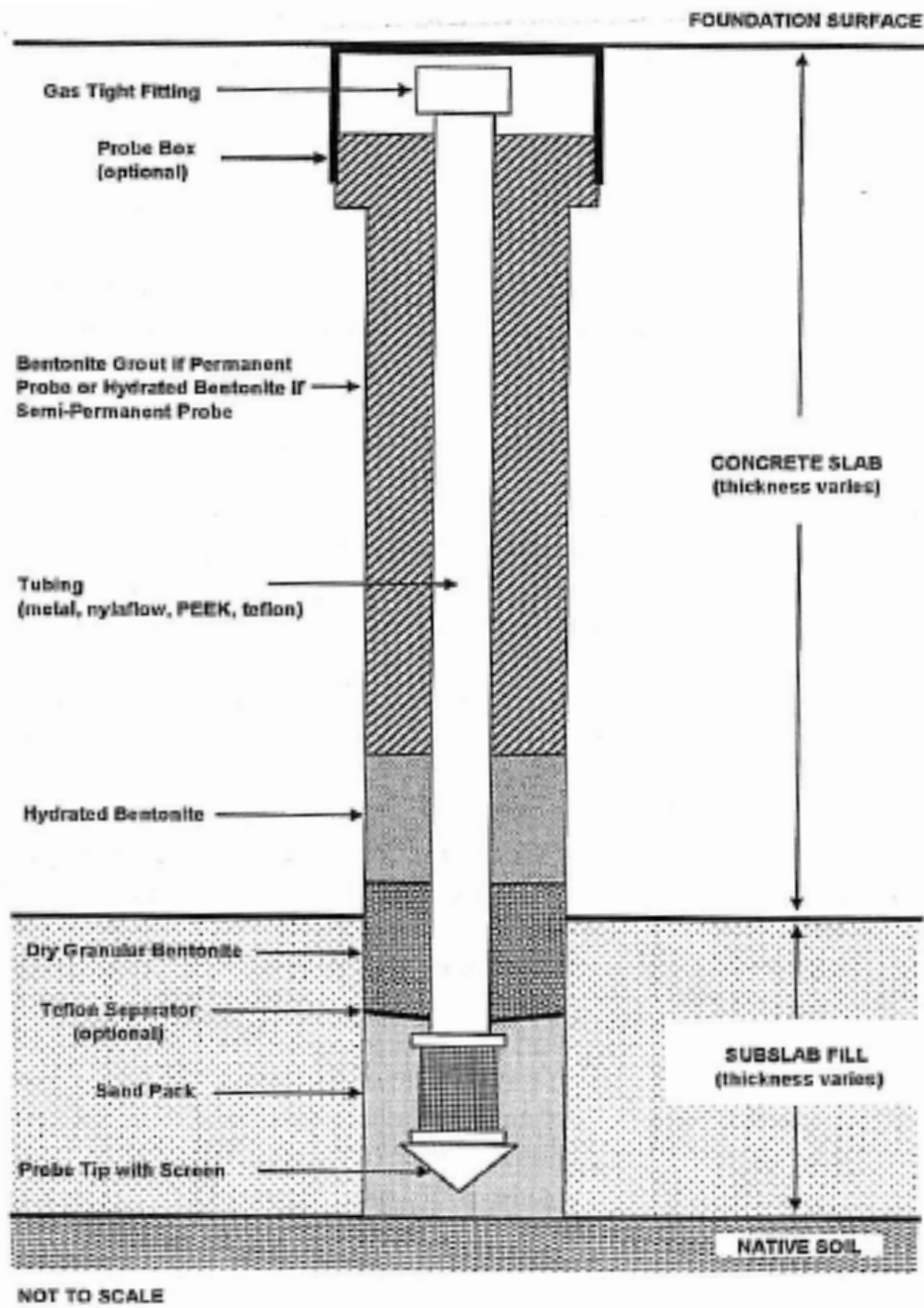
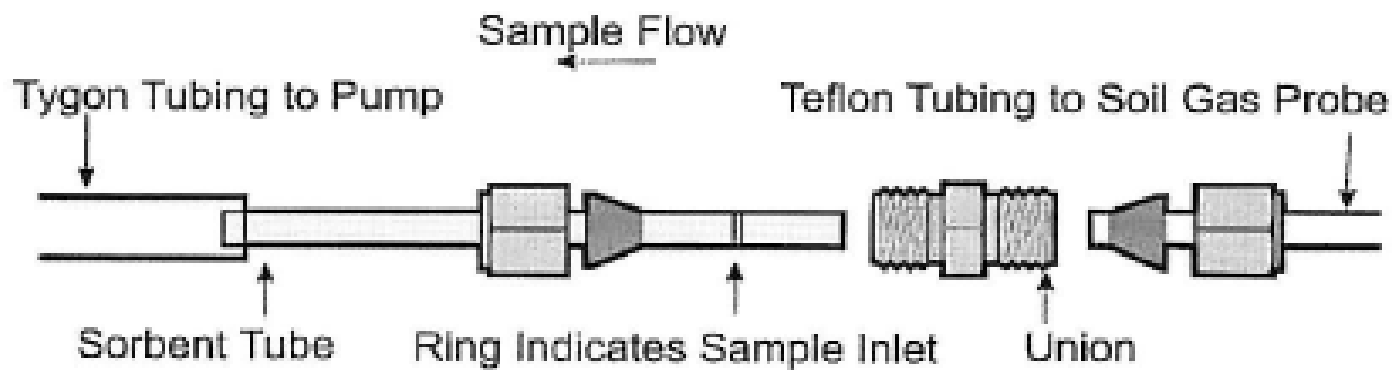


Figure 12: Schematic Diagram of Sub-Slab Vapor Probe



Not to Scale

Figure 13: Soil Vapor Sampling Train Diagram



# TABLES

**Table 1**  
**Historical Soil Analytical Data**  
**3519 Castro Valley Blvd., Castro Valley**

Sample ID	Consultant	Sample Depth (feet)	Sample Date	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	TOG (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Total Xylenes (mg/kg)	MtBE (mg/kg)	Napthalene (mg/kg)	Lead (mg/kg)
WO1	Kaprealian	8.5	9/20/1988	<1.0	NA	NA	<1.0	0.0068	0.0095	<0.005	<0.005	NA	NA	NA
Comp A	Kaprealian	Composite	9/20/1988	<1.0	NA	NA	100	NA	NA	NA	NA	NA	NA	NA
Comp B	Kaprealian	Composite	10/4/1988	<1.0	<10	NA	<50	NA	NA	NA	NA	NA	NA	NA
ESE-1	Alisto	15	9/29/1992	70	<5.0	NA	<50	<b>0.87</b>	2	1.2	<b>5.7</b>	NA	NA	NA
ESE-1	Alisto	20	9/29/1992	<1.0	<5.0	NA	<50	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
ESE-2	Alisto	10.5	9/28/1992	<1.0	<5.0	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
ESE-2	Alisto	20	9/28/1992	<1.0	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
ESE-3	Alisto	10.5	9/29/1992	<b>220</b>	NA	NA	NA	<b>1.4</b>	<b>8.2</b>	<b>3.3</b>	<b>18</b>	NA	NA	NA
ESE-3	Alisto	20	9/29/1992	<1.0	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
ESE-4	Alisto	6.5	9/28/1992	<1.0	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
ESE-4	Alisto	10	9/28/1992	24	NA	NA	NA	<b>0.15</b>	0.17	0.23	0.82	NA	NA	NA
ESE-5	Alisto	10	9/28/1992	51	NA	NA	NA	<b>0.25</b>	0.24	0.3	0.17	NA	NA	NA
ESE-5	Alisto	14	9/28/1992	<1.0	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
B-9	ACC Env	2	12/5/1994	9.9	NA	NA	NA	0.016	<0.005	0.067	0.23	NA	NA	NA
B-9	ACC Env	4	12/5/1994	1	NA	NA	NA	0.0058	<0.005	0.0065	0.009	NA	NA	NA
B-10	ACC Env	4	12/6/1994	59	NA	NA	NA	<50	<0.005	0.22	0.54	NA	NA	NA
B-11	ACC Env	2	12/6/1994	<10	NA	NA	NA	<50	<0.005	<0.005	<0.005	NA	NA	NA
B-12	ACC Env	4	12/6/1994	<10	NA	NA	NA	<50	<0.005	<0.005	<0.005	NA	NA	NA
B-12	ACC Env	6	12/6/1994	<10	NA	NA	NA	<50	<0.005	<0.005	<0.005	NA	NA	NA
B-20	ACC Env	3	12/8/1994	<1.0	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
B-20	ACC Env	5	12/8/1994	<1.0	NA	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	NA
MW-6	Alisto	6 to 6.5	7/18/1995	<2.5	NA	NA	NA	<0.025	<0.025	<0.025	<0.05	NA	NA	NA
MW-6	Alisto	11 to 11.5	7/18/1995	<2.5	NA	NA	NA	<0.025	<0.025	<0.025	<0.05	NA	NA	NA
MW-7	Alisto	6 to 6.5	7/18/1995	<2.5	NA	NA	NA	<0.025	<0.025	<0.025	<0.05	NA	NA	NA
MW-7	Alisto	11 to 11.5	7/18/1995	<2.5	NA	NA	NA	<0.025	<0.025	<0.025	<0.05	NA	NA	NA
MW-8	Alisto	3.5 to 4	7/19/1995	<2.5	NA	NA	NA	<0.025	<0.025	<0.025	<0.050	NA	NA	NA
MW-8	Alisto	7.5 to 8	7/19/1995	8.8	NA	NA	NA	<0.025	<0.025	0.046 <sup>E</sup>	0.11 <sup>E</sup>	NA	NA	NA
SB-1	Alisto	1.5 to 2	7/19/1995	<b>140</b>	NA	NA	NA	<0.1	<0.1	1.4	<b>4.1</b>	NA	NA	NA
SB-1	Alisto	3.5 to 4	7/19/1995	<b>190</b>	NA	NA	NA	<0.25	0.33	<b>4.5</b>	<b>18</b>	NA	NA	NA
SB-1	Alisto	7 to 7.5	7/19/1995	<b>310</b>	NA	NA	NA	<b>0.088</b>	0.088 <sup>E</sup>	0.41	2	NA	NA	NA
SB-2	Alisto	1.5 to 2	7/19/1995	<2.5	NA	NA	NA	<0.025	<0.025	<0.025	<0.05	NA	NA	NA
SB-2	Alisto	3.5 to 4	7/19/1995	20	NA	NA	NA	<0.025	<0.025	0.93 <sup>E</sup>	0.12 <sup>E</sup>	NA	NA	NA
SB-2	Alisto	5.5 to 6	7/19/1995	<b>140</b>	NA	NA	NA	<0.25	<0.25	1.2	1.4	NA	NA	NA
SB-2	Alisto	7.5 to 8	7/19/1995	<b>230</b>	NA	NA	NA	<0.25	<0.25	<b>3.9</b>	<b>5.1</b>	NA	NA	NA
SB-3	Alisto	3 to 3.5	3/8/1996	0.17	NA	NA	NA	0.004	0.011	<0.002	<0.002	0.002	NA	NA
SB-3	Alisto	5 to 5.5	3/8/1996	2.9	NA	NA	NA	0.005	0.012	<0.002	<0.002	0.003	NA	NA
SB-3	Alisto	8 to 8.5	3/8/1996	1.2	NA	NA	NA	<b>0.15</b>	0.28	<0.020	<0.020	0.059	NA	NA
SB-4	Alisto	2.5 to 3	3/8/1996	0.16	NA	NA	NA	<0.001	0.003	<0.002	<0.002	<0.001	NA	NA
SB-4	Alisto	5 to 5.5	3/8/1996	<0.1	NA	NA	NA	<0.001	0.003	<0.002	<0.002	<0.001	NA	NA

**Table 1**  
**Historical Soil Analytical Data**  
**3519 Castro Valley Blvd., Castro Valley**

Sample ID	Consultant	Sample Depth (feet)	Sample Date	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	TOG (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Total Xylenes (mg/kg)	MtBE (mg/kg)	Napthalene (mg/kg)	Lead (mg/kg)
UST-NE	SOMA	9.5	9/4/2003	<0.96	<1.0	NA	NA	<0.0048	<0.0048	<0.0048	<0.0048	<b>0.059</b>	NA	NA
UST-NW	SOMA	9.5	9/4/2003	2 <sup>H</sup>	<1.0	NA	NA	<0.0047	<0.0047	0.007	<0.0047	<b>0.069</b>	NA	NA
UST-SE	SOMA	8	9/4/2003	<1.1	<1.0	NA	NA	<0.0053	<0.0053	<0.0053	<0.0053	<0.021	NA	NA
UST-SW	SOMA	8	9/4/2003	17 <sup>H</sup>	36 <sup>LY</sup>	NA	NA	<0.0049	0.044 <sup>C</sup>	0.28	0.112	<b>0.071</b>	NA	NA
UST-SW	SOMA	10	9/4/2003	<1.0	<1.0	NA	NA	<0.0052	<0.0052	<0.0052	<0.0052	<b>0.075</b>	NA	NA
WOT-W	SOMA	5.5	9/4/2003	<0.97	<0.99	NA	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.019	NA	6.3
Pumps 1&2	SOMA	2.5	9/11/2003	4.5 <sup>HY</sup>	NA	NA	NA	<0.0055	0.0055 <sup>C</sup>	0.016	0.0197 <sup>C</sup>	<0.022	NA	9.1
Pumps 3&4	SOMA	3	9/11/2003	<1.1	NA	NA	NA	<0.0054	<0.0054	<0.0054	<0.0054	<0.022	NA	6.9
Pumps 5&6	SOMA	3	9/11/2003	<1.1	NA	NA	NA	<0.0054	<0.0054	<0.0054	<0.0054	<0.022	NA	7.6
Pumps 7&8	SOMA	3	9/11/2003	<1.1	NA	NA	NA	<0.0053	<0.0053	<0.0053	<0.0053	<0.021	NA	18
Intersection	SOMA	3	9/11/2003	<1.1	NA	NA	NA	<0.0055	<0.0055	<0.0055	<0.0055	<0.022	NA	7.7
PL1 <sup>1</sup>	SOMA	4	9/13/2003	<b>530<sup>HY</sup></b>	NA	NA	NA	<0.011	<0.011	0.34 <sup>C</sup>	0.524 <sup>C</sup>	<0.043	NA	NA
PL2 <sup>2</sup>	SOMA	4	9/13/2003	<1.1	NA	NA	NA	<0.0055	<0.0055	<0.0055	<0.0055	<0.022	NA	NA
SB1- Comp	SOMA	Composite	8/20/2003	<1.0	NA	NA	NA	0.02 <sup>C</sup>	<0.0052	0.0098	0.013	<b>0.23</b>	NA	7.2
SB2 - Comp	SOMA	Composite	8/20/2003	390	NA	NA	NA	<0.13	<0.13	<b>2.8</b>	<b>9.8</b>	<0.5	NA	8.2
Comp 1	SOMA	Composite	9/3/2003	8.8	NA	NA	NA	<0.0054	<0.0054	0.032	0.049	<0.018	NA	10
Comp 2	SOMA	Composite	9/4/2003	<0.99	NA	NA	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA	4.6
Comp 2R	SOMA	Composite	9/5/2003	21 <sup>H</sup>	4.8 <sup>HL<sup>Y</sup></sup>	NA	NA	<0.01	0.024 <sup>C</sup>	0.054 <sup>C</sup>	0.01 <sup>C</sup>	<0.041	NA	5.3
Comp ESE-3WA	SOMA	Composite	10/3/2008	<1.1	NA	NA	NA	<0.0055	<0.0055	<0.0055	0.008	<0.022	NA	4
TWB-1	SOMA	22	12/2/2003	<1.0	NA	NA	NA	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	NA	NA
TWB-1	SOMA	25	12/2/2003	<0.94	NA	NA	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA	NA
TWB-2	SOMA	22	12/2/2003	<1.1	NA	NA	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA	NA
TWB-2	SOMA	24	12/2/2003	<1.0	NA	NA	NA	<0.0048	<0.0048	<0.0048	<0.0048	<b>0.027</b>	NA	NA
TWB-2	SOMA	27	12/2/2003	<1.1	NA	NA	NA	<0.0043	<0.0043	<0.0043	<0.0043	0.015	NA	NA
TWB-2	SOMA	29	12/2/2003	<1.0	NA	NA	NA	<0.0047	<0.0047	<0.0047	<0.0047	0.019	NA	NA
TWB-3	SOMA	22	12/2/2003	<0.95	NA	NA	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA	NA
TWB-3	SOMA	25	12/2/2003	<0.95	NA	NA	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA	NA
TWB-3	SOMA	29	12/2/2003	<1.0	NA	NA	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA	NA
TWB-4	SOMA	10	12/2/2003	<0.93	NA	NA	NA	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	NA	NA
TWB-4	SOMA	27	12/2/2003	<1.1	NA	NA	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA	NA
TWB-4	SOMA	29	12/2/2003	<0.98	NA	NA	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA	NA
TWB-5	SOMA	16	12/2/2003	<1.0	NA	NA	NA	0.018	<0.0045	0.041	0.187	<0.0045	NA	NA
TWB-5	SOMA	18	12/2/2003	<0.93	NA	NA	NA	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	NA	NA
TWB-5	SOMA	29	12/2/2003	<0.97	NA	NA	NA	<0.0045	<0.0045	0.0051	0.018	<0.0045	NA	NA
B-1	Delta	17	8/28/2008	<b>120</b>	NA	NA	NA	<0.12	<0.12	<0.12	<0.24	<0.12	NA	NA
B-3	Delta	12	8/28/2008	<b>720</b>	NA	NA	NA	<0.5	<0.5	2	1.7	<0.5	NA	NA
B-4	Delta	10	8/28/2008	<0.5	NA	NA	NA	<0.005	<0.005	<0.005	<0.01	<0.005	NA	NA
B-5	Delta	12	8/28/2008	<0.5	NA	NA	NA	<0.005	<0.005	<0.005	<0.01	<0.005	NA	NA
B-6	Delta	9 to 10	8/28/2008	0.7	NA	NA	NA	<0.005	<0.005	<0.005	<0.01	<0.005	NA	NA

