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September 22, 2011

Mr. Paresh C. Khatri
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: **Fuel Leak Case #RO0000346**
Site Address: 3519 Castro Valley Boulevard, Castro Valley, CA

Dear Mr. Khatri:

SOMA's "Observation Wells Installation, Pilot Testing and Feasibility Study Report" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

Thank you for your time in reviewing our report. If you have any questions or comments, please call me at (925) 734-6400.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

Enclosure

cc: Mr. Azim Shakoori w/enclosure
Mr. Matt Herrick w/Broadbent & Associates, Inc. w/enclosure

Observation Wells Installation, Pilot Testing, and Feasibility Study Report

3519 Castro Valley Boulevard
Castro Valley, California

September 22, 2011

Project 2762-4

Prepared for

Mr. Mirazim Shakoori
3519 Castro Valley Boulevard
Castro Valley, California

SOMA ENVIRONMENTAL ENGINEERING, INC.
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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 report on behalf Mr. Mirazim Shakoori, for property located at 3519 Castro Valley Boulevard, Castro Valley, California. This report was prepared in response to May 12, 2011 and June 23, 2011 correspondence from Alameda County Environmental Health Services, Environmental Protection Division.

Mansour Sepehr, PhD, PE
Principal Hydrogeologist

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1. INTRODUCTION

1.1 Overview

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 May 12, 2011 and June 23, 2011.

The site cannot at this time be characterized as a low-risk case; therefore, SOMA proposed implementing field pilot testing for multi-phase extraction (MPE), air sparging (AS), and water injection, to aid in selecting the most feasible remedial alternative for the site. As part of this investigation and pilot testing, SOMA installed two observation wells (OB-1 and OB-2), advanced two water injection borings (IPT-1 and IPT-2), implemented field pilot testing (MPE and AS) and prepared this report summarizing results, findings, and recommendations. This report also evaluates feasibility and cost effectiveness of utilizing evaluated technologies.

The following summarizes apparent data gaps that have existed for the site, documented in SOMA's report dated March 11, 2011. This current report addresses these data gaps, listed below.

- No information from any treatability or pilot study(ies) existed. These data typically demonstrate effectiveness of proposed remedial alternatives.
- Since no pilot studies were completed, it is extremely difficult to estimate the time period required to achieve proposed cleanup goals for each proposed remedial alternative.
- Since no pilot studies were done, it is also difficult to provide a site-specific cost comparison of various methods. Cost analyses would include all aspects of the proposed corrective action (e.g., planning, construction, operation, maintenance, reporting, verification monitoring, disposal, and decommissioning).

Therefore, as part of this report, SOMA installed appropriate observation/extraction wells, conducted approved pilot testing, and proposed further remedial action.

1.2 Site Location and Description

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. 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.

2. OBSERVATION WELLS INSTALLATION

2.1 Permit Acquisition, Health and Safety Plan, and Subsurface Utility Clearance

Prior to initiating field activities, SOMA obtained two drilling permits from Alameda County Public Works Agency (ACPWA), the first for installation of two observation wells (W2011-0355; Gregg Drilling & Testing [Gregg]) and the second for advancement of two water injection points (W2011-0356; RSI Drilling, RSI). ACEHS was given the required minimum 72-hour notice in advance of drilling on May 31 and June 6, 2011, and ACPWA was contacted on May 31, 2011 to schedule the grouting inspection with inspector Vicky Hamlin. Drilling permit is attached in Appendix B. Station owner and responsible parties were also notified prior to field activities.

Before field activities began, SOMA prepared a site-specific Health and Safety Plan (HASP). The HASP is a requirement of the federal 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. Field staff and contractors reviewed and signed the HASP prior to beginning field operations.

On May 31, 2011, prior to drilling, SOMA's field crew visited the site and marked proposed well and water injection locations using chalk-based white paint. Underground Service Alert (USA) clearance verifying that drilling areas were clear of underground utilities was obtained May 31, 2011 (Ticket 169176). A private utility locator (OHJ Subsurface Utility Locator) surveyed proposed drilling areas on May 31, 2011 to locate any additional subsurface conduits. Please note the water injection implementation is detailed in the pilot testing section elsewhere in this report. SOMA retained Del Secco concrete coring to core proposed drilling locations on June 6, 2011.

2.2 Installation of Observation Wells

On June 6, 2011, under SOMA's oversight, Gregg drilled and installed the two observation wells utilizing hollow stem auger (HSA) drilling methods. General field procedures are summarized in Appendix E of SOMA's workplan. Installed well locations are shown in Figure 2A. Since the proposed OB wells will be utilized during AS, both wells were positioned upgradient from their respective extraction wells.

During installation of observation wells, the drilling crew drilled and continuously sampled (cored) well borings for lithologic logging purposes and chemical content. OB-1 and OB-2 were sampled to 20 feet below ground surface (bgs). In addition, cored soils were checked for attributes characteristic of smear zone, hydrocarbon odors, and visual staining, and screened using a photoionization detector (PID). PID readings in OB-1 ranged between 0 and 35.4 ppm, and in OB-2 between 0 and in excess of 2,118 ppm. PID readings are noted on boring logs.

Soil samples were collected when varied lithologies or highly impacted areas were encountered during drilling. Upon soil sampling, both ends of each sampling tube were secured using Teflon tape and caps and tubes were immediately placed in a chilled ice chest. Soil samples were delivered to a California state-certified laboratory under appropriate chain-of-custody protocol for analysis.

Since the Shallow water-bearing zone (WBZ) was not laterally continuous at SB-6 and SB-9 locations, SOMA allowed water to stabilize at each advanced observation well before proceeding with construction. Screening intervals at SOMA-5 and SOMA-7 wells were used as guides for determining appropriate screening for observation wells.

Both observation wells were installed with 2-inch-diameter PVC casings with 0.02-inch-wide by 1.5-inch-long factory-slotted perforations; the upper portion of each well consisted of blank PVC. A 2/12 sand pack filter was emplaced around the screens and surged to consolidate the filter packs and eliminate voids. The filter packs were emplaced to a height of at least 1 foot above the top of the screens. The filter pack was sealed with at least a 1-foot-thick hydrated bentonite plug followed by an annular grout seal of neat cement. A PVC cap was fitted to the bottom casing, without adhesives or tape, to protect the extraction well from accidental damage or tampering; traffic rated utility box with internal steel protective covers and locking caps was placed over each wellhead, and was set in concrete resting flush with existing grade. Upon completion, in OB-1 groundwater stabilized at 7.8 feet bgs and in OB-2 at 9.53 feet bgs. OB-1 was screened between 5 and 16 feet bgs and OB-2 between 5 and 17 feet bgs. Longer screen was selected for OB-2 due to elevated PID readings observed at greater depths.

The table below summarizes well screened intervals for Shallow WBZ wells:

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

2.3 Development and Survey

On June 10, 2011, under SOMA's oversight, Gregg developed newly installed observation wells by bailing out sediment-rich groundwater followed by pumping and surging. Proper development facilitates more effective pilot testing. This process continued until purged groundwater clarified substantially and groundwater quality parameters stabilized. Groundwater stabilization parameters were maintained during the development process. Well development records are included in Appendix C.

Newly installed observation wells were surveyed on August 30, 2011 by a licensed surveyor to comply with GeoTracker requirements (Appendix D). Latitude and longitude coordinates were surveyed to Zone III NAD 83 datum, and the elevation coordinate to NAVD 88 datum from GPS observations. Survey data was uploaded to the GeoTracker database.

2.4 Laboratory Analyses

Soil samples collected during observation point installation were analyzed for the following:

- Total petroleum hydrocarbons as gasoline (TPH-g)
- benzene, toluene, ethylbenzene and total xylenes (collectively termed BTEX), methyl tertiary-butyl ether (MtBE)
- Volatile organic compounds (VOCs) and fuel oxygenates, additives and lead scavengers including tertiary-butyl alcohol (TBA), ethyl tertiary-butyl ether (ETBE), diisopropyl ether (DIPE), tertiary-amyl methyl ether (TAME), 1,2-dichloroethane (1,2-DCA), 1,2-dibromoethane (EDB), and ethanol.

Analysis was conducted using USEPA Method 8260B (full list), except for TPH-g which utilized Method 8015.

2.5 Waste Collection, Storage and Disposal

Soil cuttings and wastewater generated during installation activities were temporarily stored on-site in a secure area in five DOT-rated 55-gallon steel drums pending characterization, profiling, and transport to an approved disposal-recycling facility. Each drum was labeled with site address, contents, date of accumulation, and contact phone number. On June 13, 2011, NRC Environmental Services removed the five drums to be disposed of off-site at an appropriate disposal facility. Waste manifest is attached in Appendix E.

2.6 Soil and Groundwater Sampling Evaluation

2.6.1 Site Geology and Hydrogeology

In OB-1 and OB-2, layers of lean clay, silty clay, sandy lean clay to clayey sand, and silty sand, consistent with previous observations, were encountered from ground surface to 20 feet bgs. During well installation activities, groundwater stabilized in OB-1 at 7.8 feet bgs and in OB-2 at 9.53 feet bgs. Figure 3 shows locations of geologic cross sections, and Figures 4 through 6 show updated geologic cross-sections A-A', B-B', and B-A'.

Historical site investigations established that the site is underlaid with interbedded silty clay, sandy silt/silty sand, clayey sand, and clayey silt. Depth to first-encountered groundwater at the site has historically been at 12 feet bgs in the Shallow WBZ (when encountered) 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 in the Shallow WBZ and 6.5 and 11.50 feet bgs in the Semi-Confined WBZ, except in DP-4 and DP-6, which only stabilized to 28 feet bgs and 19.79 feet bgs, respectively. Stable groundwater in monitoring wells has historically been observed from 7.63 to 12.02 in the Shallow WBZ and from 2.36 to 12.02 feet bgs in the Semi-Confined WBZ.

2.6.2 Soil Sampling Results

Throughout installation of new observation wells, detectable TPH-g ranged between 1.2 mg/kg at (16 feet bgs) and 120 mg/kg (15 feet bgs) in OB-2. All COCs were detected below laboratory reporting limits in OB-1. Boring and well locations are shown in Figure 2. In OB-2, only TPH-g (120 mg/kg) was above the California Regional Water Quality Control Board (CRWQCB) Environmental Screening Level (ESL) of 83 mg/kg for shallow or deep soils where groundwater is a current or potential drinking source. It appears that in OB-2, since depth to stabilized groundwater was observed at 9.53 feet bgs, elevated COCs were detected below the stabilized groundwater level.

Based on investigations by Delta Environmental (September 2008) and SOMA (August 2009 through 2011), residual soil impact (TPH-g) exists between 9 and 12 feet bgs in the vicinity of SOMA-7 (980 mg/kg) and SB-2 (230 mg/kg) along the southwestern property boundary. Residual concentration was also observed along the eastern area of the site, in the vicinity of the former USTs. TPH-g ranged from 39 mg/kg in DP-5 to 720 mg/kg in B-3.

Soil analytical data is presented in Table 3; the soil laboratory analytical report is included in Appendix F.

2.6.3 Groundwater Sampling Results

No grab groundwater samples were collected during well installations. Once the wells were developed on June 16, 2011, SOMA collected pre-MPE groundwater samples from SOMA-5, SOMA-7, OB-1 and OB-2. The groundwater monitoring event, during which all wells were gauged and monitored, coincided with the post-MPE sampling event conducted on July 19, 2011, results of which are documented elsewhere in this report.

During pre-MPE sampling, the highest TPH-g level was detected in OB-2 at 12,000 µg/L; the highest benzene in SOMA-5 at 2,500 µg/L; and the highest MtBE in OB-2 at 310 µg/L. Results of pre-MPE sampling indicate that OB-2 and SOMA-5 are located in the area of highest dissolved COCs. Well locations are shown in Figure 2A, groundwater analytical data in Tables 4 and 5. Contour maps of TPH-g and benzene concentrations are shown on Figures 8 and 9

3. PILOT TESTING IMPLEMENTATION AND SUMMARY OF FINDINGS

As part of this pilot testing, SOMA implemented three pilot testing phases in order to determine whether chemical injection, MPE alone, or MPE enhanced with AS will be feasible alternatives for the site.

Pilot testing results were utilized in evaluating feasible remedial alternatives for the site.

During pilot testing, SOMA performed the following:

Task 1: Water Injection Pilot Test

Task 2: MPE/AS Test Preparation, Notifications, and Health and Safety Plan Preparation

Task 3: MPE and Air Sparging Pilot Testing

Task 4: Report Preparation

Proposed MPE/AS pilot testing was implemented in the following three phases:

1. The first phase of MPE pilot testing (without application of AS) established baseline MPE well radius of influence and intrinsic permeability of the unsaturated zone.
2. The second limited AS test phase was conducted with the sparging point operating at variable sparge pressures (e.g., 5 pounds per square inch-gauge [psig], 10 psig). The saturated zone requires pressures greater than the static water pressure (1 psi for every 2.3 ft of hydraulic head), and the head necessary to overcome capillary forces of the water in the soil pores near the injection point. Because isolated AS operation is not anticipated to last for an extended time period, monitoring readings pertaining to AS pilot testing were taken every 30 minutes to an hour at minimum throughout AS operation (without MPE). Parameters will also be remeasured when operational changes are made and recorded prior to MPE operation to document baseline site conditions (dissolved oxygen [DO], CO_2, depth to water, etc.)
3. The final phase of the pilot test was a concurrent operation of the MPE pilot system and the AS system. During this test, hydraulic gradient and volatile organic compound (VOC) concentrations in soil vapors were monitored. The site-specific sparging air flow rate required to provide sufficient flow to enhance mass transfer was determined via the pilot test. Typical air flow rates range from 1 to 25 standard cubic feet per minute (scfm) per injection well. During this test stage, combined MPE and AS data was collected.

3.1 Water Injection Pilot Test

Preliminary aquifer volume testing in the form injection of a non-reactive material (tap water) took place on June 7, 2011. Due to fiscal year budget limitations, this injection was conducted prior to MPE pilot testing, which is described in sections below, and not after as was originally proposed. Pre-drilling activities, including permit acquisition and pertinent notification, are described in section 2.1.

Under SOMA's oversight, RSI drilling concrete cored the drilling locations and hand augered each boring to 5 feet bgs, in order to clear all possible underground utility lines that could have been present. No soil or groundwater sampling was conducted during advancement of these borings. Each was advanced to total depth of 25 feet bgs, spanning both Shallow and Semi-Confined WBZs. Injection boring locations (IPT-1 and IPT-2) are shown on Figure 2A.

The estimated volume of water to be injected was 105 gallons through each injection point. During this test, 105 gallons of water per boring were injected from 5 to 25 feet bgs. Due to equipment restrains, water was injected from the

top of the boring down to the total depth in order to isolate 1-foot injection intervals. Injection shallower than 5 feet bgs was not feasible because each boring location was hand augered to 5 feet bgs.

Aquifer test borings were advanced using direct push technology (DPT) rig (Geoprobe 8040). DPT is an efficient method of advancing soil borings while preventing cross-contamination. It involves hydraulically hammering a set of steel rods into the subsurface with an injection rod attached. Observations of more permeable areas and their respective injection rates are documented in Table 6. Once injection was complete, test borings were decommissioned according to Cal/EPA guidelines with a neat-cement grout mixture and completed at the surface with rapid-set cement grout and jet-black dye at the top to match existing grade.

Due to the limited nature of COC contamination in the Semi-Confined WBZ, this zone was not a target remedial zone at this time. However, it has been tested for possible future remediation, if elevated COCs in ESE-1R do not continue to decline (post well-reconstruction) and active remediation is needed. Pilot test results indicate that water injection was sufficiently effective in meeting the projected injection water quantity required to address existing site contamination via chemical injections. Since it was determined to be effective, this technology is further evaluated in the feasibility section of this report.

3.2 MPE/AS Test Preparation, Notifications, and Health Safety Plan Preparation

In accordance with conditions of the various-locations Bay Area Air Quality Management District (BAAQMD) permit for the MTS, SOMA notified BAAQMD of the location, date, and duration of the pilot test, and the vapor treatment to be utilized. Various locations permit and pertinent notification are attached in Appendix G. Prior to initiation of pilot testing, Alameda County staff was notified in advance of the date and duration of the pilot test.

On June 15, 2011, prior to MPE operation, a conditional permission to discharge treated groundwater was obtained from the Castro Valley Sanitary District (CVSD) to allow discharge during MPE activities (Appendix G). In preparation for discharge activities, on June 21, 2011, SOMA collected one effluent groundwater sample after groundwater had passed through the two new carbon drums delivered to the site by Baker Filtration. The sample was analyzed according to CVSD discharge requirements. Because arsenic concentrations exceeded allowable discharge limits (Appendix F), to verify these detections, a duplicate effluent sample was collected on June 28, 2011 and analyzed for arsenic. Meanwhile, while waste disposal related samples were analyzed, all extracted groundwater was held on-site in two poly tanks. Arsenic results were still above desired discharge limits in the second sample, at which point an assumption was made that granular activated carbon (GAC) was likely contributing arsenic to the

water as it passed through. Therefore, on June 29, 2011 one more effluent sample, from extracted groundwater not treated by GAC, was collected and analyzed. Results indicated that GAC was contributing arsenic to groundwater during treatment and that effluent concentration levels were acceptable for discharge without GAC pre-treatment. Sampling results pertaining to discharge activities are included in Appendix H.

3.3 Multi-Phase Extraction Pilot Test

3.3.1 MPE Pilot Test Summary

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. Well locations are shown in Figure 2A.

The pilot test was performed using a self-contained mobile treatment system (MTS), equipped with electrical generator, propane tank, liquid ring vacuum pump rated at 25-horsepower and 428-scfm, air/water separator vessel, discharge hoses and traffic-rated hose ramps, downhole stingers, and a thermal oxidizer for vapor abatement (Figure 10). 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 liquid ring pump was selected for use during pilot testing as it can transfer both liquids and gases through the pump casing and they are the most commonly used vacuum pumps reported in the literature for MPE applications (AFCEE 1997; Hansen, et al. 1994; Suthersan 1997). Furthermore, since liquid ring pumps are acceptable to use if hydraulic conductivity (cm/sec) of the target area (from fine sand, to silty sand, to clay), it was appropriate to utilize this particular pump during pilot testing as the majority of the smear zone appears to consist of fine-grained sediments.

Physical and chemical parameters including applied vacuum, soil vapor extraction flow rates, oxidizer temperature, volume of groundwater extracted, VOCs, groundwater levels, and induced vacuum were monitored, measured and recorded. Induced vacuum in the observation wells was measured using magnehellic vacuum gauges fitted to airtight well caps and drawdown was measured utilizing standard water level meters. VOC concentrations in the extracted soil vapor stream were continuously monitored using a flame ionization detector (FID) calibrated to hexane. MPE pilot test operational data is presented in Tables 7 through 9C, along with field data sheets, in Appendix H. Extracted soil vapor samples were collected from influent and effluent gas streams during pilot testing (Figure 10 shows MTS sampling points).

3.3.2 Pilot Test Objectives

The overall objective of pilot testing was to evaluate whether MPE is sufficiently effective to justify full-scale implementation, and to evaluate its capability to remove contaminant mass in the most efficient and timely manner.

The first site-specific objective of MPE pilot testing was to lower the groundwater table to increase the volume of semi-saturated soil through which airflow and volatilization of constituents occur. The second objective was to remove soil vapor and groundwater from the impacted zone for treatment. The third objective was to evaluate effectiveness of the proposed technology and assess site conditions with regard to potential full-scale implementation.

Pilot test results were utilized to accomplish the following:

1. Mass Removal: determine whether MPE can accomplish removal of contaminant mass at satisfactory rates. Mass removal rates will be evaluated using data obtained during pilot testing.
2. Zone of Influence Evaluation: provide vadose and saturated zone response to the application of vacuum.
3. Subsurface Soil Properties/Parameters Evaluation: provide information about the nature and variability of site-specific subsurface parameters and contaminant distribution.
4. Discharge Concentrations/Design Parameters: establish initial levels of contaminants in extracted gas and liquid. This data will be used for future treatment system design and discharge permitting.
5. Cost Evaluation: aid in evaluating cost of full-scale system implementation and operation and allow for cost comparisons of different remedial options.

3.3.3 Field Work and Procedures

The MTS system was operated continuously throughout the pilot test, except where noted and when stand-alone AS phase was implemented). Any interruptions were documented in field notes. MTS operational data collected during the pilot test included the following (no data was collected overnight):

- Oxidizer temperature
- Pump/air temperature
- Total flow
- Dilution flow
- Total liquids removed by vacuum
- FID readings

Oxidizer temperature and pump/air temperature are displayed on the MTS control panel and total flow was measured using a mass flow meter on the pitot tube after the knockout pot. Dilution flow was read directly from the gas flow gauge at the air dilution flow control valve before the liquid ring pump; flow is reported in scfm units. Total liquids removed were read from a totalizing flow meter ahead of GAC drums. Appendix H includes field data sheets for recording data (GGRT, MTS Operational Data Sheets and MTS Monitoring Point Data Sheets).

All equipment was calibrated in the field in accordance with manufacturer recommendations (some pertinent calibration documentation is also attached in Appendix H). All extraction and observation wells were placed under pressure and observed for any evidence of air leakage around the cement/bentonite grout seal of the well. Shaving foam was used to detect leaks and no air leakage was observed. Groundwater elevations were measured at observation wells using a standard electrical water level meter graduated in tenths of inches. Flexible hose equipped with appropriate fittings was used as stingers. Stingers were connected by flexible hose to the MTS and extended into the extraction well to within a few inches from the bottom of the well (stinger depth variation is noted on field notes, Appendix H), removing groundwater from the well casing/screen by vacuum. Prior to insertion of the stinger, depth to groundwater was measured. Piping between the stinger and manifold was limited to 1 inch in diameter. Since the station was conducting ongoing business, piping was placed under traffic rated hose ramps where necessary, which accept a maximum diameter of 1-inch pipe or hose.

Induced vacuum and groundwater levels were measured from OB wells, and SOMA wells (when not in use for extraction). Induced vacuum was measured with a magnehellic vacuum gauge (Dwyer), attached to a barbed fitting that was attached to an air tight well cap. Groundwater elevation was measured by removing the well cap and inserting a standard groundwater level probe. The dedicated MPE wells (2-inch diameter) were fitted with compression caps. Vacuum gauges read a minimum range of 0.01 inches of water to 20 inches of water. Groundwater level probes read at graduations of 0.1 inches.

Extracted soil vapor concentrations were measured with calibrated PID Horiba instrument. Vapor samples were collected in Tedlar bags within the first 24 hours of extraction at each extraction well and throughout the pilot test. Influent soil vapor samples were collected through a sampling port located on the vacuum pump discharge manifold and thermal oxidizer stack vapor samples were collected through a sampling port located at the top of the stack.

Over the first two hours of the test, data was collected more frequently (5, 10, 15, 30, 60, 90, and 120 minute intervals). Thereafter, groundwater and vacuum measurements were recorded less frequently, at minimum every 1 to 2 hours,

during daytime operating hours. During this pilot testing event, weather conditions were characteristic of sum of 49.8°F with exception of an all-day rain event which occurred on June 28, 2011, during which 0.79 inches of precipitation was recorded. Maximum barometric pressure was reported at 30 inches and minimum at 29.83; detailed historical weather data is attached in Appendix H.

3.3.4 Zone of Influence

The zone of influence (ZOI) for MPE pilot testing was estimated by determining pressure changes in observation wells versus distance from the extraction well at the end of the pilot test at each extraction well (EPA 1995). The effective ZOI is defined as the distance at which a pressure drop of 0.10 in-H_20 is observed. The log of vacuum pressure measured in the observation well at the end of pilot testing is plotted against the distance from the MPE well. During these calculations, a standard atmospheric pressure of 29.92 inches of mercury was assumed. Note that maximum barometric pressure during the pilot test was 30 inches and minimum was 29.83; detailed historical weather data is attached in Appendix H

Figure 11 illustrates the lateral extent of ZOIs at each extraction well utilizing data taken from observation wells, and Figures 11A through 11C show ZOI for each well or combination of wells. The data points describe straight lines and the lines intersect the pressure axis at 0.1 inches of water with the distance axis used to estimate the MPE ZOI. Calculated ZOIs ranged between 9.19 and 50.77 feet from respective extraction wells. Therefore, it can be surmised that though calculated ZOIs were as great at 50.77 feet, in reality ZOIs will likely be between 9.19 and 20 feet. However, based on localized areas of impact, which are limited to areas around wells SOMA-5 and SOMA-7, if MPE is determined to be feasible, ZOIs will not hinder implementation. Summaries of pilot test implementation at each extraction well or well combination are listed below.

As seen from Figures 11A through 11C, with the exception of wells SOMA-5 and SOMA-7 a typical vacuum response and drawdowns were observed around the dedicated extraction wells, with only slight vacuum changes observed in the remote wells. In SOMA-5, as groundwater elevation fluctuated, increasing slightly (depth to water changed from 11.4 ft bgs to 10.28 feet bgs), the vacuum also increased from 0.07 inches H_2O to 0.18 inches of H_2O. In SOMA-7, observed vacuum spiked early and later in the test, with generally decreasing trend observed throughout; however, a drawdown was still observed in this well.

3.3.5 Extraction at SOMA-7

Pilot testing utilizing SOMA-7 began at 16:15 pm on June 20, 2011 and was terminated at 15:50 pm on June 22, 2011; total test time was 1,815 minutes or 30.25 hours. Tables 7A and 8A show operational data during this period. Induced vacuum and groundwater levels were measured at observation wells OB-1 and

ESE-5R. It should be noted that ESE-5R is screened within Semi-Confined WBZ (18 to 24 feet bgs). During extraction, casing vacuum ranged from 19.4 to 24.5 inches of mercury and well vapor extraction flow rate ranged from 38 to 111 scfm. VOC concentrations in the extracted soil vapor stream measured using a PID ranged from 45 ppmv as hexane to 178 ppmv (Table 8A). Thermal oxidizer temperatures ranged from 1,499 °F to 1,603 °F.

Induced vacuum was detected in observation wells OB-1 and ESE-5R at a maximum 1.3 and 0.3 inches of water, respectively (Table 7A). OB-1 and ESE-5R are located 11 and 7 feet, respectively, from SOMA-7. Groundwater level fluctuation was observed in both observation wells, depth to water ranged between 6.93 and 9.6 feet bgs in OB-1 and between 8.45 and 9.15 feet bgs in ESE-5R, and groundwater fluctuation was recorded between 2.67 and 0.7 feet bgs. Calculated ZOI ranged up to 9.19 feet from SOMA-7 (Figure 11A).

A total of 569 gallons of groundwater (Table 8A) was extracted during this portion of the test at an average rate of 0.31 gpm.

3.3.6 Extraction at SOMA-5

Pilot testing utilizing SOMA-5 began at 17:15 pm on June 22, 2011 and was terminated at 10:00 am on June 23, 2011 (when extraction at OB-2 was initiated), extraction at SOMA-5 was then restarted at 8:40 am on June 24, 2011 and terminated at 16:30 pm on June 24, 2011 when the system was shut down for the weekend and in preparation for AS. Total operation time for this part of the test was 1,475 minutes or 24.58 hours. Tables 7B and 8B show operational data for this well. Induced vacuum and groundwater levels were measured at observation wells OB-1, OB-2, SOMA-7, and SOMA-8. Casing vacuum ranged from 21.6 to 23.2 inches of mercury and vapor extraction flow rate ranged from 44 to 60 scfm. VOC concentrations in the extracted soil vapor stream measured using an PID ranged from 19 ppmv as hexane to 360 ppmv (Table 8B). Thermal oxidizer temperatures ranged from 1,497 °F to 1,508 °F.

In the nearest observation well (OB-2), induced vacuum was detected between 0 and 0.13 inches of water (Table 7B). Detectable induced vacuum (maximum readings) was also recorded in SOMA-7 and SOMA-8 at 0.015 inches of water and 0.02 inches of water, respectively. Wells OB-1, OB-2, SOMA-7, and SOMA-8 are located 82, 14, 76, and 85 feet, respectively, from SOMA-5. Calculated ZOI ranged up to 47.85 feet (Figure 11B).

A total of 840 gallons of groundwater (Table 8B) was extracted at an average rate of 0.57 gpm. Groundwater level fluctuation was observed in all observation wells, depth to water ranged between 6.94 and 7.03 feet bgs in OB-1, 9.1 and 12 feet in OB-2, 9.18 and 9.37 feet bgs in SOMA-8, and between 6.85 and 6.98 feet bgs in SOMA-7. Recorded groundwater fluctuation ranged from 2.9 feet bgs (OB-2) to 0.09 feet bgs (OB-1).

3.3.7 Extraction at OB-2

Pilot testing utilizing OB-2 began at 11:00 pm on June 23, 2011 and was terminated at 8:30 am on June 24, 2011 (when extraction at SOMA-5 was initiated). Total operation time for this part of the test was 1,320 minutes or 22 hours. Tables 7C and 8C show operational data for this well. Induced vacuum and groundwater levels were measured at observation wells OB-1, SOMA-5, SOMA-7, and SOMA-8. Casing vacuum ranged from 19.2 to 24 inches of mercury and vapor extraction flow rate ranged from 41 to 79 scfm. VOC concentrations in the extracted soil vapor stream measured using an PID ranged from 17 ppmv as hexane to 750 ppmv (Table 8C). Thermal oxidizer temperatures ranged from 1,498 °F to 1,537 °F.

In the nearest observation well (SOMA-5), induced vacuum was detected between 0.07 and 0.2 inches of water (Table 7C). Detectable induced vacuum (maximum reading) was also recorded in OB-1, SOMA-7 and SOMA-8, at 0.4 inches of water, 0.05 inches of water , and 0.2 inches of water, respectively. OB-1, SOMA-5, SOMA-7, and SOMA-8 are located 86, 14, 90, and 76 feet, respectively, from OB-2. Calculated ZOI ranged up to 50.77 feet (Figure 11C).

A total of 465 gallons of groundwater (Table 8C) was extracted at an average rate of 0.35 gpm. Groundwater level fluctuation was observed in all observation wells; depth to water ranged between 6.8 and 7 feet bgs in OB-1, 10.28 and 11.6 feet in SOMA-5, 7.9 and 9.17 feet bgs in SOMA-8, and between 6.7 and 6.82 feet bgs in SOMA-7. Groundwater fluctuation was recorded at 1.27 feet bgs (SOMA-8) and 0.12 feet bgs (SOMA-7), and drawdown from the beginning to the end of extraction was observed in these wells at 0.87 feet and 0.12 feet, respectively. During testing at this location, groundwater levels rose in observation wells OB-1 and SOMA-5 by 0.13 and 1.12 feet, respectively. Rise in groundwater elevation in these observation wells could be attributed to the vertical groundwater movement likely under pilot testing conditions from the Semi-Confined WBZ and into the Shallow WBZ.

OB-1, SOMA-5, SOMA-7, and SOMA-8 are located 86, 14, 90, and 76 feet, respectively, from OB-2.

3.4 Air Sparging Pilot Test

3.4.1 AS Pilot Testing Summary

Between June 27 and July 1, 2011, SOMA implemented AS stand-alone pilot testing (June 27 and 28, 2011) and a concurrent AS/MPE operation (June 29 through July 1, 2011).

Objectives of this pilot testing were as follows: to determine whether AS enhancement during MPE will increase MPE mass removal efficiency, and to

collect sufficient data for use in evaluating AS effectiveness and in designing a full-scale treatment system, if feasible. Figure 13 illustrates the typical AS pilot testing schematic. Information from compressor and other equipment used during AS testing is attached in Appendix H. During pilot testing the following engineering parameters were evaluated:

- Injection air pressure (psi)
- Injection flow rate (cfm, scfm)
- Mass removal efficiency (evaluated in the MPE section of this report)
- ZOI

Cycling or pulsing of air flow during operation of AS was also utilized (at 30 and 60 minute on- off- frequencies during the concurrent AS/MPE operation) to promote mixing of water in the treatment zone. Pulsing was utilized to effectively increase contact between air and contaminated aquifer materials and reduce effects of diffusion limitations and contaminant concentration gradients that form during continuous operation (EPA, 1997). During this pilot testing event, minor increases in influent PID concentrations were observed during pulsing; however, these increases were not substantial enough to be attributed solely to intermittent AS operation. A longer, possibly 10-day, event would generate a larger data set, which could be utilized in evaluating the percent increase in influent concentrations which would likely be observed during pulsing operations.

During concurrent AS and MPE operation, vapor flow rates (vapor removal rates) within the MPE system ranged from 38 to 111 scfm and the air injection flow rates during AS operation ranged from 0.35 to 7.74 scfm. Therefore, as required, vapor removal rates were at least 5 times greater than sparge system air injection rates; this helped eliminate possible explosive hazards and excessive vapor migration from developing during system operation.

3.4.2 AS Test Location and Equipment

The air injection system consisted primarily of injection wells OB-1 and SOMA-5, air compressor equipped with pressure gauge (Dewalt Emglo, single phase motor, type MK246), and ancillary equipment which included a pressure relief valve, inlet filter, and flow control valve to meter injection rates. Monitoring parameters (pH, conductivity, DO, ORP and temperature) were recorded utilizing in situ instrument YSI, model 556. Air flow, velocity and temperature were recorded at well head utilizing TSI Air Velocity Meter, model 8345. Supporting documentation including calibration sheet is attached in Appendix H.

Temporary aboveground plumbing and electrical connections were utilized during pilot testing; care was taken to ensure that power supplies were adequate to prevent thermal overload, and that the air supply piping was compatible with the blower outlet temperatures. The AS manifold consisted of flow regulator, air release, and back flow control valves, three pressure indicators each following

the flow control valves, flow meter port, and an optional tracer gas manifold which was not utilized during this pilot testing event. The AS pilot test schematic is shown in Figure 13. The surface mechanical system was tested prior to injecting subsurface air to verify that the components worked as designed. Injection pipes or tubing was connected to the riser using threaded or air tight connections; care was taken to prevent air leakage at joints. The system was checked for leaks throughout the pilot test.

A check valve was utilized during pulsed injection to prevent backflow up the well following shutdown. Table 12 summarizes parameters collected during this pilot test (AS and AS/MPE application).

3.4.3 Evaluating Air Pressure

In order to determine the desirable injected air pressure, depth to water was measured in all injection wells prior to beginning the test. Water column thickness was recorded at 4.4 feet in SOMA-5, 7.05 feet in OB-2, 8.05 feet in OB-1, and 7.5 feet in SOMA-7, with required baseline pressures necessary to overcome sparging depth calculated at 2 psi, 3 psi, 3.5 psi, and 3.3 psi, respectively (at a ratio of 2.3 feet of water column for each psi of pressure). The required baseline wellhead pressure during the pilot test was near the value necessary to overcome the sparging depth. Although pressures in excess of baseline were evaluated during this pilot test, the impact of any additional required pressure was evaluated carefully in incremental steps, because excessive pressures may fracture soils around the point of injection. The average well head pressure was recorded at 3.2 psi (Table 12).

3.4.4 Injection Flow Rate

The injection flow rate needs to provide an adequate percentage of air saturation within the zone of air distribution. The greater the sparging depth, the higher the flow rate necessary to achieve the air saturation. During concurrent operation of MPE and AS, the injection flow rate coincided with the ability to recover the stripped contaminant vapors. As mentioned earlier, vapor removal rates were at least 5 times greater than the sparge system air injection rates.

The target airflow rate needed to be sufficient to promote significant volatilization rates and/or maintain DO levels greater than 2 mg/L. During the AS test phase, the initial DO level in OB-1 was 0.71 mg/L; in SOMA-5, 1.84 mg/L; in OB-2, 1.7 mg/L; and in SOMA-7, 0.52 mg/L. At the end of the stand-alone AS test, DO in sparge well OB-1 was 5.25 mg/L and in SOMA-5 was 4.6 mg/L.