**Table 1**  
**Historical Soil Analytical Data**  
**3519 Castro Valley Blvd., Castro Valley**

Sample ID	Consultant	Sample Depth (feet)	Sample Date	TPH-g (mg/kg)	TPH-d (mg/kg)	TPH-mo (mg/kg)	TOG (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl Benzene (mg/kg)	Total Xylenes (mg/kg)	MtBE (mg/kg)	Napthalene (mg/kg)	Lead (mg/kg)
DP-1	SOMA	11	8/18/2009	6.1 Y	48 Y	<5.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA	NA
DP-1	SOMA	14	8/18/2009	25 Y	35 Y	<5.0	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA	NA
DP-1	SOMA	17	8/18/2009	<1.1	1.9 Y	<5.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA	NA
DP-2	SOMA	8	8/17/2009	1.4 Y	4.3 Y	<5.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA	NA
DP-2	SOMA	12	8/17/2009	1.3 Y	1.6 Y	<5.0	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA	NA
DP-3	SOMA	12	8/17/2009	<1.0	<0.99	<5.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA	NA
DP-4	SOMA	6	8/17/2009	<1.1	<1.0	<5.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA	NA
DP-4	SOMA	14	8/17/2009	<0.93	<1.0	<5.0	NA	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA
DP-5	SOMA	12	8/18/2009	38	16 Y	<5.0	NA	<0.047 a	<0.047 a	0.11 a	1.87 a	<0.047 a	NA	NA
DP-5	SOMA	14	8/18/2009	<b>91</b>	51 Y	22	NA	<0.25 b	<0.25 b	2.4 b	<b>11 b</b>	<0.25 b	NA	NA
DP-5	SOMA	20	8/18/2009	26	8.1 Y	<5.0	NA	<0.017 c	<0.017 c	<0.017 c	0.051 c	<0.017 c	NA	NA
DP-6	SOMA	12	8/18/2009	<b>96</b>	2.6 Y	<5.0	NA	<0.025 f	<0.025 f	0.54 f	0.2 f	<0.025 f	NA	NA
DP-6	SOMA	14	8/18/2009	1.5	3.9 Y	<5.0	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA	NA
DP-6	SOMA	17	8/18/2009	75	9.9	<5.0	NA	<0.04 d	<0.04 d	0.22 d	0.84 d	<0.04 d	NA	NA
DP-7	SOMA	12	8/18/2009	<0.97	<1.0	<5.0	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA	NA
DP-7	SOMA	14	8/18/2009	<0.94	<0.99	<5.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA	NA
SOMA-5	SOMA	11	8/18/2009	<b>380</b>	31 Y	<5.0	NA	<0.25 b	<0.25 b	2.0 b	<b>14.2 b</b>	<0.25 b	NA	NA
SOMA-5	SOMA	12.5	8/18/2009	28	2.6 Y	<5.0	NA	<0.05 e	<0.05 e	0.4 e	<b>2.65 e</b>	<0.05 e	NA	NA
SB-6 (SOMA-6)	SOMA	9	8/9/2010	<1.1	<0.99	<5.0	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA
SB-6 (SOMA-6)	SOMA	11.5	8/9/2010	13 Y	5.3 Y	16.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA
SOMA-7	SOMA	2.5	8/9/2010	9.9 Y	79	91.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	NA
SOMA-7	SOMA	9	8/9/2010	<b>430 Y</b>	<b>170</b>	63.0	NA	<0.25	<0.25	<0.25	<0.25	<0.25	<b>3.7</b>	NA
SOMA-7	SOMA	10	8/9/2010	<b>980 Y</b>	<b>370 Y</b>	15.0	NA	<2.5	<2.5	<b>9</b>	<2.5	<2.5	<b>13</b>	NA
SOMA-8	SOMA	7.5	8/9/2010	<1.0	<1.0	<5.0	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA
SOMA-8	SOMA	12.5	8/9/2010	<1.0	<0.99	<5.0	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA
SB-9 (SOMA-9)	SOMA	7	8/9/2010	<1.0	<1.0	<5.0	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	NA
SB-9 (SOMA-9)	SOMA	13.5	8/9/2010	<1.1	<1.0	<5.0	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	NA
<b>ESL - Shallow Soil, Commercial</b>				<b>83</b>	<b>83</b>	<b>2500</b>	<b>2500</b>	<b>0.044</b>	<b>2.9</b>	<b>3.3</b>	<b>2.3</b>	<b>0.023</b>	<b>1.3</b>	<b>750</b>
<b>ESL - Deep Soils, Commercial</b>				<b>83</b>	<b>83</b>	<b>5000</b>	<b>5000</b>	<b>0.044</b>	<b>2.9</b>	<b>3.3</b>	<b>2.3</b>	<b>0.023</b>	<b>3.4</b>	<b>750</b>

### Observation Well Installation-June 2011

Well	Depth	Date	TPH-g (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl benzene (mg/kg)	Total Xylenes (mg/kg)	MtBE (mg/kg) 8260B	Naphthalene (mg/kg)
OB-1	11	6/6/2011	<1.0	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
OB-2	11	6/6/2011	31	<0.25	<0.25	0.94	2.7	<0.25	1.7
OB-2	15	6/6/2011	120	<0.25	<0.25	3.1	5.71	<0.25	3
OB-2	16	6/6/2011	1.2	<0.005	<0.005	0.03	0.0729	0.017	0.014
ESL - Shallow Soil		83	83	0.044	2.9	2.3	2.3	0.023	1.3
ESL-Deep Soil		83	83	0.044	2.9	3.3	2.3	0.023	3.4

Well	Depth	Date	2-Butanone (mg/kg)	Isopropyl benzene (mg/kg)	Propylbenzene (mg/kg)	1,3,5- Trimethyl benzene (mg/kg)	1,2,4- Trimethyl benzene (mg/kg)	sec- Butylbenzene (mg/kg)	para- Isopropyl Toluene (mg/kg)	n- Butylbenzene (mg/kg)
OB-1	11	6/6/2011	<0.0095	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
OB-2	11	6/6/2011	<0.5	0.58	2	3.5	12	0.33	<0.25	1
OB-2	15	6/6/2011	<0.5	0.69	2.6	3.5	15	0.51	0.35	1.6
OB-2	16	6/6/2011	0.020	<0.005	0.015	0.025	0.11	<0.005	<0.005	0.0073

Notes:

< - not detected above laboratory reporting limits

NA - not analyzed

C - Presence confirmed but RPD between columns exceeds 40%

E - Analyte Amount Exceeds the Calibration Range

H - Heavier hydrocarbons contributed to the quantitation

L - Lighter Hydrocarbons contributed to quantitation

Y - Sample exhibits chromatographic pattern that does not resemble standard

1 - located adjacent to pumps 5&6

2 - located adjacent to pumps 3&4

Petroleum Hydrocarbons analyzed by EPA 8015, 8021, and 8260

TOG - Total Oil and Gas

ESL - Environmental Screening Level, California Regional Water Control Board, Interim Final November 2007, revised May 2008

- a Dilution factor 9.434
- b Dilution factor 50
- c Dilution factor 3.311
- d Dilution Factor 8.065
- e Dilution Factor 10
- f Dilution Factor 4.950

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
<b>Semi-Confined WBZ Wells</b>												
<b>ESE-1</b>	10/5/1992	177.69	11.22	166.47	-	2,100	NA	370	150	17	110	NA
	10/5/1992	177.69	NM	NM	-	2,300	NA	370	160	16	110	NA
	4/1/1993	177.69	8.79	168.90	-	5,900	NA	1500	410	110	390	NA
	6/29/1993	177.69	10.34	167.35	-	7,600	NA	2900	390	130	460	NA
	9/23/1993	177.69	10.91	166.78	-	2,000	NA	490	40	20	56	600
	9/23/1993	177.69	NM	NM	-	1,500	NA	420	39	19	56	550
	12/10/1993	177.69	9.93	167.76	-	1,800	NA	480	42	19	66	921
	12/10/1993	177.69	NM	NM	-	1,500	NA	380	38	17	55	770
	2/17/1994	177.69	9.64	168.05	-	1,900	NA	380	48	24	80	585
	2/17/1994	177.69	NM	NM	-	2,200	NA	430	42	19	65	491
	8/8/1994	177.69	11.72	165.97	-	2,100	NA	450	46	16	50	760
	10/12/1994	177.69	10.48	167.21	-	760	NA	240	16	51	39	230
	1/19/1995	177.69	7.77	169.92	-	840	NA	600	120	22	58	NA
	5/2/1995	177.69	8.69	169.00	-	2,000	NA	640	67	24	98	NA
	7/28/1995	177.69	10.12	167.57	-	190	NA	<0.50	<0.50	<0.50	<1.0	NA
	11/17/1995	177.69	10.57	167.12	-	200	NA	3.4	<1.0	1	<2.0	600
	2/7/1996	177.69	7.41	170.28	-	750	NA	370	23	21	64	680
	4/23/1996	177.69	9.12	168.57	-	310	NA	100	<1.0	<1.0	<1.0	1500
	7/9/1996	177.69	10.12	167.57	-	730	NA	230	74	13	63	750
	10/10/1996	177.69	10.80	166.89	-	420	NA	26	1.6	7.3	12	430
1/20/1997	177.69	10.52	167.17	-	660	NA	290	4.2	13	36	450	
4/25/1997	177.69	9.77	167.92	-	410	NA	<0.5	<1.0	<1.0	<1.0	580	
7/18/1997	177.69	10.55	167.14	-	420	NA	<0.5	<1.0	<1.0	<1.0	370	
10/27/1997	177.69	10.36	167.33	-	300	NA	56	<1.0	6.5	<1.0	220	



**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-1 cont.	1/22/1998	177.69	7.52	170.17	-	4,200	NA	440	9	15	17.7	1300
	4/23/1998	177.69	8.80	168.89	-	15,000	NA	3400	190	910	900	4900
	4/23/1998	177.69	NM	NM	-	15,000	NA	2800	140	730	730	4400
	7/29/1998	177.69	9.73	167.96	-	NA	NA	NA	NA	NA	NA	NA
	7/30/1998	177.69	NM	NM	-	15,000	NA	<2.5	<5.0	<5.0	<5.0	15000
	12/17/1998	177.69	9.51	168.18	-	2,400	NA	73	1	2.8	4.6	2000
	3/19/1999	177.69	8.65	169.04	-	4,700	NA	58	<1.0	<1.0	<1.0	4700
	6/23/1999	177.69	10.51	167.18	-	600	NA	170	<1.0	7.2	5	3900
	9/27/1999	177.69	10.32	167.37	-	920	NA	200	<25	<25	<25	4900
	12/9/1999	177.69	10.24	167.45	-	460	NA	130	1.2	5.2	1.5	5100
	3/9/2000	177.69	7.72	169.97	-	3,000	NA	1300	120	80	140	7300
	6/8/2000	177.69	9.40	168.29	-	2,900	NA	540	9.7	20	17	5200
	9/18/2000	177.69	10.05	167.64	-	890	NA	3.4	<0.5	1.4	<0.5	2800
	12/14/2000	177.69	8.20	169.49	-	1,600	NA	11.1	<0.5	<0.5	<0.5	2730
	3/21/2001	177.69	9.75	167.94	-	5,700	NA	2.28	<0.5	0.51	<1.5	6810
	6/18/2001	177.69	10.21	167.48	-	2,000	NA	152	0.669	3.62	2.34	1980
	9/18/2001	177.69	10.30	167.39	-	2,500	NA	57.1	<5.0	6.25	<15	2090
	12/13/2001	177.69	9.82	167.87	-	2,800	NA	208	6.05	8.54	9.66	2030
	3/14/2002	177.69	9.10	168.59	-	1,800	NA	140	6.31	4.5	9.41	1970
	6/19/2002	177.69	9.92	167.77	-	1,100	NA	220	2.02	4.23	3.8	1280
	9/10/2002	177.69	10.21	167.48	-	490	NA	39	2.9	<2.0	4.9	670
	12/16/2002	177.69	8.56	169.13	-	730	NA	140	6	3.2	9.1	670
	3/11/2003	177.69	9.40	168.29	-	1,700	NA	490	21	22	41	530
	6/17/2003	177.69	9.86	167.83	-	1,300	NA	140	<10	<10	<10	480
	12/9/2003	177.69	9.32	168.37	-	1,400	NA	390	12	14	26.1	260
	2/26/2004	177.69	7.71	169.98	-	3,200	NA	880	50	44	89	200
	5/21/2004	177.69	10.19	167.50	-	1,500	NA	370	10	14	25.2	140
8/10/2004	180.24	10.41	169.83	-	460	NA	390	7	8.1	15.4	110	
10/19/2004	180.24	10.40	169.84	-	1,600	NA	490	13	12	25.3	110	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-1 cont.	1/14/2005	180.24	8.26	171.98	-	790 Z	NA	420	26	19	52	91
	4/14/2005	180.24	8.77	171.47	-	3,020	NA	766	25.6	21.3	25.26	88.2
	7/7/2005	180.24	9.94	170.30	-	1,940	NA	440	15.5	15.7	21	80.6
	11/15/2005	180.24	10.21	170.03	-	1,260	NA	259	6.2	8.2	10.81	45.8
	2/8/2006	180.24	9.01	171.23	-	1,430	NA	332	13.6	18.1	25.03	43
	4/27/2006	180.24	9.14	171.10	-	1,600	NA	519	23.2	32.4	40.20	63.4
	8/1/2006	180.24	9.92	170.32	-	1,530	NA	395	11.8	25.4	28.01	40
	10/19/2006	180.24	10.34	169.90	-	1,230	NA	327	10.2	21.6	21.19	29.6
	1/12/2007	180.24	9.84	170.40	-	561	NA	153	7.18	14.4	14.95	30.9
	4/17/2007	180.24	9.78	170.46	-	467	NA	192	7.59	13.8	16.42	30.4
	7/17/2007	180.24	9.82	170.42	-	755	NA	271	8.6	17.8	22.06	26.7
	10/16/2007	180.24	8.99	171.25	-	164	NA	80.2	<2.0	5.24	2.47	16.6
	1/17/2008	180.24	9.35	170.89	-	70	NA	10.8	<2.0	<0.5	<2.0	19.3
	4/17/2008	180.24	9.80	170.44	-	687	NA	89.7	<2.0	4.01	5.30	8.79
	7/16/2008	180.24	10.17	170.07	-	1,400	NA	223	3.88	12.6	17.88	18.1
	10/14/2008	180.24	10.86	169.38	-	540	NA	95	2.7	7.7	18	15
	1/6/2009	180.24	10.10	170.14	-	500 <sup>Y</sup>	NA	130	3	8.8	17.1	13
	4/6/2009	180.24	10.05	170.19	-	910 <sup>Y</sup>	NA	230	2.4	11	12.1	17
	7/7/2009	180.24	10.42	169.82	-	850 <sup>Y</sup>	NA	89	1.9	7.8	15.1	15
	1/27/2010	180.24	7.94	172.30	-	1,600	NA	250	8.8	30	69	23
7/26/2010	180.24	9.95	170.29	-	1,000	NA	96	1.2	4.2	6	17	
ESE-1R	8/30/2010	180.20	10.17	170.03	-	2,100	NA	110	5.2	19	151	15
	11/16/2010	180.20	9.94	170.26	-	100	NA	5.8	<0.5	1	<0.5	16
	2/15/2011	180.20	10.12	170.08	-	1,400	NA	96	1.7	14	7.9	22
	7/19/2011	180.20	10.37	169.83	-	620	NA	30	0.76	4.4	0.96	21