3.4.5 Zone of Influence

Several options are available for evaluating sparge ZOI during AS pilot testing. ZOI is defined as the greatest distance from a sparging well at which sufficient

sparge pressure and airflow can be induced to enhance the mass transfer of contaminants from the dissolved phase to the vapor phase. The ZOI of AS reaches roughly a conical shape during the steady state phase. The depth of injection will influence the injection pressure and the flow rate. The deeper the injection point, the greater the ZOI. Thus, more air will be required to provide a reasonable percentage of air saturation within the ZOI.

Accordingly, sparging points were positioned at the bottom of each sparge well. Each sparge tube consisted of 0.75-inch OD hose, perforated 6-inches at the bottom, with an opening at the bottom (Figure 13). OB-1 and SOMA-5 were utilized as sparging wells. Because site groundwater contamination is mainly limited to the two hot spot areas in the southern area of the site (Figure 2), no other areas were assessed for ZOI during AS pilot testing. One sparge well, SOMA-5, is located downgradient from its dedicated MPE well OB-2; this was because dissolved TPH in OB-2 were significantly higher than in well SOMA-5, and therefore this well was utilized for MPE extraction. It was determined that based on short-term AS operation, no long-term negative impact from this pilot testing layout was anticipated. However, if AS is implemented at the site on more permanent bases, and upgradient AS well need to be utilized. AS wells were located approximately 11 to 14 feet from their respective observation wells (OB-2 and SOMA-7), which were also utilized as extraction wells during MPE phase.

Generally, ZOI can range from 5 feet for fine-grained soils to 100 feet for coarse-grained soils. At this site, it is anticipated that the effective ZOI is likely to be no more than 10 to 15 feet.

When evaluating ZOI during this pilot test, changes in the following values were monitored:

- Groundwater mounding (water levels in wells)
- Change in pressure (soil gas pressures)
- Increase in DO and ORP
- Vapor concentration

3.4.5.1 Groundwater Mounding

During air injection, a water vertical movement occurs around the well, which will cause the vertical uplift in groundwater referred to as vertical component or mounding. The vertical component will cause a local rise in the water table, sometimes called water table mounding; it represents the amount of water displaced by injected air. Although mounding is also considered a design concern because it represents a driving force for lateral movement of groundwater and dissolved contaminants and can lead to spreading of the plume, it was utilized during pilot testing to determine the AS ZOI. If AS is found to be effective at the site, pulsing sparging may be implemented to minimize the influence of air injection on migration and spreading of the contaminant plume.

The magnitude of mounding depends on site conditions and location of observation wells relative to the sparge well. Mounding can vary from a negligible amount to several feet in magnitude. Figure 13A illustrates depth to water changes in monitoring points OB-2 and SOMA-7.

Changes in groundwater elevations were observed in both observation wells. Better response in terms of magnitude was observed in well SOMA-7, likely due to its downgradient and closer positioning from the AS well relative to OB-2, where depth to water rose 0.35 feet. However, compared to OB-2, longer time was required to observe any changes in groundwater elevation. After 1 hour and 34 minutes, groundwater only rose 0.05 feet bgs; however, after 2 hours and 49 minutes, a rise of 0.3 feet bgs was observed. Although not as profound, mounding was also observed in OB-2, where depth to water during start-up rose 0.1 feet bgs within the first 25 minutes of the test. Based on groundwater mounding data, it can be surmised that ZOI during this test extended for at least 11 to 14 feet from each sparge well.

3.4.5.2 Change in Pressure

ZOI can also be evaluated by monitoring changes in pressure. This technique involves measuring any increase in the soil gas pressure above the water table in the observation wells due to escape of the injected air into the vadose zone. During this pilot testing, OB-2 and SOMA-7 were utilized to obtain pressure change readings. A differential pressure gauge was used to obtain these data. It should be noted that the escaped air may quickly equilibrate in the vadose zone, and may spread over a larger area than the zone of air distribution in the vadose zone. As seen in Figure 13A, a more distinct vacuum increase and oscillation was observed in SOMA-7 compared to OB-2. These observation of pressure changes support the fact that ZOI extends at least from 11 to 14 feet bgs.

3.4.5.3 Change in DO and ORP Levels

Pre-pilot test measurements of DO and ORP parameters were compared to those obtained during AS testing to determine ZOI. DO levels began to increase in an observation well once injected air reached it. All parameters recorded during this test (DO, ORP, etc.) were measured in monitoring wells using in situ field instrument, since oxygen transfer could take place during sample collection and handling and may skew analysis results.

During the AS test phase, initial DO level in OB-1 was 0.71 mg/L; in SOMA-5, 1.84 mg/L; in OB-2, 1.7 mg/L; and in SOMA-7, 0.52 mg/L. At the end of stand-alone AS testing, DO in OB-1 was 5.25 mg/L and in SOMA-5 was 4.6 mg/L. ORP readings increased 154.8 mV to 215 mV in OB-2 and from 103.1 mV to 136 mV in SOMA-7 (Table 12). DO at the end of stand-alone AS testing was 4.43 mg/L in OB-2 and 0.41 mg/L in SOMA-7. During the test, DO readings in SOMA-7 initially rose to 1.83 mg/L before decreasing to 0.41 mg/L.

During concurrent MPE/AS operation, DO levels increased from 0.4 mg/L to 2.59 mg/L in OB-2 (which was utilized as an MPE extraction well), decreasing toward the end of the test to 1.99 mg/L; and in SOMA-7 (also utilized as extraction well) DO levels increased from 0.52 mg/L to 1.83 mg/L, increasing to 4 mg/L at the end of the second day of concurrent pilot testing (July 29, 2001). ORP levels decreased from 261.2 mV to 70.2 mV in OB-2 (June 30 to July 1, 2011) and decreased from 103.1 mV to 80 mV in SOMA-7 (June 28 to June 29, 2011). A redox potential greater than "0" is commonly interpreted to be an oxidizing environment, and anaerobic conditions are typically induced if DO in groundwater is less than 0.5 mg/L.

Note that in most cases, increased DO levels observed during short-duration pilot tests are likely due to air channels directly entering monitoring wells, rather than to overall changes in DO levels in the aquifer.

3.4.5.4 In-Well Vapor Concentration Changes

During the AS pilot testing phase, SOMA utilized a 1/6 HP air pump (Emerson SA55NVGTE-4870) to collect a pre- and post- air sparging vapor samples from AS observation points OB-2 (June 27, 2011) and SOMA-7 (June 28, 2011). These vapor samples were drawn directly from well casings. Results of this sampling are summarized in Table 13. Pre-sparging TPH-g and benzene concentrations were reported at 560,000 µg/m^3 and <34 µg/m^3 (OB-2) and 31,000 µg/m^3 and 310 µg/m^3 (SOMA-7). Post-sparging TPH-g and benzene concentrations were reported at 510,000 µg/m^3 and 96 µg/m^3 (OB-2) and 700,000 µg/m^3 and 909 µg/m^3 (SOMA-7), indicating a significant increase in TPH-g and benzene concentrations in SOMA-7, and decrease of TPH-g and increase of benzene concentrations in OB-2. Furthermore, as seen from Table 12, in-well PID readings, collected by drawing a vapor sample directly from the monitoring well, showed a steady increase of PID readings in SOMA-7 from 38 ppm to 1620 ppm; in OB-2, PID readings fluctuated from 58 to 401 ppm. The final PID reading for OB-2 was 210 ppm. This parameter was also evaluated by comparing vapor concentrations obtained during MPE operation alone to those obtained during the MPE/AS combined.

Wells were used to monitor both dissolved- and vapor-phase migration, to monitor changes in DO and in pressure, changes and to measure changes in depth to groundwater table surface. Evaluation of above parameters confirmed that ZOI during AS testing extended to at least 11 and 14 feet away from OB-1 and SOMA-5, respectively, as evidenced by favorable changes in evaluated parameters. Based on evaluated parameters, AS influence the monitoring point in SOMA-7 more successfully, which can likely be attributed to its downgradient position with respect to its sparging point OB-1. Figure 2A shows locations of AS and observation wells discussed in this section.

3.5 Concurrent Multi-Phase Extraction and Air Sparging

This part of the MPE test was conducted concurrently with AS pilot testing. Due to lower dissolved COCs, as well as lower influent PID readings in SOMA-5 compared to OB-2, observation well OB-2 was utilized as extraction well during the second phase of MPE and AS pilot testing and SOMA-5 was utilized for AS. Table 11 illustrates pre-MPE COC concentrations in all utilized wells. As seen from this table, TPH-g in SOMA-5 was 6,400 µg/L and in OB-2, 12,000 µg/L.

3.5.1 Extraction at SOMA-7 Concurrent with Sparging at OB-1

Concurrent pilot testing utilizing SOMA-7 began at 10:56 am on June 29, 2011 and was terminated at 18:50 pm the same day; total test time was 459 minutes or 7.65 hours. Tables 7A and 8A show operational data during this period. Induced vacuum and groundwater levels were measured at observation well OB-1 which was also utilized for air sparging. Air sparging summary is included in Table 12. During extraction, casing vacuum ranged from 22.6 to 24 inches of mercury and well vapor extraction flow rate ranged from 38 to 41 scfm. VOC concentrations in the extracted soil vapor stream measured using a PID ranged from 97 ppmv as hexane to 483 ppmv (Table 8A). As seen from previous observations, PID readings at this well during AS were higher than those observed during MPE-only operation. Thermal oxidizer temperatures ranged from 1,499 °F to 1,537 °F.

Because AS was conducted on OB-1 (utilized as observation during sole-MPE operation), induced vacuum could not be reliably recorded. A total of 670 gallons of groundwater (Table 8A) was extracted at an average rate of 1.46 gpm, which was an increase over sole MPE operation at this well. This increase is likely attributed to prolonged MPE operation, which aided in well redevelopment and increased groundwater flow rates.

3.5.2 Extraction at OB-2 Concurrent with Sparging at SOMA-5

Pilot testing utilizing OB-2 began at 13:50 pm on June 30, 2011 and was terminated at 18:45 pm on July 1, 2011. Total operation time for this part of the test was 1,685 minutes or 28 hours. Tables 7C through 9C show operational data for this well. Casing vacuum ranged from 19.1 to 24 inches of mercury and vapor extraction flow rate ranged from 39 to 82 scfm. VOC concentrations in the extracted soil vapor stream measured using PID ranged from 23 ppmv as hexane to 215 ppmv (Table 8C). Thermal oxidizer temperatures ranged from 1,493 °F to 1,600 °F.

A total of 891 gallons of groundwater (Table 8C) was extracted at an average rate of 0.53 gpm. Increase in extracted groundwater flow was observed during this phase of concurrent MPE and AS operation, likely resulting from prolonged

MPE operation, which aided in well redevelopment and increased groundwater flow rates.

3.6 MPE Pilot Testing Results Evaluation

Contaminant mass removed was estimated using flow rates and volume of air extracted during pilot testing, and VOC concentrations in ppmv as hexane measured by PID. VOC mass removal rate in lbs/day is estimated by dividing the estimated VOC mass removed during pilot testing by elapsed time.

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 (Table 9A). The highest instantaneous VOC mass removal rate was observed in well OB-2 at approximately 10 lbs/day. Note that due to high vacuums generated during this pilot testing, vapor dilution was utilized to restrain total vacuum values to below the system-recommended 27 inches of Hg or below; vapor dilution ranged between 0 and 40 scfm. Dilution typically occurred in the first day of pilot testing or when the extraction wells were first utilized. Estimated VOC mass removal rates and VOC mass removed during each configuration are presented below and in Tables 9A through 9C.

3.6.1 Mass Removal at SOMA-7

The estimated mass of VOCs removed from soil vapor extracted from extraction well SOMA-7 was 2.98 pounds (with 2.31 pounds removed during MPE operation alone and 0.67 pounds where operated concurrently with AS). The estimated total VOC mass removal rate was approximately 1.83 lbs/day (MPE operation), and 2.11 lb/day (concurrent AS and MPE operation) (Table 8A). As seen from above data, MPE mass removal rate was greater when utilized concurrently with AS.

3.6.2 Mass Removal at SOMA-5

The estimated mass of VOCs removed from soil vapor extracted from extraction well SOMA-5 was 0.65 pounds. Note that due to low mass removal rates this well was not utilized as an extraction well during concurrent MPE and AS operation. The estimated total VOC mass removal rate was approximately 0.63 lbs/day (Table 8B).

3.6.3 Mass Removal at OB-2

The estimated mass of VOCs removed from soil vapor extracted from extraction well OB-2 was 3.43 pounds (with 1.47 pounds removed during MPE operation alone and 1.96 pounds where operated concurrently with AS). The estimated total VOC mass removal rate was approximately 1.61 lbs/day (MPE operation), and 0.94 lb/day (during concurrent AS and MPE operation) (Table 8A). As could

be seen from above data, the MPE mass removal rate was slightly less when MPE was utilized concurrently with AS. Note that in the instance of OB-2, the respective air sparging well SOMA-5 was located downgradient from OB-2, unlike the upgradient location of air sparging well OB-1 in relation to its extraction well SOMA-7, likely impacting the MPE removal rates.

3.6.4 Pre- and Post- Pilot Test Groundwater Sampling

Table 11 lists analytical results for groundwater samples collected before and after the MPE event; pre-MPE sampling was conducted on June 16, 2011 and post-MPE sampling was conducted on July 19, 2011 as part of Second Semi-Annual 2011 groundwater monitoring. Certified laboratory analytical reports and chain-of-custody documentation are included in Appendix F.

In SOMA-5, utilized as an MPE well during the first pilot testing phase (MPE operation only) and as an AS well during the second phase (AS and AS/MPE operation), a significant decrease of COCs in dissolved phase was observed. TPH-g and benzene decreased from 6,400 µg/L and 2,500 µg/L to 1,300 µg/L and 470 µg/L, respectively.

In OB-1, utilized only as an observation well during the first pilot testing phase (MPE operation only) and as an AS well during the second phase (AS and AS/MPE pilot testing), concentration decrease was also observed. TPH-g and benzene concentrations decreased from 1,900 µg/L and 9.3 µg/L to 250 µg/L and 1.9 µg/L, respectively.

In SOMA-7, utilized only as an MPE extraction well, in general an increase in dissolved-phase COCs was observed. TPH-g and benzene increased from 1,900 µg/L and 330 µg/L to 7,600 µg/L and 1,100 µg/L, respectively.

In OB-2, utilized as an observation well during the first phase of pilot testing (MPE operation only) and as an extraction well during the second pilot testing phase (AS and AS/MPE pilot testing), in general an increase in dissolved-phase COCs was observed. TPH-g and benzene increased from 12,000 µg/L and 870 µg/L to 30,000 µg/L and 1,000 µg/L, respectively.

In most cases, in extraction wells, the post-MPE sampling exhibited higher COC concentrations than pre-MPE sampling, indicating that due to vacuum influence on the subsurface lithology and on contaminant distribution, contamination has migrated toward the extraction wells, resulting in increased contaminant concentrations around the extraction points.

3.6.5 Smear Zone Dewatering Overview

In order to expose the smear zone to facilitate airflow and removal of volatile contaminants, the level of the groundwater table must be lowered. Therefore, a

stinger was advanced slowly into the well casing to dewater the well by vacuum. As water was removed, vacuum was reestablished in the well casing and the stinger was advanced farther into the well casing. When the stinger reached the bottom of the well, the well was completely dewatered and the surrounding smear zone in the vicinity of the well was exposed. The stinger was not held at different depths for longer than required to dewater the well to that level. The stinger was elevated off the bottom of the well approximately 2-6 inches to facilitate water and vapor extraction processes. In some instances, stinger positions were changed during the test to observe changes in PID or groundwater levels. If no significant positive changes were observed, stingers were returned to their positions at 2-6 inches above well bottoms. Stinger depth changes that occurred during the test are noted in Tables 7A through 7C. Drawdowns were observed in observation wells. The volume of water removed was recorded, as well as changes in groundwater levels of surrounding observation wells. The steady-state pumping was achieved at all wells.

3.6.6 Soil Vapor Analytical Laboratory Results

Vapor samples were submitted under chain-of-custody documentation to Torrent Laboratory, a California state-certified environmental laboratory, and analyzed for TPH-g using USEPA Analytical Method TO-3 and for BTEX, 1,2-DCA and MtBE using USEPA Analytical Method TO-15. Vapor samples were obtained from the oxidizer stack to demonstrate compliance with BAAQMD various-locations permit conditions to determine destruction efficiency of the extracted vapors. Soil vapor analytical results are in Table 10. Certified laboratory analytical reports and chain of custody documentation are in Appendix F.

Estimation of total mass of TPH-g and benzene removed using laboratory data is presented in Table 10. The mass of TPH-g and benzene removed by the pilot test was estimated using soil vapor analytical results for the pilot test and the median flow rate. Estimated total mass removed from extracted soil vapor laboratory reporting limits were raised for analysis of influent concentrations due to the high concentration of non-target light end compounds with shorter carbon chains which were not quantified during the analysis. This indicates that some mass of lighter hydrocarbons such as methane and other substances was not accounted for during mass estimation, which was based on soil vapor analytical results.

Therefore, the discrepancy between the estimated total mass of VOCs removed utilizing PID data and the total mass of TPH-g and benzene removed utilizing laboratory analysis data results from the difference between PID measurements as hexane and laboratory analyses of the extracted vapor stream. It appears that vapor sampling for laboratory analysis may have coincided with lower PID readings and only represents snapshots of the pilot test. These occurrences likely influenced the calculation of contaminant mass based on vapor analytical results, contributing to the difference between the mass derived from PID readings and mass derived from analytical results. Concentrations based on

laboratory analysis are representative only of that moment in the pilot test at which the extracted vapor stream was sampled. Since laboratory analytical results are not representative of the entire length of the pilot test, unlike PID measurements that were collected continuously over the entire duration of the pilot test, the total mass of VOCs removed as measured by PID was used to estimate mass removals. Analytical results support compliance with the BAAQMD permit achieving an abatement efficiency of 99 percent.

3.6.7 Analysis of MPE Application

Based on post-MPE sampling, COC concentrations have decreased significantly in some wells, and MPE pilot test results indicate that this technique could be effective in removing lightweight petroleum hydrocarbons (PHCs) from the smear zone. However, during the pilot test, only 7.05 pounds of PHCs were removed from the subsurface with an average mass removal rate of 2.46 lbs/day. With ZOI ranging from 9.19 to 50.77 feet, vacuum was shown capable of propagating within the subsurface despite the fine-grained nature of some sediments. A total of 3,083 gallons of groundwater was removed from the subsurface.

A significant concentration reduction in SOMA-5 and OB-1, indicating that a limited mass was present at that location and this pilot testing event, an increase in dissolved COC concentrations at wells SOMA-7 and OB-2 indicated that contaminant mass remains at that location.

Based on above evidence, MPE enhanced by AS appears to be viable technology for remediating residual contamination at this site. However, due to low mass removal rates, it could be more costly to implement than some other alternatives.

3.7 Waste Water Discharge

As described earlier in this report, prior to MPE operation, a conditional permission to discharge treated groundwater was obtained from CVSD on June 15, 2011 to allow discharge during MPE activities (Appendix G). In preparation for discharge activities, on June 21, 2011, SOMA collected one effluent groundwater samples (after groundwater had passed through two new carbon drums delivered to the site by Baker). The sample was analyzed according to the CVSD discharge requirements. Because arsenic concentrations exceeded allowable discharge limits (Appendix F), to verify these detections, a duplicate effluent sample was collected on June 28, 2011 and analyzed for arsenic. Meanwhile, while waste disposal related samples were analyzed, all extracted groundwater was held on-site in two poly tanks. Arsenic result was still high in the second collected sample, at which point it was suspected that GAC is likely contributing arsenic to the water as it passes through. Therefore, on June 29, 2011 an influent sample was collected prior to treatment and analyzed. Results indicated that in fact the GAC was contributing to arsenic in effluent during

treatment and that the effluent concentration levels were acceptable for discharge to CVSD without GAC treatment. The waste water discharge log, reflecting all the pertinent discharge events was forwarded to Mary A. Jeyaprakash, Engineering Assistant with CVSD, on July 28, 2011 (Table 14). During pilot testing, 3,083 gallons were discharged into the CVCD connection at the site. Sampling results pertaining to discharge activities and pertinent correspondence are included in Appendix H.

4. SITE CONCEPTUAL MODEL SUMMARY

The following summarizes historical site findings and interprets all data obtained to date to increase understanding of stability, extent, and impact of site contamination on public health and the environment. A site conceptual model (SCM) has been updated utilizing the most current site assessment and groundwater monitoring data. Figure 14 presents a flow chart representing the SCM.

4.1 Site Geology and Hydrogeology

The site is underlaid 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. 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 (installation details documented below). The table 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

Depth to first-encountered groundwater has been recorded at approximately 12 feet bgs in the Shallow WBZ (when encountered) 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). During monitoring events, depth to groundwater in the Shallow WBZ ranged between 7.63 and 12.02, and in the Semi-Confined WBZ between 2.36 and 12.02 feet bgs. 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. Figure 3 shows locations of geological cross-sections, and Figures 4 through 6 illustrate geologic cross-sections A-A', B-B' and B-A'. The Semi-Confined WBZ is composed of silty sand, sand, and clayey sand. As seen in B-5 and ESE-4, this Semi-Confined WBZ narrows under the center of the site to an approximate 2-foot thickness. If viewed south from ESE-5, along TWB-5 and SOMA-4, the WBZ thickens to 10-15 feet, possibly due to fossilized stream channels (which can occur in fluvial depositional environments). 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.

4.2 Beneficial Uses of Groundwater

Based on observed current electrical conductivity (EC) values and other supporting documentation, at this time it can be concluded that groundwater at the site is a current or potential source of drinking water. In general, the Basin Plan states that drinking water resources shall not contain concentrations of constituents that exceed Maximum Contaminant Levels (MCLs).

4.3 Identification of Chemicals of Potential Concern

The goal of the SCM is to identify COCs and their presence in soil, soil vapor and groundwater, to determine whether COCs have been fully delineated in soil and groundwater.

Identified site-specific COCs include TPH-g, BTEX, MtBE, and TBA. COCs have been detected in soil and groundwater beneath the site, including recently at concentrations that exceed CRWQCB ESLs established for groundwater that is a current or potential source of drinking water (May 2008 Revision). Tables 1 through 5 summarize detected soil and groundwater concentrations compared to respective ESLs. There has been no historical or current observation of free product in groundwater wells at the site.

4.4 Remedial Goals and Risk Evaluation

As part of the remedial goal screening analysis, several available cleanup standards for petroleum-contaminated sites were reviewed in the past. According to the General Plan, the site is zoned “general commercial,” and located in an area consisting primarily of commercial with residential, mixed use and public areas located downgradient from the site. All properties in the immediate vicinity and downgradient of the site are commercial. At this time, there are no plans to rezone the site or vicinity for residential land use. Figure 15 illustrates the zoning subdivision of the site and its general vicinity. ESLs have been selected as the cleanup standard because these values are more conservative and would be more health protective. Representative site-specific COC concentrations were compared to ESLs. Soil and groundwater samples collected at this site have historically demonstrated concentrations moderately above listed ESLs (Tables 1 through 5).

COC	**Groundwater** *As current or potential source of drinking water*	**Soil <3.0 m (mg/kg)**	**Soil >3.0 m (mg/kg)**	**Soil Vapor Intrusion ($\mu g/m^3$)**	**Groundwater for Vapor Intrusion (in to Buildings)**

	(µg/L)				(µg/L)
TPH-g	100	83	83	1,000	Use soil gas
Benzene	1	0.044	0.044	84	540
Toluene	40	2.9	2.9	63,000	380,000
Ethyl-Benzene	30	2.3	3.2	980	170,000
Total Xylenes	20	2.3	2.3	21,000	160,000
MtBE	5	0.023	0.025	9,400	24,000
TBA	12	0.075	0.075	NL	NL

Note: NL = not listed; California Regional Water Quality Control Board, Interim Final November 2007, revised May 2008, Environmental Screening Limits, Tables A, C, E, F1-a.

Due to elevated COCs in soil and groundwater (above ESLs) and presence of potential receptors that could be exposed to contaminated groundwater or vapors, at this time the site does not meet the criteria for low-risk status. Therefore, a feasibility study should be implemented.

4.5 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 abut the station building on the south. Residential properties are mainly located beyond, upgradient of the site to the north, northwest and east. The only downgradient residential area in the site vicinity is approximately 400 feet to the southwest of the site (Figure 2). Based on historical rose diagram of groundwater flow direction, shown in Figure 2, the groundwater flow direction at the site has fluctuated between southerly and easterly, with the predominant trend to the southeast. Figures 16 and 17 show the sensitive receptor survey map and locations of underground utilities. Groundwater in the Shallow WBZ flows south to southeasterly and groundwater in the Semi-Confined WBZ flows southwesterly across the site.

SOMA evaluated Geotracker records and nearby sites, along with historical sensitive receptor survey conducted in August 2006. Review of records from the Department of Water Resources District identified 14 properties as having well(s) on their premises. Of these, five were reported to have irrigation wells. The remaining nine properties (locations) were reported to have monitoring or decommissioned wells. All five irrigation wells were located to the northeast (upgradient of the site) and are not expected to be impacted by contaminant plumes migrating off-site. Based on records obtained from ACPWA, 11 properties were identified as having well(s) on their premises. Of these properties, two were reported to have irrigation wells; the remaining nine were

reported to have decommissioned well(s), monitoring wells, or soil borings on their premises. From the two identified irrigation wells, one (No 11) is upgradient, and the other (No 4) is located approximately 2,000 feet downgradient from the site. Utilizing the most liberal contaminant velocity of 58.96 feet per year (utilizing 10 as retardation coefficient) for the TPH-g plume in the Shallow WBZ, it would take approximately 33 years for the hypothetical TPH-g plume with constant plume concentrations to reach the nearby receptor. Note, however, that due to low retardation coefficients, less time will be required for MtBE, benzene, and TBA plumes to migrate to downgradient areas. Although the off-site wells have shown detectable levels of MtBE and TBA in both WBZs in the past, the concentrations remain relatively low and decrease notably with distance from the source area. Therefore, it can be concluded that at this time the downgradient 4-inch irrigation well (No 4), with total depth of 24 feet bgs (Figure 16), is not likely to be impacted by the contaminant plume in the immediate future. However, due to relatively fast migration of less retarded plumes, exposure to impacted groundwater is still considered to be a viable exposure pathway, although likely not a complete pathway, due to large distances and relatively small concentrations involved. No new wells were identified during review of Geotracker records.

To evaluate whether existing utility lines, including water, sewer, and storm drain lines, are acting as preferential flow paths, utility maps of the site vicinity were obtained from CVSD and ACPWA. No sewer main, storm or water lines pass through the site. A sewer, storm, water and high-pressure gas main pass the site along Redwood Road and Castro Valley Boulevard at depths from 2 to 7.2 feet bgs. Private lines that connect the site to the main sewer, storm, and main water lines run at approximately 4 feet bgs. Since depth to groundwater in Shallow WBZ wells has fluctuated in the past between 7.33 and 12.02 feet bgs, it is likely that during periods of elevated groundwater table, the private or public utility lines along Redwood road could be temporarily submerged and act preferential flow pathways facilitating more rapid plume migration to downgradient areas.

Public records also indicated presence of seven potential sensitive receptors (facilities) within a ½-mile radius of the site. These receptors consisted of educational facilities such as learning centers and schools. Most are located up- or crossgradient from the site. One learning center (Kumon Math and Reading Center) is located at 20894 Redwood Road in Castro Valley approximately 150 to 200 feet south (downgradient) from the site. This is an after-school math and reading enrichment program and is classified as part of elementary education.

Based on data from 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.

Based on information obtained from the Castro Valley General Plan, Castro Valley Creek, a tributary to the San Lorenzo Creek, is located approximately 200 feet to the east-southeast. The section of the creek adjacent to the site and running from Castro Valley Boulevard north to Pine Street was identified by ACPWA as an improved channel with "Oak Riparian Woodland/ Wildlife Corridor." The creek's base flow channel is unlined and is approximately 15 to 20 feet wide. No special-status species were reported to use the Castro Valley Creek or its vicinity as their habitat. Although Castro Valley Creek is a potentially sensitive environment, because no special-status species were reported to inhabit this creek and the creek is not in close proximity to the site, the likelihood of significant impact from site groundwater contaminants is minimal.

Based on the above, exposed population/receptors of on- and off-site contaminants were determined to be:

1. Current and future on-site workers
2. Current and future off-site commercial workers and residents

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, downgradient adjacent commercial buildings, and downgradient residential properties have been identified as potential receptors.

For off-site receptors, the only source of chemicals is impacted groundwater. For current and future on-site workers, both contaminated soil and groundwater are sources of chemicals. It appears that the only exposure pathway in off-site areas is inhalation of volatile emissions from the groundwater and incidental ingestion of groundwater.

To evaluate potential health risks associated with on- and off-site occupants, hypothetical residents, and future construction workers, SOMA compared representative chemical concentrations at the site to established ESLs. In order to identify potential for vapor intrusion, current soil data was reviewed with respect to ESLs and groundwater monitoring data was reviewed with respect to the ESL values listed in Table F-1a of the CRWQCB Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater (May 2008). Since soils above the Shallow WBZ consist primarily of fine grain materials, in order to establish whether vapor intrusion is a complete exposure pathway, it may be advisable to conduct a soil gas study adjacent to the southern property boundary to the west and east of the station building.

The ESLs were used to establish initial cleanup goals, prioritize areas of concern, estimate potential health risks, and determine whether further evaluation is warranted. The presence of a chemical at concentration exceeding an ESL does

not indicate that adverse impact to human health or environment will occur. SOMA evaluated potential exposure routes for the on- and off-site areas Although the site is capped with concrete and no soil is exposed at the surface, at this time, as a conservative measure, site analytical data was compared to ESLs for residential and commercial land use and trench workers exposure scenario and to ESLs for groundwater as a current or potential source of drinking water. Many COC concentrations in groundwater and soil, especially along the southern portion of the site, exceed corresponding ESLs intended to address human health, groundwater protection, and nuisance concerns. Figure 14 shows the comprehensive SCM flowchart based on the *ASTM E-1689-55 Standard Guide for Developing SCM for Contaminated Sites*.

4.6 Nearby Release Sites

Xtra Oil is an active gasoline station located at 3495 Castro Valley Boulevard, directly west of the site. A Unocal station (20405 Redwood Road) is situated 0.2 miles north of the subject site on Redwood Road. A former Merritt Tire Sales property (3430 Castro Valley Blvd) is situated approximately 500 feet west of the site. Locations of these sites are illustrated in Figures 1 and 2. Due to the relatively long distance to the Unocal and Merritt sites, no significant impact from their contamination is expected on-site (although it should be noted that the subject site is located directly downgradient from the Unocal station). At this time, upgradient wells SOMA-8 and MW-6R have shown no significant groundwater impact. Due to the closer proximity of 3495 Castro Valley Boulevard, this LUST site has a higher likelihood of contributing to contamination at the subject site.

4.7 Extent of Soil and Groundwater Contamination

4.7.1 Lateral and Vertical Extent of Soil Contamination

Based on investigations by Delta Environmental (September 2008) and SOMA (August 2009 and 2011), residual soil impact (TPH-g) exists between 9 and 10 feet bgs in the vicinity of SOMA-7 (980 mg/kg). Historical sampling of SB-2 boring advanced along the western property boundary exhibited TPH-g at 230 mg/kg between 7.5 and 8 feet bgs. Residual contamination was also observed along the eastern portion of the site, in the vicinity of the former USTs. During the recent investigations, TPH-g ranged from 26 mg/kg at DP-5 (20 feet bgs) to 720 mg/kg in B-3 (12 feet bgs). TPH-g levels were 380 mg/kg at SOMA-5 (11 feet bgs) and 13 mg/kg at SB-6 (SOMA-6 location) at 11.5 feet bgs. Soil analytical data, which includes concentrations for COCs, are presented in Table 1. Minor isolated pockets of residual contamination were also observed between 15 and 17 feet bgs, but only TPH-g, in B-1 (120 mg/kg), was slightly above the ESL of 83 mg/kg for shallow or deep soils where groundwater is a current or potential drinking water source.

During the recent observation wells installation, detected TPH-g concentrations ranged between 1.2 mg/kg at OB-2 (16 feet bgs) and 120 mg/kg at OB-2 (15 feet bgs). All COCs were detected below the laboratory reporting limit in well OB-1. Figure 7 shows a concentration vs. depth graph, which illustrates TPH-g and benzene distribution with depth. As seen from this graph, in general, soil contamination (concentrations exceeding ESL) extends from several feet bgs to approximately 12 feet bgs within the Shallow WBZ. During the most recent monitoring event, depth to water in Shallow WBZ on-site wells ranged between 7.89 feet bgs (SOMA-7 and OB-1) and 9.95 feet bgs (SOMA-5). Therefore, at present the soil impact is shallow and extends from 4 to approximately 9.95 feet bgs (or soil groundwater interface) with elevated soil concentrations extending to approximately 12 feet bgs.

As time passes after a contaminant release, accumulations of light non-aqueous phase liquid (LNAPL) at or near the water table are susceptible to smearing within a vertical interval from seasonal fluctuations in water-table elevations, forming a smear zone. 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. Historically, groundwater in Shallow WBZ wells has fluctuated between 7.33 and 12.02 feet bgs, creating a smear zone where residual soil contamination is located.

4.7.2 Lateral and Vertical Extent of Contamination in Groundwater

During the post-MPE sampling event (July 19, 2011), which coincided with a routine groundwater monitoring event, depths to groundwater ranged from 7.89 feet in SOMA-7 and OB-1 to 10.2 feet in SOMA-2 in Shallow WBZ wells. Groundwater flows southeasterly in the Shallow WBZ at an approximate gradient of 0.015 feet/feet (Figure 18).

Depths to groundwater in the Semi-Confined WBZ ranged from 7.92 feet in ESE-5R to 10.70 feet in SOMA-1. Groundwater flows south to southeasterly across the site at an approximate gradient of 0.013 feet/feet (Figure 19).

In Shallow WBZ wells, TPH-g was below the laboratory-reporting limit in groundwater samples from SOMA-2, SOMA-3, and SOMA-8. Detectable TPH-g ranged from 250 µg/L in OB-1 to 30,000 µg/L in OB-2. Figure 20 displays the contour map of TPH-g concentrations in groundwater. The highest TPH-g concentration was observed in the vicinity of the former UST cavity at OB-2. Since the pre-MPE sampling event (June 2011), TPH-g decreased in SOMA-5 and OB-1, and increased in SOMA-7 and OB-2.

The following BTEX analytes were observed during this monitoring event:

- In SOMA-2, SOMA-3, and SOMA-8, all BTEX analytes were below laboratory-reporting limits.

- Toluene and ethylbenzene were below laboratory-reporting limits in SOMA-5.
- Toluene was also below laboratory-reporting limit in OB-1. Other BTEX analytes were at low levels in this well.
- The highest benzene concentration was detected in SOMA-7 at 1,100 µg/L. The highest toluene, ethylbenzene, and total xylenes concentrations were detected in OB-2 at 31 µg/L, 1,300 µg/L, and 3,020 µg/L, respectively.

Figure 21 displays the contour map of benzene in groundwater. As illustrated, the highest benzene concentration was observed in the vicinity of the former pump islands at SOMA-7. Since the pre-MPE sampling event (June 2011), benzene decreased in SOMA-5 and OB-1, and increased in SOMA-7 and OB-2. MtBE was below the laboratory-reporting limit in SOMA-2 and SOMA-8. Detectable MtBE concentrations ranged from 4.1 µg/L in OB-1 to 310 µg/L in OB-2. Figure 22 displays the contour map of MtBE in groundwater. Since the pre-MPE sampling event (June 2011), MtBE decreased in SOMA-3, SOMA-5, and OB-1, increased in SOMA-7, and remained same in OB-2.

In Semi-Confined WBZ wells, TPH-g was below the laboratory-reporting limit in groundwater samples except at ESE-1R, ESE-5R, and SOMA-4 where it was detected at 620 µg/L, 140 µg/L, and 57 µg/L, respectively. Groundwater elevation and analytical data are summarized in Tables 4 and 5.

Based on existing analytical data derived from the recent monitoring events, well installation activities and numerous historical investigations, the Shallow WBZ appears to be the most impacted along the southern portion of the site. Concentrations in the 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. Post- MPE detectable concentrations were elevated compared to pre-MPE sampling in SOMA-7 and OB-2.

The PHC plume in the Semi-Confined WBZ appears to be also situated along the southern portion of the site, near the former waste oil UST and downgradient of the former USTs.

4.8 Plume Behavior and Stability

Figures 24, 26, and 27 show updated MtBE, TPH-g and TBA concentrations with distance along the southern property boundary, and Figures 23 and 25 show updated MtBE and TBA concentrations with distance to the off-site areas. The TPH-g plume is stable and decreasing beneath ESE-5. The TPH-g plume is relatively stable and confined to site areas, the MtBE plume is stable and possibly advancing slowly beyond SOMA-3, and the TBA plume has advanced to well MW-7 (MW-7R), southeast of the site.

To assess stability of the contaminant plume. SOMA updated historical contamination trends for on- and off-site wells. Figures 28 through 33, show contaminant concentration trends in relation to groundwater elevation in ESE-1R, ESE-2R, ESE-5R, SOMA-1, SOMA-5, and SOMA-7, respectively.

As seen from these graphs, after the 2003 UST removals, COCs dropped in ESE-2, MW-7, and SOMA-1. MtBE is observed to migrate off-site, passing SOMA-2 from October 2004 through September 2007 and concentrations increased in SOMA-3 from early 2006, until dropping below ESLs during recent monitoring events. TPH-g was elevated in SOMA-4 until August 2006, when levels dropped below ESL and have remained constant at approximately 10 µg/L. Removal of the former USTs did not appear to have impacted concentrations at well ESE-5, where TPH-g concentrations have fluctuated with spikes in early 2005 and 2006, when concentrations jumped from 2,500 and 3,500 µg/L to nearly 5,000 µg/L. TPH-g levels have decreased with some minor fluctuations. The UST removal appears to have affected MtBE concentrations in ESE-1. Since 2003, MtBE in ESE-1 has decreased. Benzene and TPH-g concentrations have fluctuated, but remained around 100-200 µg/L for benzene and around 1,000 µg/L for TPH-g. This suggests that the plume affecting these wells did not result from the documented 2000 piping release, but continued elevated concentrations suggest that the plume affecting these wells is moving across the lower portion of the site, in an easterly direction.

As seen from these figures, almost all COCs have been steadily decreasing over time with significant recent increases or decreases in wells utilized during pilot testing.

SOMA evaluated contaminant degradation rates in order to analyze the time course of contaminant mass changes in groundwater. The first-order attenuation rate constant calculations were conducted; results of this evaluation are detailed in SOMA's report dated March 11, 2011.

The table below summarizes these estimates.

COC	**ESE-1 (ESE-1R)**	**ESE-2 (ESE-2R)**	**ESE-5 (ESE-5R)**	**SOMA-1**	**SOMA-5**	**SOMA-7**
Degradation Estimates (Years from today)						
TPH-g	15.67	NA	74.61	*below C goal*	7.24	4.25
TPH-g (Alt.)	-	-	-4.96	-	-	-
Benzene	**NA (increasing trend)**	*below C goal*	*below C goal*	*below C goal*	**88.20**	**NA (increasing trend)**
MtBE	1.94	3.99	7.86	0.08	8.80	-0.04

TBA	18.22	*below C goal*	*below C goal*	10.47	37.18	1.60

NA - Not applicable
Negative year values, indicate that concentration goal has already been reached or is about to be reached

Hydraulic conductivities were estimated based on sediment type and other descriptive features. Both Shallow and Semi-Confined WBZs are composed of silty sands (SM) and sandy silts (ML) and some sands (SP), with sands being more predominant in the Semi-Confined WBZ. Therefore, hydraulic conductivities can be estimated between 10^{-5} and 10^{-2} (cm/s), between 0.0282 ft/day and 28.2 ft/day, respectively. The range of TPH-g contaminant velocities was estimated between 1.62E-0.4 feet/day (0.059 feet/year) and 1.62E-01 feet/day (58.96 feet/year) for the Shallow WBZ and between 9.71E-0.5 feet/day (0.035 feet/year) and 9.71E-02 feet/day (35.45 feet/year) for the Semi-Confined WBZ.

It is also known that less retarded contaminants, such as MtBE (retardation coefficient of 1) will move faster with the same velocity as groundwater. Based on available data, and as seen in the concentration vs. distance trend documented in Figure 17, the margin of the MtBE plume has already advanced beyond the property boundary.

5. FEASIBILITY STUDY

5.1 Remediation Target Zones

Based on results of previous assessments and quarterly groundwater monitoring/ sampling events conducted at the site, the following remediation target zones were evaluated:

1. Shallow soils above 12 feet bgs in the vicinity of pump islands and to the west and east of the station building
2. Smear Zone within Shallow WBZ in the southern portion of the site. This zone is impacted with PHCs above acceptable levels for protecting human health and the environment and thus warrants active remedial action.
3. The Semi-Confined WBZ in the southern portion of the site (mainly in well ESE-1R) has been impacted by dissolved and adsorbed PHC phases. However, since Semi-Confined WBZ wells were just recently reconstructed and are no longer cross-screening the impacted shallow and deeper zones, at this time it is recommended to continue groundwater monitoring for several quarters to determine whether concentrations will continue to decline and natural attenuation is occurring.

5.2 Contaminant Mass Summary

The following mass summary was previously documented in SOMA's report dated March 11, 2011. Note that the process of mass calculation relies on inference and extrapolation of data and judgment in estimating data elements where there is great variability and a high margin of error; therefore, this mass estimate should be updated in the future if the post-MPE sampling concentrations remain constant or increase further during the next sampling event.

5.2.1 Mass in Soil above the Shallow WBZ

The impacted shallow soils consist primarily of sandy silts, clayey silts and sandy clays. Assessment results indicated that approximately **468** pounds of TPH-g are adsorbed to soils within the studied sampling interval (4 to 12 feet bgs) beneath the site. Table 15 summarizes mass estimates for TPH-g.

Table 15 also summarizes the contaminant mass distribution in shallow soils and Shallow and Semi-Confined WBZs at the site. Note that due to approximations used in these calculations, a minor overlap (resulting from seasonal groundwater fluctuations) of contaminant mass within shallow soils and the Shallow WBZ could exist.

5.2.2 Mass Within Saturated Thickness of Shallow and Semi-Confined WBZs

Assessment results indicated that within the Shallow WBZ approximately 57 pounds of TPH-g, 2.19 pounds of benzene, and 0.032 pounds of MtBE exist in dissolved and adsorbed phases within the saturated sediments that must be addressed in order to achieve remedial cleanup goals proposed for the site. Assessment results also indicated that within the Semi-Confined WBZ, approximately 8.87 pounds of TPH-g, 0.018 pounds of benzene, and 0.012 pounds of MtBE exist in dissolved and adsorbed phases within the saturated sediments. Table 15 summarizes mass calculation details.

As seen from this table, approximately **468.45** pounds of TPH-g are adsorbed to shallow soils, and the contaminant mass total for the major COC within the Shallow and Semi-Confined WBZs was **68.23** pounds (for an estimated total of **536.68** pounds).

5.3 Evaluation of Appropriate Remedial Alternatives

The following appeared to be suitable for site remediation and were evaluated in more detail:

1. MPE

2. AS Enhanced MPE
3. Soil excavation and off-site disposal with ORC application
4. Enhanced aerobic bioremediation

Due to elevated COCs at the site, the no-action alternative or natural attenuation was not considered at this time. Table 16 summarizes cost effectiveness of screened remedial approaches. It should be noted that evaluated costs are preliminary, and were utilized solely for the purpose of determining the most cost effective remedial alternative, a more detailed cost estimate will be prepared for any selected remedial alternative and submitted for pre-approval.

5.3.1 Air Sparging Enhanced Multi-Phase Extraction

MPE combines soil and groundwater treatment for remediating contamination. MPE can accelerate removal of soil and dissolved groundwater contamination and remediate capillary fringe and smear zone soils with minimal disturbance to the site.

Due to fragmentation of the smear zone, the fine-grained nature of the WBZ and the high cost of intermittent operation, this method may not be the most cost effective if utilized over a long period. During pilot testing, 7.05 pounds of PHCs were removed from the subsurface with an average mass removal rate of 2.46 lbs/day. With ZOI ranging from 9.19 to 50.77 feet, vacuum was shown capable of propagating within the subsurface despite the fine-grained nature of some sediments. A total of 3,083 gallons of groundwater was removed from the subsurface. It was estimated that approximately 468 pounds of COCs remain in the subsurface (soils between 4 and 12 feet bgs); with above pilot-test-established removal rates, approximately 212 days of continuous MPE operation will be required to address the existing contaminant mass. Based on preliminary evaluation, the site appears to have 3-phase power necessary for permanent treatment system installation. During this estimate, an assumption was made that during MTS intermittent operation the number of MPE operation days will likely be reduced due to the pulsed nature of application. The estimated cost for MPE operation (with AS enhancement) at the site is $246,500 for permanent system installation and operation, and $707,000 for MTS intermittent system operation (Table 16).

5.3.2 Air Sparging

AS is an in situ remedial technology that reduces concentrations of volatile constituents in petroleum products that are adsorbed to soils and dissolved in groundwater. The introduction of air through several sparge wells stimulates in situ aerobic biodegradation of dissolved-phase PHCs by increasing subsurface oxygen concentrations and enhances COC volatilization. Based on the nature of soil contamination, this approach alone may not be effective in addressing all

impacted site areas. However, it may also be utilized as an enhancement to either soil vapor extraction or MPE. Due to the shallow nature of soil contamination and presence of subsurface installations (fuel piping and tanks) at the site, this alternative was only evaluated as an enhancement to MPE.

5.3.3 Soil Excavation and Off-Site Disposal with ORC Application

Soil excavation and off-site disposal is a well-proven and readily implementable technology, and a very common method of removing hazardous materials from a site. Contaminated material is removed and transported to permitted off-site treatment and/or disposal facilities. Excavation and off-site disposal is applicable to the complete range of contaminant groups with no particular target group.

Results of this recent investigation indicate that though elevated dissolved contamination exists at the site, the smear zone still substantially contributes to degradation of groundwater quality. It was determined that three excavation areas are required to address site contamination, one near SOMA-7, one near OB-2, and one near historical boring B-3 (east of pump islands). The complete removal of the smear zone and the upper portion of the saturated area via excavation will immediately discontinue the mass transfer from soil to groundwater effectively remediating the site. In order to address any post-excavation residual hydrocarbon impact to groundwater beneath the site, as part of the projected excavation cost, a cost of one-time (in open excavation pit) ORC application was included as part of this cost estimate. The estimated cost for remedial excavation was $255,933.

It should be noted that excavation is an effective remedial approach for addressing shallow soil contamination at the site, and it will yield fast COC reduction in soils that are contributing to groundwater quality degradation beneath the site. However, due to the fragmented nature of soil contamination (excavation of 3 separate shored areas to address the soil contamination) and logistical issues associated with its implementation, this may not be the most desirable alternative for the property owner (operator) as it will impact business operation resulting in undesirable financial hardships. Table 16 summarizes the projected excavation cost.

5.3.4 Enhanced Aerobic Bioremediation

This alternative includes introduction of an oxidizing compound or oxygen releasing compound (ORC Advanced). Due to the shallow source area and the likelihood of excess off-gassing, chemical oxidation (RegenOx) is not considered a viable alternative at this time, Based in injection testing ORC application could be implemented and can potentially be effective at the site. Although water injection proved to be effective, no pilot testing that will indicate the impact of ORC on subsurface concentrations was conducted. ORC application via direct push borings will entail installation of estimated 73 shallow borings and chemical

injection. It should be noted that this extensive drilling operation would be disruptive to the site business. Remedial proposal from Regenesis, ORC supplier is attached in Appendix H. These injections will focus on the remedial target areas. The estimated cost for ORC injection was $271,193, which included possible partial reapplication 12 months after initial ORC injection. Although this is a comparable alternative (cost-wise), note that its effectiveness in terms of contaminant mass reduction is based on ORC application at similar sites and not site-specific ORC application tests. Therefore, selection of this approach as a single remedial option for the site may not be advisable at this time unless further pilot ORC injection and site-specific contaminant decrease evaluation is implemented to evaluate its site-specific effectiveness in PHC mass reduction.

6. CONCLUSIONS AND RECOMMENDATIONS

Since at this time the site could not be characterized as a low-risk case, SOMA proposes implementing a remedial action at the site. As part of this investigation and pilot testing, SOMA installed two Shallow WBZ observation wells (OB-1 and OB-2), advanced two water injection borings (IPT-1 and IPT-2) extending into the Semi-Confined WBZ, conducted aquifer injection pilot testing, implemented field pilot testing of MPE and AS, and prepared this report summarizing results, findings, and recommendations.

During the water injection aquifer test, two test borings were advanced and approximately 105 gallons of water (from 5 to 25 feet bgs in each test boring) was injected. The injected quantity met ORC design requirements.

During MPE pilot testing, 7.05 pounds of PHCs were removed from the subsurface with an average mass removal rate of 2.46 lbs/day. With ZOI ranging from 9.19 to 50.77 feet, vacuum was shown capable of propagating within the subsurface despite the fine-grained nature of some sediments. A total of 3,083 gallons of groundwater was removed from the subsurface. During AS pilot testing, it was determined that ZOI during this test extended for at least 11 to 14 feet from each sparge well. AS appears to be more effective in the area of SOMA-7 where the respective sparge well was located upgradient from the extraction well. In SOMA-7, a 15 percent increase in mass removal rate was observed during a concurrent MPE and AS operation. In well OB-2, a 41 percent decrease in mass removal rates was observed during concurrent MPE and AS operation, indicating that in order to achieve mass removal increase at this well an upgradient sparge well will need to be installed.

During post-MPE sampling, in SOMA-5, TPH-g and benzene decreased from 6,400 µg/L and 2,500 µg/L to 1,300 µg/L and 470 µg/L, respectively. In OB-1, TPH-g and benzene decreased from 1,900 µg/L and 9.3 µg/L to 250 µg/L and 1.9 µg/L, respectively. In SOMA-7, TPH-g and benzene increased from 1,900 µg/L and 330 µg/L to 7,600 µg/L and 1,100 µg/L, respectively. In OB-2, TPH-g and

benzene increased from 12,000 µg/L and 870 µg/L to 30,000 µg/L and 1,000 µg/L, respectively.

Cost of feasible remedial alternatives are almost identical: MPE/AS permanent installation at $246,500, remedial excavation (with ORC application within open excavation) at $255,933, and ORC application via direct push borings installation at $271,193. Remedial excavation, with ORC application within the excavated area to address any remaining PHC impact to groundwater, was determined to be the quickest (in terms of implementation) but most disruptive alternative for the site. Permanent MPE/AS installation and operation was the least costly, even though mass removal rates established during the recent pilot testing were relatively low. However, based on achieved concentrations reductions in several wells, AS enhancement to MPE would likely make this remedial alternative more effective than the stand-alone MPE application. ORC application via direct push borings will entail installation of approximately 73 shallow borings and chemical injection, with possible 40 percent reapplication after 12 month. ORC installation via subsurface drilling is an extensive operation, which will also be disruptive to the site business. Since all above remedial costs are comparable, SOMA will communicate with the property owner and ACEHS to determine whether excavation will be feasible and not severely damaging to site's business or if a less disruptive remedial action would be preferred. If excavation is not feasible at this time, SOMA will default to the next most feasible remedial alternative-permanent MPE/AS system installation and operation. Once ACEHS approval is received, SOMA proposes preparing a remedial action plan for the site, which will detail remedial design and implementation procedures.

It is furthermore recommended to continue groundwater monitoring for several consecutive quarters to determine whether contaminant concentrations will continue to change during the post-pilot testing period. In addition to standard monitoring, SOMA recommends evaluating pertinent natural attenuation indicators for this WBZ (e.g., DO, ORP, Fe +2, NO^{3-}, and SO_4^{-2}).

Since soils above the Shallow WBZ consist primarily of fine-grained materials, and elevated VOCs were detected in wells located near the site building, SOMA recommends conducting a soil gas study adjacent to the southern property boundary to the west and east of the station building. This study will be conducted to establish whether vapor intrusion is a complete exposure pathway. If this approach is approved, SOMA will prepare a workplan detailing the proposed soil vapor study.

FIGURES

N

approximate scale in feet

0 60 120

Figure 1: Site vicinity map.

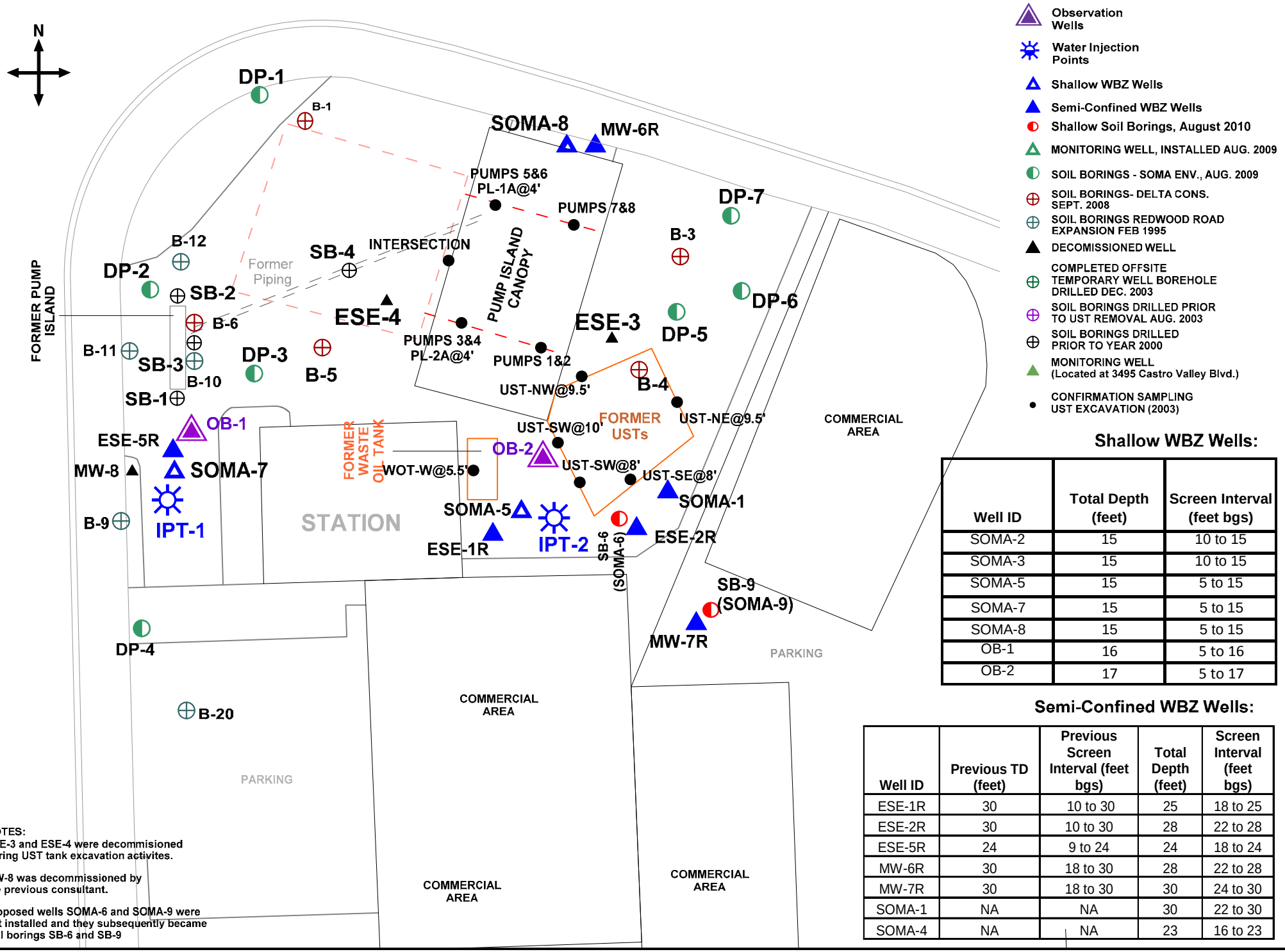
SOMA ENVIRONMENTAL ENGINEERING, INC.

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

approximate scale in feet
0 60 120

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.

SOMA ENVIRONMENTAL ENGINEERING, INC.



NOTES:
ESE-3 and ESE-4 were decommisioned during UST tank excavation activites.

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

Shallow WBZ Wells:

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

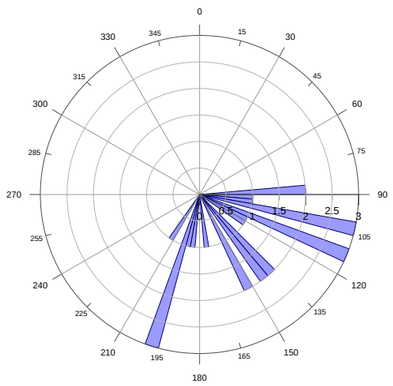
Semi-Confined WBZ Wells:

Well ID	Previous TD (feet)	Previous Screen Interval (feet bgs)	Total Depth (feet)	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

approximate scale in feet
0 30 60

Figure 2A: Site map showing locations of newly installed observation wells and water injection borings.

SOMA ENVIRONMENTAL ENGINEERING, INC.



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

N

COMMERCIAL AREA
Building
Building
Building
MW-1
MW-4
UST Pit Location
Canopy
EW-1
Pump Island
MW-3
Building
COMMERCIAL AREA
COMMERCIAL AREA
MEDIAN
OW-1
MEDIAN
PARKING
MW-5
MW-10
COMMERCIAL AREA
Building
MW-6
OW-2
RESIDENCE
RESIDENCE
RESIDENCE
RESIDENCE
RESIDENCE
REDWOOD COURT
MW-7
MW-11

CASTRO VALLEY BLVD
A
SIDEWALK
DP-1
B-1
APPROXIMATE LOCATION OF NEW USTs.
SOMA-8
MW-6R
PUMP ISLAND CANOPY
DP-7
B-3
DP-2
B-12
ESE-4
ESE-3
DP-5
DP-6
B-6
B-10
B-5
B-4
DP-3
FORMER PUMP ISLAND
B-11
OB-1
OB-2
FORMER USTs
ESE-5R
MW-8
SOMA-7
STATION
FORMER WASTE OIL TANK
SOMA-5
SOMA-1
COMMERCIAL AREA
B
B-9
SB-2
ESE-1R
SB-1
SB-6 (SOMA-6)
ESE-2R
SB-9 (SOMA-9)
DP-4
MW-7R
B-20
B'
TWB-1
PARKING
COMMERCIAL AREA
SOMA-2
SIDEWALK
COMMERCIAL AREA
COMMERCIAL AREA
TWB-5
PARKING
TWB-4
TWB-2
PARKING
COMMERCIAL AREA
MW-8
TWB-3
SOMA-4
SOMA-3
A'
PARKING
COMMERCIAL AREA
COMMERCIAL AREA
COMMERCIAL AREA
COMMERCIAL AREA
MW-12

- 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
- DECOMISSIONED 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 decommisioned during UST tank excavation activites.

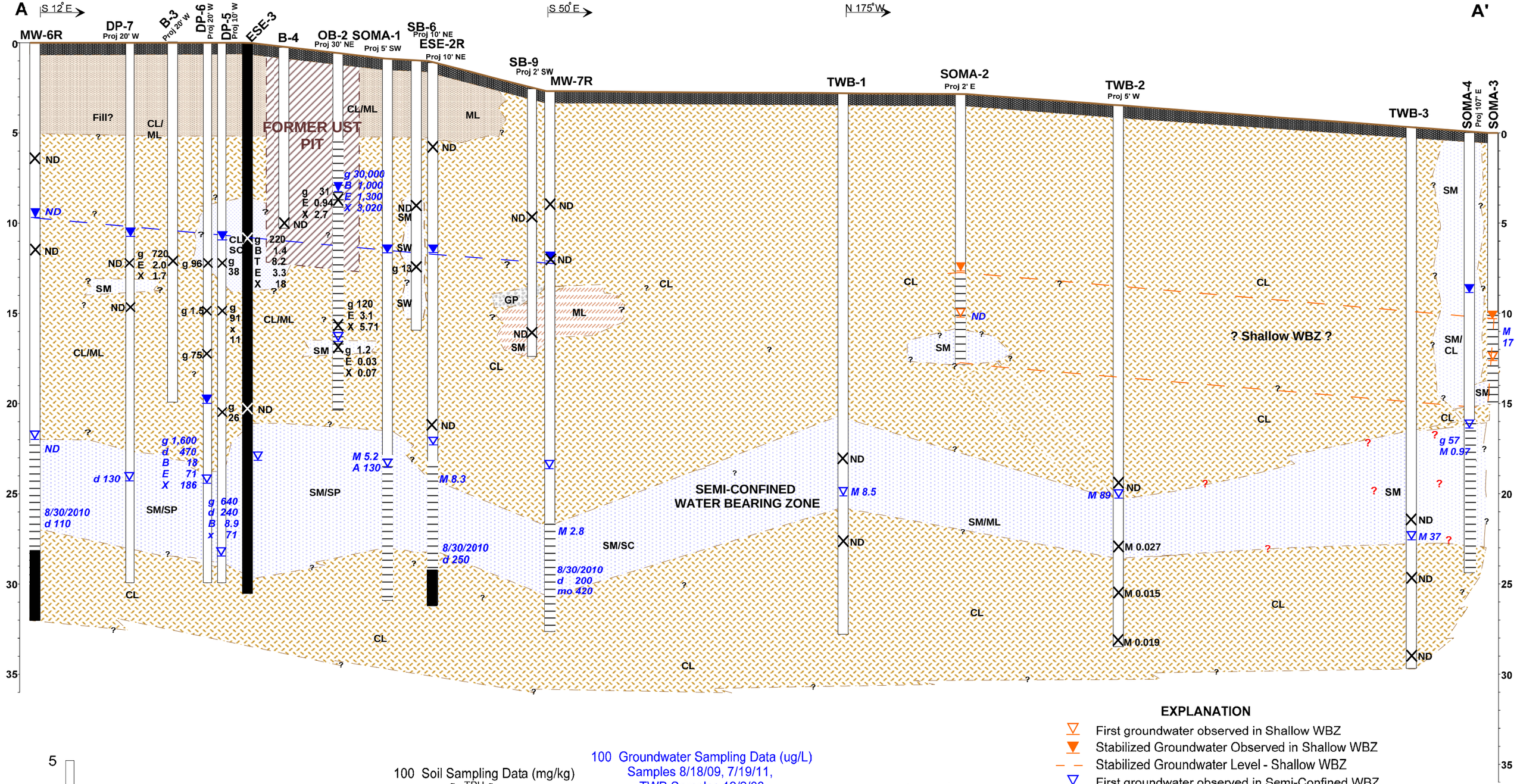
MW-8 was decommissioned by the previous consultant.

Proposed wells SOMA-6 and SOMA-9 were not installed and they subsequently became soil borings SB-6 and SB-9

approximate scale in feet
0 60 120

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

SOMA ENVIRONMENTAL ENGINEERING, INC.



5

0 20

approximate scale in feet

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

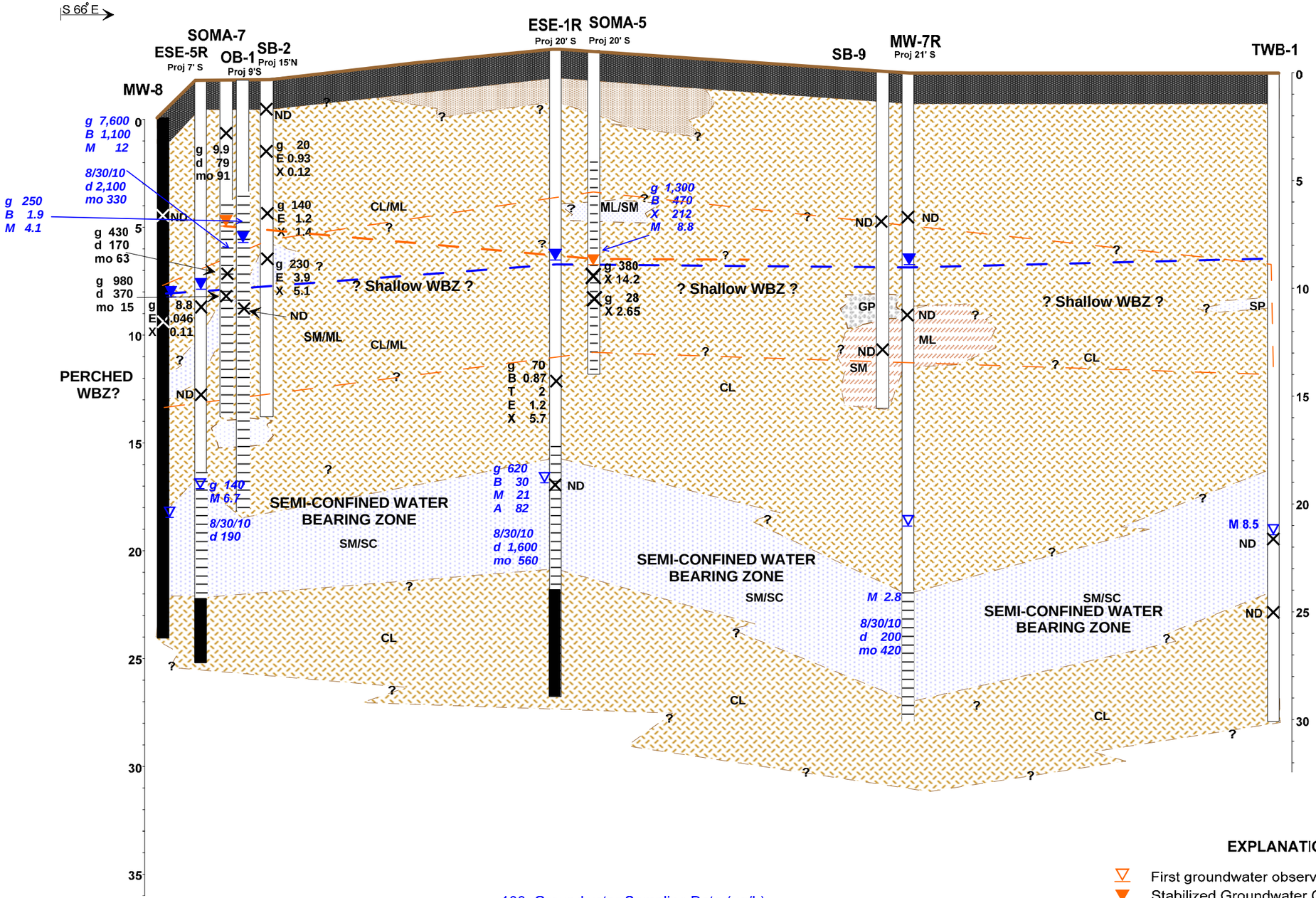
- First groundwater observed in Shallow WBZ
- Stabilized Groundwater Observed in Shallow WBZ
- Stabilized Groundwater Level - Shallow WBZ
- First groundwater observed in Semi-Confined WBZ
- Stabilized Groundwater Observed in Semi-Confined WBZ
- Stabilized Groundwater Level - Semi-Confined WBZ
- Screened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

Figure 4: Geologic Cross-Section A-A'

ENVIRONMENTAL ENGINEERING, INC.

B

B'



5

0 20

approximate scale in feet

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'

SOMA ENVIRONMENTAL ENGINEERING, INC.