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-1R cont.	1/18/2012	180.20	10.78	169.42	-	1,800 <sup>Y</sup>	NA	18	<0.19	11	3.53	14
	7/10/2012	180.20	10.87	169.33	-	NA	1,100 <sup>Y</sup>	16	1.1	9.8	1.70	23
	1/10/2013	<b>180.20</b>	<b>9.59</b>	<b>170.61</b>	<b>No Sheen</b>	<b>69</b>	<b>NA</b>	<b>1.1</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>1.6</b>
ESE-2	10/5/1992	178.23	11.68	166.55	-	300	NA	5.4	16	3.9	45	NA
	4/1/1993	178.23	9.17	169.06	-	240	NA	27	<0.5	17	2.6	123
	6/29/1993	178.23	10.88	167.35	-	1,700	NA	260	24	110	23	NA
	6/29/1993	178.23	NM	NM	-	1,300	NA	240	17	110	25	NA
	9/23/1993	178.23	11.56	166.67	-	240	NA	3.1	0.5	0.6	2.5	643
	12/10/1993	178.23	10.48	167.75	-	250	NA	2.4	2.4	1.5	11	940
	2/17/1994	178.23	10.06	168.17	-	900	NA	<0.5	<0.5	<0.5	<0.5	930
	8/8/1994	178.23	11.11	167.12	-	750	NA	<0.5	<0.5	<0.5	<0.5	1400
	10/12/1994	178.23	11.31	166.92	-	1,700	NA	<0.5	<0.5	<0.5	<0.5	3000
	1/19/1995	178.23	8.25	169.98	-	300	NA	2	0.9	0.7	1	NA
	5/2/1995	178.23	9.21	169.02	-	1,200	NA	4	<2.5	<2.5	<5	NA
	7/28/1995	178.23	10.64	167.59	-	2,000	NA	<2.5	<2.5	<2.5	<5	NA
	11/17/1995	178.23	11.13	167.10	-	3,600	NA	<25	<25	<25	<50	12000
	11/17/1995	178.23	NM	NM	-	3,400	NA	<25	<25	<25	<50	12000
	2/7/1996	178.23	7.94	170.29	-	450	NA	<0.5	<1	<1	<1	2300
	4/23/1996	178.23	9.73	168.50	-	260	NA	0.9	<1	<1	<1	8600
	7/9/1996	178.23	10.70	167.53	-	780	NA	<2.5	<5	<5	<5	13393
	10/10/1996	178.23	11.39	166.84	-	2,900	NA	<0.5	<1	<1	<1	12000
	1/20/1997	178.23	9.04	169.19	-	<250	NA	<2.5	<5	<5	<5	13000
	4/25/1997	178.23	10.31	167.92	-	2,700	NA	<0.5	<1	<1	<1	15000
	7/18/1997	178.23	11.02	167.21	-	11,000	NA	<5	<10	<10	<10	11000
	10/27/1997	178.23	10.93	167.30	-	6,100	NA	<2.5	<5.0	<5.0	<5.0	7100
10/27/1997	178.23	NM	NM	-	6,600	NA	<2.5	<5.0	<5.0	<5.0	7400	
1/22/1998	178.23	7.93	170.30	-	13,000	NA	<0.5	<1	<1	<1	10000	
1/22/1998	178.23	NM	NM	-	13,000	NA	<0.5	<1	<1	<1	10000	
4/23/1998	178.23	9.34	168.89	-	19,000	NA	<5	<10	<10	<10	36000	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-2 cont	7/29/1998	178.23	10.29	167.94	-	NA	NA	NA	NA	NA	NA	NA
	7/30/1998	178.23	NM	NM	-	19,000	NA	<5	<10	<10	<10	36000
	12/17/1998	178.23	10.20	168.03	-	12,000	NA	<5	<5	<5	<5	13000
	3/19/1999	178.23	9.02	169.21	-	18,000	NA	160	<1	<1	<1	18000
	6/23/1999	178.23	9.99	168.24	-	280	NA	<1	<1	<1	<1	16000
	9/27/1999	178.23	10.69	167.54	-	<500	NA	<25	<25	<25	<25	12000
	12/9/1999	178.23	11.26	166.97	-	<50	NA	<0.3	<0.3	<0.3	<0.6	12000
	3/9/2000	178.23	7.95	170.28	-	<50	NA	1.6	<0.5	<0.5	<0.5	7900
	6/8/2000	178.23	9.66	168.57	-	1,600	NA	<0.5	0.73	<0.5	2.2	9400
	12/14/2000	178.23	11.15	167.08	-	6,000	NA	0.75	<0.5	<0.5	<0.5	11200
	3/21/2001	178.23	10.35	167.88	-	6,900	NA	786	45.7	37.7	71.5	3790
	6/18/2001	178.23	11.24	166.99	-	6,400	NA	<2.5	<2.5	<2.5	<7.5	9320
	9/18/2001	178.23	11.35	166.88	-	4,800	NA	<12.5	<12.5	<12.5	<37.5	6960
	12/13/2001	178.23	10.97	167.26	-	59,000	NA	0.592	<0.5	<0.5	<1	5940
	3/14/2002	178.23	10.13	168.10	-	4,500	NA	76	<0.5	<0.5	<1	6660
	6/19/2002	178.23	10.91	167.32	-	250	NA	<12.5	<12.5	<12.5	<25	4900
	9/10/2002	178.23	10.82	167.41	-	1,500	NA	<5	<5	<5	6.3	3100
	12/16/2002	178.23	7.87	170.36	-	1,400	NA	<5	<5	<5	<5	2400
	3/11/2003	178.23	10.24	167.99	-	2,800	NA	<10	<10	<10	<10	4800
	6/17/2003	178.23	10.19	168.04	-	10,000	NA	<100	<100	<100	<100	4400
	12/9/2003	178.23	9.97	168.26	-	<50	NA	<0.5	<0.5	<0.5	<0.5	3400
	2/26/2004	178.23	7.89	170.34	-	<50	NA	<0.5	<0.5	<0.5	<0.5	3000
	5/21/2004	178.23	10.70	167.53	-	<50	NA	<0.5	<0.5	<0.5	<0.5	1100
	8/10/2004	180.79	10.99	169.80	-	<50	NA	<0.5	<0.5	<0.5	<0.5	550
	10/19/2004	180.79	10.46	170.33	-	<50	NA	<0.5	<0.5	<0.5	<0.5	410
	1/14/2005	180.79	8.66	172.13	-	<50	NA	<8.3	<8.3	<8.3	<8.3	1200
	4/14/2005	180.79	9.38	171.41	-	<860	NA	<2.15	<2.15	<2.15	<4.30	1020
7/7/2005	180.79	10.46	170.33	-	<860	NA	<2.15	<8.60	<2.15	<4.30	378	
11/15/2005	180.79	10.55	170.24	-	<50	NA	<0.5	<2.0	<0.5	<1.0	210	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-2 cont	2/8/2006	180.79	9.46	171.33	-	<215	NA	<2.15	<8.6	<2.15	<4.3	419
	4/27/2006	180.79	10.67	170.12	-	<100	NA	1.71	<4.0	<1.0	<2.0	432
	8/1/2006	180.79	10.29	170.50	-	<100	NA	2.83	<4.0	<1.0	<2.0	222
	10/19/2006	180.79	10.65	170.14	-	<50	NA	0.8	<2.0	<0.5	<1.0	221
	1/12/2007	180.79	NM	NM	-	NA	NA	NA	NA	NA	NA	NA
	4/17/2007	180.79	10.20	170.59	-	<50	NA	3.17	<2.0	4.49	<2.0	158
	7/17/2007	180.79	10.31	170.48	-	<50	NA	1.65	<2.0	<0.5	<2.0	105
	10/16/2007	180.79	9.22	171.57	-	<50	NA	5.67	<2.0	<0.5	<2.0	73.9
	1/17/2008	180.79	9.88	170.91	-	<50.0	NA	<0.50	<2.0	<0.50	<2.0	80.2
	4/17/2008	180.79	10.29	170.50	-	<50	NA	<0.5	<2.0	<0.5	<2.0	45
	7/16/2008	180.79	10.64	170.15	-	<50	NA	<0.5	<2.0	<0.5	<2.0	54
	10/14/2008	180.79	11.41	169.38	-	<50	NA	<0.5	<0.5	<0.5	<0.5	41
	1/6/2009	180.79	10.60	170.19	-	<50	NA	<0.5	<0.5	<0.5	<0.5	36
	4/6/2009	180.79	10.62	170.17	-	<50	NA	<0.5	<0.5	<0.5	<0.5	30
	7/7/2009	180.79	10.92	169.87	-	<50	NA	2.4	<0.5	<0.5	<0.5	32
1/27/2010	180.79	8.36	172.43	-	<50	NA	<0.5	<0.5	<0.5	<0.5	26	
7/26/2010	180.79	10.44	170.35	-	<50	NA	<0.5	<0.5	<0.5	<0.5	13	
ESE-2R	8/30/2010	180.7	10.61	170.09	-	200	NA	0.93	<0.5	1.3	13.5	16
	11/16/2010	180.7	10.33	170.37	-	<50	NA	<0.5	<0.5	<0.5	<0.5	18
	2/14/2011	180.70	10.50	170.20	-	<50	NA	<0.5	<0.5	<0.5	<0.5	12
	7/19/2011	180.70	10.62	170.08	-	<50	NA	<0.5	<0.5	<0.5	<0.5	8.3
	1/18/2012	180.70	10.92	169.78	-	<22	NA	<0.33	<0.19	<0.15	<0.20	1.1
	7/10/2012	180.70	11.17	169.53	-	NA	<50	<0.5	<0.5	<0.5	<0.5	5.1
	<b>1/10/2013</b>	<b>180.70</b>	<b>10.00</b>	<b>170.70</b>	<b>No Sheen</b>	<b>&lt;50</b>	<b>NA</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
ESE-3	10/5/1992	178.20	10.58	167.62	-	430	NA	57	31	3.6	34	NA
	4/1/1993	178.20	8.14	170.06	-	2,400	NA	460	220	74	210	NA
	6/29/1993	178.20	9.72	168.48	-	280	NA	56	14	15	13	NA
	9/23/1993	178.20	10.46	167.74	-	72	NA	13	3.5	1.7	4.1	NA
	12/10/1993	178.20	9.30	168.90	-	270	NA	71	32	6.1	33	NA