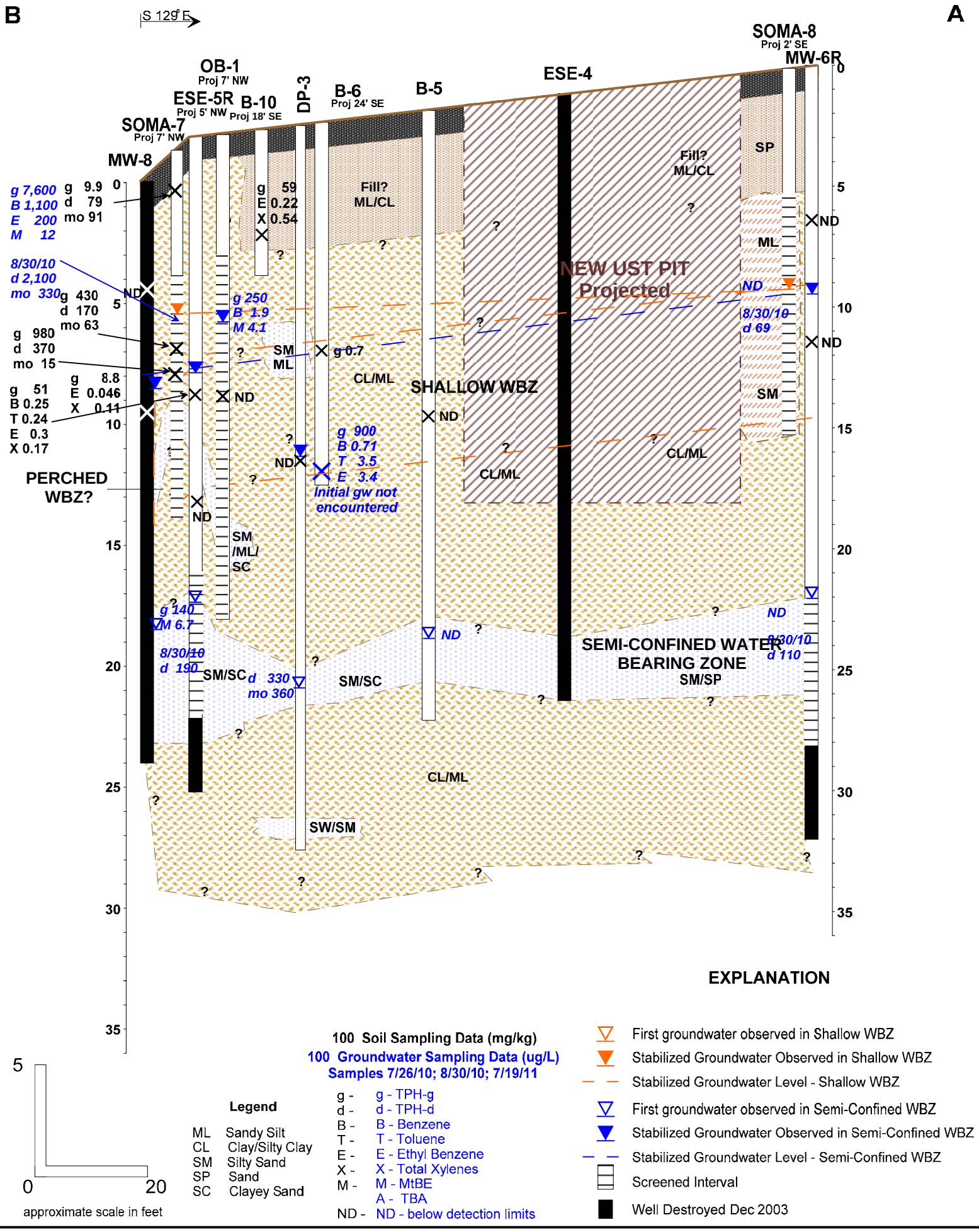
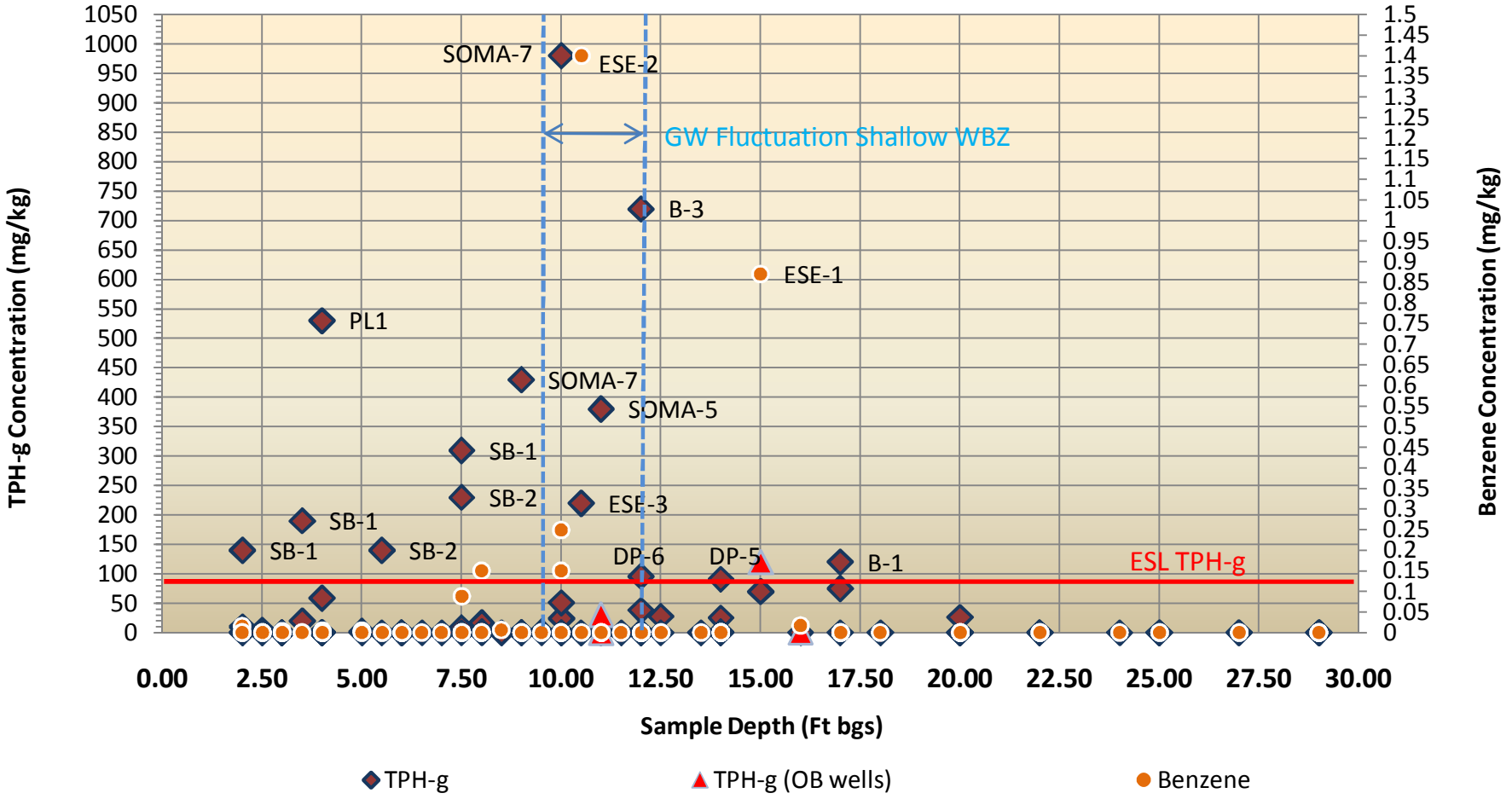


Figure 6: Geologic Cross-Section B-A'

SOMA ENVIRONMENTAL ENGINEERING, INC.

Figure 7: TPH-g and Benzene Concentration in Soil vs. Depth



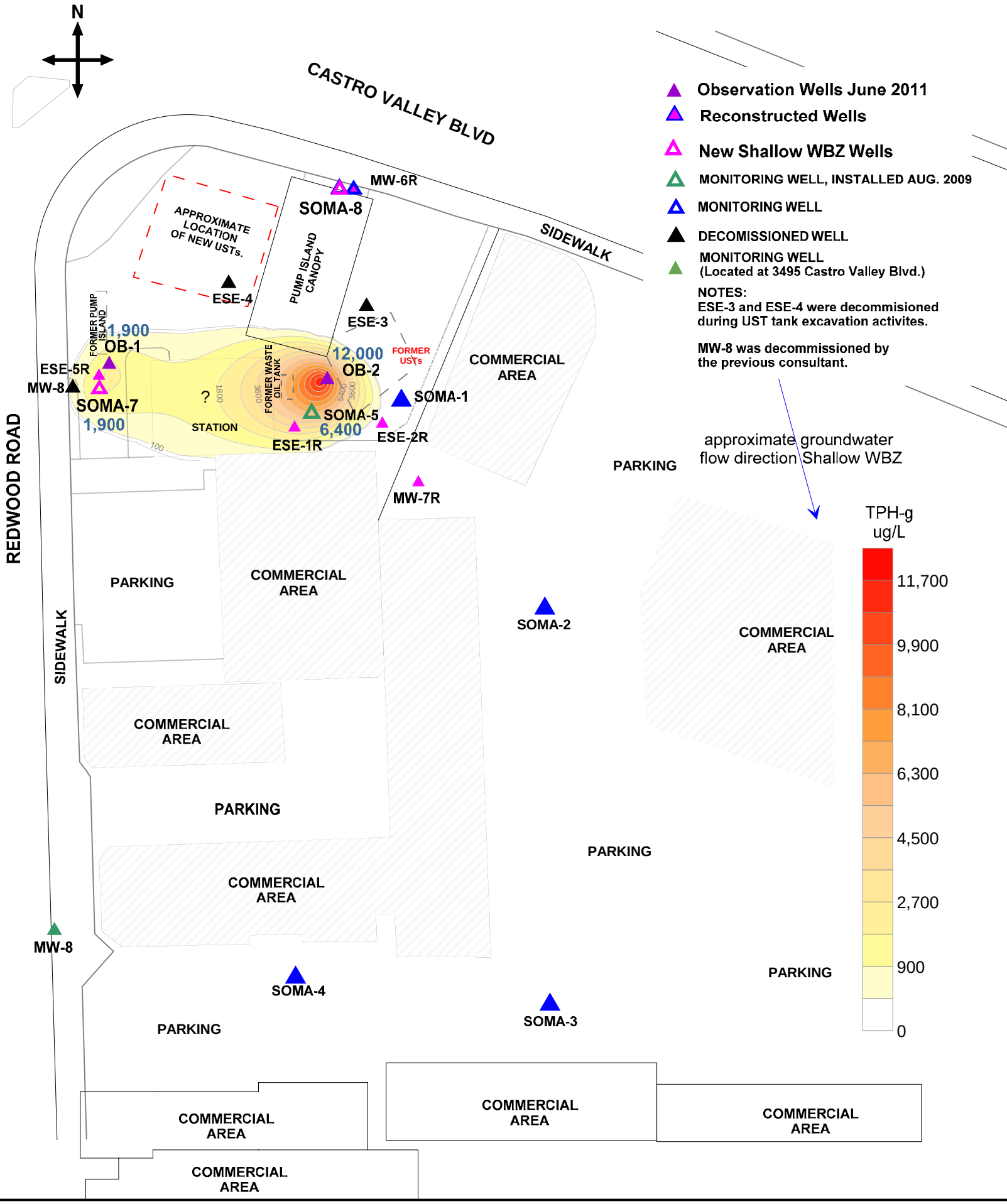
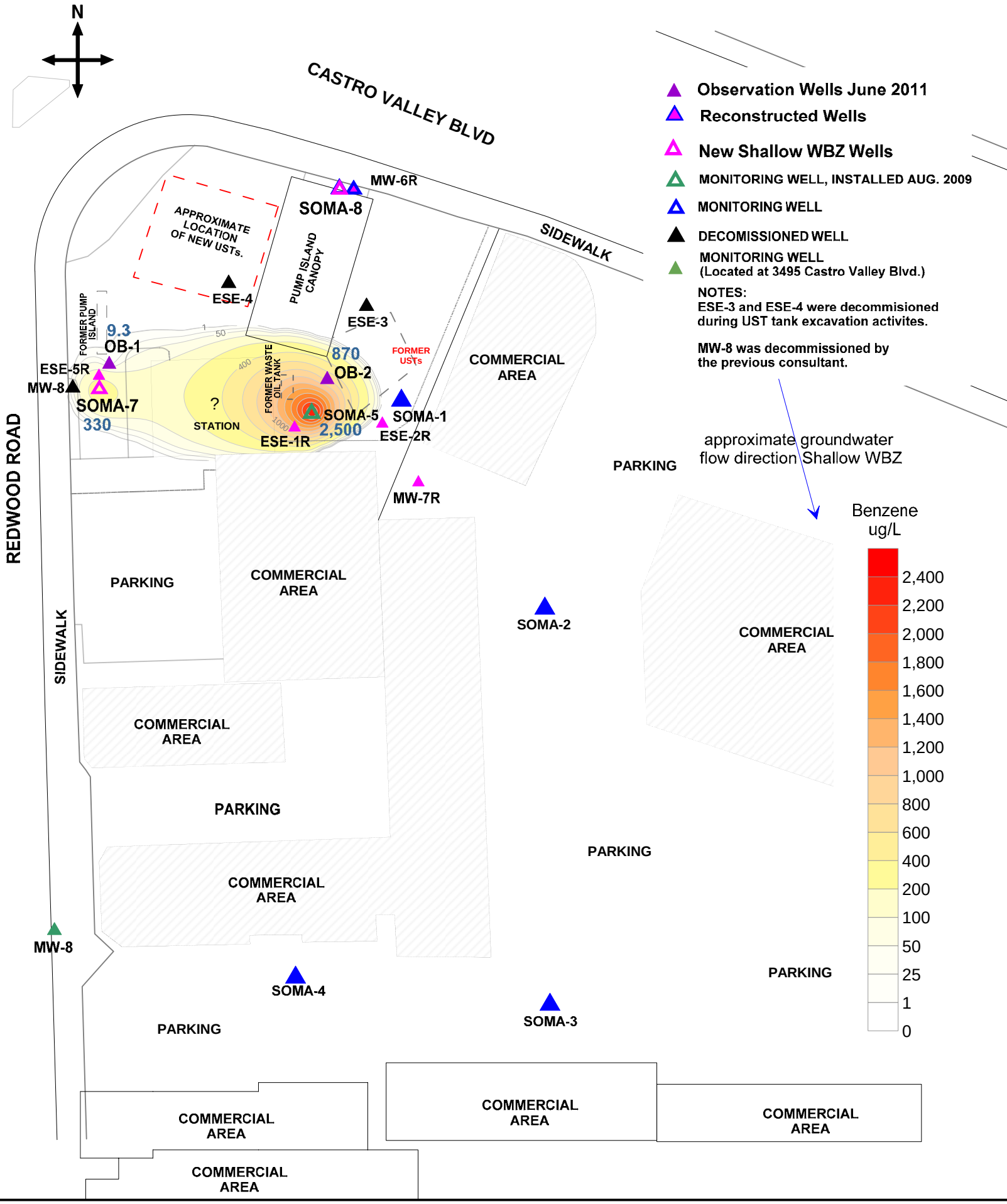
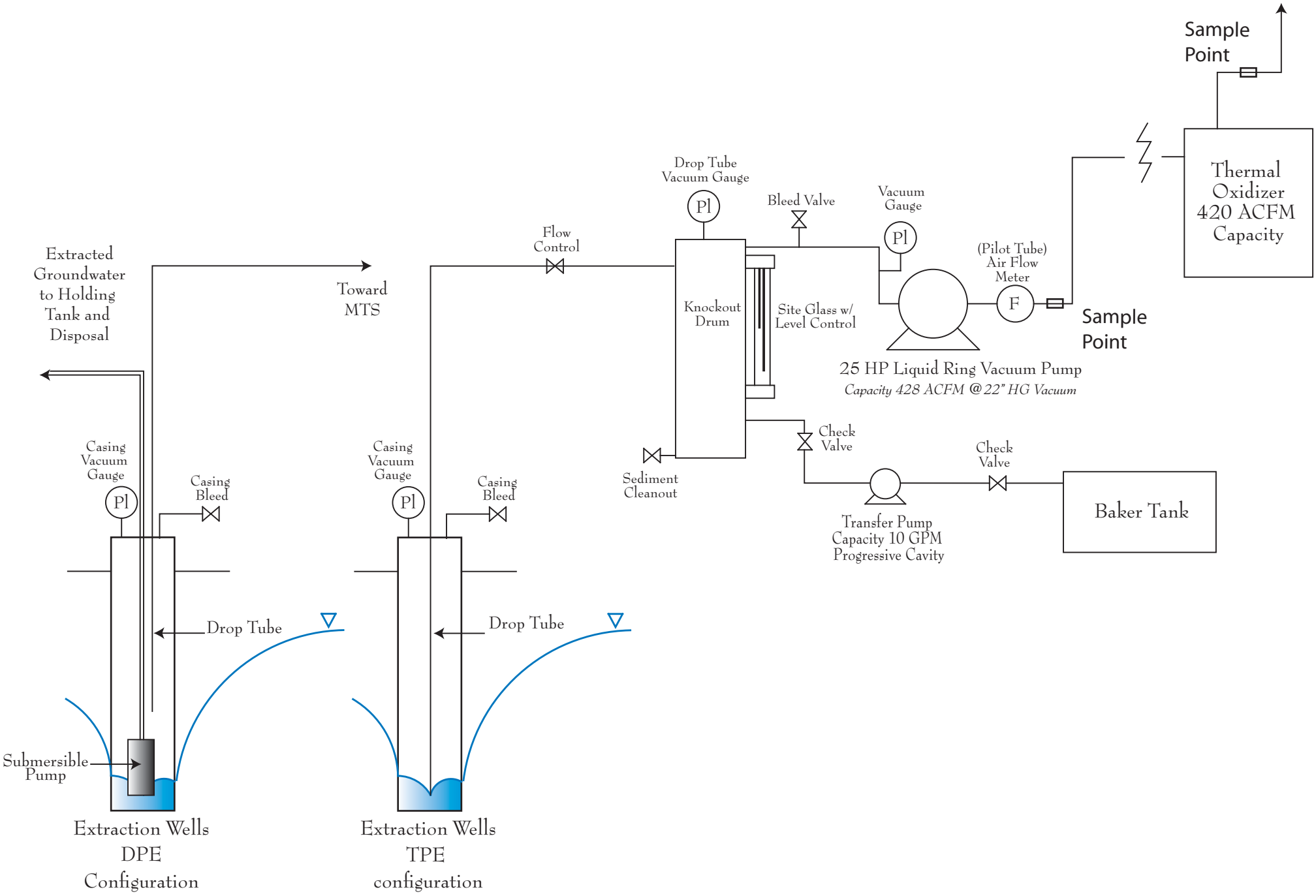


Figure 8: Contour Map of TPH-g Concentrations in Shallow WBZ Wells in Feet. June 16, 2011

ENVIRONMENTAL ENGINEERING, INC.


N
CASTRO VALLEY BLVD
REDWOOD ROAD
SIDEWALK
Observation Wells June 2011
Reconstructed Wells
New Shallow WBZ Wells
MONITORING WELL, INSTALLED AUG. 2009
MONITORING WELL
DECOMISSIONED WELL
MONITORING WELL
(Located at 3495 Castro Valley Blvd.)
NOTES:
ESE-3 and ESE-4 were decommisioned during UST tank excavation activites.
MW-8 was decommissioned by the previous consultant.
approximate groundwater flow direction Shallow WBZ
Benzene ug/L
2,400
2,200
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
100
50
25
1
0
APPROXIMATE LOCATION OF NEW USTs.
PUMP ISLAND CANOPY
FORMER PUMP ISLAND
FORMER WASTE OIL TANK
FORMER USTs
STATION
?
MW-6R
SOMA-8
ESE-4
ESE-3
9.3
OB-1
870
OB-2
ESE-5R
MW-8
SOMA-7
330
SOMA-5
2,500
SOMA-1
ESE-1R
ESE-2R
MW-7R
SOMA-2
SOMA-4
SOMA-3
MW-8
COMMERCIAL AREA
PARKING
SIDEWALK
approximate scale in feet
0
40
80
Figure 9: Contour Map of Benzene Concentrations in Shallow WBZ Wells in Feet. June 16, 2011
SOMA ENVIRONMENTAL ENGINEERING, INC.



Not to Scale

Figure 10: Typical MPE Pilot Testing Layout

ENVIRONMENTAL ENGINEERING, INC.

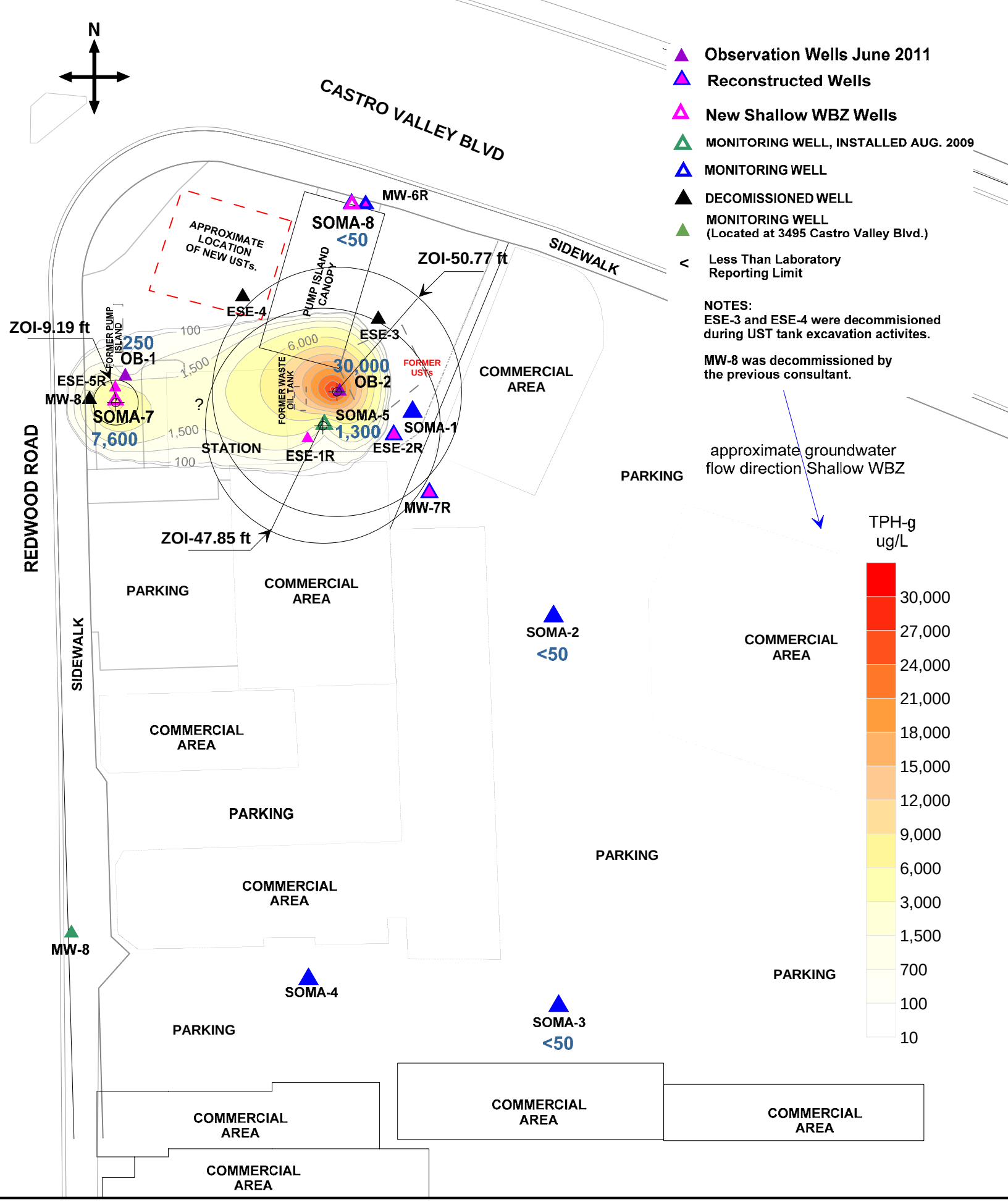


Figure 11: Graphical Representation of Zone of Influence

ENVIRONMENTAL ENGINEERING, INC.

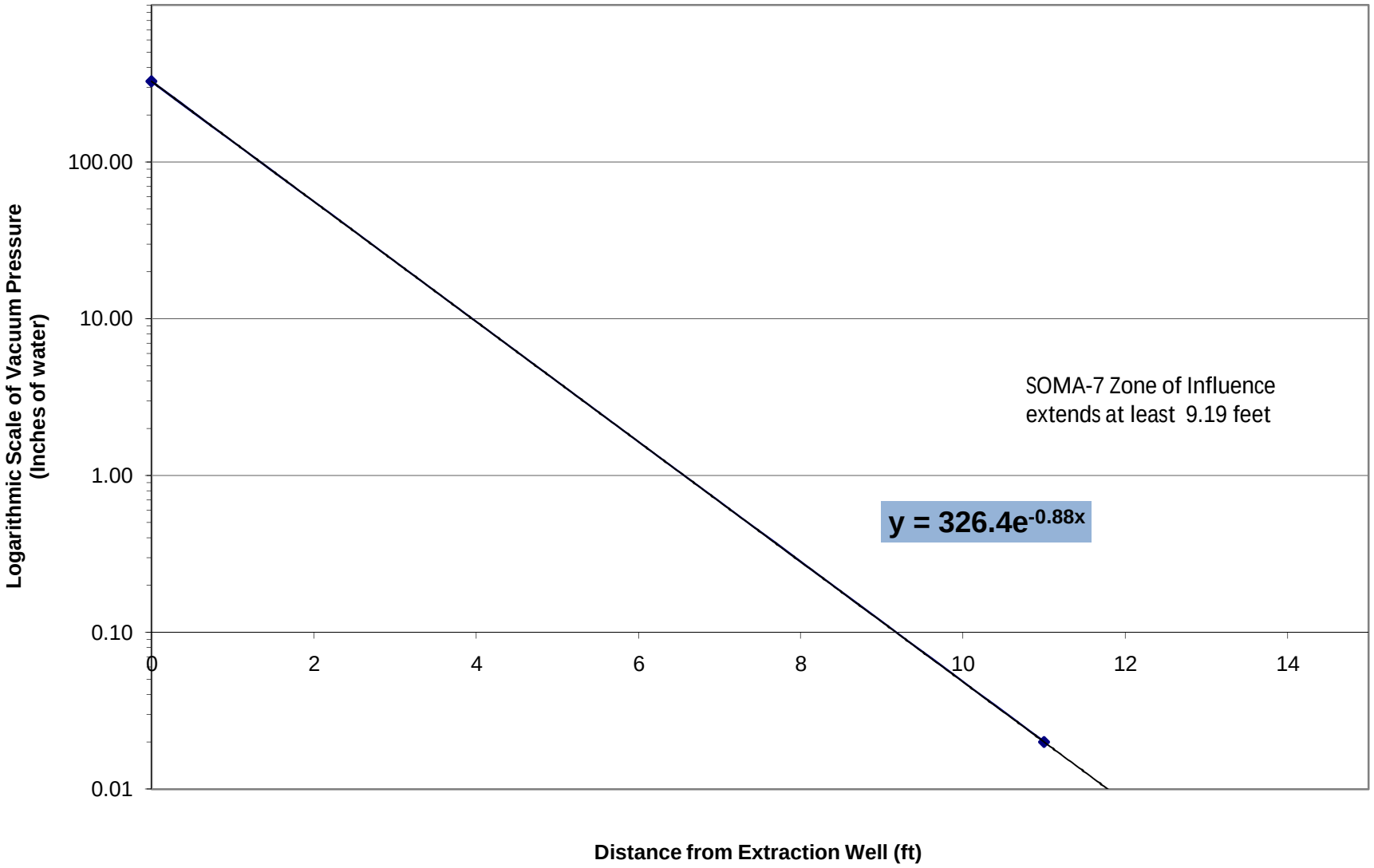


Figure 11A: Zone of Influence,
Extraction at SOMA-7

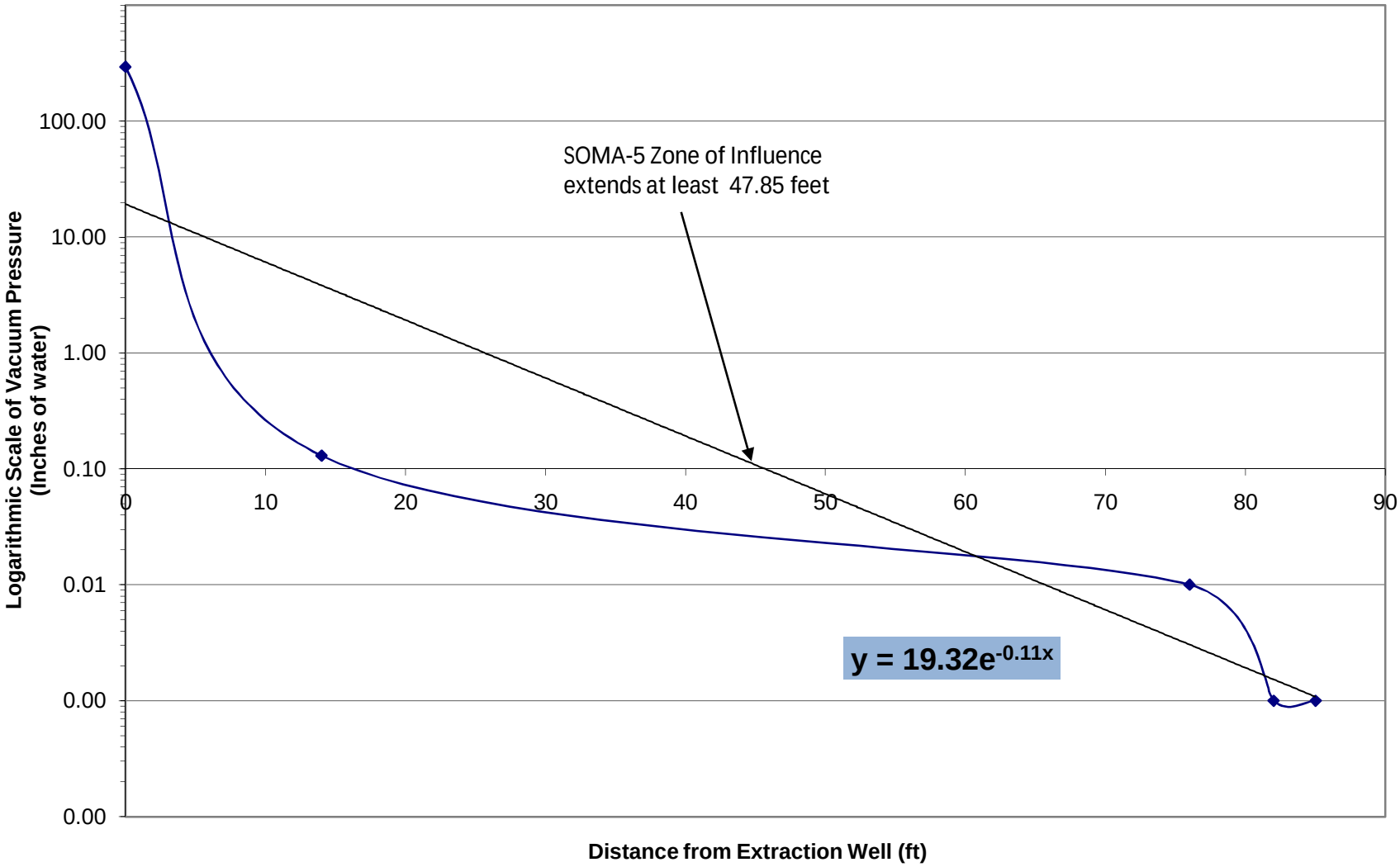


Figure 11B: Zone of Influence,
Extraction at SOMA-5

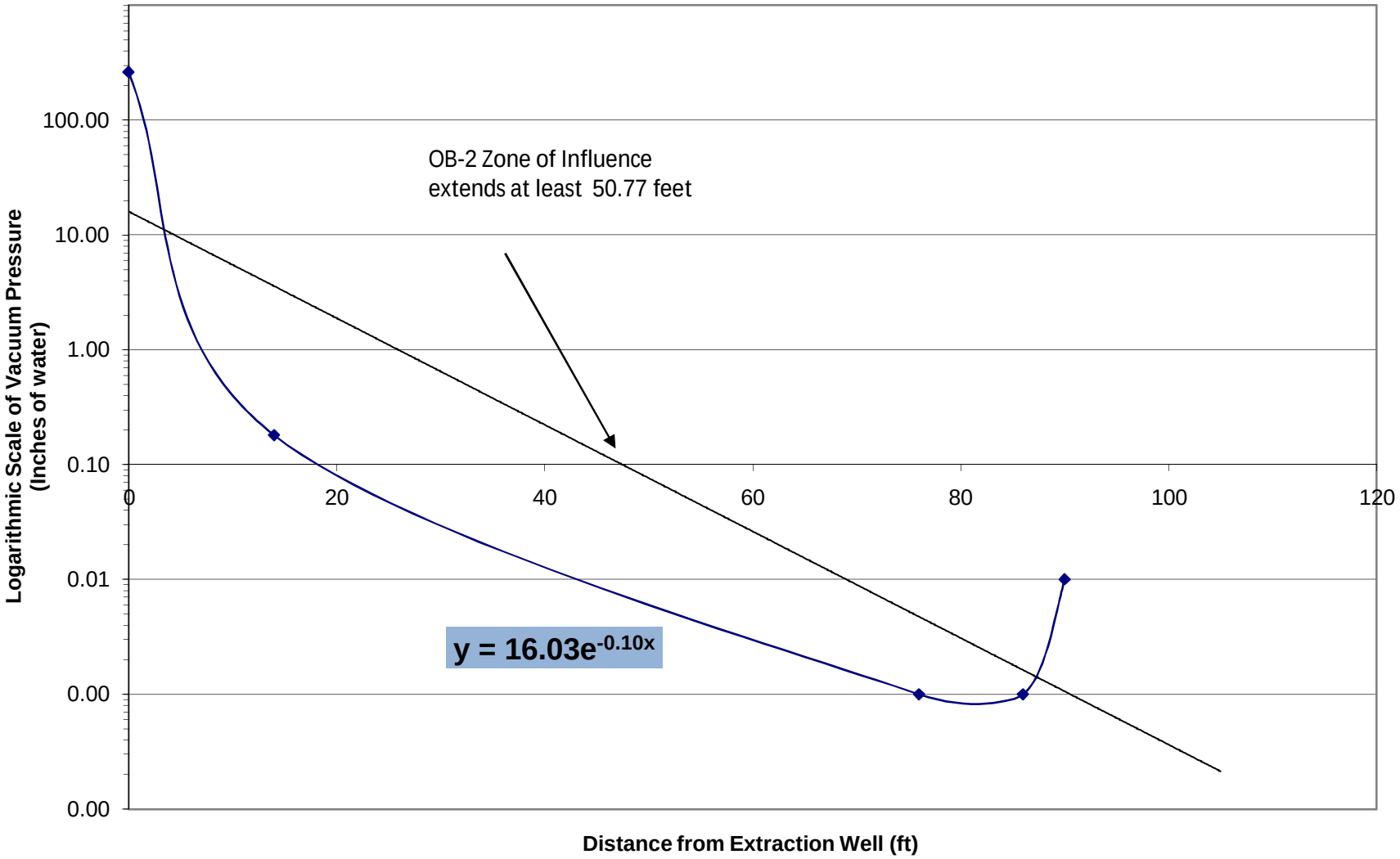
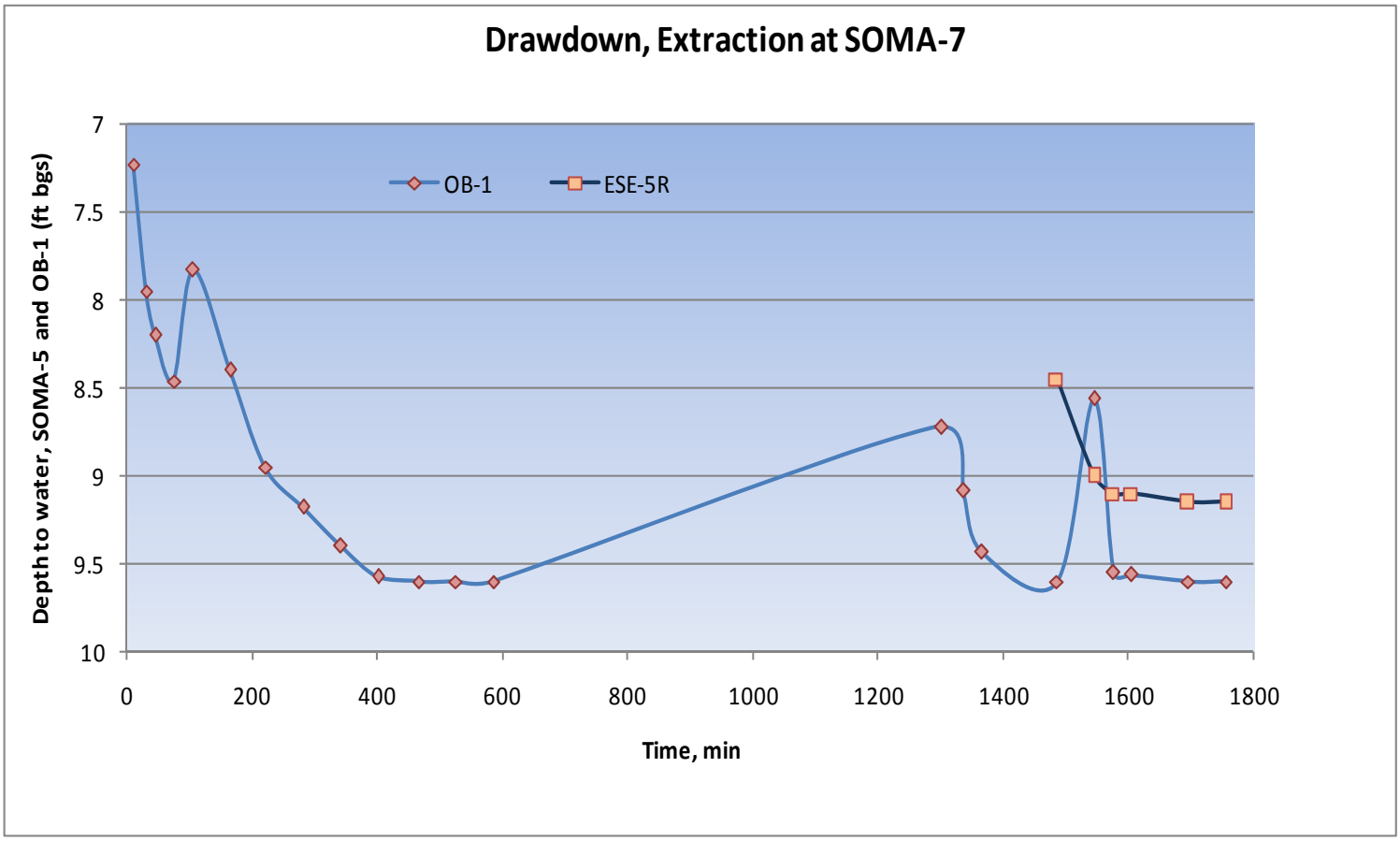