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-3 cont.	2/17/1994	178.20	8.97	169.23	-	520	NA	140	10	20	33	5.74
	8/8/1994	178.20	10.02	168.18	-	<50	NA	8.8	1.6	1.6	2.3	<5.0
	10/12/1994	178.20	10.32	167.88	-	470	NA	190	6.4	15	18	<5.0
	1/19/1995	178.20	7.40	170.80	-	330	NA	260	27	21	20	NA
	5/2/1995	178.20	8.26	169.94	-	530	NA	180	30	23	44	NA
	7/28/1995	178.20	9.54	168.66	-	<50	NA	<0.50	<0.50	<0.50	<1	NA
	11/17/1995	178.20	10.04	168.16	-	<50	NA	1.7	<0.50	<0.50	<1	<5.0
	2/7/1996	178.20	7.08	171.12	-	<50	NA	8.6	<1	<1	<1	<10
	4/1/2396	178.20	8.79	169.41	-	<50	NA	7.6	<1	<1	<1	65
	7/9/1996	178.20	10.09	168.11	-	<50	NA	12	2.6	2	3.9	26
	10/10/1996	178.20	10.48	167.72	-	NA	NA	NA	NA	NA	NA	NA
	10/11/1996	178.20	NM	NM	-	260	NA	140	<1	<1	2.6	<10
	1/20/1997	178.20	8.65	169.55	-	<50	NA	1.5	1.7	<1	<1	14
	4/25/1997	178.20	10.02	168.18	-	<50	NA	<0.5	<1	<1	<1	14
	7/18/1997	178.20	10.66	167.54	-	10,000	NA	1400	1400	300	1280	<250
	10/27/1997	178.20	9.83	168.37	-	<250	NA	<2.5	<5.0	<5.0	36	<50
	1/22/1998	178.20	7.06	171.14	-	130	NA	<0.5	<1.0	<1.0	<1.0	120
	4/23/1998	178.20	8.44	169.76	-	4,800	NA	560	<10	15	<10	4000
	7/29/1998	178.20	9.27	168.93	-	NA	NA	NA	NA	NA	NA	NA
	7/30/1998	178.20	NM	NM	-	1,800	NA	6.2	<5.0	<5.0	<5.0	1700
	12/17/1998	178.20	9.15	169.05	-	600	NA	54	<1.0	2.1	4.9	340/480
	3/19/1999	178.20	8.14	170.06	-	2,000	NA	260	4.4	13	28	870
	6/23/1999	178.20	9.44	168.76	-	290	NA	91	<1.0	8.3	16	240
	9/27/1999	178.20	9.69	168.51	-	130	NA	35	<1.0	2.7	3.8	100
	12/9/1999	178.20	10.99	167.21	-	380	NA	84	1.7	8.7	6.3	160
	3/9/2000	178.20	7.12	171.08	-	950	NA	190	4.6	39	62	350
6/8/2000	178.20	10.92	167.28	-	300	NA	37	<0.5	2.3	1.3	400	
9/18/2000	178.20	11.12	167.08	-	920	NA	140	1.3	15	4.8	170	
12/14/2000	178.20	9.70	168.50	-	320	NA	64	<0.5	6.24	1.76	201	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-3 cont.	3/21/2001	178.20	10.07	168.13	-	680	NA	80.5	0.546	21.1	18.2	398
	6/18/2001	178.20	11.42	166.78	-	380	NA	47	<0.5	3.11	<1.5	242
	9/18/2001	178.20	11.55	166.65	-	340	NA	54.8	<0.5	4.36	<1.5	79.7
	12/13/2001	178.20	10.12	168.08	-	270	NA	31.4	<0.5	1.31	2.24	129
	3/14/2002	178.20	9.84	168.36	-	670	NA	89.8	0.769	23.4	30.4	413
	6/19/2002	178.20	10.57	167.63	-	130	NA	18.6	<0.5	<0.5	<1	166
	9/10/2002	178.20	9.90	168.30	-	88	NA	12	<0.5	<0.5	<0.5	93
	12/16/2002	178.20	9.23	168.97	-	290	NA	55	17	3.7	14	78
	3/11/2003	178.20	9.05	169.15	-	100	NA	3.4	<0.5	0.54	<0.50	140
	6/17/2003	178.20	9.30	168.90	-	520	NA	17	<5	5.3	<5	130
ESE-4	10/5/1992	177.73	10.33	167.40	-	98	NA	7.2	1.3	1.1	6.1	NA
	4/1/1993	177.73	7.88	169.85	-	550	NA	93	20	23	33	NA
	6/29/1993	177.66	8.33	169.33	-	150	NA	23	0.6	5.4	0.5	54
	9/23/1993	177.66	10.05	167.61	-	110	NA	14	1.7	3.2	4.6	NA
	12/10/1993	177.66	8.95	168.71	-	110	NA	21	7.2	4.2	10	28.75
	2/17/1994	177.66	8.65	169.01	-	210	NA	26	1.2	4.7	11	113
	8/8/1994	177.66	9.76	167.90	-	76	NA	9.6	<0.5	2	<0.5	62
	10/12/1994	177.66	9.62	168.04	-	<50	NA	<0.5	<0.5	<0.5	<0.5	44
	1/19/1995	177.66	6.97	170.69	-	140	NA	56	14	24	23	NA
	5/2/1995	177.66	7.85	169.81	-	130	NA	21	2.8	8.6	8.2	NA
	7/28/1995	177.66	9.20	168.46	-	<50	NA	<0.5	<0.5	<0.5	<1	NA
	11/17/1995	177.66	9.68	167.98	-	<50	NA	<0.5	0.6	<0.5	<1	18
	2/7/1996	177.66	6.59	171.07	-	100	NA	2.6	<1	1.6	4.1	42
	4/23/1996	177.66	8.30	169.36	-	160	NA	37	15	16	31	43
	7/9/1996	177.66	9.21	168.45	-	60	NA	17	1.5	6.8	11.6	27
10/10/1996	177.66	9.97	167.69	-	NA	NA	NA	NA	NA	NA	NA	
10/11/1996	177.66	NM	NM	-	<50	NA	<0.5	<1.0	<1.0	<1.0	18	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-4 cont.	1/20/1997	177.66	7.68	169.98	-	<50	NA	<0.5	<1.0	<1.0	<1.0	130
	4/25/1997	177.66	9.15	168.51	-	<250	NA	<2.5	<5.0	<5.0	<5.0	<50
	7/18/1997	177.66	9.71	167.95	-	<50	NA	15	<10	<10	<10	<100
	10/27/1997	177.66	9.38	168.28	-	<250	NA	<2.5	<5.0	<5.0	<5.0	<50
	1/22/1998	177.66	6.59	171.07	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	4/23/1998	177.66	7.90	169.76	-	<250	NA	<2.5	<5.0	<5.0	<5.0	<50
	7/29/1998	177.66	8.96	168.70	-	NA	NA	NA	NA	NA	NA	NA
	7/30/1998	177.66	NM	NM	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	12/17/1998	177.66	8.32	169.34	-	NA	NA	NA	NA	NA	NA	NA
	3/19/1999	177.66	7.71	169.95	-	NA	NA	NA	NA	NA	NA	NA
	6/23/1999	177.66	8.78	168.88	-	NA	NA	NA	NA	NA	NA	NA
	9/27/1999	177.66	9.27	168.39	-	NA	NA	NA	NA	NA	NA	NA
	12/9/1999	177.66	9.21	168.45	-	NA	NA	NA	NA	NA	NA	NA
	3/9/2000	177.66	6.82	170.84	-	NA	NA	NA	NA	NA	NA	NA
	6/8/2000	177.66	8.72	168.94	-	NA	NA	NA	NA	NA	NA	NA
	9/18/2000	177.66	8.72	168.94	-	NA	NA	NA	NA	NA	NA	NA
	12/14/2000	177.66	8.61	169.05	-	NA	NA	NA	NA	NA	NA	NA
	3/21/2001	177.66	8.61	169.05	-	NA	NA	NA	NA	NA	NA	NA
	6/18/2001	177.66	9.24	168.42	-	NA	NA	NA	NA	NA	NA	NA
	9/18/2001	177.66	9.35	168.31	-	NA	NA	NA	NA	NA	NA	NA
	12/13/2001	177.66	8.53	169.13	-	NA	NA	NA	NA	NA	NA	NA
	3/14/2002	177.66	8.44	169.22	-	NA	NA	NA	NA	NA	NA	NA
	6/19/2002	177.66	10.97	166.69	-	NA	NA	NA	NA	NA	NA	NA
	9/10/2002	177.66	9.27	168.39	-	NA	NA	NA	NA	NA	NA	NA
	12/16/2002	177.66	6.90	170.76	-	NA	NA	NA	NA	NA	NA	NA
	3/11/2003	177.66	8.83	168.83	-	NA	NA	NA	NA	NA	NA	NA
6/17/2003	177.66	8.84	168.82	-	NA	NA	NA	NA	NA	NA	NA	



**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5	10/5/1992	176.08	9.22	166.86	-	1,300	NA	200	3.8	1.2	18	NA
	4/1/1993	176.08	7.02	169.06	-	13,000	NA	2200	26	730	1000	NA
	4/1/1993	176.08	NM	NM	-	13,000	NA	2500	25	740	1100	NA
	6/29/1993	176.08	10.21	165.87	-	7,600	NA	1500	9.3	170	100	NA
	9/23/1993	176.08	10.64	165.44	-	560	NA	19	1.2	0.9	1.8	NA
	12/10/1993	176.08	9.42	166.66	-	1,700	NA	300	3	76	110	14.07
	2/7/1994	176.08	9.35	166.73	-	3,500	NA	640	7.8	90	130	45.13
	8/8/1994	176.08	8.76	167.32	-	2,600	NA	210	4.6	9.4	4.4	33
	8/8/1994	176.08	NM	NM	-	2,500	NA	230	4.6	13	4.8	32
	10/12/1994	176.08	8.95	167.13	-	5,600	NA	560	9.5	75	21	79.2
	10/12/1994	176.08	NM	NM	-	6,000	NA	550	10	78	22	77
	1/19/1995	176.08	5.40	170.68	-	1,900	NA	620	<5	95	15	NA
	1/19/1995	176.08	NM	NM	-	1,600	NA	620	<5	93	17	NA
	5/2/1995	176.08	6.48	169.60	-	5,700	NA	1100	<10	180	58	NA
	5/2/1995	176.08	NM	NM	-	5,300	NA	1100	<10	180	58	NA
	7/28/1995	176.08	7.97	168.11	-	520	NA	15	<0.50	1.7	1.3	NA
	7/28/1995	176.08	NM	NM	-	460	NA	7.2	<0.50	1.9	1.5	NA
	11/17/1995	176.08	8.39	167.69	-	850	NA	39	1.8	7.6	2.7	24
	2/7/1996	176.08	4.71	171.37	-	4,100	NA	670	6	190	140	<50
	4/23/1996	176.08	7.35	168.73	-	3,000	NA	570	<5	79	100	84
	7/9/1996	176.08	9.40	166.68	-	620	NA	150	1.7	9.3	6.4	25
	10/10/1996	176.08	9.04	167.04	-	1,100	NA	29	<5	<5	<5	<50
	10/10/1996	176.08	NM	NM	-	1,100	NA	31	<5	<5	<5	<50
	1/20/1997	176.08	5.82	170.26	-	2,100	NA	980	<25	280	80	<250
	1/20/1997	176.08	NM	NM	-	2,700	NA	910	8.8	280	84	180
	4/25/1997	176.08	7.24	168.84	-	NA	NA	NA	NA	NA	NA	NA

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5 cont.	4/28/1997	176.08	NM	NM	-	<250	NA	7.9	<5.0	<5.0	<5.0	<50
	7/18/1997	176.08	7.86	168.22	-	1200	NA	<5	<10	<10	<10	<100
	7/18/1997	176.08	NM	NM	-	630	NA	31	<5.0	<5.0	<5.0	130
	10/27/1997	176.08	7.91	168.17	-	<250	NA	5.4	<5.0	<5.0	<5.0	<50
	1/22/1998	176.08	4.64	171.44	-	170	NA	7.7	<1.0	<1.0	<1.0	130
	4/23/1998	176.08	6.31	169.77	-	720	NA	79	<5.0	9	<5.0	180
	7/29/1998	176.08	7.43	168.65	-	NA	NA	NA	NA	NA	NA	NA
	7/30/1998	176.08	NM	NM	-	840	NA	9.8	<1.0	4	<1.0	710
	12/17/1998	176.08	7.05	169.03	-	NA	NA	NA	NA	NA	NA	NA
	3/19/1999	176.08	5.00	171.08	-	<250	NA	<5.0	<5.0	<5.0	<5.0	<5.0
	6/23/1999	176.08	7.77	168.31	-	NA	NA	NA	NA	NA	NA	NA
	9/27/1999	176.08	8.11	167.97	-	450	NA	10	<5.0	6.3	<5.0	220
	12/9/1999	176.08	7.66	168.42	-	NA	NA	NA	NA	NA	NA	NA
	3/9/2000	176.08	5.08	171.00	-	1,700	NA	170	2.5	45	6.4	140
	6/8/2000	176.08	7.36	168.72	-	NA	NA	NA	NA	NA	NA	NA
	9/18/2000	176.08	7.71	168.37	-	130	NA	0.65	<0.50	0.71	<0.50	51
	12/14/2000	176.08	2.36	173.72	-	NA	NA	NA	NA	NA	NA	NA
	3/21/2001	176.08	7.42	168.66	-	1,000	NA	10.3	<2.5	11	<7.5	70.8
	6/18/2001	176.08	7.92	168.16	-	NA	NA	NA	NA	NA	NA	NA
	9/18/2001	176.26	8.23	168.03	-	200	NA	0.868	<0.50	0.55	<1.5	57.5
	12/13/2001	176.26	7.80	168.46	-	NA	NA	NA	NA	NA	NA	NA
	3/14/2002	176.26	6.55	169.71	-	1,300	NA	17.1	1.35	15.4	1.42	37.4
	6/19/2002	176.26	7.83	168.43	-	NA	NA	NA	NA	NA	NA	NA
	9/10/2002	176.26	8.22	168.04	-	680	NA	9.9	<5.0	<5.0	<5.0	44
	12/16/2002	176.26	6.58	169.68	-	NA	NA	NA	NA	NA	NA	NA
	3/11/2003	176.26	6.77	169.49	-	2,100	NA	14	<2.5	15	3	80
	6/17/2003	176.26	6.75	169.51	-	NA	NA	NA	NA	NA	NA	NA
9/17/2003	176.26	8.48	167.78	-	970	NA	10 C	<0.5	<0.5	5.3	34	
12/9/2003	176.26	7.32	168.94	-	700	NA	6.5	<0.5	3.1	2.7 C	34	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5 cont.	2/26/2004	176.26	5.21	171.05	-	2,400 H	NA	41	2.8 C	18	2.4 C	29
	5/21/2004	176.26	7.50	168.76	-	1,500	NA	2.6 C	<0.5	2.1 C	2.1 C	25
	8/10/2004	178.80	8.28	170.52	-	680	NA	<0.5	<0.5	<0.5	<0.5	33
	10/19/2004	178.80	8.26	170.54	-	380	NA	<0.5	<0.5	<0.5	1.4	39
	1/14/2005	178.80	5.16	173.64	-	2,400	NA	18	1.4	22	2.1	26
	4/14/2005	178.80	6.13	172.67	-	4,800	NA	7.75	1.26	14.3	<1.0	23.1
	7/7/2005	178.80	7.52	171.28	-	3,240	NA	0.78	<2.0	1.18	<1.0	36.6
	11/15/2005	178.80	7.85	170.95	-	1,190	NA	0.51	<2.0	<0.5	<1.0	30
	2/8/2006	178.80	5.83	172.97	-	2,510	NA	1.91	<2.0	2.82	<1.0	20.7
	4/27/2006	178.80	5.71	173.09	-	4,700	NA	2.76	<2.0	4.77	<1.0	28.3
	8/1/2006	178.80	7.71	171.09	-	1,890	NA	0.7	<2.0	0.75	<1.0	24.7
	10/19/2006	178.80	8.00	170.80	-	474	NA	<0.5	<2.0	3.39	<1.0	29
	1/12/2007	178.80	7.41	171.39	-	868	NA	2.18	<2.0	2.66	<2.0	16.3
	4/17/2007	178.80	7.51	171.29	-	1,240	NA	10.2	<2.0	10.4	2.37	17.2
	7/17/2007	178.80	7.47	171.33	-	836	NA	3.1	<2.0	4.91	2.35	25.8
	10/16/2007	178.80	6.26	172.54	-	2,120	NA	2.5	<2.0	6.19	2.61	17.5
	1/17/2008	178.80	6.59	172.21	-	2,730	NA	5.74	<2.0	14.3	<2.0	13.1
	4/17/2008	178.80	6.81	171.99	-	2,770	NA	4.7	<2.0	15.9	<2.0	<0.5
	7/16/2008	178.80	7.76	171.04	-	2,160	NA	0.9	<2.0	1.1	<2.0	6.28
	10/14/2008	178.80	8.40	170.40	-	1,300	NA	<0.5	<0.5	0.6	<0.5	9.9
1/6/2009	178.80	7.66	171.14	-	1,100 <sup>Y</sup>	NA	0.61	<0.5	1.6	<0.5	8	
4/6/2009	178.80	7.79	171.01	-	1,900 <sup>Y</sup>	NA	4.6	<0.5	9.3	0.59	5.3	
7/7/2009	178.80	7.84	170.96	-	2,700 <sup>Y</sup>	NA	3.0	<0.5	2.3	<0.5	6.6	
1/27/2010	178.80	4.82	173.98	-	1,300 <sup>Y</sup>	NA	0.76	<0.5	1.0	<0.5	3.5	
7/26/2010	178.80	7.01	171.79	-	1,800	NA	0.75	<0.5	1.8	<0.5	2	
ESE-5R	8/30/2010	178.64	8.97	169.67	-	75	NA	<0.5	<0.5	<0.5	<0.5	7.3
	11/16/2010	178.64	10.46	168.18	-	74	NA	<0.5	<0.5	<0.5	<0.5	12
	2/15/2011	178.64	11.19	167.45	-	140	NA	<0.5	<0.5	<0.5	<0.5	9.6
	7/19/2011	178.64	7.92	170.72	-	140	NA	<0.5	<0.5	<0.5	<0.5	6.7

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5R cont	1/18/2012	178.64	8.84	169.80	-	68 <sup>Y</sup>	NA	<0.33	<0.19	<0.15	<0.2	7.3
	7/11/2012	178.64	8.85	169.79	-	NA	<50	<0.5	<0.5	<0.5	<0.5	6.1
	1/10/2013	178.64	8.06	170.58	No Sheen	74	NA	<0.5	<0.5	<0.5	<0.5	6.3
MW-6	7/28/1995	179.24	10.00	169.24	-	<50	NA	<0.50	<0.50	<0.50	<1.0	NA
	11/17/1995	179.24	10.44	168.80	-	<50	NA	<0.50	<0.50	<0.50	<1.0	<5.0
	2/7/1996	179.24	7.68	171.56	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	4/23/1996	179.24	9.33	169.91	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	7/9/1996	179.24	10.10	169.14	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	10/10/1996	179.24	11.00	168.24	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	1/20/1997	179.24	8.70	170.54	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	4/25/1997	179.24	10.16	169.08	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	7/18/1997	179.24	10.66	168.58	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	10/27/1997	179.24	10.25	168.99	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	1/22/1998	179.24	7.76	171.48	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	4/23/1998	179.24	9.10	170.14	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	7/29/1998	179.24	10.40	168.84	-	NA	NA	NA	NA	NA	NA	NA
	7/30/1998	179.24	NM	NM	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
	12/17/1998	179.24	9.40	169.84	-	NA	NA	NA	NA	NA	NA	NA
	3/19/1999	179.24	9.10	170.14	-	NA	NA	NA	NA	NA	NA	NA
	6/23/1999	179.24	9.79	169.45	-	NA	NA	NA	NA	NA	NA	NA
	9/27/1999	179.24	10.10	169.14	-	NA	NA	NA	NA	NA	NA	NA
	12/9/1999	179.24	9.97	169.27	-	NA	NA	NA	NA	NA	NA	NA
	3/9/2000	179.24	8.56	170.68	-	NA	NA	NA	NA	NA	NA	NA
6/8/2000	179.24	9.11	170.13	-	NA	NA	NA	NA	NA	NA	NA	
9/18/2000	179.24	9.77	169.47	-	NA	NA	NA	NA	NA	NA	NA	
12/14/2000	179.24	9.17	170.07	-	NA	NA	NA	NA	NA	NA	NA	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-6 cont	3/21/2001	179.24	9.82	169.42	-	NA	NA	NA	NA	NA	NA	NA
	6/18/2001	179.24	10.19	169.05	-	NA	NA	NA	NA	NA	NA	NA
	9/18/2001	179.24	10.25	168.99	-	NA	NA	NA	NA	NA	NA	NA
	12/13/2001	179.24	9.75	169.49	-	NA	NA	NA	NA	NA	NA	NA
	3/14/2002	179.24	9.53	169.71	-	NA	NA	NA	NA	NA	NA	NA
	6/19/2002	179.24	9.87	169.37	-	NA	NA	NA	NA	NA	NA	NA
	9/10/2002	179.24	9.49	169.75	-	NA	NA	NA	NA	NA	NA	NA
	12/16/2002	179.24	8.39	170.85	-	NA	NA	NA	NA	NA	NA	NA
	3/11/2003	179.24	9.40	169.84	-	NA	NA	NA	NA	NA	NA	NA
	6/17/2003	179.24	9.71	169.53	-	NA	NA	NA	NA	NA	NA	NA
	9/17/2003	179.24	10.21	169.03	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<2.0
	12/9/2003	179.24	9.66	169.58	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	2/26/2004	179.24	7.83	171.41	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	5/21/2004	179.24	9.75	169.49	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	8/10/2004	181.80	10.28	171.52	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	10/19/2004	181.80	9.91	171.89	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	1/14/2005	181.80	8.40	173.40	-	<50	NA	0.6	<0.5	<0.5	<0.5	<0.5
	4/14/2005	181.80	9.04	172.76	-	<200	NA	<0.5	<0.5	<0.5	<1.0	<0.5
	7/7/2005	181.80	9.94	171.86	-	<200	NA	<0.5	<2.00	<0.5	<1.00	<0.5
	11/15/2005	181.80	9.98	171.82	-	<50	NA	<0.5	<2.0	<0.5	<1.0	<0.5
	2/8/2006	181.80	9.91	171.89	-	<50	NA	<0.5	<2.0	<0.5	<1.0	<0.5
	4/27/2006	181.80	9.54	172.26	-	<50	NA	<0.5	<2.0	<0.5	<1.0	<0.5
	8/1/2006	181.80	9.61	172.19	-	<50	NA	<0.5	<2.0	<0.5	<1.0	0.51
10/19/2006	181.80	10.23	171.57	-	<50	NA	<0.5	<2.0	<0.5	<1.0	0.63	
1/12/2007	181.80	10.13	171.67	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5	
4/17/2007	181.80	10.22	171.58	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5	
7/17/2007	181.80	9.76	172.04	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5	
10/16/2007	181.80	9.82	171.98	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-6 cont.	1/17/2008	181.80	9.43	172.37	-	<50	NA	<0.50	<2.0	<0.50	<2.0	<0.5
	4/17/2008	181.80	9.54	172.26	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	7/16/2008	181.80	9.80	172.00	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	10/14/2008	181.80	10.48	171.32	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	1/6/2009	181.80	10.01	171.79	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	4/6/2009	181.80	10.15	171.65	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	7/7/2009	181.80	10.28	171.52	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	1/27/2010	181.80	8.28	173.52	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	7/26/2010	181.80	9.64	172.16	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	MW-6R	8/30/2010	181.34	9.55	171.79	-	<50	NA	<0.5	<0.5	<0.5	<0.5
11/15/2010		181.34	9.32	172.02	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
2/14/2011		181.34	9.79	171.55	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
7/19/2011		181.34	9.60	171.74	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
1/18/2012		181.34	10.08	171.26	-	<22	NA	<0.33	<0.19	<0.15	<0.2	<0.38
7/10/2012		181.34	10.30	171.04	-	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5
1/9/2013		181.34	9.50	171.84	No Sheen	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
MW-7	7/28/1995	176.55	9.25	167.30	-	<50	NA	0.54	0.54	<0.50	<1.0	NA
	11/17/1995	176.55	9.73	166.82	-	1100	NA	<10	<10	<10	<20	4000
	2/7/1996	176.55	6.48	170.07	-	610	NA	<0.50	<1.0	<1.0	<1.0	2500
	2/7/1996	176.55	NM	NM	-	280	NA	<0.50	<1.0	<1.0	<1.0	2600
	4/23/1996	176.55	8.37	168.18	-	110	NA	<0.50	<1.0	<1.0	<1.0	3500
	4/23/1996	176.55	NM	NM	-	230	NA	<0.50	<1.0	<1.0	<1.0	3500
	7/9/1996	176.55	9.24	167.31	-	230	NA	<0.50	<1.0	<1.0	<1.0	4296
	7/9/1996	176.55	NM	NM	-	220	NA	<0.50	<1.0	<1.0	<1.0	4400
	10/10/1996	176.55	10.05	166.50	-	NA	NA	NA	NA	NA	NA	NA
	10/11/1996	176.55	NM	NM	-	1600	NA	<0.50	<1.0	<1.0	<1.0	3000
	1/20/1997	176.55	7.51	169.04	-	<50	NA	0.63	<1.0	<1.0	<1.0	2600
	4/25/1997	176.55	8.79	167.76	-	NA	NA	NA	NA	NA	NA	NA

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-7 cont.	4/28/1997	176.55	NM	NM	-	1500	NA	<0.50	<1.0	<1.0	<1.0	3600
	4/28/1997	176.55	NM	NM	-	7700	NA	3500	<25	74	37	<250
	7/18/1997	176.55	9.50	167.05	-	1400	NA	<0.50	<1.0	<1.0	<1.0	2600
	10/27/1997	176.55	9.19	167.36	-	420	NA	<0.50	<1.0	<1.0	<1.0	560
	1/22/1998	176.55	6.45	170.10	-	3100	NA	<0.50	<1.0	<1.0	1.4	2300
	4/23/1998	176.55	8.02	168.53	-	3800	NA	<0.50	<1.0	<1.0	<1.0	3800
	7/29/1998	176.55	8.88	167.67	-	NA	NA	NA	NA	NA	NA	NA
	7/30/1998	176.55	NM	NM	-	500	NA	<2.5	<5.0	<5.0	<5.0	<50
	7/30/1998	176.55	NM	NM	-	4700	NA	<12	<25	<25	<25	4700
	12/17/1998	176.55	8.62	167.93	-	NA	NA	NA	NA	NA	NA	NA
	3/19/1999	176.55	7.52	169.03	-	3800	NA	<1.0	<1.0	<1.0	<1.0	3800
	6/23/1999	176.55	9.63	166.92	-	NA	NA	NA	NA	NA	NA	NA
	9/27/1999	176.55	9.39	167.16	-	140	NA	<10	<10	<10	<10	3800
	12/9/1999	176.55	9.94	166.61	-	NA	NA	NA	NA	NA	NA	NA
	3/9/2000	176.55	6.72	169.83	-	<50	NA	<0.50	<0.50	<0.50	<0.50	1400
	6/8/2000	176.55	7.38	169.17	-	NA	NA	NA	NA	NA	NA	NA
	9/18/2000	176.55	9.18	167.37	-	190	NA	<0.50	<0.50	<0.50	<0.50	580
	12/14/2000	176.55	8.13	168.42	-	NA	NA	NA	NA	NA	NA	NA
	3/21/2001	176.55	8.98	167.57	-	1300	NA	<0.50	<0.50	<0.50	<1.5	1460
	6/18/2001	176.55	9.68	166.87	-	NA	NA	NA	NA	NA	NA	NA
	9/18/2001	176.55	9.80	166.75	-	<0.50	NA	<0.50	<0.50	<0.50	<1.5	94.9
	12/13/2001	176.55	9.26	167.29	-	NA	NA	NA	NA	NA	NA	NA
3/14/2002	176.55	8.69	167.86	-	800	NA	<0.50	<0.50	<0.50	<1.0	952	
6/19/2002	176.55	9.06	167.49	-	NA	NA	NA	NA	NA	NA	NA	
9/10/2002	176.55	9.23	167.32	-	260	NA	<2.0	<2.0	<2.0	<2.0	580	
12/16/2002	176.55	7.77	168.78	-	NA	NA	NA	NA	NA	NA	NA	

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B	
MW-7 cont.	3/11/2003	176.55	8.30	168.25	-	620	NA	<2.5	<2.5	<2.5	<2.5	1100	
	6/17/2003	176.55	9.51	167.04	-	NA	NA	NA	NA	NA	NA	NA	
	9/17/2003	176.55	9.52	167.03	-	<50	NA	<0.5	<0.5	<0.5	<0.5	460	
	12/9/2003	176.55	8.99	167.56	-	<50	NA	<0.5	<0.5	<0.5	<0.5	420	
	2/26/2004	176.55	6.55	170.00	-	<50	NA	<0.5	<0.5	<0.5	<0.5	330	
	5/21/2004	176.55	8.90	167.65	-	<50	NA	<0.5	<0.5	<0.5	<0.5	630	
	8/10/2004	179.11	9.58	169.53	-	<50	NA	<0.5	<0.5	<0.5	<0.5	750	
	10/19/2004	179.11	9.20	169.91	-	<50	NA	<0.5	<0.5	<0.5	<0.5	550	
	1/14/2005	179.11	7.25	171.86	-	<50	NA	<2.0	<2.0	<2.0	<2.0	250	
	4/14/2005	179.11	7.94	171.17	-	<200	NA	<0.5	<0.5	<0.5	<1.0	285	
	7/7/2005	179.11	9.08	170.03	-	<400	NA	<1.0	<4.0	<1.0	<2.0	452	
	11/15/2005	179.11	9.14	169.97	-	<50	NA	<0.5	<2.0	<0.5	<1.0	110	
	2/8/2006	179.11	7.93	171.18	-	<50	NA	<0.5	<2.0	<0.5	<1.0	101	
	4/27/2006	179.11	8.40	170.71	-	<50	NA	<0.5	<2.0	<0.5	<1.0	131	
	8/1/2006	179.11	8.89	170.22	-	<50	NA	<0.5	<2.0	<0.5	<1.0	68.6	
	10/19/2006	179.11	9.44	169.67	-	<50	NA	<0.5	<2.0	<0.5	<1.0	65.5	
	1/12/2007	179.11	8.91	170.20	-	<50	NA	<0.5	<2.0	<0.5	<2.0	38	
	4/17/2007	179.11	8.58	170.53	-	<50	NA	<0.5	<2.0	<0.5	<2.0	24.7	
	7/17/2007	179.11	9.04	170.07	-	<50	NA	2.07	<2.0	<0.5	<2.0	29.3	
	10/6/2007	179.11	7.88	171.23	-	<50	NA	0.88	<2.0	<0.5	<2.0	5.26	
	1/17/2008	179.11	NM	NM	-	NA	NA	NA	NA	NA	NA	NA	NA
	4/17/2008	179.11	8.85	170.26	-	<50	NA	1.87	<2.0	<0.5	<2.0	21.6	
	7/16/2008	179.11	9.34	169.77	-	<50	NA	<0.5	<2.0	<0.5	<2.0	11.4	
	10/14/2008	179.11	10.06	169.05	-	<50	NA	0.78	<0.5	<0.5	<0.5	12	
	1/6/2009	179.11	9.12	169.99	-	<50	NA	<0.5	<0.5	<0.5	<0.5	14	
	4/6/2009	179.11	9.28	169.83	-	<50	NA	<0.5	<0.5	<0.5	<0.5	13	
7/7/2009	179.11	9.59	169.52	-	<50	NA	<0.5	<0.5	<0.5	<0.5	15		
1/27/2010	179.11	6.98	172.13	-	<50	NA	<0.5	<0.5	<0.5	<0.5	6.3		
7/26/2010	179.11	9.11	170.00	-	<50	NA	<0.5	<0.5	<0.5	<0.5	6		



**Table 2**  
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**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
<b>MW-7R</b>	8/30/2010	179.14	9.39	169.75	-	<50	NA	<0.5	<0.5	<0.5	<0.5	24
	11/16/2010	179.14	9.10	170.04	-	<50	NA	<0.5	<0.5	<0.5	<0.5	4.9
	2/14/2011	179.14	9.26	169.88	-	<50	NA	<0.5	<0.5	<0.5	<0.5	5.3
	7/19/2011	179.14	9.38	169.76	-	<50	NA	<0.5	<0.5	<0.5	<0.5	2.8
	1/18/2012	179.14	9.70	169.44	-	<22	NA	<0.33	<0.19	<0.15	<0.2	0.93
	7/10/2012	179.14	9.92	169.22	-	NA	<50	<0.5	<0.5	<0.5	<0.5	3.4
	<b>1/9/2013</b>	<b>179.14</b>	<b>8.75</b>	<b>170.39</b>	<b>No Sheen</b>	<b>&lt;50</b>	<b>NA</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-8</b>	7/28/1995	176.34	7.80	168.54	-	1,100	NA	<2.5	<2.5	<2.5	<5.0	NA
	11/17/1995	176.34	8.29	168.05	-	8,300	NA	75	5.3	670	240	140
	2/7/1996	176.34	4.99	171.35	-	2,300	NA	33	<10	190	216	<100
	4/23/1996	176.34	6.09	170.25	-	2,000	NA	390	<10	150	26	<250
<b>QC-2</b>	4/1/1993	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	6/29/1993	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	9/23/1993	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	12/10/1993	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<5.0
	2/17/1994	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	8/8/1994	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	10/12/1994	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<0.5	NA
	1/19/1995	NM	NM	NM	-	<50	NA	<0.5	<0.5	<0.5	<1.0	NA
	5/2/1995	NM	NM	NM	-	<50	NA	<0.50	<0.50	<0.50	<1.0	NA
	7/28/1995	NM	NM	NM	-	<50	NA	<0.50	<0.50	<0.50	<1.0	NA
	11/17/1995	NM	NM	NM	-	<50	NA	<0.50	<0.50	<0.50	<1.0	<5.0
	2/7/1996	NM	NM	NM	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10
4/23/1996	NM	NM	NM	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10	
7/9/1996	NM	NM	NM	-	<50	NA	<0.5	<1.0	<1.0	<1.0	<10	
<b>SOMA-1</b>	8/10/2004	180.95	11.53	169.42	-	84	NA	<0.5	<0.5	1.5 C	2.2	2100
	10/19/2004	180.95	10.41	170.54	-	56	NA	<0.5	<0.5	1.3 C	1.4 C	1600