Figure 11C: Zone of Influence,
Extraction OB-2



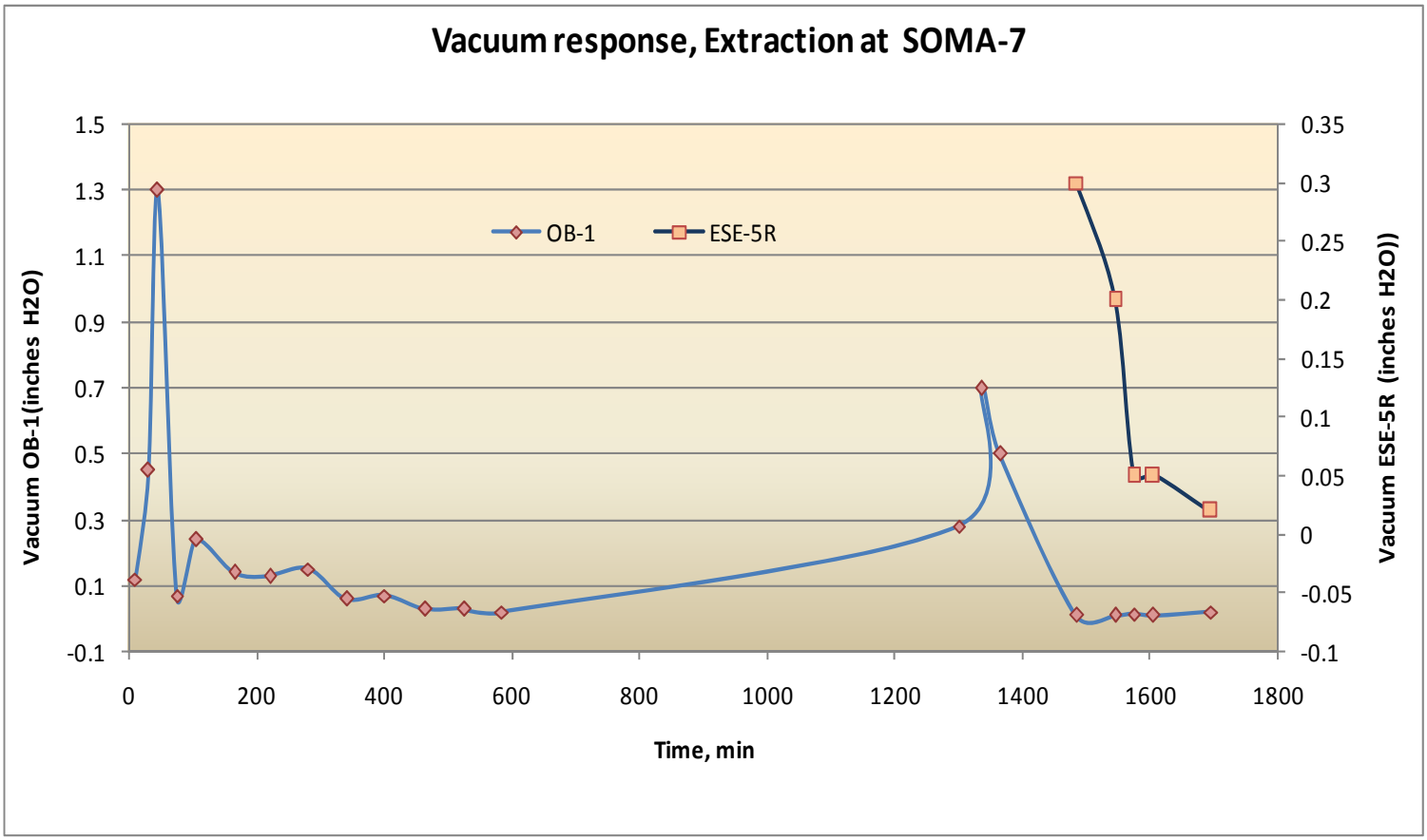
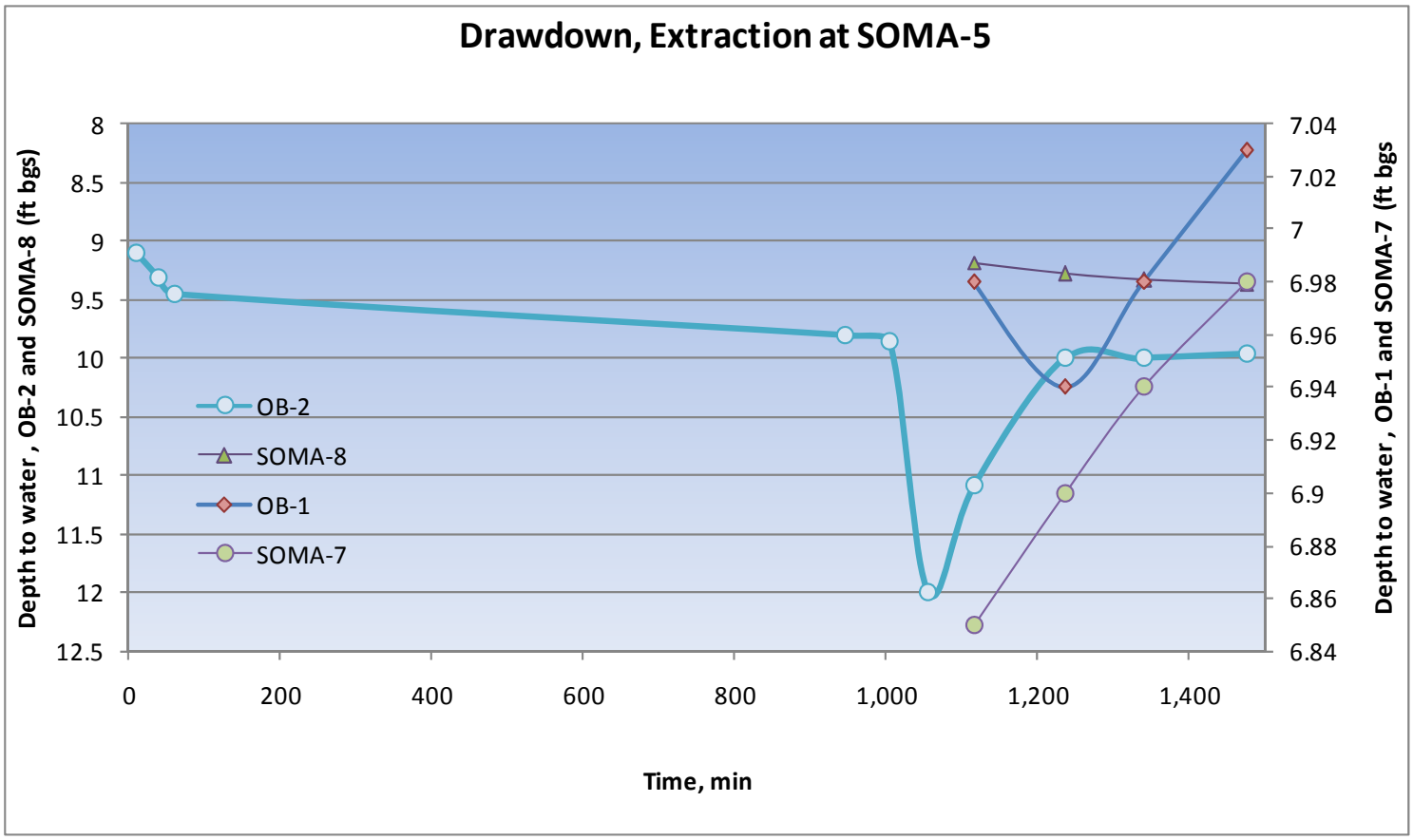


Figure 12A: Drawdown and vacuum response- during MPE extraction at SOMA-7



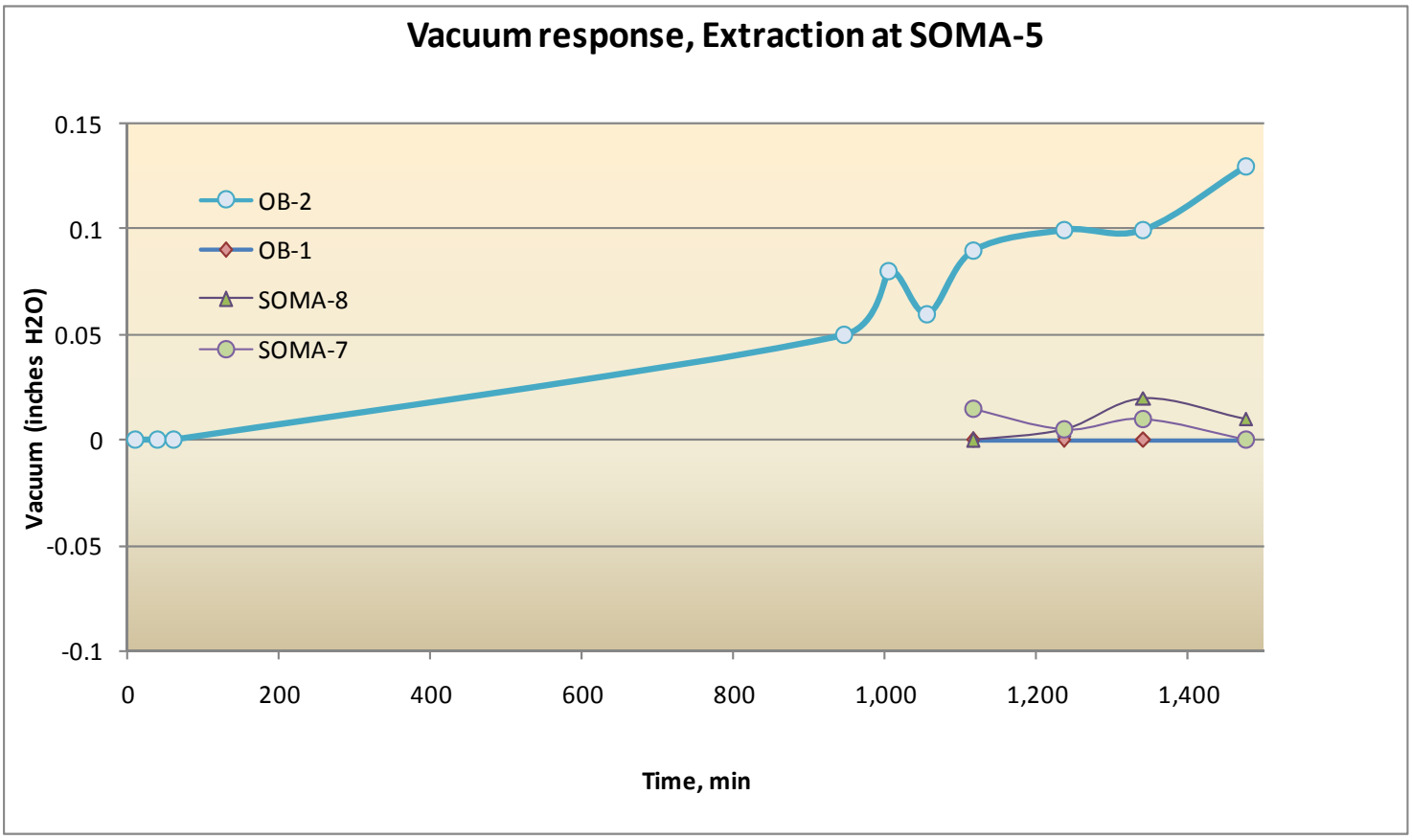
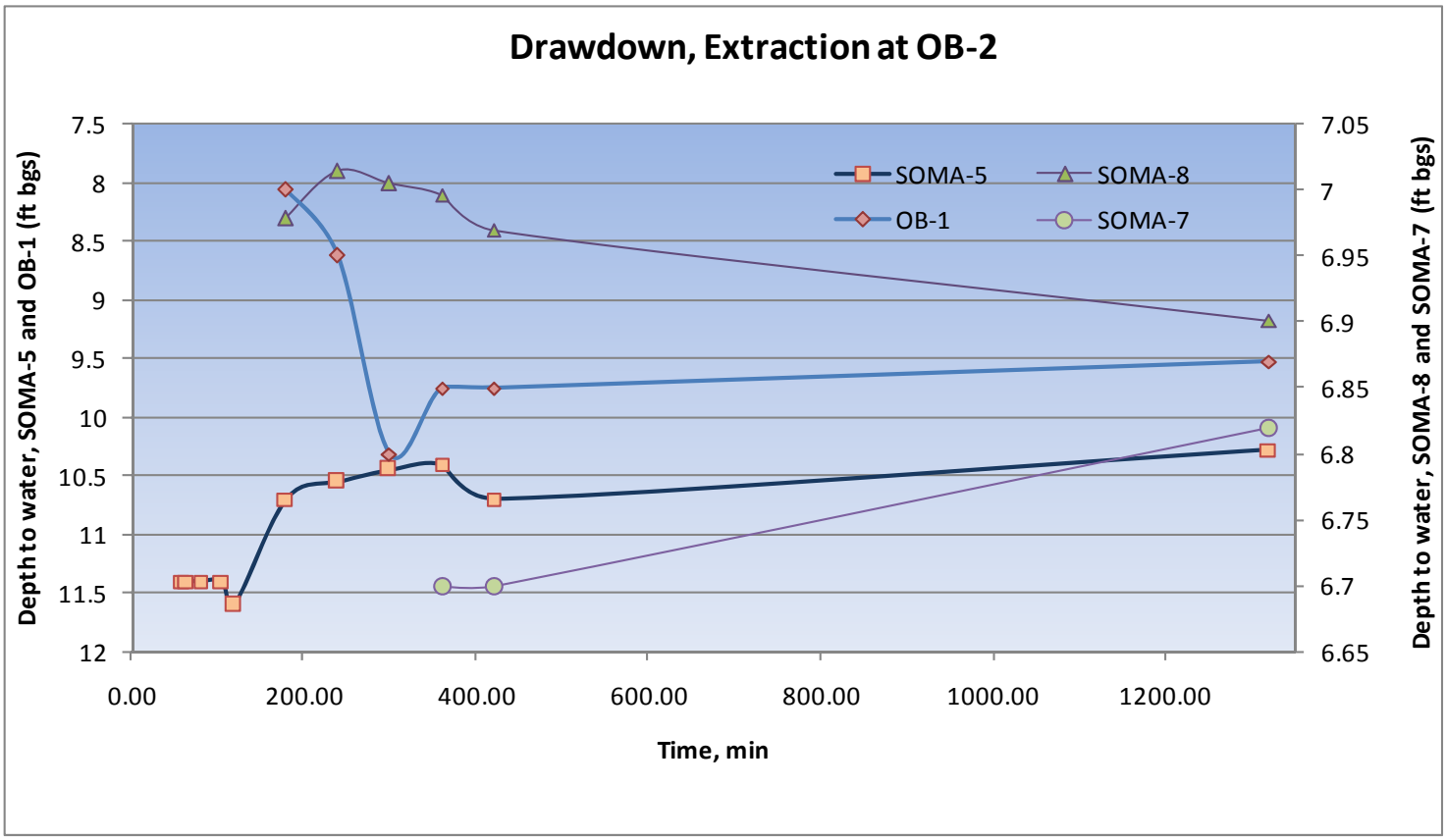


Figure 12B: Drawdown and vacuum response- during MPE extraction at SOMA-5



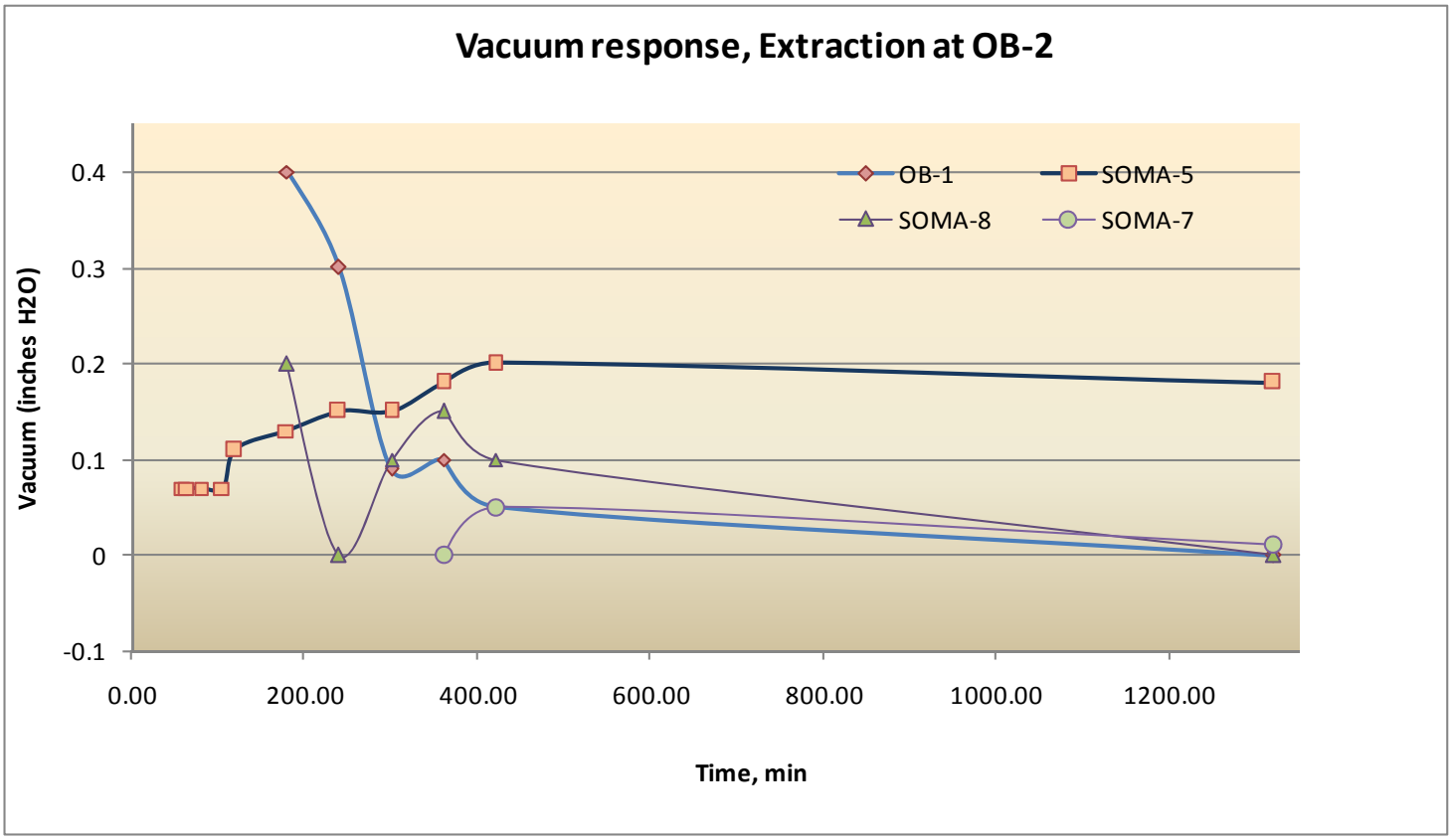


Figure 12C: Drawdown and vacuum response- during MPE extraction at OB-2

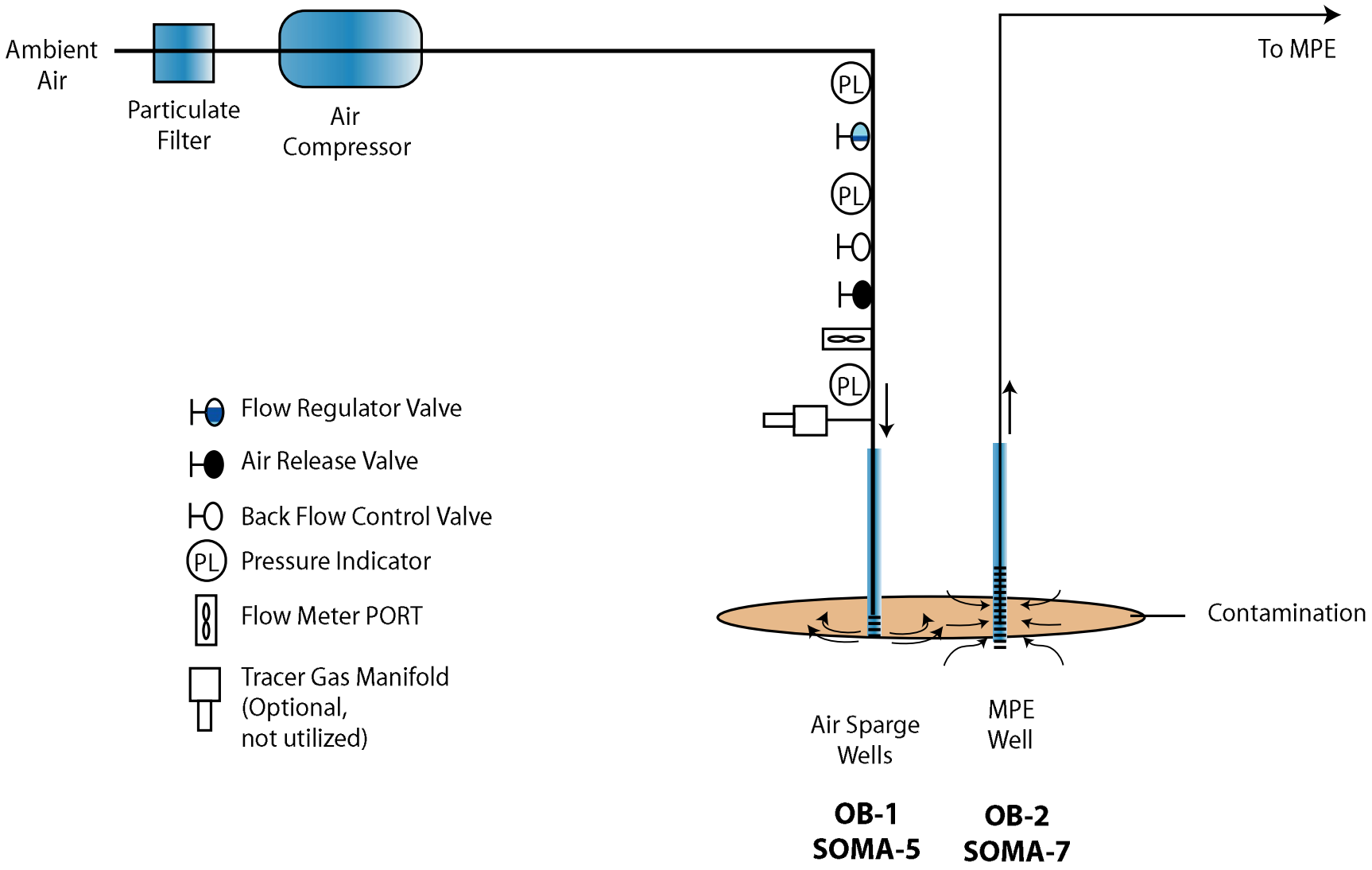
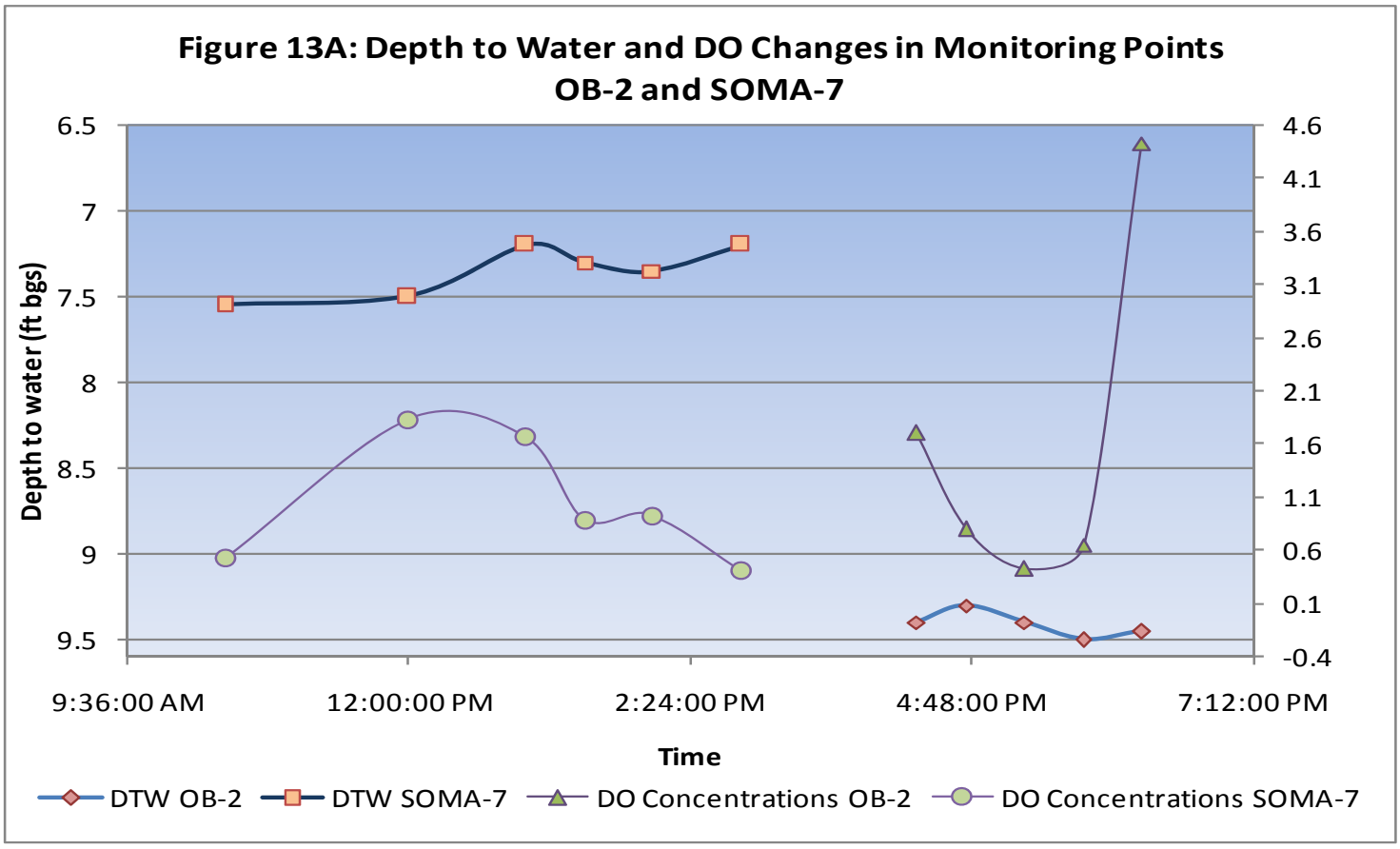


Figure 13: Air Sparging Pilot Test Schematic



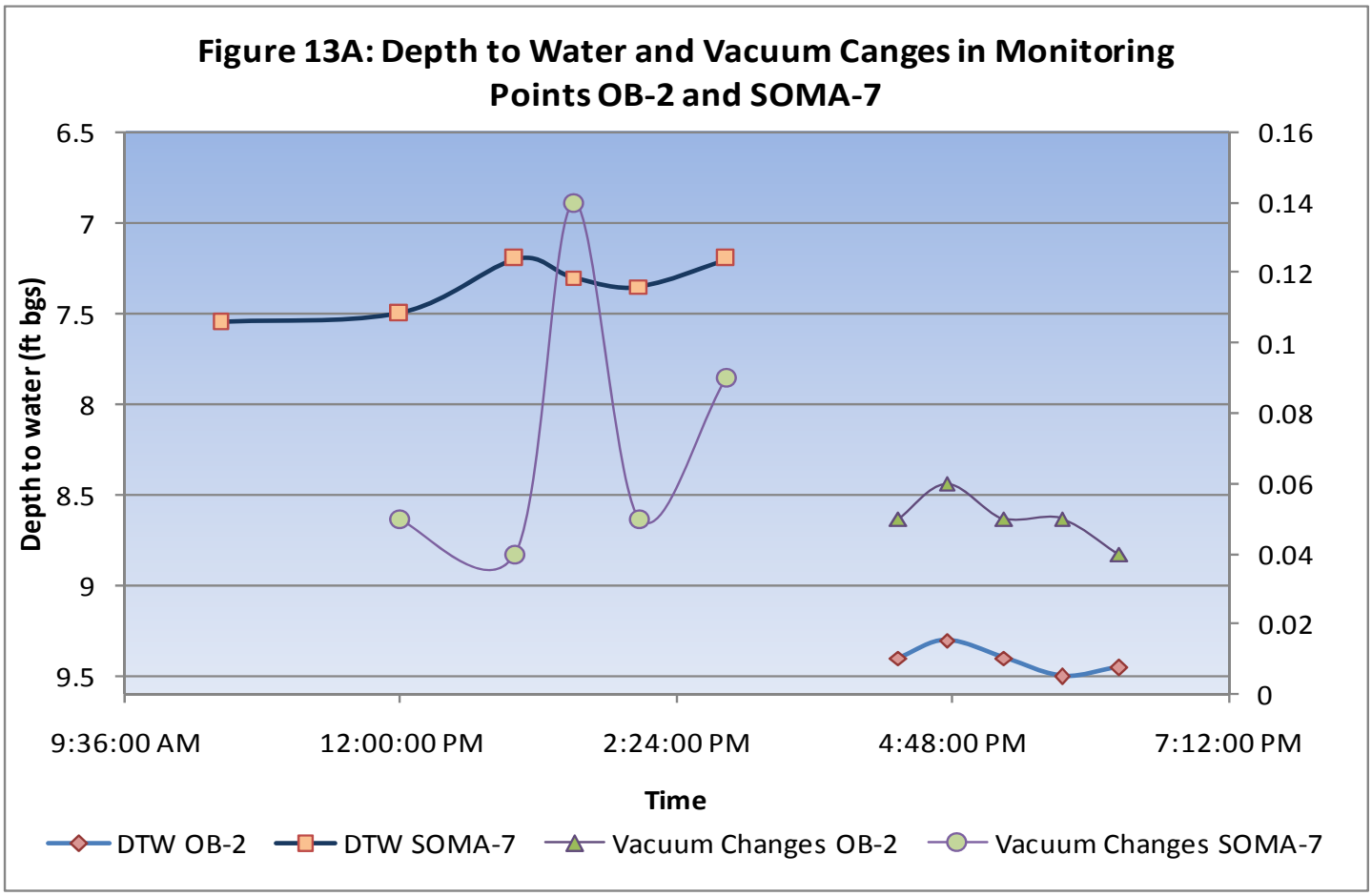
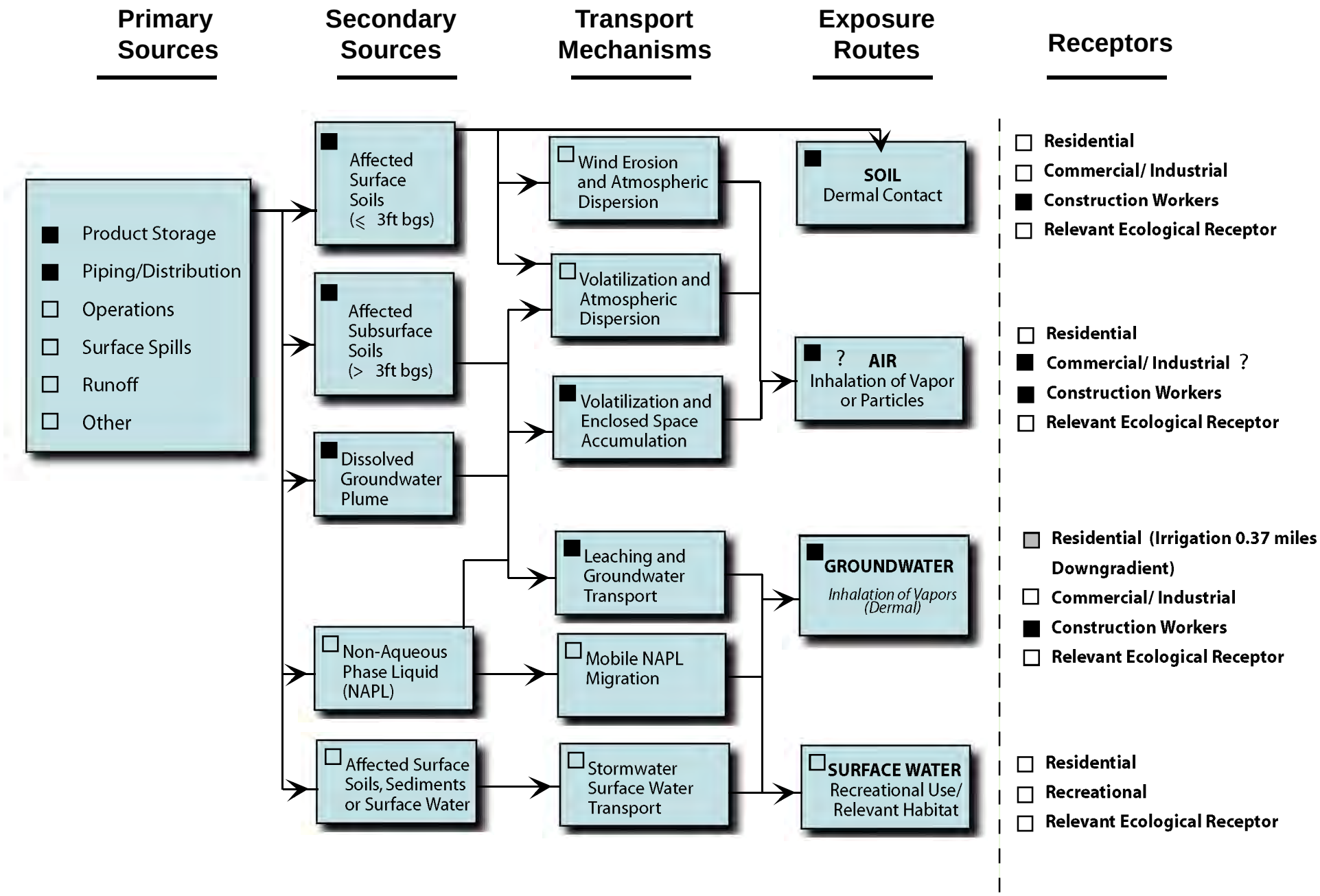


Figure 13A: Depth to Water, DO and Vacuum Changes in Monitoring Points OB-2 and SOMA-7

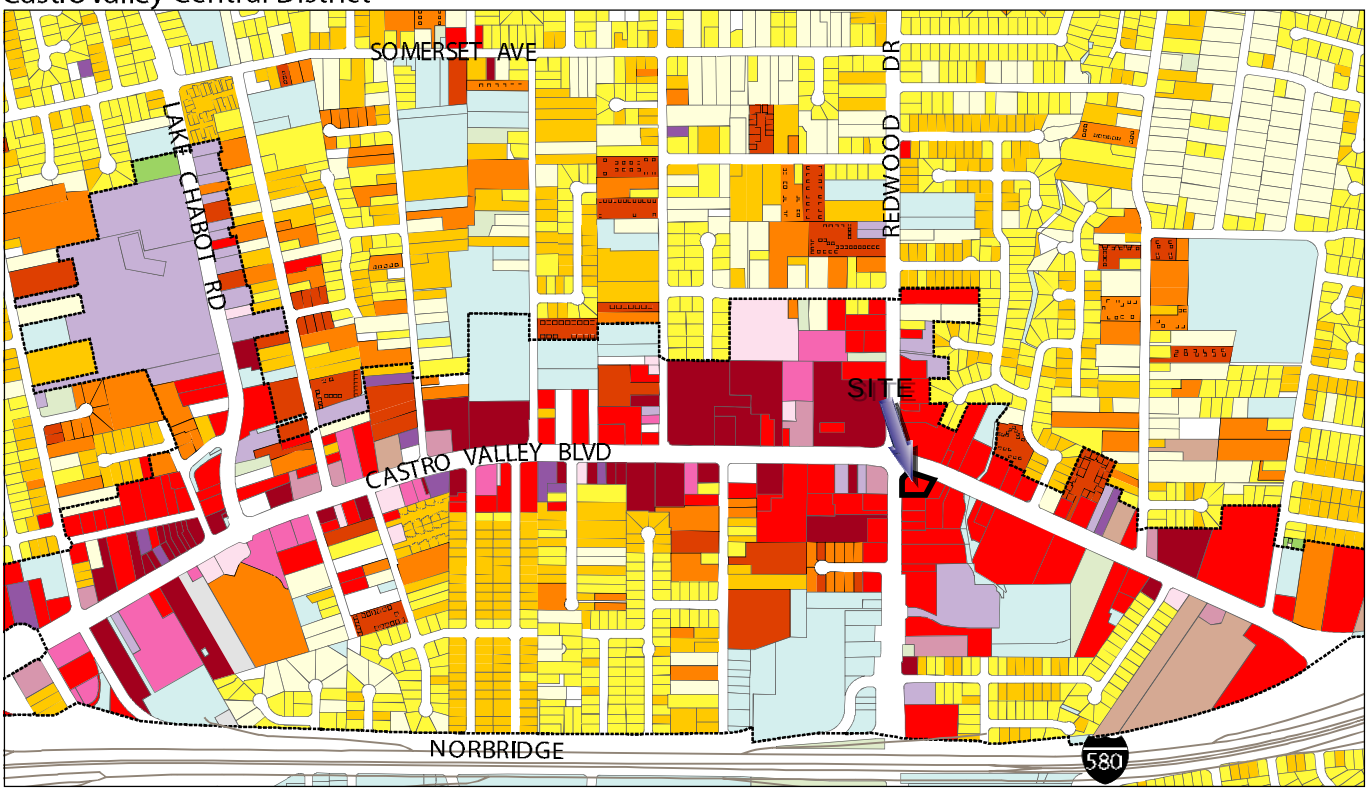
3519 Castro Valley Blvd., Castro Valley, CA



Source: ASTM E-1689-95 Standard Guide for Developing Conceptual Site Models for Contaminated Sites

Figure 14: Updated SCM Flow Chart

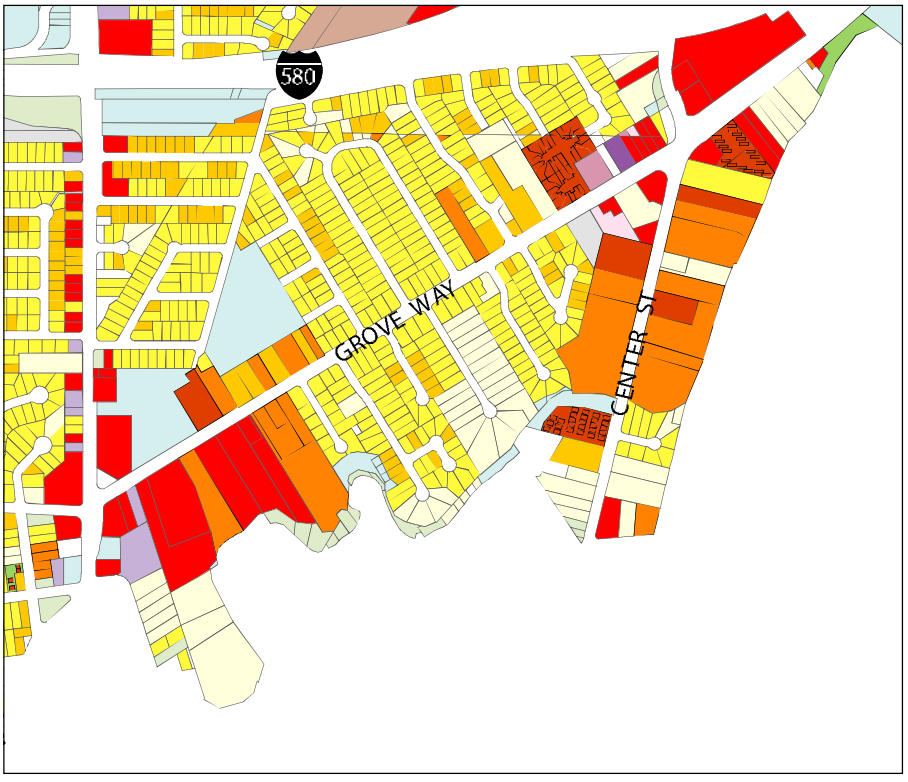
Castro Valley Central District



- Residential 0-4 du/ac — Large Lot Single Family
- Residential 5-8 du/ac — Single Family
- Residential 9-17 du/ac — Town Houses & Low Density Apartments
- Residential 18-30 du/ac — Medium Density Apartments
- Residential over 30 du/ac — High Density Apartments
- Mobile Home Parks
- General Commercial — Personal Services, Financial & Real Estate, etc
- Retail Commercial
- Restaurants & Entertainment
- Automotive Service, Sales & Parts
- Mixed Use
- Office
- Medical Dental
- Light Industrial & Storage
- Public/Institutional
- Park/Open Space
- Other/Unclassified
- Vacant
- Castro Valley General Plan Area

N W E S

Grove Way/Center St/Redwood Dr/South of 580



Source: Castro Valley General Plan (Figure 2-4b) Alameda County Community Development Agency, 2004; and Dyett & Bhatia fieldwork.