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**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
SOMA-1 cont.	1/14/2005	180.95	9.68	171.27	-	58	NA	<3.1	<3.1	<3.1	<3.1	330
	4/14/2005	180.95	9.37	171.58	-	<2200	NA	<5.5	<5.5	<5.5	<11	668
	7/7/2005	180.95	10.21	170.74	-	<860	NA	<2.15	<8.6	<2.15	<4.3	591
	11/15/2005	180.95	10.70	170.25	-	<50	NA	<0.5	<2.0	1.1	<1.0	256
	2/8/2006	180.95	9.30	171.65	-	127	NA	1.56	<2.0	3.23	3.12	176
	4/27/2006	180.95	9.64	171.31	-	81.6	NA	1.14	<2.0	2.8	<1.0	189
	8/1/2006	180.95	10.25	170.70	-	<50	NA	1.07	<2.0	1.46	<1.0	122
	10/19/2006	180.95	10.73	170.22	-	<50	NA	0.68	<2.0	4.17	<1.0	116
	1/12/2007	180.95	10.38	170.57	-	<50	NA	<0.5	<2.0	<0.5	<2.0	68.7
	4/17/2007	180.95	10.09	170.86	-	<50	NA	5.76	<2.0	4.33	2.59	33.4
	7/17/2007	180.95	10.35	170.60	-	<50	NA	14.8	<2.0	4.63	3.32	39.4
	10/16/2007	180.95	9.71	171.24	-	<50	NA	5.7	<2.0	<0.5	<2.0	14.2
	1/17/2008	180.95	10.01	170.94	-	<50	NA	1.02	<2.0	<0.5	<2.0	12.8
	4/17/2008	180.95	10.17	170.78	-	<50	NA	3.13	<2.0	<0.5	<2.0	12.8
	7/16/2008	180.95	10.63	170.32	-	<50	NA	10.6	<2.0	<0.5	<2.0	15.8
	10/14/2008	180.95	11.36	169.59	-	<50	NA	1.1	<0.5	<0.5	<0.5	15
	1/6/2009	180.95	10.81	170.14	-	<50	NA	0.6	<0.5	<0.5	<0.5	14
	4/6/2009	180.95	10.69	170.26	-	<50	NA	<0.5	<0.5	<0.5	<0.5	12
	7/7/2009	180.95	11.01	169.94	-	<50	NA	0.57	<0.5	1.2	0.91	12
	1/27/2010	180.95	8.81	172.14	-	<50	NA	<0.5	<0.5	<0.5	<0.5	9.9
7/26/2010	180.95	10.49	170.46	-	<50	NA	<0.5	<0.5	<0.5	<0.5	5.9	
11/16/2010	180.95	10.49	170.46	-	<50	NA	<0.5	<0.5	<0.5	<0.5	7.0	
2/15/2011	180.95	10.64	170.31	-	<50	NA	<0.5	<0.5	<0.5	<0.5	5.3	
7/19/2011	180.95	10.70	170.25	-	<50	NA	2.3	<0.5	<0.5	<0.5	5.2	
1/18/2012	180.95	10.90	170.05	-	77 <sup>Y</sup>	NA	<0.33	<0.19	<0.15	<0.2	4.0	
7/10/2012	180.95	11.25	169.70	-	NA	<50	<0.5	<0.5	<0.5	<0.5	3.7	
1/10/2013	<b>180.95</b>	<b>10.10</b>	<b>170.85</b>	<b>No Sheen</b>	<b>&lt;50</b>	<b>NA</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>2.2</b>
SOMA-4	8/10/2004	176.94	9.44	167.50	-	140	NA	0.98	<0.5	7.8	<0.5	11
	10/19/2004	176.94	9.91	167.03	-	150	NA	<0.5	<0.5	10	<0.5	8.8

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
SOMA-4 cont	1/14/2005	176.94	8.36	168.58	-	500	NA	3.7	<0.5	53	<0.5	7.6
	4/14/2005	176.94	7.89	169.05	-	<200	NA	0.74	<0.5	3.21	<1.0	5.65
	7/7/2005	176.94	11.62	165.32	-	<200	NA	<0.5	<2.0	0.56	<1.0	7.09
	11/15/2005	176.94	9.33	167.61	-	<50	NA	<0.5	<2.0	<0.5	<1.0	8.6
	2/8/2006	176.94	9.18	167.76	-	55.8	NA	<0.5	<2.0	0.85	<1.0	10.4
	4/27/2006	176.94	8.75	168.19	-	172	NA	1.35	<2.0	8.83	<1.0	11.7
	8/1/2006	176.94	9.52	167.42	-	<50	NA	0.52	<2.0	1.53	<1.0	14.1
	10/19/2006	176.94	9.51	167.43	-	<50	NA	<0.5	<2.0	<0.5	<1.0	19.2
	1/12/2007	176.94	8.98	167.96	-	<50	NA	<0.5	<2.0	<0.5	<2.0	20.4
	4/17/2007	176.94	8.96	167.98	-	<50	NA	<0.5	<2.0	4.33	<2.0	15.8
	7/17/2007	176.94	9.31	167.63	-	<50	NA	<0.5	<2.0	4.47	<2.0	13.3
	10/16/2007	176.94	8.96	167.98	-	<50	NA	<0.5	<2.0	4.5	<2.0	8.57
	1/17/2008	176.94	8.84	168.10	-	<50	NA	<0.5	<2.0	<0.5	<2.0	8.87
	4/17/2008	176.94	9.44	167.50	-	<50	NA	<0.5	<2.0	<0.5	<2.0	1.22
	7/16/2008	176.94	9.52	167.42	-	<50	NA	<0.5	<2.0	<0.5	<2.0	8.58
	10/14/2008	176.94	9.98	166.96	-	<50	NA	<0.5	<0.5	<0.5	<0.5	9.7
	1/6/2009	176.94	9.29	167.65	-	<50	NA	<0.5	<0.5	<0.5	<0.5	10
	4/6/2009	176.94	9.31	167.63	-	<50	NA	<0.5	<0.5	<0.5	<0.5	5.3
	7/7/2009	176.94	9.54	167.40	-	<50	NA	<0.5	<0.5	<0.5	<0.5	7
	1/27/2010	176.94	7.35	169.59	-	<50	NA	<0.5	<0.5	<0.5	<0.5	5.1
7/26/2010	176.94	9.13	167.81	-	220	NA	<0.5	<0.5	<0.5	<0.5	2.3	
11/15/2010	176.94	8.85	168.09	-	75	NA	<0.5	<0.5	<0.5	<0.5	2.5	
2/14/2011	176.94	8.92	168.02	-	<50	NA	<0.5	<0.5	<0.5	<0.5	1.5	
7/19/2011	176.94	9.19	167.75	-	57	NA	<0.5	<0.5	<0.5	<0.5	0.97	
1/18/2012	176.94	9.61	167.33	-	<22	NA	<0.33	<0.19	<0.15	<0.2	1.2	
7/10/2012	176.94	9.71	167.23	-	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
1/9/2013	176.94	8.52	168.42	No Sheen	<50	NA	<0.5	<0.5	<0.5	<0.5	0.77	
Shallow WBZ Wells												
SOMA-2	8/10/2004	178.99	10.69	168.30	-	<50	NA	<0.5	<0.5	<0.5	<0.5	0.8
	10/19/2004	178.99	10.75	168.24	-	<50	NA	<0.5	<0.5	<0.5	<0.5	2.4

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
SOMA-2 cont.	1/14/2005	178.99	9.45	169.54	-	<50	NA	<0.5	<0.5	<0.5	<0.5	1.1
	4/14/2005	178.99	10.46	168.53	-	<200	NA	<0.5	<0.5	<0.5	<1.0	<0.5
	7/7/2005	178.99	11.81	167.18	-	<200	NA	<0.5	<2.0	<0.5	<1.0	<0.5
	11/15/2005	178.99	12.02	166.97	-	<50	NA	<0.5	<2.0	<0.5	<1.0	1.61
	2/8/2006	178.99	11.88	167.11	-	<50	NA	<0.5	<2.0	<0.5	<1.0	<0.5
	4/27/2006	178.99	10.95	168.04	-	<50	NA	<0.5	<2.0	<0.5	<1.0	<0.5
	8/1/2006	178.99	11.85	167.14	-	<50	NA	<0.5	<2.0	<0.5	<1.0	1.11
	10/19/2006	178.99	10.62	168.37	-	<50	NA	<0.5	<2.0	<0.5	<1.0	1.36
	1/12/2007	178.99	10.26	168.73	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	4/17/2007	178.99	11.88	167.11	-	<50	NA	<0.5	<2.0	<0.5	<2.0	0.87
	7/17/2007	178.99	10.84	168.15	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	10/16/2007	178.99	9.69	169.30	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	1/17/2008	178.99	9.62	169.37	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	4/17/2008	178.99	10.06	168.93	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	7/16/2008	178.99	10.63	168.36	-	<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
	10/14/2008	178.99	11.26	167.73	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	1/6/2009	178.99	10.22	168.77	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	4/6/2009	178.99	10.38	168.61	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	7/7/2009	178.99	10.40	168.59	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	1/27/2010	178.99	8.19	170.80	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	7/26/2010	178.99	10.24	168.75	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/2010	178.99	10.04	168.95	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
2/14/2011	178.99	9.95	169.04	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	
7/19/2011	178.99	10.20	168.79	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	
1/18/2012	178.99	10.56	168.43	-	<22	NA	<0.33	<0.19	<0.15	<0.2	<0.38	
7/10/2012	178.99	10.45	168.54	-	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
1/9/2013	178.99	9.63	169.36	No Sheen	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	
SOMA-3	8/10/2004	176.81	9.97	166.84	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	10/19/2004	176.81	9.59	167.22	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>Top of casing elevation <sup>1</sup> (feet)</b>	<b>Depth to Groundwater (feet)</b>	<b>Groundwater Elevation (feet)</b>	<b>Observed Sheen</b>	<b>TPH-g (µg/L) 8260B</b>	<b>TPH-g (µg/L) 8015B</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethyl benzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>	<b>MtBE (µg/L) 8260B</b>
<b>SOMA-3 cont.</b>	1/14/2005	176.81	8.23	168.58	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2005	176.81	8.64	168.17	-	<200	NA	<0.5	<0.5	<0.5	<1.0	<0.5
	7/7/2005	176.81	9.60	167.21	-	<200	NA	<0.5	<2.0	<0.5	<1.0	<0.5
	11/15/2005	176.81	10.01	166.80	-	<50	NA	<0.5	<2.0	<0.5	<1.0	5.1
	2/8/2006	176.81	8.80	168.01	-	<50	NA	<0.5	<2.0	<0.5	<1.0	7.16
	4/27/2006	176.81	9.00	167.81	-	<50	NA	<0.5	<2.0	<0.5	<1.0	14.2
	8/1/2006	176.81	9.91	166.90	-	<50	NA	<0.5	<2.0	<0.5	<1.0	7.29
	10/19/2006	176.81	10.21	166.60	-	<50	NA	<0.5	<2.0	<0.5	<1.0	41.4
	1/12/2007	176.81	9.73	167.08	-	<50	NA	<0.5	<2.0	<0.5	<2.0	20.9
	4/17/2007	176.81	9.81	167.00	-	<50	NA	<0.5	<2.0	<0.5	<2.0	32.1
	7/17/2007	176.81	10.06	166.75	-	<50	NA	<0.5	<2.0	<0.5	<2.0	23.6
	10/16/2007	176.81	9.54	167.27	-	<50	NA	<0.5	<2.0	<0.5	<2.0	22.3
	1/17/2008	176.81	9.06	167.75	-	<50	NA	<0.5	<2.0	<0.5	<2.0	11.1
	4/17/2008	176.81	9.57	167.24	-	<50	NA	<0.5	<2.0	<0.5	<2.0	23.7
	7/16/2008	176.81	10.25	166.56	-	<50	NA	<0.5	<2.0	<0.5	<2.0	10.6
	10/14/2008	176.81	10.76	166.05	-	<50	NA	<0.5	<0.5	<0.5	<0.5	19
	1/6/2009	176.81	9.53	167.28	-	<50	NA	<0.5	<0.5	<0.5	<0.5	1.1
	4/6/2009	176.81	9.65	167.16	-	<50	NA	<0.5	<0.5	<0.5	<0.5	5.7
	7/7/2009	176.81	10.19	166.62	-	<50	NA	<0.5	<0.5	<0.5	<0.5	6
	1/27/2010	176.81	7.80	169.01	-	<50	NA	<0.5	<0.5	<0.5	<0.5	56
	7/26/2010	176.81	9.67	167.14	-	<50	NA	<0.5	<0.5	<0.5	<0.5	9.8
	11/15/2010	176.81	9.35	167.46	-	<50	NA	<0.5	<0.5	<0.5	<0.5	30
	2/14/2011	176.81	10.57	166.24	-	<50	NA	<0.5	<0.5	<0.5	<0.5	32
7/19/2011	176.81	9.74	167.07	-	<50	NA	<0.5	<0.5	<0.5	<0.5	17	
1/18/2012	176.81	10.14	166.67	-	<22	NA	<0.33	<0.19	<0.15	<0.2	24	
7/10/2012	176.81	9.99	166.82	-	NA	<50	<0.5	<0.5	<0.5	<0.5	1.6	
<b>1/9/2013</b>	<b>176.81</b>	<b>8.86</b>	<b>167.95</b>	<b>No Sheen</b>	<b>&lt;50</b>	<b>NA</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>6.9</b>