0 500 1000 2000 FEET

Figure 15: Zoning Map

SOMA ENVIRONMENTAL ENGINEERING, INC.

Aerial Source: Imagery (c) 2006 Aerials Express (Yahoo Inc.)

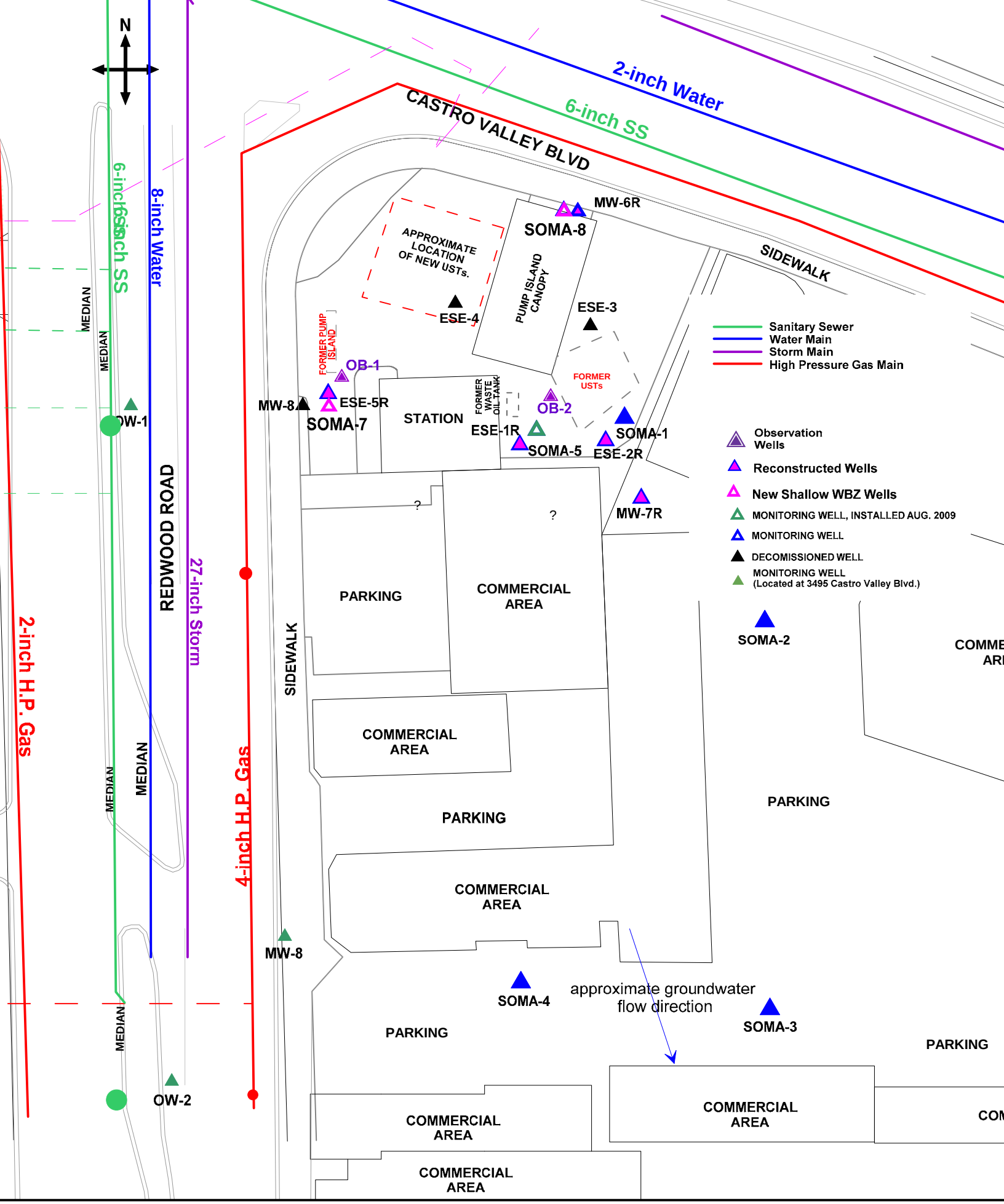
Map ID	Well Count	Address	Owner	Drilldate	TD	Diam	Use
1	1	19945 FOREST	MR.WEHE	3/78	51	8	DES
2	2	20450 REDWOOD RD	EXXON OIL	8/77	50	0	Unknown
3	3	20680 FOREST AV	G.G.PAUL KASMER	Oct-73	20	0	DES
4	4	2633 VEGAS AV	ANNA WEEDEN	4/77	24	4	Irrigation
5	5	3234 Castro Valley Blvd	Mitzi Stockel	Apr-90	8	2	BOR
	6	3234 Castro Valley Blvd	Mitzi Stockel	Apr-90	16	2	Monitoring
	7	3234 Castro Valley Blvd	Mitzi Stockel	Apr-90	16	2	Monitoring
	8	3234 Castro Valley Blvd	Mitzi Stockel	Apr-90	16	2	Monitoring
	9	3234 Castro Valley Blvd	Mitzi Stockel	May-90	23	2	Monitoring
	10	3234 Castro Valley Blvd	Mitzi Stockel	May-90	20	2	Monitoring
6	11	3369 Castro Valley Blvd	Chevron USA	Oct-93	20	2	Monitoring
	12	3369 Castro Valley Blvd	Chevron USA	Oct-93	20	2	Monitoring
	13	3369 Castro Valley Blvd	Chevron USA	Oct-93	20	2	Monitoring
	14	3369 Castro Valley Blvd	Chevron USA	Oct-93	20	2	Monitoring
7	15	3430 Castro Valley Blvd	Goodyear	Dec-96	16	2	Monitoring
	16	3430 Castro Valley Blvd	Goodyear Tire & Rubber Co	9/94	20	2	Monitoring
	17	3430 Castro Valley Blvd	Goodyear Tire & Rubber Co	9/94	20	2	Monitoring
	18	3430 Castro Valley Blvd	Goodyear Tire & Rubber Co	9/94	20	2	Monitoring
8	19	3533 JAMISON WAY	R. NAHAS CO.	?	25	5	DES
	20	3533 JAMISON WAY	R. NAHAS CO.	?	20	5	DES
9	21	3559 JAMISON WAY	R. NAHAS CO.	Dec-75	56	0	DES
10	22	3889 Castro Valley Blvd	VIP Service (MW1)	Nov-93	20	2	Monitoring
	23	3889 Castro Valley Blvd	VIP Service (MW2)	Nov-93	20	2	Monitoring
	24	3889 Castro Valley Blvd	VIP Service (MW3)	Nov-93	20	2	Monitoring
11	25	4057 STEVENS ST	R. FORQUEN	?	70	8	Irrigation

approximate scale

0 0.25 mile 0.5 mile

Figure 16: Sensitive Receptor Survey Map Based on the Data Obtained from the Alameda County Public Works Agency

SOMA ENVIRONMENTAL ENGINEERING, INC.



approximate scale in feet

0 40 80

Figure 17: Map Showing Locations of Underground Utilities

ENVIRONMENTAL ENGINEERING, INC.

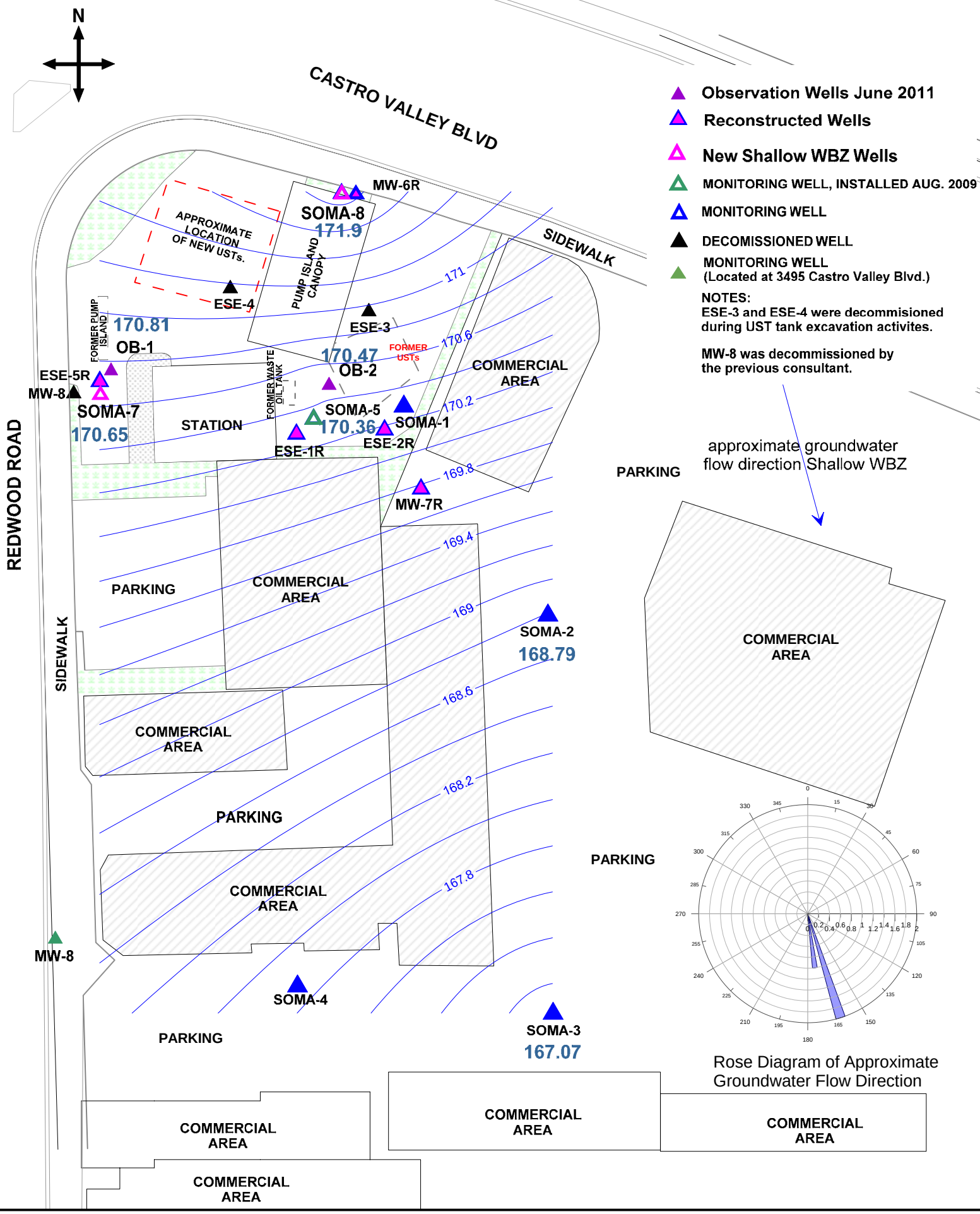


Figure 18: Groundwater Elevation Contour Map for Shallow WBZ Wells in Feet. July 19, 2011

ENVIRONMENTAL ENGINEERING, INC.

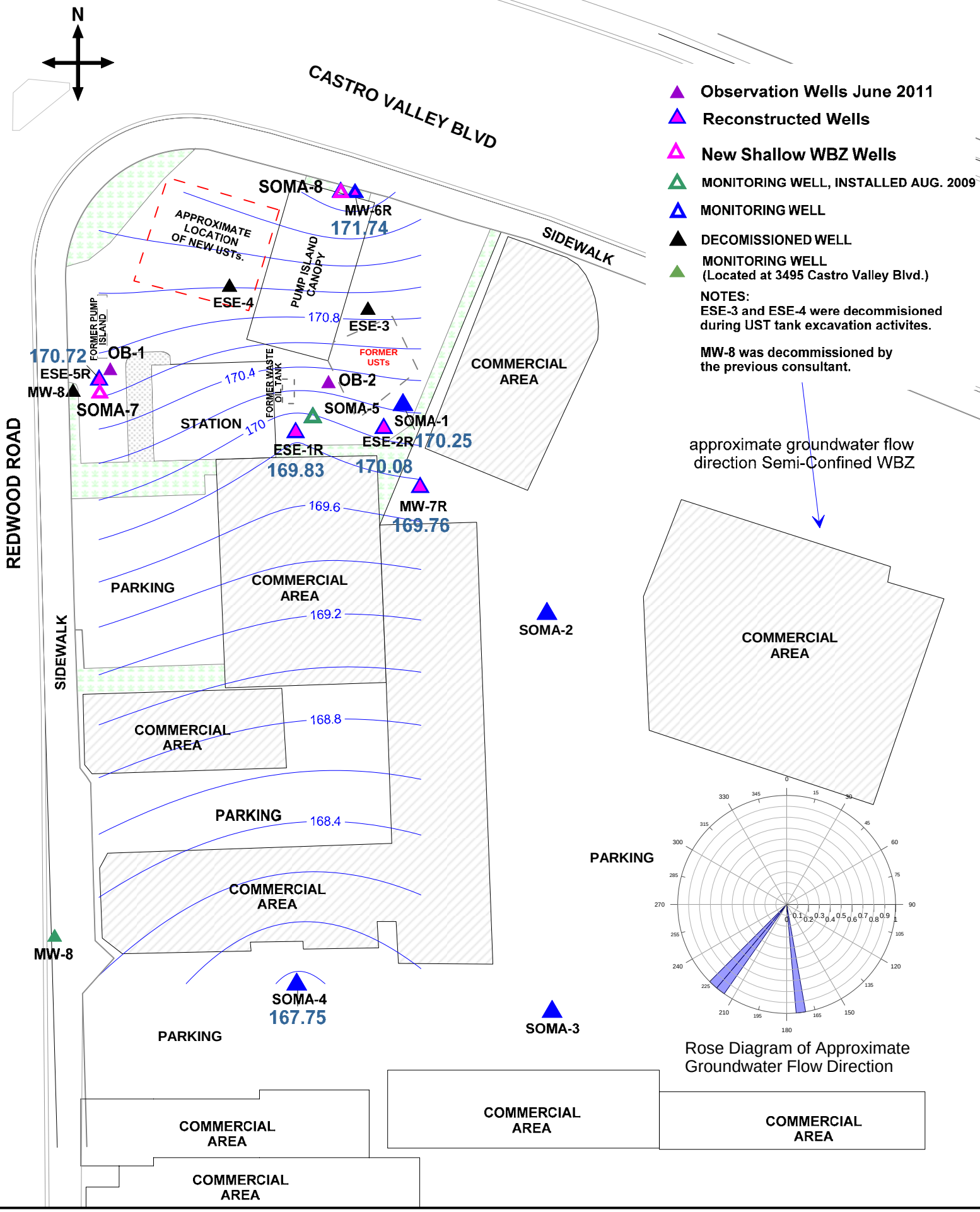


Figure 19: Groundwater Elevation Contour Map for Semi-Confined WBZ Wells in Feet. July 19, 2011

ENVIRONMENTAL ENGINEERING, INC.

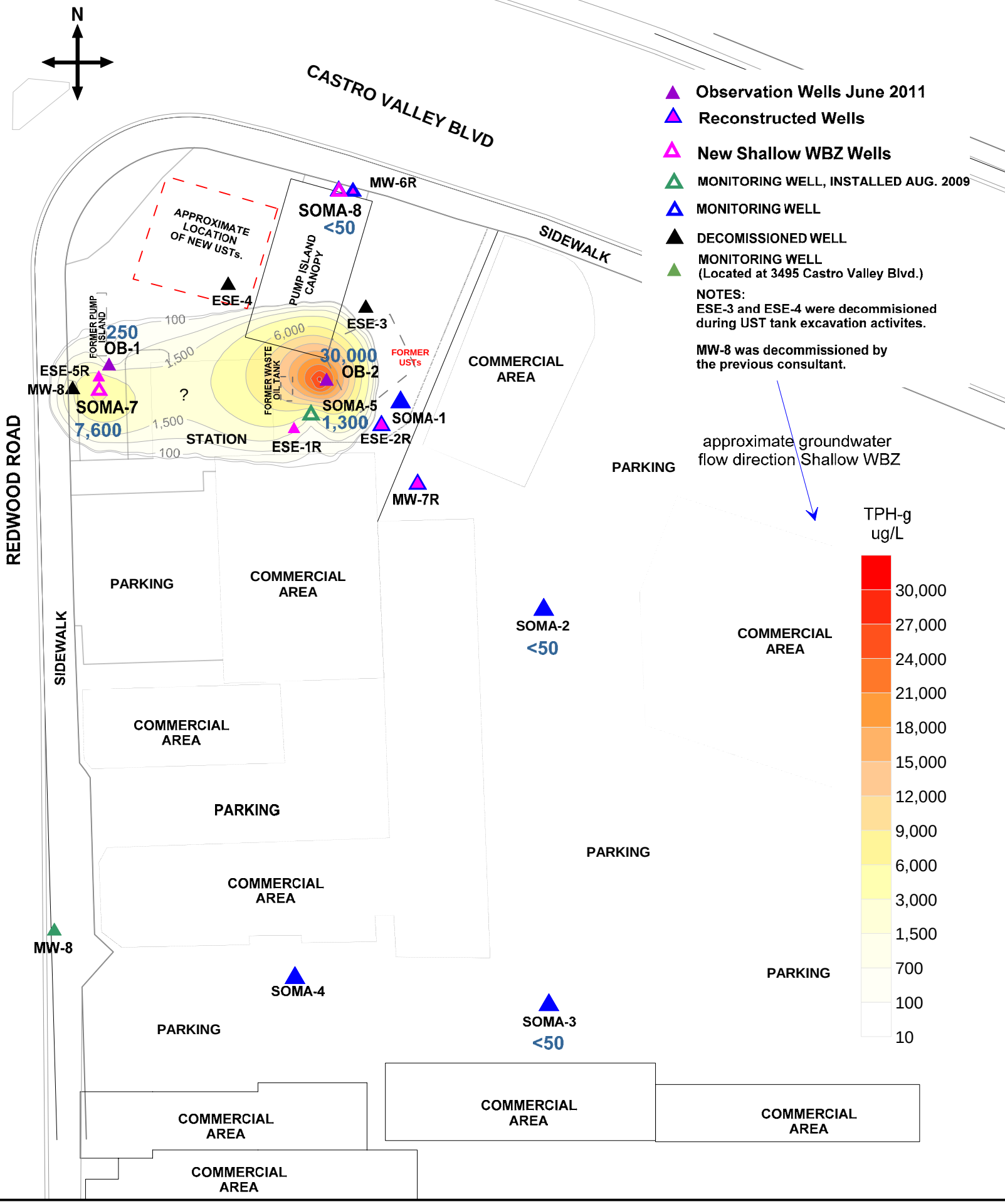
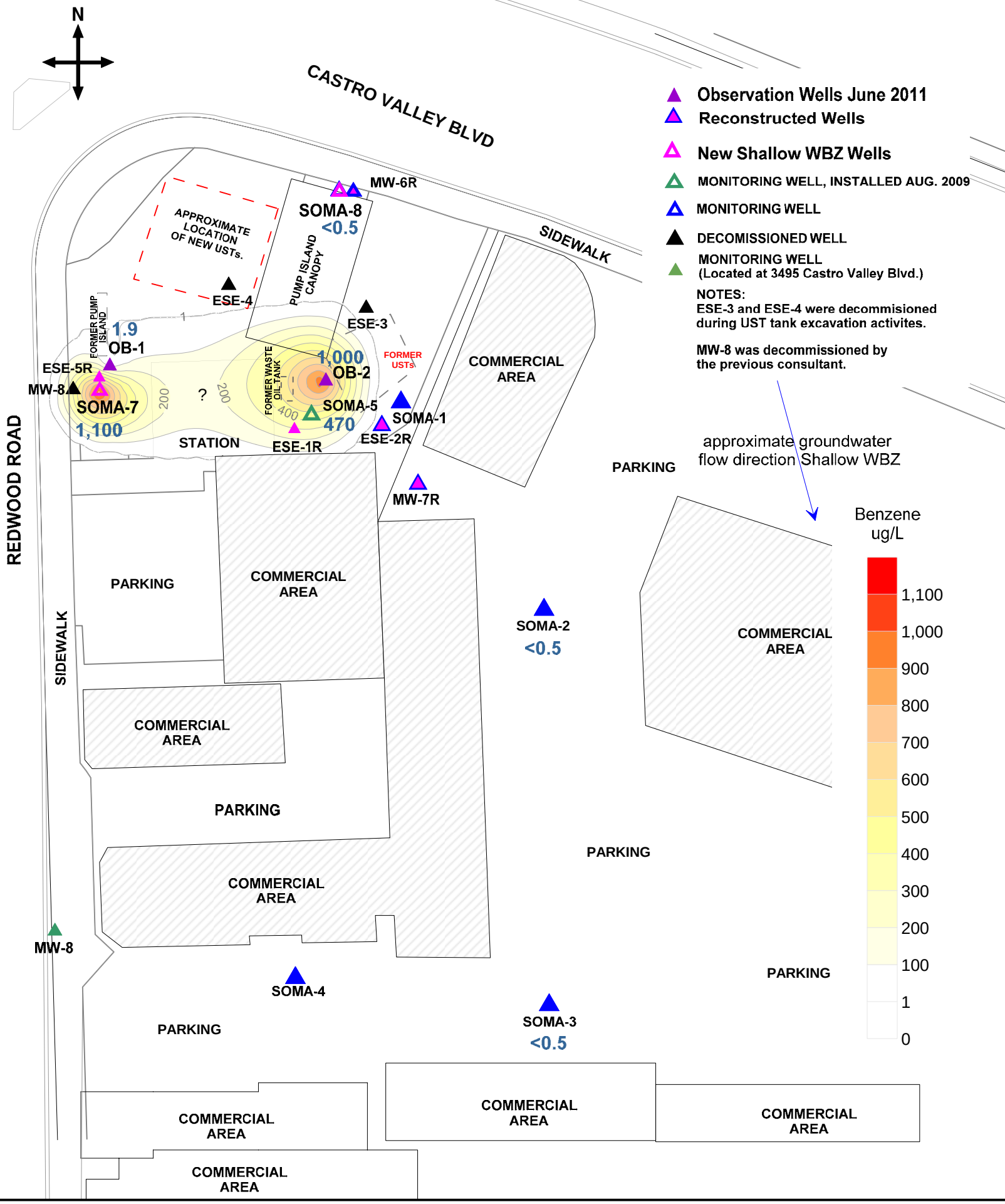


Figure 20: Contour Map of TPH-g Concentrations in Shallow WBZ Wells in Feet. July 19, 2011

ENVIRONMENTAL ENGINEERING, INC.


N
CASTRO VALLEY BLVD
REDWOOD ROAD
SIDEWALK
Observation Wells June 2011
Reconstructed Wells
New Shallow WBZ Wells
MONITORING WELL, INSTALLED AUG. 2009
MONITORING WELL
DECOMISSIONED WELL
MONITORING WELL
(Located at 3495 Castro Valley Blvd.)
NOTES:
ESE-3 and ESE-4 were decommisioned during UST tank excavation activites.
MW-8 was decommissioned by the previous consultant.
approximate groundwater flow direction Shallow WBZ
Benzene ug/L
1,100
1,000
900
800
700
600
500
400
300
200
100
1
0
APPROXIMATE LOCATION OF NEW USTs.
PUMP ISLAND CANOPY
FORMER PUMP ISLAND
FORMER WASTE OIL TANK
FORMER USTs
MW-6R
SOMA-8
<0.5
ESE-4
ESE-3
OB-1
1.9
OB-2
1,000
ESE-5R
MW-8
SOMA-7
1,100
SOMA-5
470
SOMA-1
ESE-2R
ESE-1R
STATION
MW-7R
SOMA-2
<0.5
SOMA-4
SOMA-3
<0.5
MW-8
COMMERCIAL AREA
PARKING
approximate scale in feet
0
40
80
Figure 21: Contour Map of Benzene Concentrations in Shallow WBZ Wells in Feet. July 19, 2011
SOMA ENVIRONMENTAL ENGINEERING, INC.

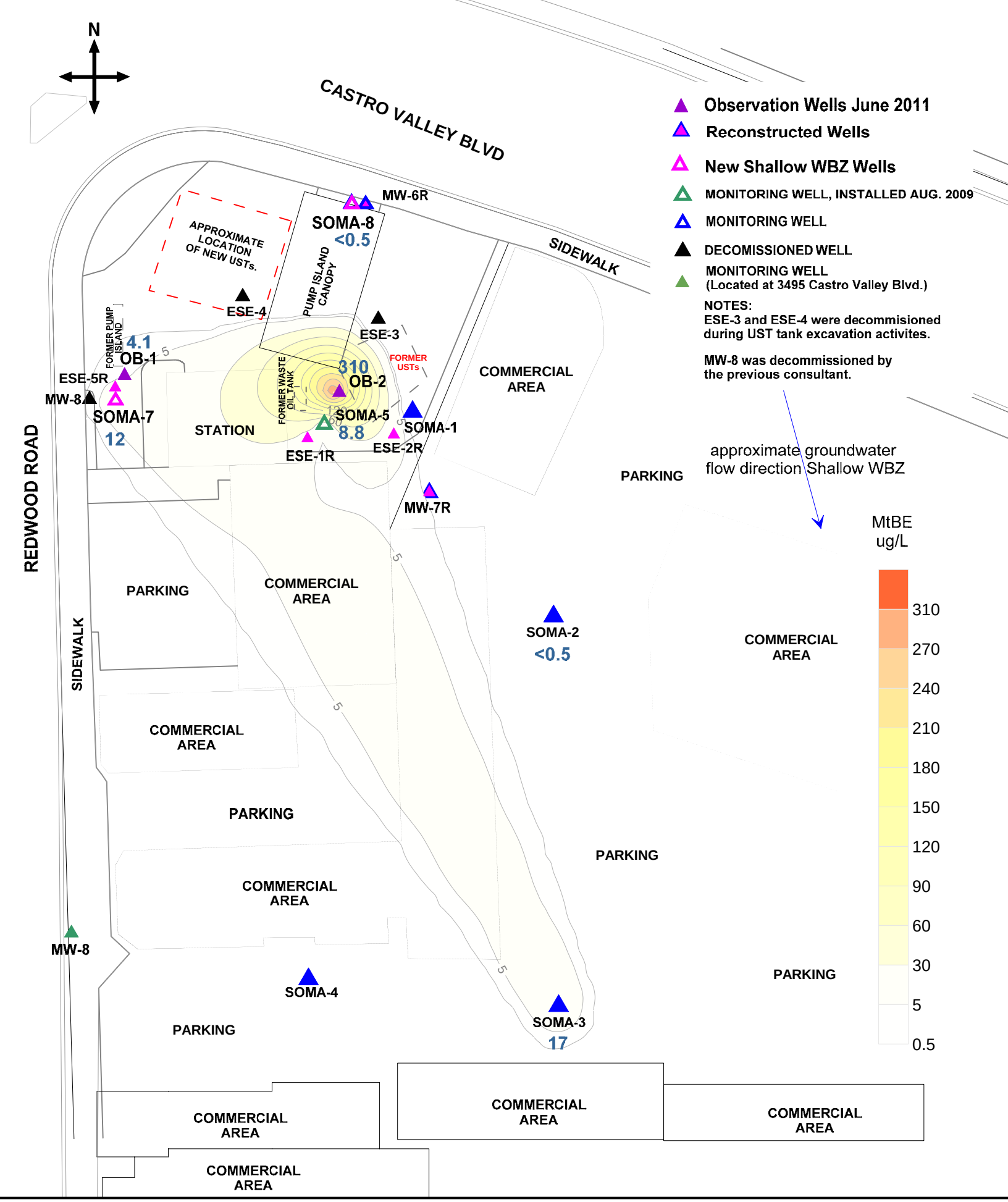


Figure 22: Contour Map of MtBE Concentrations in Shallow WBZ Wells in Feet. July 19, 2011

ENVIRONMENTAL ENGINEERING, INC.