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B	
SOMA-5  pre-MPE	1/27/2010	180.31	7.94	172.37	-	14,000	NA	2,600	1.5	800	914	190	
	7/26/2010	180.31	9.99	170.32	-	14,000	NA	3,300	<20	1,100	1,340	150	
	11/15/2010	180.31	10.01	170.30	-	11,000	NA	2,400	3.3	920	733	130	
	2/15/2011	180.31	10.22	170.09	-	4,900	NA	1,600	<13	430	84	94	
	6/16/2011	180.31	NM	NC	-	6,400	NA	2,500	<20	670	160	150	
	7/19/2011	180.31	9.95	170.36	-	1,300	NA	470	<3.6	<3.6	212	8.8	
	1/18/2012	180.31	10.16	170.15	-	600 <sup>Y</sup>	NA	160	<0.19	27	<0.2	6.5	
	7/10/2012	180.31	10.16	170.15	-	NA	<50	3.6	<0.5	<0.5	<0.5	4.6	
	<b>1/10/2013</b>	<b>180.31</b>	<b>9.21</b>	<b>171.10</b>	<b>No Sheen</b>	<b>180</b>	<b>NA</b>	<b>25.0</b>	<b>&lt;0.5</b>	<b>28</b>	<b>&lt;0.5</b>	<b>3.9</b>	
SOMA-7  pre-MPE	8/30/2010	178.54	7.63	170.91	-	2,900	NA	190	3.7	74	19.80	8.4	
	11/16/2010	178.54	7.89	170.65	-	1,500	NA	190	2.1	41	8.30	5.7	
	2/15/2011	178.54	7.33	171.21	-	1,900	NA	380	4	27	5.50	5.2	
	6/16/2011	178.54	NM	NC	-	1,900	NA	330	4.3	24	5.20	4.7	
	7/19/2011	178.54	7.89	170.65	-	7,600	NA	1,100	15	200	61	12	
	1/18/2012	178.54	8.74	169.80	-	1,300 <sup>Y</sup>	NA	190	2.2	29	5.2	<1.7	
	7/11/2012	178.54	8.66	169.88	-	NA	5,600	390	5.5	45	9.1	5.2	
		<b>1/10/2013</b>	<b>178.54</b>	<b>6.72</b>	<b>171.82</b>	<b>Rainbow Sheen</b>	<b>4,400</b>	<b>NA</b>	<b>500</b>	<b>8.9</b>	<b>66</b>	<b>11</b>	<b>4.1</b>
SOMA-8	8/30/2010	181.57	9.89	171.68	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	
	11/15/2010	181.57	9.37	172.20	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	
	2/14/2011	181.57	9.89	171.68	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	
	7/19/2011	181.57	9.67	171.90	-	<50	NA	<0.5	<0.5	<0.5	<0.5	<0.5	
	1/18/2012	181.57	10.29	171.28	-	<22	NA	<0.33	<0.19	<0.15	<0.2	<0.38	
	7/10/2012	181.57	10.31	171.26	-	NA	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
		<b>1/9/2013</b>	<b>181.57</b>	<b>9.62</b>	<b>171.95</b>	<b>No Sheen</b>	<b>&lt;50</b>	<b>NA</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	Top of casing elevation <sup>1</sup> (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	Observed Sheen	TPH-g (µg/L) 8260B	TPH-g (µg/L) 8015B	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
OB-1 pre-MPE	6/16/2011	178.7	NM	NC	-	1,900	NA	9.3	<0.5	3.7	5.80	23
	7/19/2011	178.7	7.89	170.81	-	250	NA	1.9	<0.5	0.63	0.78	4.1
	1/18/2012	178.7	8.72	169.98	-	2,400 <sup>Y</sup>	NA	12	<0.19	3.0	6.35	16
	7/11/2012	178.7	7.96	170.74	-	NA	2,100 <sup>Y</sup>	12	0.5	0.7	2.50	18
	<b>1/10/2013</b>	<b>178.7</b>	<b>6.58</b>	<b>172.12</b>	<b>No Sheen</b>	<b>500</b>	<b>NA</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>1.1</b>	<b>1.20</b>	<b>6.8</b>
OB-2 pre-MPE	6/16/2011	180.23	NM	NC	-	12,000	NA	870	18	590	1,140	310
	7/19/2011	180.23	9.76	170.47	-	30,000	NA	1,000	31	1,300	3,020	310
	1/18/2012	180.23	9.92	170.31	-	22,000 <sup>Y</sup>	NA	930	13	1,300	2,100	<3.3
	7/11/2012	180.23	10.34	169.89	-	NA	46,000	580	11	1,300	2,130	94
	<b>1/10/2013</b>	<b>180.23</b>	<b>9.18</b>	<b>171.05</b>	<b>Rainbow Sheen</b>	<b>21,000</b>	<b>NA</b>	<b>530</b>	<b>&lt;7.1</b>	<b>980</b>	<b>1,258</b>	<b>79</b>
<b>Equipment Blanks</b>												
EB-PMP	1/17/2008	NA	NA	NA		<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
EB-PRB	1/17/2008	NA	NA	NA		<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
EB-PMP2	1/17/2008	NA	NA	NA		<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5
EB-PRB2	1/17/2008	NA	NA	NA		<50	NA	<0.5	<2.0	<0.5	<2.0	<0.5

Notes:

< : Not detected above laboratory reporting limit.

<sup>1</sup> Top of Casing Elevations were resurveyed by Kier & Wright Engineers Surveyors of Pleasanton, CA on June 21, 2004.

C: Presence confirmed, but RPD between columns exceeds 40%.

H: Heavier hydrocarbons contributed to the quantitation.

NA: Not Applicable/Not Analyzed. Due to construction activities in the Third Quarter 2003, which consisted of the replacement of the USTs and dispensers, wells ESE-1 & ESE-2 were inaccessible. Well ESE-2 also inaccessible during the First Quarter 2007. Well MW-7 had a car parked over it and was inaccessible during the First Quarter 2008 monitoring event

NM: Not Measured

Well ESE-2 was covered over with dirt during the First Quarter 2007 monitoring event.

Well MW-7 had a car parked over it and was inaccessible during the First Quarter 2008 monitoring event.

**Table 2**  
**Historical Groundwater Elevations & Analytical Data**  
**TPH-g, BTEX, MtBE**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>Top of casing elevation <sup>1</sup> (feet)</b>	<b>Depth to Groundwater (feet)</b>	<b>Groundwater Elevation (feet)</b>	<b>Observed Sheen</b>	<b>TPH-g (µg/L) 8260B</b>	<b>TPH-g (µg/L) 8015B</b>	<b>Benzene (µg/L)</b>	<b>Toluene (µg/L)</b>	<b>Ethyl benzene (µg/L)</b>	<b>Total Xylenes (µg/L)</b>	<b>MtBE (µg/L) 8260B</b>
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Equipment Blanks (EB-PRB & EB-PMP) were done to make sure decon efforts were adequate.

Z: Sample exhibits unknown single peak or peaks.

- The Third Quarter 2003 was the first time that SOMA analyzed groundwater samples at the site.
- The Third Quarter 2004 was the first time that SOMA analyzed groundwater samples at wells SOMA-1 to SOMA-4.
- August 2010, reconstruct ESE-1R, ESE-2R, ESE-5R, MW-6R, MW-7R; install SOMA-7, SOMA-8. 8/30/10 investigation sampling
- pre-MPE sampling conducted on 6/16/2011 prior to start of MPE pilot testing from June 20 to July 1, 2011
- In July 2012, TPH-g was analyzed by method EPA 8015B due to laboratory error instead of EPA 8260B



**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	ETHANOL (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
<b>Semi-Confined WBZ Wells</b>								
<b>ESE-1</b>	6/17/2003	<400	<10	<10	18	NA	NA	NA
	9/17/2003	NA	NA	NA	NA	NA	NA	NA
	12/9/2003	290	<1.0	<1.0	9.5	<2,000	<1.0	<1.0
	2/26/2004	410	<0.5	<0.5	9.7	<1000	<0.5	<0.5
	5/21/2004	190	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	8/10/2004	180	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	10/19/2004	270	<0.7	<0.7	4.4	<1400	9.9	<0.7
	1/14/2005	280	<1.3	<1.3	<1.3	<2,500	<1.3	<1.3
	4/14/2005	144	<2.15	<2.15	<8.6	<4300	<2.15	<2.15
	7/7/2005	119	<2.15	<2.15	<8.6	<4300	<2.15	<2.15
	11/15/2005	107	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	2/8/2006	181	<2.15	<2.15	<8.6	<4300	<2.15	<2.15
	4/27/2006	261	<2.15	<2.15	<8.6	<4300	<2.15	<2.15
	8/1/2006	165	<1.0	<1.0	<4.0	<2000	<1.0	<1.0
	10/19/2006	154	<1.0	<1.0	<4.0	<2000	<1.0	<1.0
	1/12/2007	103	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	4/17/2007	80.5	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	7/17/2007	128	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	10/16/2007	98.7	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	1/17/2008	61.5	<0.5	<0.5	2.52	<1000	<0.5	<0.5
	4/17/2008	76.4	<0.5	<0.5	<2.0	<1000	59.2	<0.5
	7/16/2008	179	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
	10/14/2008	87	<0.5	<0.5	2.6	<1000	<0.5	<0.5
1/6/2009	93	<1.0	<1.0	<1.0	<2000	<1.0	<1.0	
4/6/2009	130	<1.0	<1.0	<1.0	<2000	<1.0	<1.0	
7/7/2009	100	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
1/27/2010	200	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
7/26/2010	110	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>ESE-1R</b>	8/30/2010	83	<0.71	<0.71	3.4	<1,400	<0.71	<0.71
	11/16/2010	64	<0.5	<0.5	0.94	<1,000	<0.5	<0.5
	2/15/2011	130	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/19/2011	82	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	79	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/10/2012	110	<0.5	<0.5	1.6	<1,000	<0.5	<0.5
<b>1/10/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	
<b>ESE-2</b>								
<b>ESE-2</b>	6/17/2003	<4000	<100	<100	<100	NA	NA	NA
	9/17/2003	NA	NA	NA	NA	NA	NA	NA
	12/9/2003	500	<13	<13	77	<25,000	<13	<13
	2/26/2004	1200	<0.5	<0.5	92	<1,000	<0.5	<0.5
	5/21/2004	2400	<10	<10	25	<20,000	<10	<10
	8/10/2004	2300	<2.5	<2.5	12	<5,000	<2.5	<2.5
	10/19/2004	1800	<3.6	<3.6	8.6	<7100	<3.6	<3.6

**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>ETHANOL (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
<b>ESE-2R cont.</b>	1/14/2005	470	<8.3	<8.3	28	<17,000	<8.3	<8.3
	4/14/2005	<10.8	<2.15	<2.15	17.9	<4,300	<2.15	<2.15
	7/7/2005	109	<2.15	<2.15	9.7	<4,300	<2.15	<2.15
	11/15/2005	64.7	<0.5	<0.5	3.43	<1,000	<0.5	<0.5
	2/8/2006	46.4	<2.15	<2.15	11	<4,300	<2.15	<2.15
	4/27/2006	47.7	<1.0	<1.0	8.29	<2,000	<1.0	<1.0
	8/1/2006	20.6	<1.0	<1.0	4.67	<2,000	<1.0	<1.0
	10/19/2006	28.9	<0.5	<0.5	4.55	<1,000	<0.5	<0.5
	1/12/2007	NA	NA	NA	NA	NA	NA	NA
	4/17/2007	60.8	<0.5	<0.5	3.85	<1,000	<0.5	<0.5
	7/17/2007	62.3	<0.5	<0.5	2.95	<1,000	<0.5	<0.5
	10/16/2007	46	<0.5	<0.5	2.21	<1,000	<0.5	<0.5
	1/17/2008	18.8	<0.5	<0.5	3.38	<1,000	<0.5	<0.5
	4/17/2008	18.8	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/16/2008	9.95	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	<10	<0.5	<0.5	0.85	<1,000	<0.5	<0.5
	1/6/2009	27	<0.5	<0.5	0.83	<1,000	<0.5	<0.5
	4/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
7/7/2009	18	<0.5	<0.5	0.56	<1,000	<0.5	<0.5	
1/27/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
7/26/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>ESE-2R</b>	8/30/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	11/16/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/14/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	<b>1/10/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>ESE-3</b>	6/17/2003	<200	<5.0	<5.0	<5.0	NA	NA	NA
<b>ESE-5</b>	9/17/2003	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	12/9/2003	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/26/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	5/21/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	8/10/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	10/19/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/14/2005	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/14/2005	17	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/7/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
11/15/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5	

**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>ETHANOL (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
<b>ESE-5 cont.</b>	2/8/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/27/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	8/1/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/19/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/12/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2007	8.7	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/17/2007	15.4	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/16/2007	11.5	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/17/2008	17.2	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	5.44	<0.5
	7/16/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/7/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/27/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
7/26/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>ESE-5R</b>	8/30/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	11/16/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/15/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/11/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	<b>1/10/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-6</b>	9/17/2003	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	12/9/2003	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/26/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	5/21/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	8/10/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	10/19/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/14/2005	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/14/2005	<2.5	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/7/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	11/15/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	2/8/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/27/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	8/1/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/19/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/12/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
7/17/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5	
10/16/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5	

**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>ETHANOL (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
<b>MW-6 contd.</b>	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/16/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/7/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/27/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
7/26/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>MW-6R</b>	8/30/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	11/15/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/14/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	<b>1/9/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>MW-7</b>	9/17/2003	<10	<0.5	<0.5	9.8	<1,000	<0.5	<0.5
	12/9/2003	<25	<1.3	<1.3	8.1	<2,500	<1.3	<1.3
	2/26/2004	<10	<0.5	<0.5	9.9	<1,000	<0.5	<0.5
	5/21/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	8/10/2004	<25	<1.3	<1.3	19	<2,500	<1.3	<1.3
	10/19/2004	<100	<5.0	<5.0	11	<10,000	<5.0	<5.0
	1/14/2005	<40	<2.0	<2.0	5.1	<4,000	<2.0	<2.0
	4/14/2005	2.62	<0.5	<0.5	4.57	<1,000	<0.5	<0.5
	7/7/2005	55.6	<1.0	<1.0	10.2	<2,000	<1.0	<1.0
	11/15/2005	10.6	<0.5	<0.5	2.07	<1,000	<0.5	<0.5
	2/8/2006	<10	<0.5	<0.5	2.19	<1,000	<0.5	<0.5
	4/27/2006	<10	<0.5	<0.5	2.63	<1,000	<0.5	<0.5
	8/1/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/19/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/12/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2007	11.6	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/17/2007	13.3	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/16/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/17/2008	NA	NA	NA	NA	NA	NA	NA
	4/17/2008	8.63	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/16/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
4/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
7/7/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
1/27/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
7/26/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>MW-7R</b>	8/30/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	11/16/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/14/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	<b>1/9/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>

**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>ETHANOL (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
<b>SOMA-1</b>	8/10/2004	2300	<6.3	<6.3	53	<13,000	<6.3	<6.3
	10/19/2004	2400	<13	<13	36	<25,000	<13	<13
	1/14/2005	530	<3.1	<3.1	7.1	<6,300	<3.1	<3.1
	4/14/2005	<27.5	<5.5	<5.5	<22	<11,000	<5.5	<5.5
	7/7/2005	2180	<2.15	<2.15	12.9	<4,300	<2.15	<2.15
	11/15/2005	792	<0.5	<0.5	5.01	<1,000	<0.5	<0.5
	2/8/2006	618	<0.5	<0.5	3.67	<1,000	<0.5	<0.5
	4/27/2006	983	<0.5	<0.5	3.48	<1,000	<0.5	<0.5
	8/1/2006	639	<0.5	<0.5	2.27	<1,000	<0.5	<0.5
	10/19/2006	603	<0.5	<0.5	2.25	<1,000	<0.5	<0.5
	1/12/2007	396	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2007	148	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/17/2007	555	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/16/2007	65	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/17/2008	29.6	<0.5	<0.5	2.06	<1,000	<0.5	<0.5
	4/17/2008	339	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/16/2008	264	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	250	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/6/2009	180	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/6/2009	120	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/7/2009	250	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/27/2010	310	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/26/2010	68	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
11/16/2010	84	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
2/15/2011	120	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
7/19/2011	130	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
1/18/2012	150	<0.36	<0.4	<0.32	<100	<0.28	<0.19	
7/10/2012	79	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>1/10/2013</b>	<b>22</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>
<b>SOMA-4</b>	8/10/2004	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	10/19/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/14/2005	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/14/2005	<2.5	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/7/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	11/15/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	2/8/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/27/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	8/1/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/19/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/12/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2007	3.98	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/17/2007	6.31	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/16/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5

**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>ETHANOL (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
<b>SOMA-4 contd</b>	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/16/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/7/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/27/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/26/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	11/15/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/14/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19
7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>1/9/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	
<b>Shallow WBZ Wells</b>								
<b>SOMA-2</b>	8/10/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	10/19/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/14/2005	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/14/2005	<2.5	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/7/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	11/15/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	2/8/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/27/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	8/1/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/19/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/12/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2007	14.6	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/17/2007	2.58	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/16/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/16/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/7/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/27/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/26/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
11/15/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
2/14/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19	
7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>1/9/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	
<b>SOMA-3</b>	8/10/2004	<10	<0.5	<0.5	<0.5	<1000	<0.5	<0.5
	10/19/2004	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5

**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

<b>Monitoring Well</b>	<b>Date</b>	<b>TBA (µg/L)</b>	<b>DIPE (µg/L)</b>	<b>ETBE (µg/L)</b>	<b>TAME (µg/L)</b>	<b>ETHANOL (µg/L)</b>	<b>1,2-DCA (µg/L)</b>	<b>EDB (µg/L)</b>
<b>SOMA-3 cont.</b>	1/14/2005	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/14/2005	<2.5	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/7/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	11/15/2005	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	2/8/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/27/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	8/1/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/19/2006	<10	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/12/2007	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2007	6.72	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/17/2007	7.6	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/16/2007	9.96	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	4/17/2008	6.05	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	7/16/2008	<2.0	<0.5	<0.5	<2.0	<1,000	<0.5	<0.5
	10/14/2008	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	4/6/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/7/2009	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/27/2010	<10	<0.5	<0.5	0.8	<1,000	<0.5	<0.5
7/26/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
11/15/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
2/14/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19	
7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5	
<b>1/9/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	
<b>SOMA-5</b>	1/27/2010	500	<13	<13	<13	<25,000	<13	<13
	7/26/2010	<400	<20	<20	<20	<40,000	<20	<20
	11/15/2010	480	<2.0	<2.0	<2.0	<4,000	<2.0	<2.0
	2/15/2011	390	<13	<13	<13	<25,000	<13	<13
	6/16/2011	450	<20	<20	<20	NA	<20	<20
	7/19/2011	<71	<3.6	<3.6	<3.6	<7,100	<3.6	<3.6
	1/18/2012	11	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
<b>1/10/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	
<b>SOMA-7</b>	8/30/2010	<33	<1.7	<1.7	<1.7	<3,300	<1.7	<1.7
	11/16/2010	<25	<1.3	<1.3	<1.3	<2,500	<1.3	<1.3
	2/15/2011	<25	<1.3	<1.3	<1.3	<2,500	<1.3	<1.3
	6/16/2011	<33	<1.7	<1.7	<1.7	NA	<1.7	<1.7
	7/19/2011	<25	<1.3	<1.3	<1.3	<2,500	<1.3	<1.3
	1/18/2012	<6.6	<1.6	<1.7	<1.4	<440	<1.2	<0.86
	7/11/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	<b>1/10/2013</b>	<b>&lt;71</b>	<b>&lt;3.6</b>	<b>&lt;3.6</b>	<b>&lt;3.6</b>	<b>&lt;7,100</b>	<b>&lt;3.6</b>	<b>&lt;3.6</b>
<b>SOMA-8</b>	8/30/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	11/15/2010	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	2/14/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/10/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
<b>1/9/2013</b>	<b>&lt;10</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	<b>&lt;1,000</b>	<b>&lt;0.5</b>	<b>&lt;0.5</b>	

**Table 2a**  
**Historical Groundwater Analytical Data**  
**Gasoline Oxygenates & Lead Scavengers**  
**3519 Castro Valley Blvd, Castro Valley, CA**

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	ETHANOL (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
OB-1 pre-MPE	6/16/2011	20	<0.5	<0.5	<0.5	NA	<0.5	<0.5
	7/19/2011	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/18/2012	<1.5	<0.36	<0.4	<0.32	<100	<0.28	<0.19
	7/11/2012	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
	1/10/2013	<10	<0.5	<0.5	<0.5	<1,000	<0.5	<0.5
OB-2 pre-MPE	6/16/2011	220	<5.0	<5.0	<5.0	NA	<5.0	<5.0
	7/19/2011	260	<10	<10	<10	<20,000	<10	<10
	1/18/2012	94	<3.2	<3.5	<2.8	<880	<2.4	<1.7
	7/11/2012	44	<0.5	<0.5	20	<1,000	0.6	<0.5
	1/10/2013	<140	<7.1	<7.1	<7.1	<14,000	<7.1	<7.1
<b>Equipment Blanks</b>								
EB-PMP	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
EB-PRB	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
EB-PMP2	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1000	<0.5	<0.5
EB-PRB2	1/17/2008	<2.0	<0.5	<0.5	<2.0	<1000	<0.5	<0.5

Notes:

< : Not detected above laboratory reporting limit.

NA: Not Analyzed.

Well ESE-2 was inaccessible during the First Quarter 2007, dirt was covered over well

Well MW-7 had a car parked over it and was inaccessible during the First Quarter 2008 monitoring event.

The Third Quarter 2003 was the first time that SOMA analyzed groundwater samples at the Site.

The Third Quarter 2004 was the first time that SOMA analyzed groundwater samples at wells SOMA-1 to SOMA-4.

Gasoline Oxygenates:

TBA: tertiary butyl alcohol

DIPE: isopropyl ether

ETBE: ethyl tertiary butyl ether

TAME: methyl tertiary amyl ether

Ethanol

August 2010, reconstruct ESE-1R, ESE-2R, ESE-5R, MW-6R, MW-7R; install SOMA-7, SOMA-8. 8/30/10 investigation sampling

Lead Scavengers:

1,2-DCA: 1,2-Dichloroethane

EDB: 1,2-Dibromoethane



# **APPENDIX A**

## **Site History**

## Previous Activities

1984: Three single-walled fiberglass underground storage tanks (USTs) with capacities of 6,000 gallons, 8,000 gallons, and 10,000 gallons, were installed in the southeastern portion of the site. A former dispenser island reportedly existed on the west side of the site; however, there was no available information about the dispenser removal date.

1988: A 1,000-gallon, double-walled, fiberglass waste oil tank (WOT) was installed to replace the previous 380-gallon WOT. In September, Kaprealian Engineering, Inc. removed the original 380-gallon WOT and observed holes in this UST. As a result, confirmation soil samples were collected from the bottom of the excavation. The following analytical soil results were observed: benzene and toluene were detected at 6.8 µg/kg and 9.5 µg/kg, respectively; total petroleum hydrocarbons (TPH) and total oil and grease (TOG) constituents were not detected.

September and October 1992: Environmental Science & Engineering, Inc. (ESE) drilled five soil boreholes and converted them into monitoring wells (ESE-1 through ESE-5). Soil and groundwater samples were collected during well installation. In the soil samples, the maximum level of soil contamination was detected in monitoring well borehole ESE-5 at 220,000 µg/kg TPH as gasoline (TPH-g); 1,400 µg/kg benzene; 8,200 µg/kg toluene; 3,300 µg/kg ethylbenzene; and 18,000 µg/kg xylenes. In the groundwater samples collected from ESE-1, maximum concentrations were TPH-g at 2,300 µg/L; benzene at 370 µg/L; toluene at 160 µg/L; ethylbenzene at 17 µg/L; and xylenes at 110 µg/L.

July 1995: Three additional monitoring wells were installed: two on-site wells, MW-6 and MW-8, and one off-site well, MW-7.

July 1995: Sampling around former pump island (SB-1 and SB-2) revealed detections of TPH-g and BTEX. Soil analytical data is summarized in Table 1.

April 1996: Well MW-8, located on the western margin of the site, was decommissioned to accommodate the road-widening project along Redwood Boulevard.

August 20, 2003: Prior to UST removal, SOMA oversaw drilling of two boreholes by Vironex. The boreholes were drilled in order to characterize the soil for landfill acceptance criteria.

September 2003: Three single-walled, fiberglass USTs, with capacities of 6,000 gallons, 8,000 gallons, and 10,000 gallons, were removed and replaced with two new double-walled, fiberglass USTs with capacities of 12,000 gallons and 20,000 gallons. In addition, the dispensers, product lines, and vent lines were removed and replaced. Soil below 5 feet bgs was disposed of off-site. Shallow soil was used as backfill material for the former UST pit after confirmation.

Third Quarter 2003: Two monitoring wells, ESE-3 and ESE-4, were decommissioned due to construction activities.

Fourth Quarter 2003: In December, SOMA oversaw drilling of off-site temporary well boreholes TWB-1 through TWB-5 to determine the horizontal extent of off-site petroleum hydrocarbon contamination.

June 2004: On June 10, SOMA installed on- and off-site monitoring wells: SOMA-1 in the southeastern section of the site, and SOMA-2 to SOMA-4 south and southeast of the site. Kier and Wright Engineers Surveyors, of Pleasanton, California, surveyed all site wells on June 21.

August 2006: SOMA conducted a sensitive receptor survey and it was concluded that no irrigation or domestic wells, and no sensitive groups or environments, evaluated during this sensitive receptor survey and located within ½-mile radius have the potential to be impacted by the site's contaminants at this time

Third Quarter 1993 to Present: On-going quarterly groundwater monitoring events have been conducted at the site.

September 2008: Shell Oil conducted a Phase II investigation. Elevated TPH-g concentrations 900 µg/L in groundwater and 720 mg/kg in soil were observed in the borings. Based on these elevated readings, Shell Oil filed a UST Unauthorized Release Report with Alameda County Environmental Health on September 24, 2008.

February 2009: Per ACEHD correspondence dated January 8, 2009, SOMA prepared a Site Conceptual Model and workplan to address data gaps at the site. SOMA proposed advancing soil borings to further define the lateral and horizontal extent of COC impact to vadose zone and the WBZ (up to 31 feet bgs). Per the ACEHD correspondence dated March 27, 2009, SOMA submitted a workplan addendum which was approved by the ACEHD on July 10, 2009 which reduced the number of DP borings from 9 to 7 and proposed the advancement of a shallow groundwater monitoring well within the vadose zone (screened across the potentiometric surface) to determine the appropriateness of the screening interval for existing wells at the site.

August 2009: SOMA conducted a soil and groundwater investigation at the site, advancing seven soil borings and installed shallow groundwater monitoring well SOMA-5 to determine if groundwater at the site is confined or semi-confined. TPH-g was elevated in groundwater samples from DP-1 and DP-2 (210 µg/L and 130 µg/L, respectively) along the northwestern portion of the site and in DP-5 and DP-6 (640 µg/L and 1,600 µg/L, respectively) along the eastern portion of the station (north of the former USTs). TPH-d was elevated in all groundwater samples, with concentrations between 130 µg/L and 980 µg/L (DP-7 and DP-4, respectively). TPH-mo was observed only along the western portion of the site, in DP-2 through DP-4, with concentrations ranging from 360 µg/L to 570 µg/L. Based on elevated TPH concentrations along the northwestern portion of the site it appears that plume commingling might be occurring. It

was determined that wells of ESE-1, ESE-2, ESE-5, MW-6 and MW-7 appear to be screened excessively long and are causing cross-contamination.

May 2010: SOMA replaced (reconstructed) ESE-1, ESE-2, ESE-5, MW-6 and MW-7 with wells screened within the confined WBZ and installed two additional groundwater monitoring wells (SOMA-7 and SOMA-9) adjacent to the reconstructed wells (within 5 feet) and completed within the shallow zone. No water was observed in SB-6 and SB-8, therefore the borings were not converted to wells.

September 2010: SOMA submitted a report documenting site well reconstruction and shallow well installation, per workplan submitted in March 2010. Due to their excessively long screening intervals, ESE-1, ESE-2, ESE-5, MW-6 and MW-7 were reconstructed with screening entirely within the Semi-Confined WBZ. To further characterize the Shallow WBZ, SOMA advanced four borings, converting two of those borings into shallow groundwater monitoring wells (SOMA-7 and SOMA-8).

March 2011: SOMA prepared a CAP/Feasibility Study proposing MPE Pilot Testing, Air Sparging, and aquifer testing at the site.

June/July 2011: Under SOMA's oversight, Golden Gate Remediation Technology (GGRT) performed MPE pilot testing between June 20 and July 1, 2011, utilizing SOMA-5, SOMA-7 OB-1 and OB-2. The pilot test was performed using a self-contained mobile treatment system (MTS). Both soil vapor and groundwater were extracted from the subsurface. Due to relatively low water recovery rates observed during pilot testing, MPE configuration rather than dual phase extraction (DPE) was utilized. The estimated total mass of VOCs removed from soil vapor extracted from extraction wells was 7.05 pounds. The calculated average VOC mass removal rate was approximately 2.46 lbs/day.

# **APPENDIX B**

## **Soil Gas Collection**

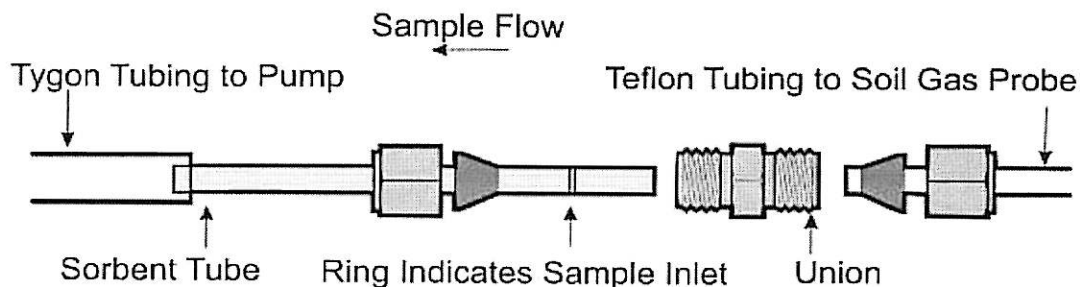


## TO-17 Sampling Instructions

### Application: Soil Gas

**Media:** TO-17 tube, 1/4" Teflon tubing, 1/4" Tygon tubing, 1/4" to 1/4" Union, 1/4" fittings with ferrules, a sample pump and a low flow holder maybe required if using a higher flow pump

**Typical Sampling Parameters:** Sample Flow Rate = 50 mL/min Total Vol. = 200 mL  
Duration = 4 min. These parameters may change depending on project objectives.



### Instructions:

- 1) In order to calibrate the pump use a "set-up" tube. Using the Tygon tubing connect the sampling pump to the outlet of the sorbent tube, if using a higher flow pump a low flow holder may be necessary to lower the flow rate, then connect the inlet (the ringed side) to the calibrator. Adjust setting to desired flow rate and record.
- 2) Replace the "set-up" tube with a sample tube. Again using the Tygon tubing connect the sampling pump to the outlet of the sample tube. Attach the inlet to the union fitting using a Swagelok nut. Using a 9/16" wrench on the nut and a 7/16" wrench on the union, tighten the nut. In the same manner, attach the union to the Swagelok nut on the soil gas probe tubing. DO NOT OVERTIGHTEN.
- 3) Start the sample pump and record the start time. After the desired duration, stop the pump and record the end time.
- 4) Replace the end plugs on both ends of the sample tube. Record the sample ID, tube ID and the collection date/time on the COC.
- 5) When completed with a set of samples, re-attach the "set-up" tube to the calibrator and measure the post-sampling flow. Record post-sampling flow rate. This should match within 10% of the pre-sample flow rate.
- 6) Record sample volume on the COC using the average of the pre- and post- flow rates.
- 7) Send tubes to the lab in the cooler with ice.