Figure 23: MtBE Concentrations vs. Distance from Former USTs

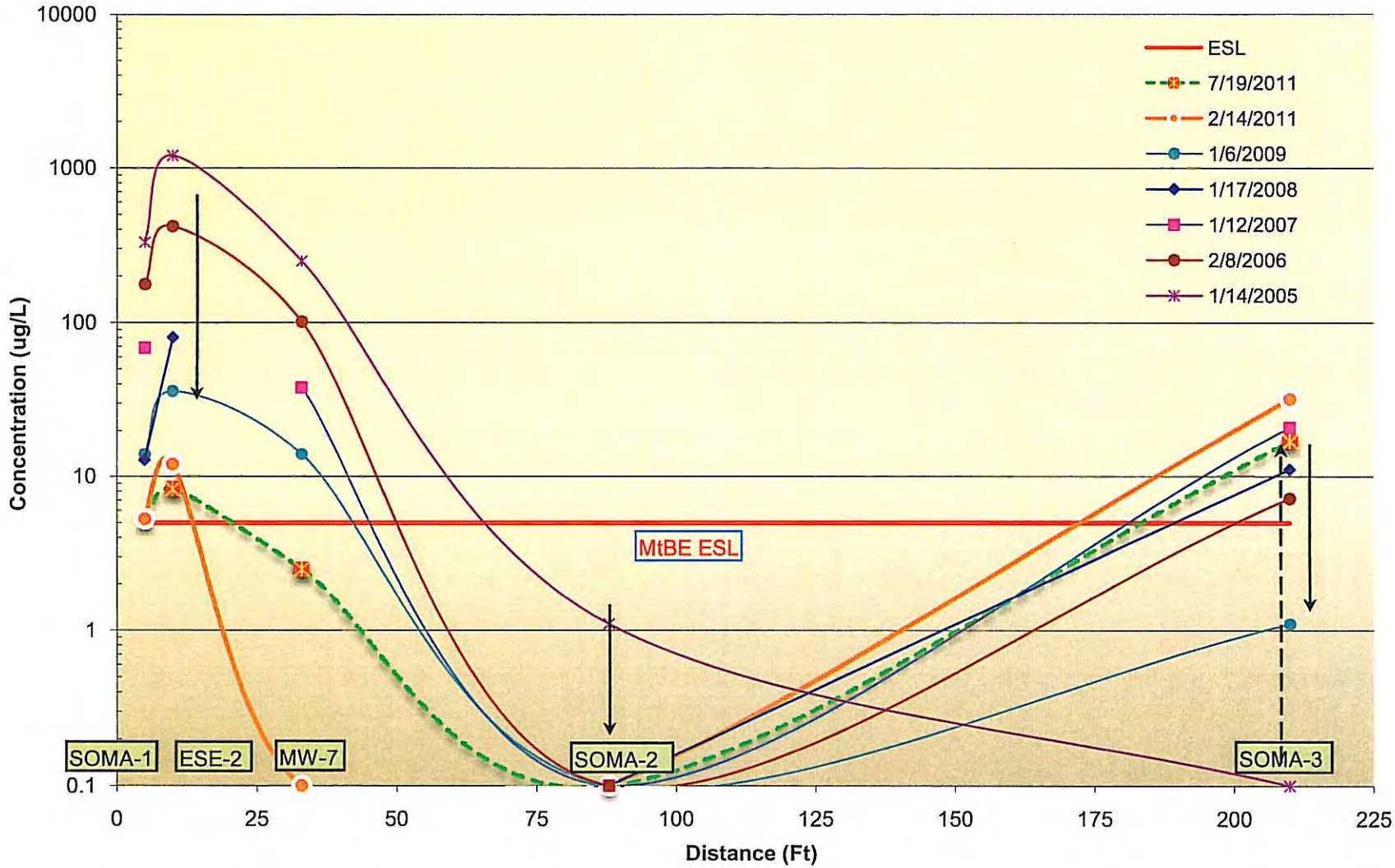


Figure 24: MtBE Concentrations vs. Distance along Southern Edge of Property

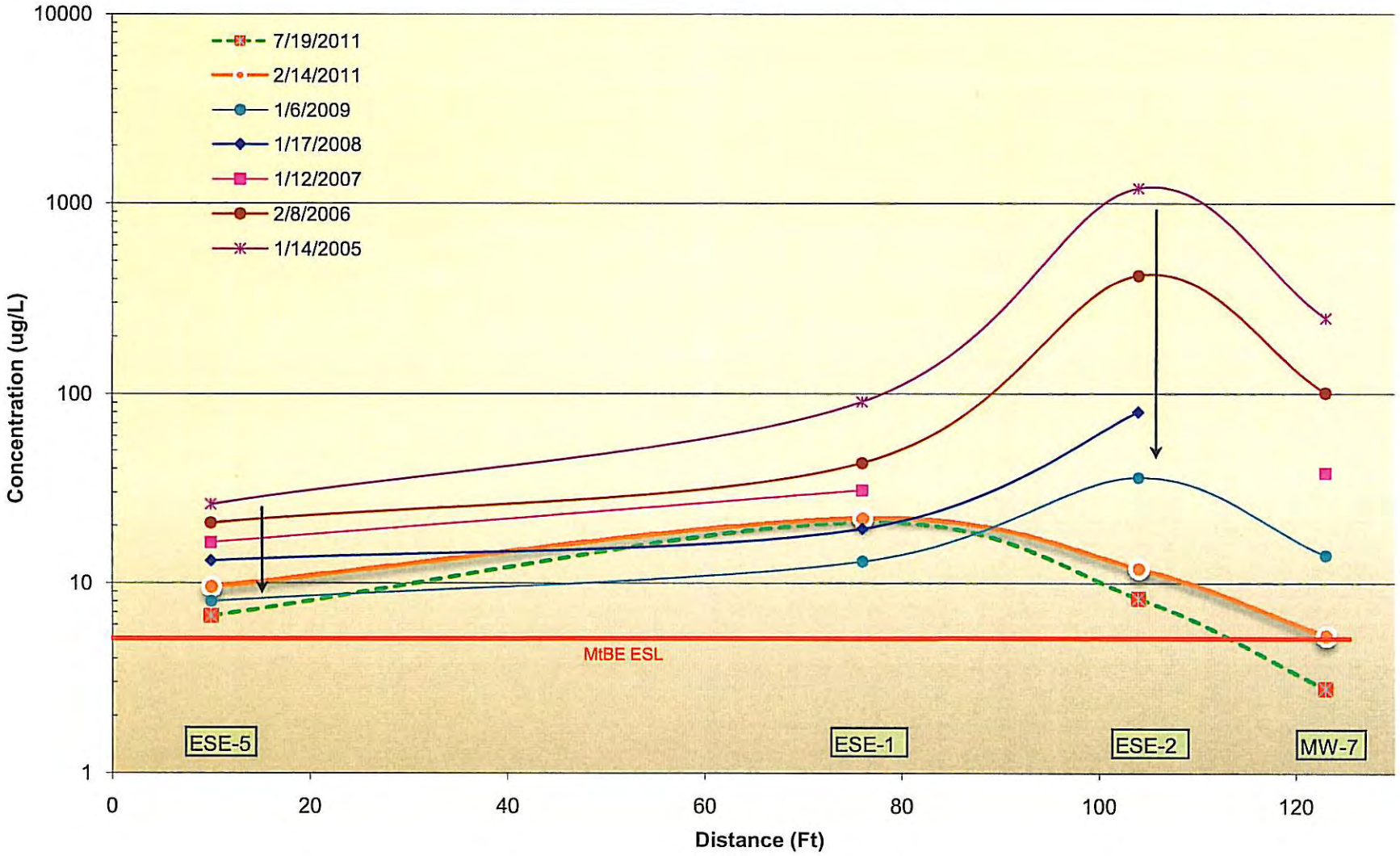


Figure 25: TBA Concentrations vs. Distance from Former USTs

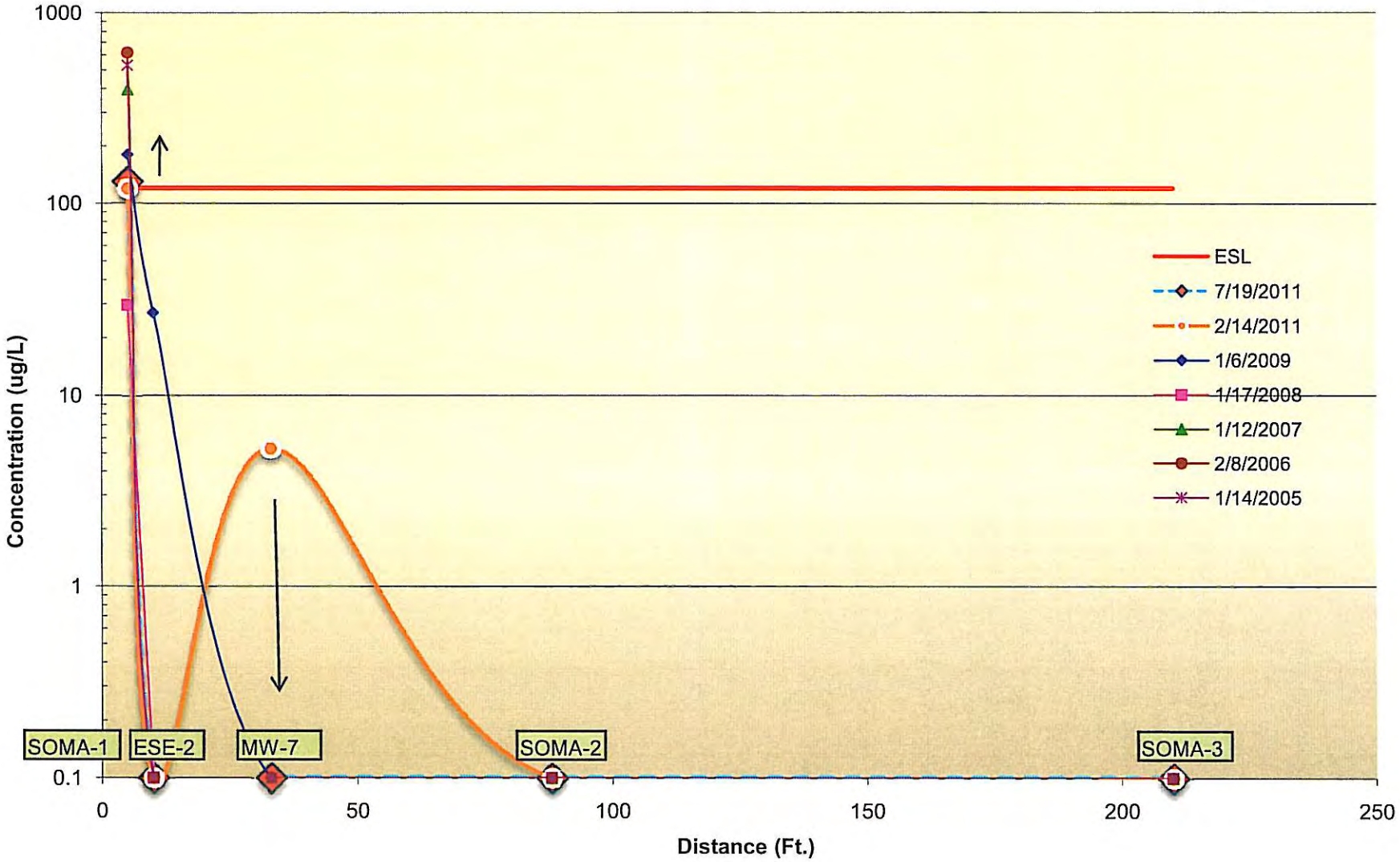


Figure 26: TPH-g Concentrations vs. Distance along Southern Edge of Property

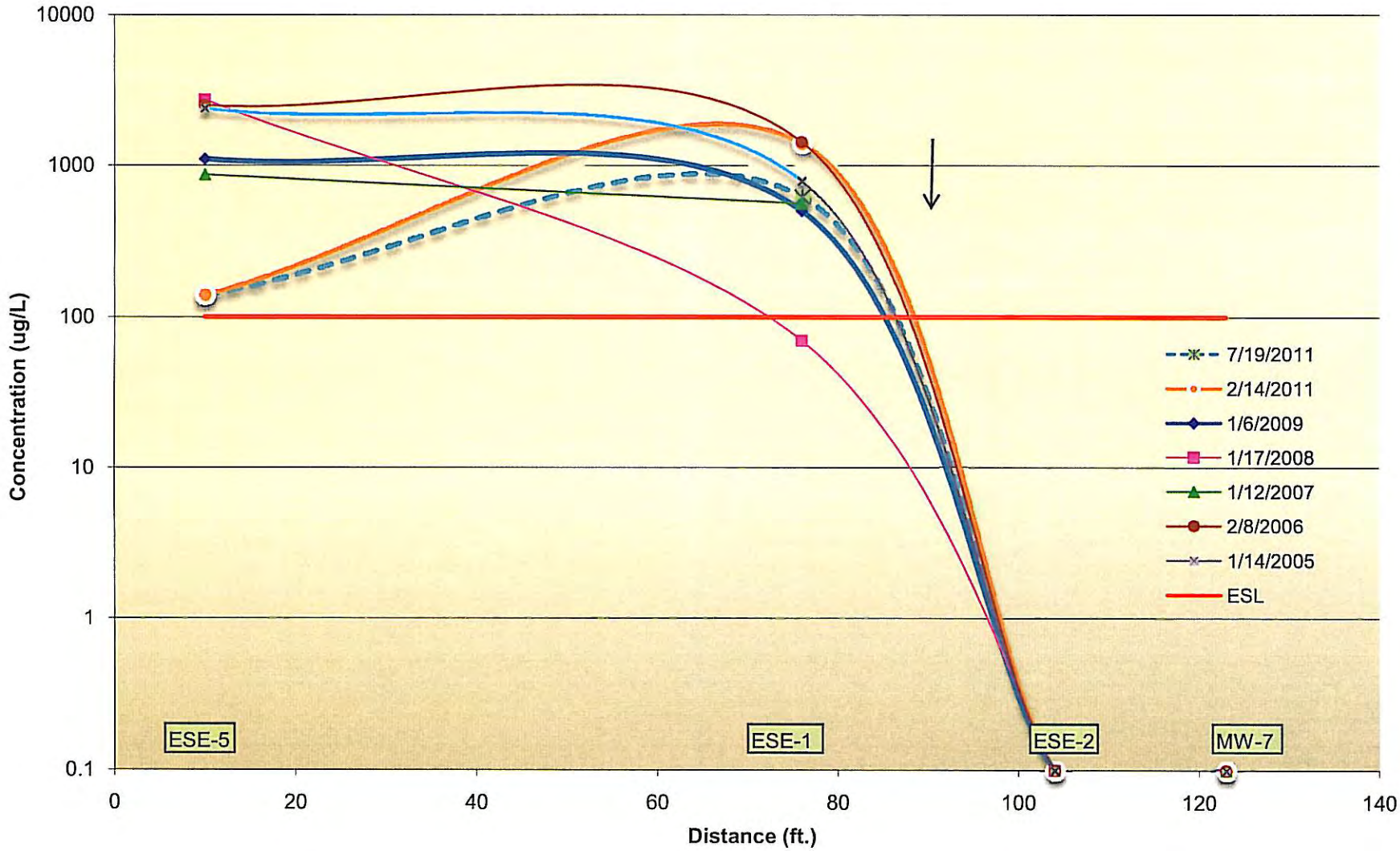


Figure 27: TBA Concentrations vs. Distance along Southern Edge of Property

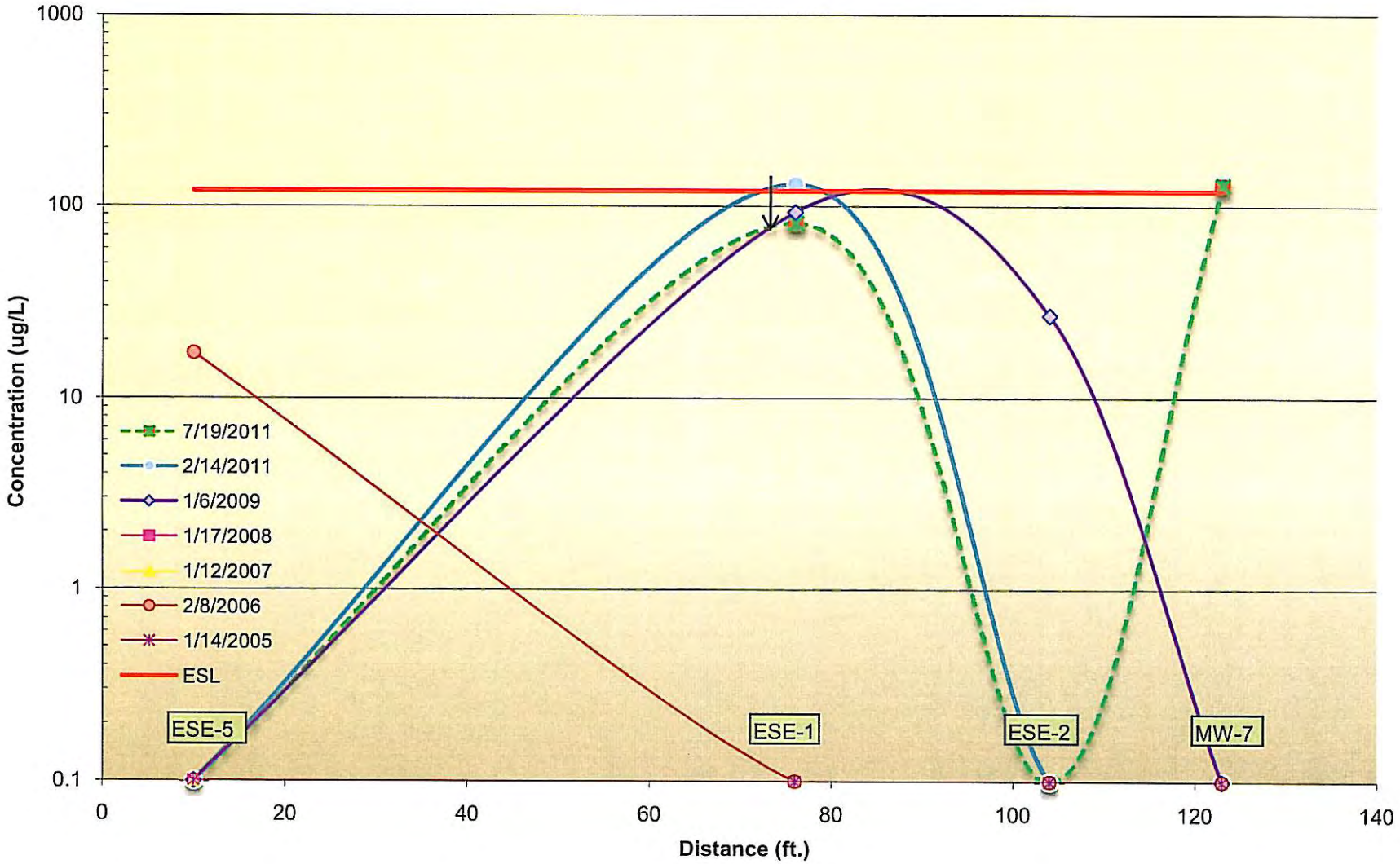


Figure 28: Contaminant and Groundwater Elevation Trends in Well ESE-1 (ESE-1R)

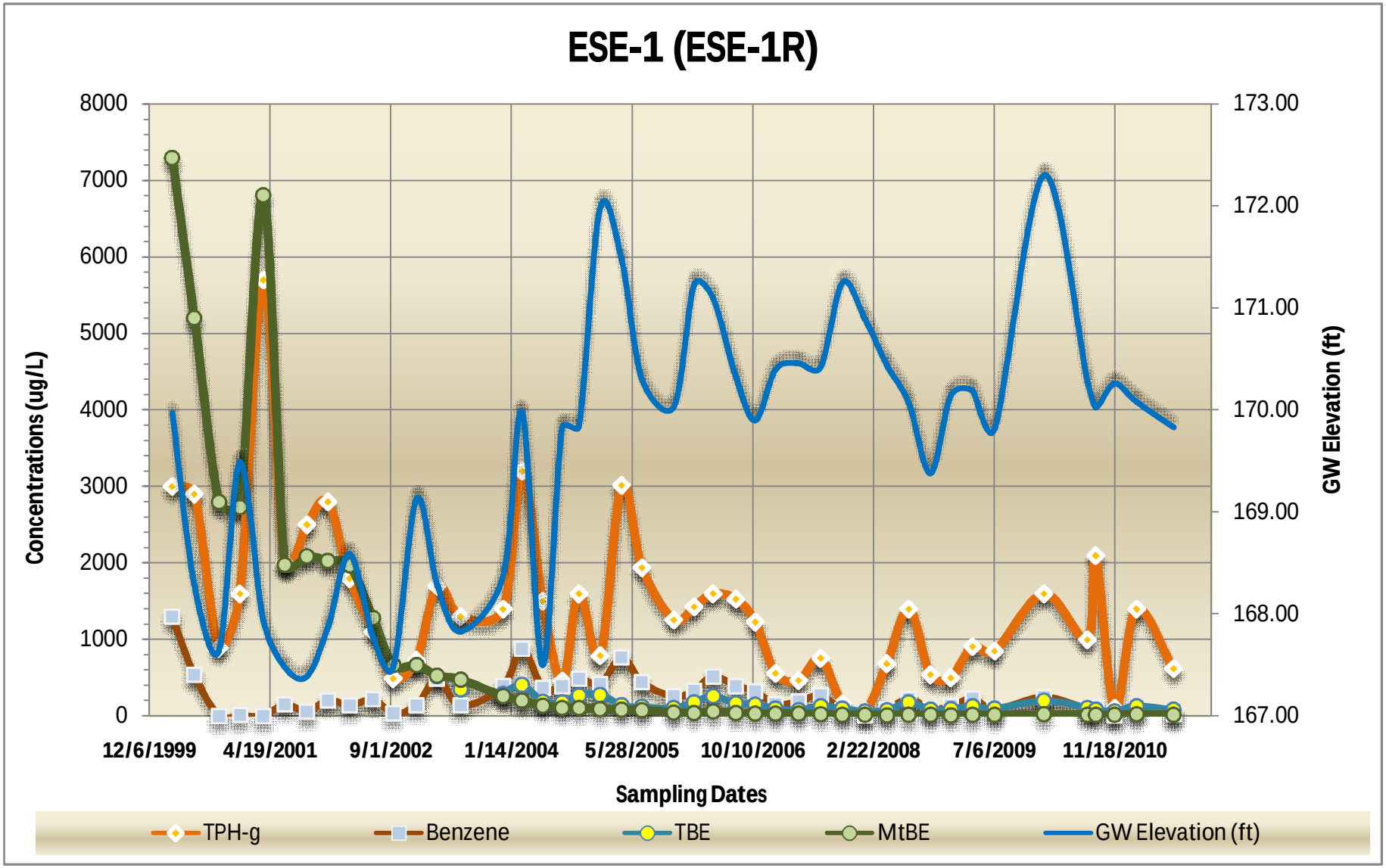


Figure 29: Contaminant and Groundwater Elevation Trends in Well ESE-2 (ESE-2R)

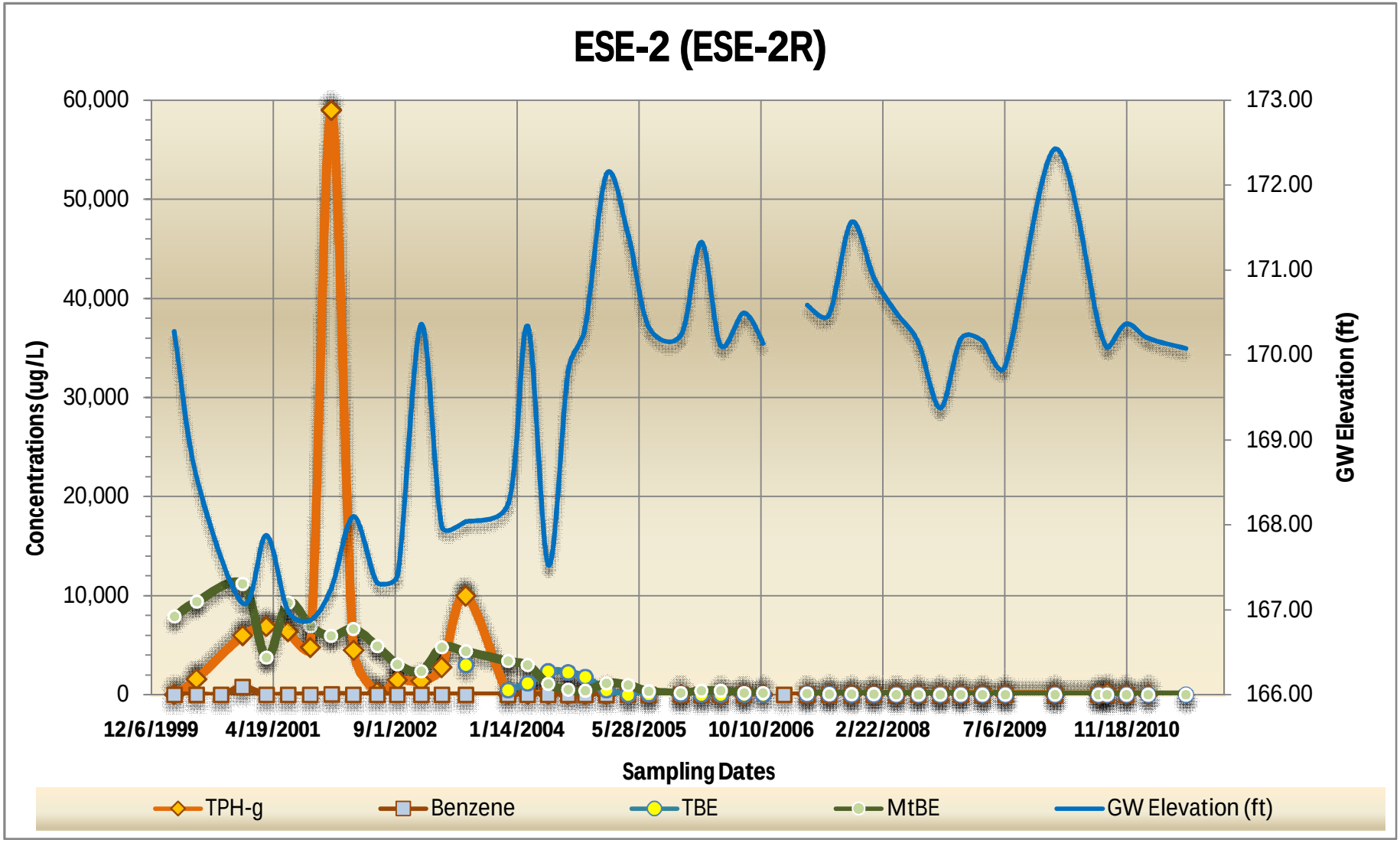


Figure 30: Contaminant and Groundwater Elevation Trends in Well ESE-5 (ESE-5R)

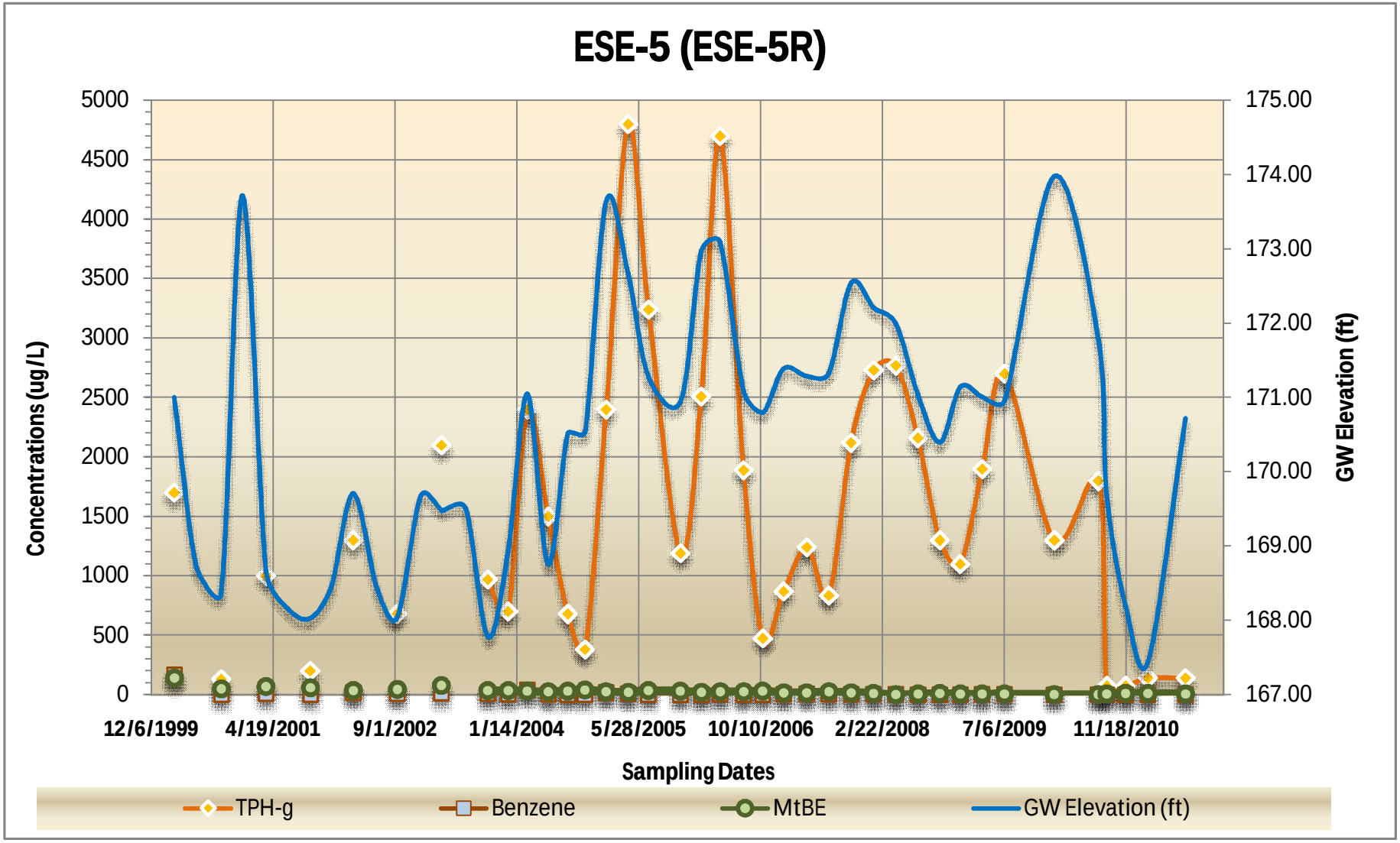


Figure 31: Contaminant and Groundwater Elevation Trends in Well SOMA-1

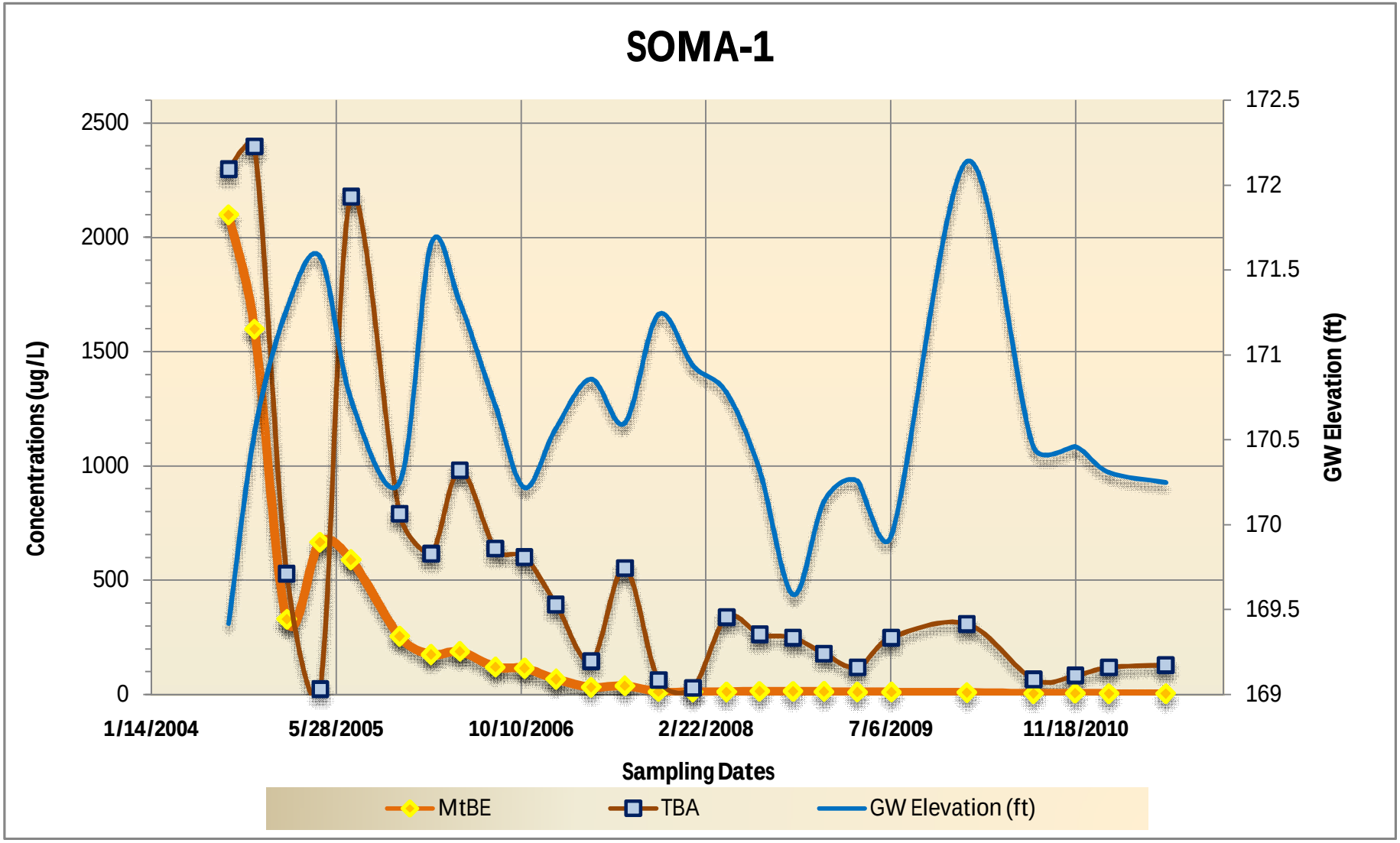


Figure 32: Contaminant and Groundwater Elevation Trends in Well SOMA-5

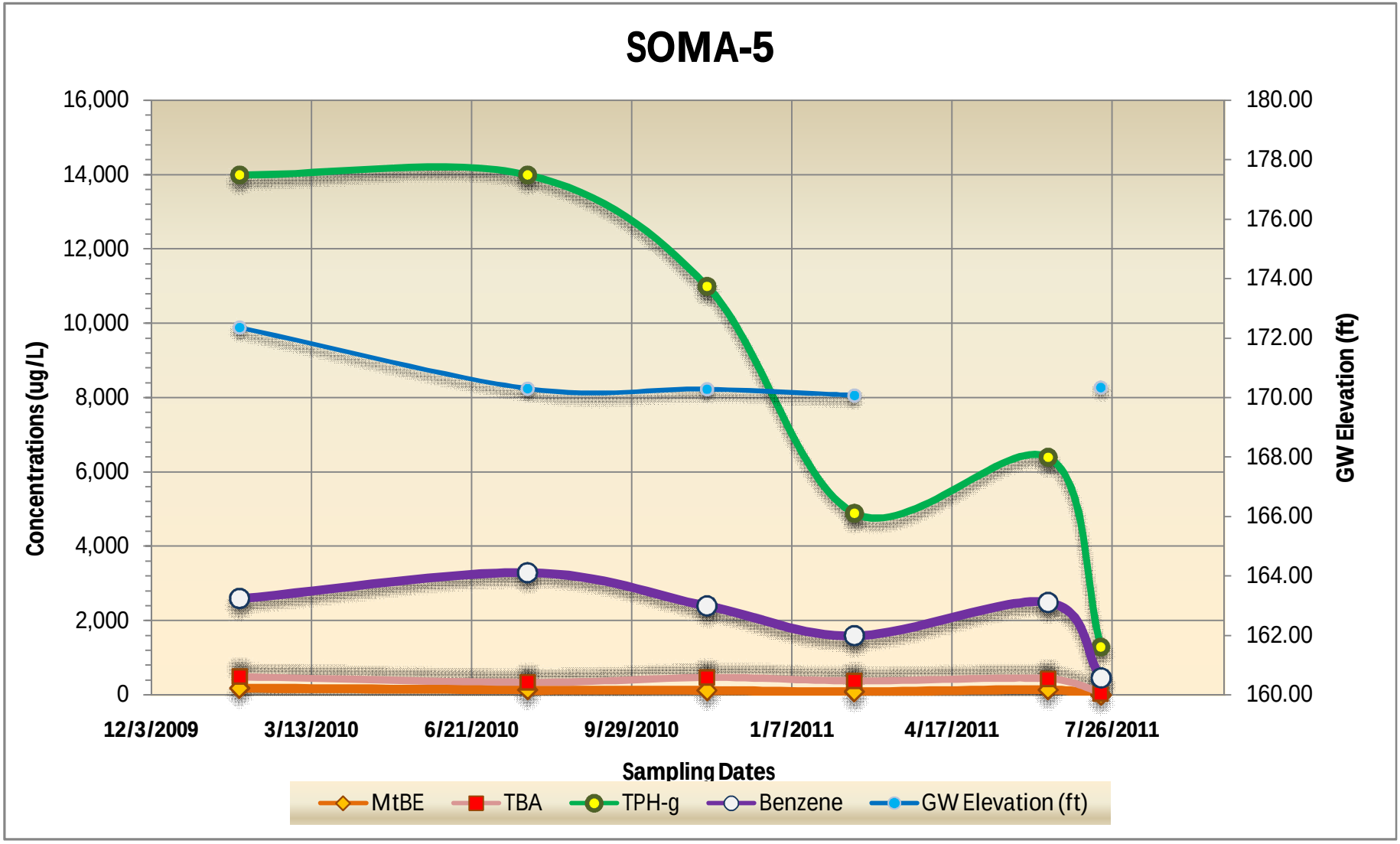
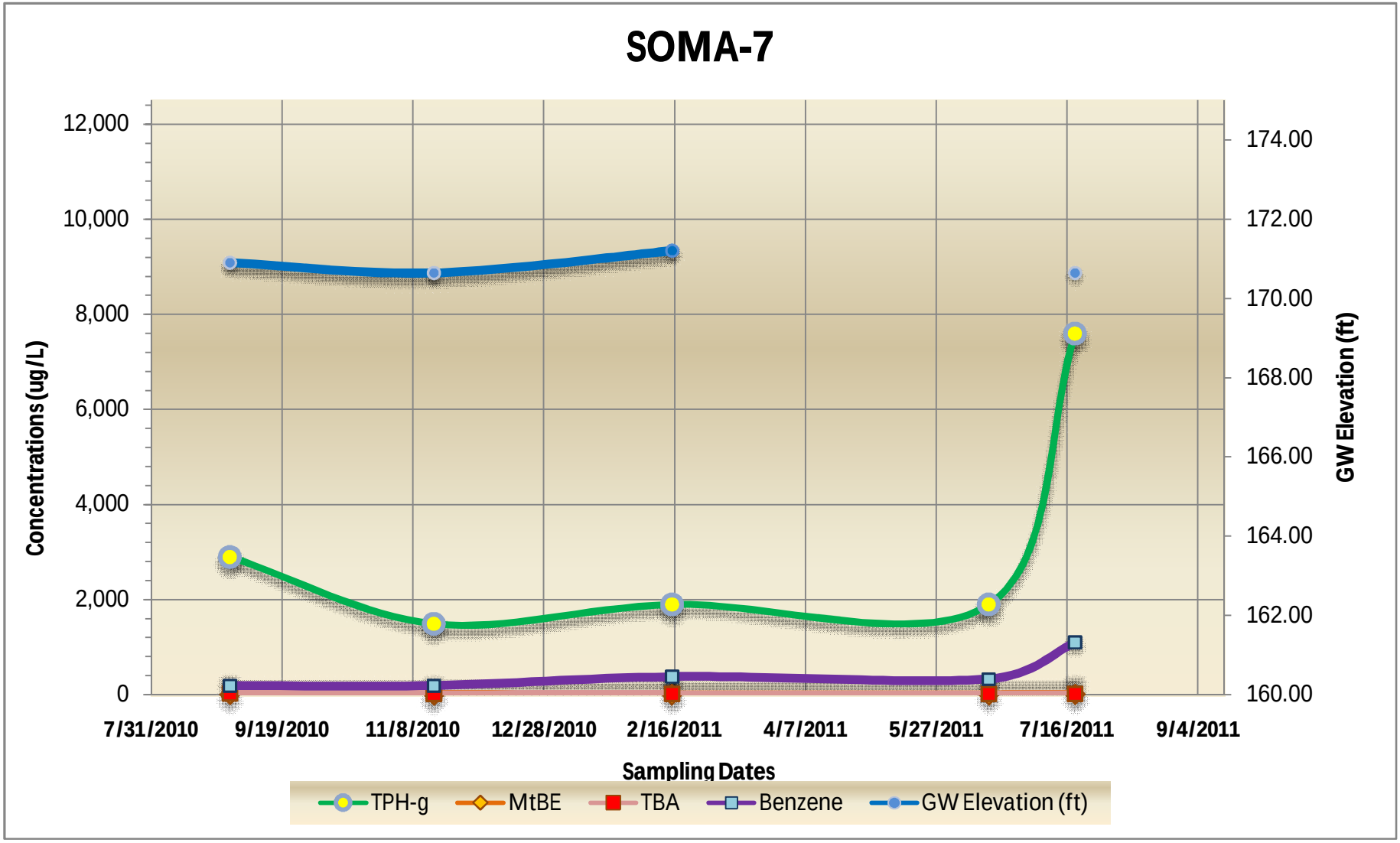


Figure 33: Contaminant and Groundwater Elevation Trends in Well SOMA-7



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	**0.87**	2	1.2	**5.7**	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	**220**	NA	NA	NA	**1.4**	**8.2**	**3.3**	**18**	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	**0.15**	0.17	0.23	0.82	NA	NA	NA
ESE-5	Alisto	10	9/28/1992	51	NA	NA	NA	**0.25**	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[E]	0.11[E]	NA	NA	NA
SB-1	Alisto	1.5 to 2	7/19/1995	**140**	NA	NA	NA	<0.1	<0.1	1.4	**4.1**	NA	NA	NA
SB-1	Alisto	3.5 to 4	7/19/1995	**190**	NA	NA	NA	<0.25	0.33	**4.5**	**18**	NA	NA	NA
SB-1	Alisto	7 to 7.5	7/19/1995	**310**	NA	NA	NA	**0.088**	0.088[E]	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[E]	0.12[E]	NA	NA	NA
SB-2	Alisto	5.5 to 6	7/19/1995	**140**	NA	NA	NA	<0.25	<0.25	1.2	1.4	NA	NA	NA
SB-2	Alisto	7.5 to 8	7/19/1995	**230**	NA	NA	NA	<0.25	<0.25	**3.9**	**5.1**	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	**0.15**	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	**0.059**	NA	NA
UST-NW	SOMA	9.5	9/4/2003	2[H]	<1.0	NA	NA	<0.0047	<0.0047	0.007	<0.0047	**0.069**	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[H]	36[LY]	NA	NA	<0.0049	0.044[C]	0.28	0.112	**0.071**	NA	NA
UST-SW	SOMA	10	9/4/2003	<1.0	<1.0	NA	NA	<0.0052	<0.0052	<0.0052	<0.0052	**0.075**	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[HY]	NA	NA	NA	<0.0055	0.0055[C]	0.016	0.0197[C]	<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[1]	SOMA	4	9/13/2003	**530[HY]**	NA	NA	NA	<0.011	<0.011	0.34[C]	0.524[C]	<0.043	NA	NA
PL2[2]	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[C]	<0.0052	0.0098	0.013	**0.23**	NA	7.2
SB2 - Comp	SOMA	Composite	8/20/2003	390	NA	NA	NA	<0.13	<0.13	**2.8**	**9.8**	<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[H]	4.8[HLY]	NA	NA	<0.01	0.024[C]	0.054[C]	0.01[C]	<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	**0.027**	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

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)
B-1	Delta	17	8/28/2008	**120**	NA	NA	NA	<0.12	<0.12	<0.12	<0.24	<0.12	NA	NA
B-3	Delta	12	8/28/2008	**720**	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
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	**91**	51 Y	22	NA	<0.25 b	<0.25 b	2.4 b	**11 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	**96**	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	**380**	31 Y	<5.0	NA	<0.25 b	<0.25 b	2.0 b	**14.2 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	**2.65 e**	<0.05 e	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)
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	**430 Y**	**170**	63.0	NA	<0.25	<0.25	<0.25	<0.25	<0.25	**3.7**	NA
SOMA-7	SOMA	10	8/9/2010	**980 Y**	**370 Y**	15.0	NA	<2.5	<2.5	**9**	<2.5	<2.5	**13**	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
ESL - Shallow Soil, Commercial				83	83	2500	2500	0.044	2.9	3.3	2.3	0.023	1.3	750
ESL - Deep Soils, Commercial				83	83	5000	5000	0.044	2.9	3.3	2.3	0.023	3.4	750

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 contriuted to quantitiation

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 Grab Groundwater Analytical Data

3519 Castro Valley Blvd., Castro Valley

Sample ID	Consultant	Sample Date	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	TBA (µg/L)
ESE-1	Alisto	7/28/1995	**190**	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA
ESE-2	Alisto	7/28/1995	**2,000**	NA	NA	<2.5	<2.5	<2.5	<5.0	NA	NA
ESE-3	Alisto	7/28/1995	<50	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA
ESE-4	Alisto	7/28/1995	<50	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA
ESE-5	Alisto	7/28/1995	**520**	NA	NA	**15**	<0.5	1.7	1.3	NA	NA
ESE-5 QC1	Alisto	7/28/1995	**460**	NA	NA	**7.2**	<0.5	1.9	1.5	NA	NA
MW-6	Alisto	7/28/1995	<50	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA
MW-7	Alisto	7/28/1995	<50	NA	NA	0.54[E]	0.54	<0.5	<1.0	NA	NA
MW-8	Alisto	7/28/1995	**1,100**	NA	NA	<2.5	<2.5	<2.5	<5.0	NA	NA
S-10	Alisto	7/28/1995	<50	NA	NA	<0.5	<0.5	<0.5	<1.0	NA	NA
Ex. UST Pit	SOMA	9/4/2003	**1,300**	NA	NA	**110**	**220**	18	**171**	**14,000**	NA
ESE-3 WA	SOMA	10/3/2003	**110**	NA	NA	<5.0	<5.0	0.59	1.2	3.3	NA
TWB-1	SOMA	12/2/2003	<50	NA	NA	<0.5	<0.5	<0.5	0.8	**8.5**	NA
TWB-2	SOMA	12/2/2003	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	**89**	NA
TWB-3	SOMA	12/2/2003	<50	NA	NA	<0.5	<0.5	<0.5	<0.5	**37**	NA
TWB-4	SOMA	12/2/2003	<50	NA	NA	<0.5	<0.5	<0.5	2.3	<0.5	NA
TWB-5	SOMA	12/2/2003	**32,000**	NA	NA	**500**	13	**540**	**1,150**	**9.5**	NA
B-4	Delta	8/28/2008	<50	NA	NA	<0.5	<1.0	<1.0	<2.0	<1.0	<10
B-5	Delta	8/28/2008	<50	NA	NA	<0.5	<1.0	<1.0	<2.0	<1.0	<10
B-6	Delta	8/28/2008	**900**	NA	NA	0.71	3.5	3.4	<2.0	<1.0	<10
MW-1[1]	Delta	10/28/2008	<50	NA	NA	<0.5	<1.0	<1.0	<2.0	**15**	**38**
MW-2[1]	Delta	10/28/2008	74	NA	NA	<0.5	<1.0	<1.0	<2.0	**51**	<10
MW-3[1]	Delta	10/28/2008	<50	NA	NA	<0.5	<1.0	<1.0	<2.0	**19**	<10
MW-4[1]	Delta	10/28/2008	<50	NA	NA	<0.5	<1.0	<1.0	<2.0	<1.0	<10
DP-1	SOMA	8/18/2009	**210 Y**	**140 Y**	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<10
DP-2	SOMA	8/17/2009	**130**	**340 Y**	**410**	<0.5	<0.5	3.7	<0.5	<0.5	<10
DP-3	SOMA	8/17/2009	<50	**330 Y**	**360**	<0.5	<0.5	<0.5	<0.5	1.9	<10

Table 2

Historical Grab Groundwater Analytical Data
3519 Castro Valley Blvd., Castro Valley

Sample ID	Consultant	Sample Date	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L)	TBA (µg/L)
DP-4	SOMA	8/17/2009	<50	**980 Y**	**570**	<0.5	<0.5	<0.5	<0.5	0.76	<10
DP-5	SOMA	8/18/2009	**640**	**240 Y**	<300	**8.9**	1.6	18	**71**	4.8	<10
DP-6	SOMA	8/18/2009	**1,600**	**470 Y**	<300	**18**	<0.5	**71**	**186**	<0.5	<10
DP-7	SOMA	8/18/2009	<50	**130 Y**	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<10
SOMA-5	SOMA	9/21/2009	**16,000**	NA	NA	**1,300**	<10	**420**	**2,360**	**120**	**510**
ESE-1R	SOMA	8/30/2010	**2,100**	**1,600 Y**	**560**	**110**	5.2	19	**151**	**15**	**83**
ESE-2R	SOMA	8/30/2010	**200**	**250 Y**	<300	0.93	<0.50	1.3	13.5	**16**	<10
ESE-5R	SOMA	8/30/2010	75	**190 Y**	<300	<0.5	<0.5	<0.5	<0.5	**7.3**	<10
MW-6R	SOMA	8/30/2010	<50	**110 Y**	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<10
MW-7R	SOMA	8/30/2010	<50	**200 Y**	**420**	<0.5	<0.5	<0.5	<0.5	**24**	<10
SOMA-7	SOMA	8/30/2010	**2,900**	**2,100 Y**	**330**	**190**	3.7	**74**	19.8	**8.4**	<33
SOMA-8	SOMA	8/30/2010	<50	69 Y	<300	<0.5	<0.5	<0.5	<0.5	<0.5	<10
ESL - Drinking Water			**100**	**100**	**100**	**1**	**40**	**30**	**20**	**5**	**12**
ESL - Non-Drinking Water			**210**	**210**	**210**	**46**	**130**	**43**	**100**	**1,800**	**18,000**

Notes:

1: Wells designated by Delta, Correct designation for monitoring wells is: MW-1 is ESE-1, MW-2 is ESE-2, MW-3 is SOMA-1, MW-4 is MW-6

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

Table 3

Soil Analytical Results - Observation Well Installation

3519 Castro Valley Blvd, Castro Valley, CA

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 Residential,		**83**	**83**	**0.044**	**2.9**	**3.3**	**2.3**	**0.023**	**3.4**

Well	Depth	Date	2-Butanone (mg/kg)	Isopropylbenzene (mg/kg)	Propylbenzene (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)	1,2,4-Trimethylbenzene (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 limit.

ESL: California Regional Water Quality Control Board, Environmental Screening Levels, Shallow/Deep Soil, Commercial, Groundwater is a current or potential source of drinking water, Tables A and C. Interim Final November 2007, Revised May 2008

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
Semi-Confined WBZ Wells										
ESE-1	10/5/1992	177.69	11.22	166.47	2100	370	150	17	110	NA
	10/5/1992	177.69	NM	NM	2300	370	160	16	110	NA
	4/1/1993	177.69	8.79	168.90	5900	1500	410	110	390	NA
	6/29/1993	177.69	10.34	167.35	7600	2900	390	130	460	NA
	9/23/1993	177.69	10.91	166.78	2000	490	40	20	56	600
	9/23/1993	177.69	NM	NM	1500	420	39	19	56	550
	12/10/1993	177.69	9.93	167.76	1800	480	42	19	66	921
	12/10/1993	177.69	NM	NM	1500	380	38	17	55	770
	2/17/1994	177.69	9.64	168.05	1900	380	48	24	80	585
	2/17/1994	177.69	NM	NM	2200	430	42	19	65	491
	8/8/1994	177.69	11.72	165.97	2100	450	46	16	50	760
	10/12/1994	177.69	10.48	167.21	760	240	16	51	39	230
	1/19/1995	177.69	7.77	169.92	840	600	120	22	58	NA
	5/2/1995	177.69	8.69	169.00	2000	640	67	24	98	NA
	7/28/1995	177.69	10.12	167.57	190	<0.50	<0.50	<0.50	<1.0	NA
	11/17/1995	177.69	10.57	167.12	200	3.4	<1.0	1	<2.0	600
	2/7/1996	177.69	7.41	170.28	750	370	23	21	64	680
	4/23/1996	177.69	9.12	168.57	310	100	<1.0	<1.0	<1.0	1500
	7/9/1996	177.69	10.12	167.57	730	230	74	13	63	750
	10/10/1996	177.69	10.80	166.89	420	26	1.6	7.3	12	430
	1/20/1997	177.69	10.52	167.17	660	290	4.2	13	36	450
	4/25/1997	177.69	9.77	167.92	410	<0.5	<1.0	<1.0	<1.0	580
	7/18/1997	177.69	10.55	167.14	420	<0.5	<1.0	<1.0	<1.0	370
	10/27/1997	177.69	10.36	167.33	300	56	<1.0	6.5	<1.0	220

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	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	4200	440	9	15	17.7	1300
	4/23/1998	177.69	8.80	168.89	15000	3400	190	910	900	4900
	4/23/1998	177.69	NM	NM	15000	2800	140	730	730	4400
	7/29/1998	177.69	9.73	167.96	NA	NA	NA	NA	NA	NA
	7/30/1998	177.69	NM	NM	15000	<2.5	<5.0	<5.0	<5.0	15000
	12/17/1998	177.69	9.51	168.18	2400	73	1	2.8	4.6	2000
	3/19/1999	177.69	8.65	169.04	4700	58	<1.0	<1.0	<1.0	4700
	6/23/1999	177.69	10.51	167.18	600	170	<1.0	7.2	5	3900
	9/27/1999	177.69	10.32	167.37	920	200	<25	<25	<25	4900
	12/9/1999	177.69	10.24	167.45	460	130	1.2	5.2	1.5	5100
	3/9/2000	177.69	7.72	169.97	3000	1300	120	80	140	7300
	6/8/2000	177.69	9.40	168.29	2900	540	9.7	20	17	5200
	9/18/2000	177.69	10.05	167.64	890	3.4	<0.5	1.4	<0.5	2800
	12/14/2000	177.69	8.20	169.49	1600	11.1	<0.5	<0.5	<0.5	2730
	3/21/2001	177.69	9.75	167.94	5700	2.28	<0.5	0.51	<1.5	6810
	6/18/2001	177.69	10.21	167.48	2000	152	0.669	3.62	2.34	1980
	9/18/2001	177.69	10.30	167.39	2500	57.1	<5.0	6.25	<15	2090
	12/13/2001	177.69	9.82	167.87	2800	208	6.05	8.54	9.66	2030
	3/14/2002	177.69	9.10	168.59	1800	140	6.31	4.5	9.41	1970
	6/19/2002	177.69	9.92	167.77	1100	220	2.02	4.23	3.8	1280
	9/10/2002	177.69	10.21	167.48	490	39	2.9	<2.0	4.9	670
	12/16/2002	177.69	8.56	169.13	730	140	6	3.2	9.1	670
	3/11/2003	177.69	9.40	168.29	1700	490	21	22	41	530
	6/17/2003	177.69	9.86	167.83	1300	140	<10	<10	<10	480
	12/9/2003	177.69	9.32	168.37	1400	390	12	14	26.1	260
	2/26/2004	177.69	7.71	169.98	3200	880	50	44	89	200
	5/21/2004	177.69	10.19	167.50	1500	370	10	14	25.2	140
	8/10/2004	180.24	10.41	169.83	460	390	7	8.1	15.4	110
	10/19/2004	180.24	10.40	169.84	1600	490	13	12	25.3	110

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	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	420	26	19	52	91
	4/14/2005	180.24	8.77	171.47	3020	766	25.6	21.3	25.26	88.2
	7/7/2005	180.24	9.94	170.30	1940	440	15.5	15.7	21	80.6
	11/15/2005	180.24	10.21	170.03	1260	259	6.2	8.2	10.81	45.8
	2/8/2006	180.24	9.01	171.23	1430	332	13.6	18.1	25.03	43
	4/27/2006	180.24	9.14	171.10	1,600	519	23.2	32.4	40.20	63.4
	8/1/2006	180.24	9.92	170.32	1,530	395	11.8	25.4	28.01	40
	10/19/2006	180.24	10.34	169.90	1,230	327	10.2	21.6	21.19	29.6
	1/12/2007	180.24	9.84	170.40	561	153	7.18	14.4	14.95	30.9
	4/17/2007	180.24	9.78	170.46	467	192	7.59	13.8	16.42	30.4
	7/17/2007	180.24	9.82	170.42	755	271	8.6	17.8	22.06	26.7
	10/16/2007	180.24	8.99	171.25	164	80.2	<2.0	5.24	2.47	16.6
	1/17/2008	180.24	9.35	170.89	70	10.8	<2.0	<0.5	<2.0	19.3
	4/17/2008	180.24	9.80	170.44	687	89.7	<2.0	4.01	5.30	8.79
	7/16/2008	180.24	10.17	170.07	1,400	223	3.88	12.6	17.88	18.1
	10/14/2008	180.24	10.86	169.38	540	95	2.7	7.7	18	15
	1/6/2009	180.24	10.10	170.14	500 Y	130	3	8.8	17.1	13
	4/6/2009	180.24	10.05	170.19	910 Y	230	2.4	11	12.1	17
	7/7/2009	180.24	10.42	169.82	850 Y	89	1.9	7.8	15.1	15
	1/27/2010	180.24	7.94	172.30	1,600	250	8.8	30	69	23
	7/26/2010	180.24	9.95	170.29	1,000	96	1.2	4.2	6	17
ESE-1R	8/30/2010	180.20	10.17	170.03	2,100	110	5.2	19	151	15
	11/16/2010	180.20	9.94	170.26	100	5.8	<0.5	1	<0.5	16
	2/15/2011	180.20	10.12	170.08	1,400	96	1.7	14	7.9	22
	7/19/2011	**180.20**	**10.37**	**169.83**	**620**	**30**	**0.76**	**4.4**	**0.96**	**21**

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-2	10/5/1992	178.23	11.68	166.55	300	5.4	16	3.9	45	NA
	4/1/1993	178.23	9.17	169.06	240	27	<0.5	17	2.6	123
	6/29/1993	178.23	10.88	167.35	1,700	260	24	110	23	NA
	6/29/1993	178.23	NM	NM	1,300	240	17	110	25	NA
	9/23/1993	178.23	11.56	166.67	240	3.1	0.5	0.6	2.5	643
	12/10/1993	178.23	10.48	167.75	250	2.4	2.4	1.5	11	940
	2/17/1994	178.23	10.06	168.17	900	<0.5	<0.5	<0.5	<0.5	930
	8/8/1994	178.23	11.11	167.12	750	<0.5	<0.5	<0.5	<0.5	1400
	10/12/1994	178.23	11.31	166.92	1,700	<0.5	<0.5	<0.5	<0.5	3000
	1/19/1995	178.23	8.25	169.98	300	2	0.9	0.7	1	NA
	5/2/1995	178.23	9.21	169.02	1,200	4	<2.5	<2.5	<5	NA
	7/28/1995	178.23	10.64	167.59	2,000	<2.5	<2.5	<2.5	<5	NA
	11/17/1995	178.23	11.13	167.10	3,600	<25	<25	<25	<50	12000
	11/17/1995	178.23	NM	NM	3,400	<25	<25	<25	<50	12000
	2/7/1996	178.23	7.94	170.29	450	<0.5	<1	<1	<1	2300
	4/23/1996	178.23	9.73	168.50	260	0.9	<1	<1	<1	8600
	7/9/1996	178.23	10.70	167.53	780	<2.5	<5	<5	<5	13393
	10/10/1996	178.23	11.39	166.84	2,900	<0.5	<1	<1	<1	12000
	1/20/1997	178.23	9.04	169.19	<250	<2.5	<5	<5	<5	13000
	4/25/1997	178.23	10.31	167.92	2,700	<0.5	<1	<1	<1	15000
	7/18/1997	178.23	11.02	167.21	11,000	<5	<10	<10	<10	11000
	10/27/1997	178.23	10.93	167.30	6,100	<2.5	<5.0	<5.0	<5.0	7100
	10/27/1997	178.23	NM	NM	6,600	<2.5	<5.0	<5.0	<5.0	7400
	1/22/1998	178.23	7.93	170.30	13,000	<0.5	<1	<1	<1	10000
	1/22/1998	178.23	NM	NM	13,000	<0.5	<1	<1	<1	10000
	4/23/1998	178.23	9.34	168.89	19,000	<5	<10	<10	<10	36000
	7/29/1998	178.23	10.29	167.94	NA	NA	NA	NA	NA	NA
	7/30/1998	178.23	NM	NM	19,000	<5	<10	<10	<10	36000
	12/17/1998	178.23	10.20	168.03	12,000	<5	<5	<5	<5	13000

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-2 cont	3/19/1999	178.23	9.02	169.21	18,000	160	<1	<1	<1	18000
	6/23/1999	178.23	9.99	168.24	280	<1	<1	<1	<1	16000
	9/27/1999	178.23	10.69	167.54	<500	<25	<25	<25	<25	12000
	12/9/1999	178.23	11.26	166.97	<50	<0.3	<0.3	<0.3	<0.6	12000
	3/9/2000	178.23	7.95	170.28	<50	1.6	<0.5	<0.5	<0.5	7900
	6/8/2000	178.23	9.66	168.57	1,600	<0.5	0.73	<0.5	2.2	9400
	12/14/2000	178.23	11.15	167.08	6,000	0.75	<0.5	<0.5	<0.5	11200
	3/21/2001	178.23	10.35	167.88	6,900	786	45.7	37.7	71.5	3790
	6/18/2001	178.23	11.24	166.99	6,400	<2.5	<2.5	<2.5	<7.5	9320
	9/18/2001	178.23	11.35	166.88	4,800	<12.5	<12.5	<12.5	<37.5	6960
	12/13/2001	178.23	10.97	167.26	59,000	0.592	<0.5	<0.5	<1	5940
	3/14/2002	178.23	10.13	168.10	4,500	76	<0.5	<0.5	<1	6660
	6/19/2002	178.23	10.91	167.32	250	<12.5	<12.5	<12.5	<25	4900
	9/10/2002	178.23	10.82	167.41	1,500	<5	<5	<5	6.3	3100
	12/16/2002	178.23	7.87	170.36	1,400	<5	<5	<5	<5	2400
	3/11/2003	178.23	10.24	167.99	2,800	<10	<10	<10	<10	4800
	6/17/2003	178.23	10.19	168.04	10,000	<100	<100	<100	<100	4400
	12/9/2003	178.23	9.97	168.26	<50	<0.5	<0.5	<0.5	<0.5	3400
	2/26/2004	178.23	7.89	170.34	<50	<0.5	<0.5	<0.5	<0.5	3000
	5/21/2004	178.23	10.70	167.53	<50	<0.5	<0.5	<0.5	<0.5	1100
	8/10/2004	180.79	10.99	169.80	<50	<0.5	<0.5	<0.5	<0.5	550
	10/19/2004	180.79	10.46	170.33	<50	<0.5	<0.5	<0.5	<0.5	410
	1/14/2005	180.79	8.66	172.13	<50	<8.3	<8.3	<8.3	<8.3	1200
	4/14/2005	180.79	9.38	171.41	<860	<2.15	<2.15	<2.15	<4.30	1020
	7/7/2005	180.79	10.46	170.33	<860	<2.15	<8.60	<2.15	<4.30	378
	11/15/2005	180.79	10.55	170.24	<50	<0.5	<2.0	<0.5	<1.0	210
	2/8/2006	180.79	9.46	171.33	<215	<2.15	<8.6	<2.15	<4.3	419
	4/27/2006	180.79	10.67	170.12	<100	1.71	<4.0	<1.0	<2.0	432
	8/1/2006	180.79	10.29	170.50	<100	2.83	<4.0	<1.0	<2.0	222
	10/19/2006	180.79	10.65	170.14	<50	0.8	<2.0	<0.5	<1.0	221

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-2 cont	1/12/2007	180.79	NM	NM	NA	NA	NA	NA	NA	NA
	4/17/2007	180.79	10.20	170.59	<50	3.17	<2.0	4.49	<2.0	158
	7/17/2007	180.79	10.31	170.48	<50	1.65	<2.0	<0.5	<2.0	105
	10/16/2007	180.79	9.22	171.57	<50	5.67	<2.0	<0.5	<2.0	73.9
	1/17/2008	180.79	9.88	170.91	<50.0	<0.50	<2.0	<0.50	<2.0	80.2
	4/17/2008	180.79	10.29	170.50	<50	<0.5	<2.0	<0.5	<2.0	45
	7/16/2008	180.79	10.64	170.15	<50	<0.5	<2.0	<0.5	<2.0	54
	10/14/2008	180.79	11.41	169.38	<50	<0.5	<0.5	<0.5	<0.5	41
	1/6/2009	180.79	10.60	170.19	<50	<0.5	<0.5	<0.5	<0.5	36
	4/6/2009	180.79	10.62	170.17	<50	<0.5	<0.5	<0.5	<0.5	30
	7/7/2009	180.79	10.92	169.87	<50	2.4	<0.5	<0.5	<0.5	32
	1/27/2010	180.79	8.36	172.43	<50	<0.5	<0.5	<0.5	<0.5	26
	7/26/2010	180.79	10.44	170.35	<50	<0.5	<0.5	<0.5	<0.5	13
ESE-2R	8/30/2010	180.7	10.61	170.09	200	0.93	<0.5	1.3	13.5	16
	11/16/2010	180.7	10.33	170.37	<50	<0.5	<0.5	<0.5	<0.5	18
	2/14/2011	180.70	10.50	170.20	<50	<0.5	<0.5	<0.5	<0.5	12
	7/19/2011	**180.70**	**10.62**	**170.08**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**8.3**
ESE-3	10/5/1992	178.20	10.58	167.62	430	57	31	3.6	34	NA
	4/1/1993	178.20	8.14	170.06	2400	460	220	74	210	NA
	6/29/1993	178.20	9.72	168.48	280	56	14	15	13	NA
	9/23/1993	178.20	10.46	167.74	72	13	3.5	1.7	4.1	NA
	12/10/1993	178.20	9.30	168.90	270	71	32	6.1	33	NA
	2/17/1994	178.20	8.97	169.23	520	140	10	20	33	5.74
	8/8/1994	178.20	10.02	168.18	<50	8.8	1.6	1.6	2.3	<5.0
	10/12/1994	178.20	10.32	167.88	470	190	6.4	15	18	<5.0
	1/19/1995	178.20	7.40	170.80	330	260	27	21	20	NA
	5/2/1995	178.20	8.26	169.94	530	180	30	23	44	NA
	7/28/1995	178.20	9.54	168.66	<50	<0.50	<0.50	<0.50	<1	NA
	11/17/1995	178.20	10.04	168.16	<50	1.7	<0.50	<0.50	<1	<5.0

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-3 cont.	2/7/1996	178.20	7.08	171.12	<50	8.6	<1	<1	<1	<10
	4/1/2396	178.20	8.79	169.41	<50	7.6	<1	<1	<1	65
	7/9/1996	178.20	10.09	168.11	<50	12	2.6	2	3.9	26
	10/10/1996	178.20	10.48	167.72	NA	NA	NA	NA	NA	NA
	10/11/1996	178.20	NM	NM	260	140	<1	<1	2.6	<10
	1/20/1997	178.20	8.65	169.55	<50	1.5	1.7	<1	<1	14
	4/25/1997	178.20	10.02	168.18	<50	<0.5	<1	<1	<1	14
	7/18/1997	178.20	10.66	167.54	10000	1400	1400	300	1280	<250
	10/27/1997	178.20	9.83	168.37	<250	<2.5	<5.0	<5.0	36	<50
	1/22/1998	178.20	7.06	171.14	130	<0.5	<1.0	<1.0	<1.0	120
	4/23/1998	178.20	8.44	169.76	4800	560	<10	15	<10	4000
	7/29/1998	178.20	9.27	168.93	NA	NA	NA	NA	NA	NA
	7/30/1998	178.20	NM	NM	1800	6.2	<5.0	<5.0	<5.0	1700
	12/17/1998	178.20	9.15	169.05	600	54	<1.0	2.1	4.9	340/480
	3/19/1999	178.20	8.14	170.06	2000	260	4.4	13	28	870
	6/23/1999	178.20	9.44	168.76	290	91	<1.0	8.3	16	240
	9/27/1999	178.20	9.69	168.51	130	35	<1.0	2.7	3.8	100
	12/9/1999	178.20	10.99	167.21	380	84	1.7	8.7	6.3	160
	3/9/2000	178.20	7.12	171.08	950	190	4.6	39	62	350
	6/8/2000	178.20	10.92	167.28	300	37	<0.5	2.3	1.3	400
	9/18/2000	178.20	11.12	167.08	920	140	1.3	15	4.8	170
	12/14/2000	178.20	9.70	168.50	320	64	<0.5	6.24	1.76	201
	3/21/2001	178.20	10.07	168.13	680	80.5	0.546	21.1	18.2	398
	6/18/2001	178.20	11.42	166.78	380	47	<0.5	3.11	<1.5	242
	9/18/2001	178.20	11.55	166.65	340	54.8	<0.5	4.36	<1.5	79.7
	12/13/2001	178.20	10.12	168.08	270	31.4	<0.5	1.31	2.24	129
	3/14/2002	178.20	9.84	168.36	670	89.8	0.769	23.4	30.4	413
	6/19/2002	178.20	10.57	167.63	130	18.6	<0.5	<0.5	<1	166
	9/10/2002	178.20	9.90	168.30	88	12	<0.5	<0.5	<0.5	93
	12/16/2002	178.20	9.23	168.97	290	55	17	3.7	14	78

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-3 cont.	3/11/2003	178.20	9.05	169.15	100	3.4	<0.5	0.54	<0.50	140
	6/17/2003	178.20	9.30	168.90	520	17	<5	5.3	<5	130
ESE-4	10/5/1992	177.73	10.33	167.40	98	7.2	1.3	1.1	6.1	NA
	4/1/1993	177.73	7.88	169.85	550	93	20	23	33	NA
	6/29/1993	177.66	8.33	169.33	150	23	0.6	5.4	0.5	54
	9/23/1993	177.66	10.05	167.61	110	14	1.7	3.2	4.6	NA
	12/10/1993	177.66	8.95	168.71	110	21	7.2	4.2	10	28.75
	2/17/1994	177.66	8.65	169.01	210	26	1.2	4.7	11	113
	8/8/1994	177.66	9.76	167.90	76	9.6	<0.5	2	<0.5	62
	10/12/1994	177.66	9.62	168.04	<50	<0.5	<0.5	<0.5	<0.5	44
	1/19/1995	177.66	6.97	170.69	140	56	14	24	23	NA
	5/2/1995	177.66	7.85	169.81	130	21	2.8	8.6	8.2	NA
	7/28/1995	177.66	9.20	168.46	<50	<0.5	<0.5	<0.5	<1	NA
	11/17/1995	177.66	9.68	167.98	<50	<0.5	0.6	<0.5	<1	18
	2/7/1996	177.66	6.59	171.07	100	2.6	<1	1.6	4.1	42
	4/23/1996	177.66	8.30	169.36	160	37	15	16	31	43
	7/9/1996	177.66	9.21	168.45	60	17	1.5	6.8	11.6	27
	10/10/1996	177.66	9.97	167.69	NA	NA	NA	NA	NA	NA
	10/11/1996	177.66	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	18
	1/20/1997	177.66	7.68	169.98	<50	<0.5	<1.0	<1.0	<1.0	130
	4/25/1997	177.66	9.15	168.51	<250	<2.5	<5.0	<5.0	<5.0	<50
	7/18/1997	177.66	9.71	167.95	<50	15	<10	<10	<10	<100
	10/27/1997	177.66	9.38	168.28	<250	<2.5	<5.0	<5.0	<5.0	<50
	1/22/1998	177.66	6.59	171.07	<50	<0.5	<1.0	<1.0	<1.0	<10
	4/23/1998	177.66	7.90	169.76	<250	<2.5	<5.0	<5.0	<5.0	<50
	7/29/1998	177.66	8.96	168.70	NA	NA	NA	NA	NA	NA
	7/30/1998	177.66	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
	12/17/1998	177.66	8.32	169.34	NA	NA	NA	NA	NA	NA

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-4 cont.	3/19/1999	177.66	7.71	169.95	NA	NA	NA	NA	NA	NA
	6/23/1999	177.66	8.78	168.88	NA	NA	NA	NA	NA	NA
	9/27/1999	177.66	9.27	168.39	NA	NA	NA	NA	NA	NA
	12/9/1999	177.66	9.21	168.45	NA	NA	NA	NA	NA	NA
	3/9/2000	177.66	6.82	170.84	NA	NA	NA	NA	NA	NA
	6/8/2000	177.66	8.72	168.94	NA	NA	NA	NA	NA	NA
	9/18/2000	177.66	8.72	168.94	NA	NA	NA	NA	NA	NA
	12/14/2000	177.66	8.61	169.05	NA	NA	NA	NA	NA	NA
	3/21/2001	177.66	8.61	169.05	NA	NA	NA	NA	NA	NA
	6/18/2001	177.66	9.24	168.42	NA	NA	NA	NA	NA	NA
	9/18/2001	177.66	9.35	168.31	NA	NA	NA	NA	NA	NA
	12/13/2001	177.66	8.53	169.13	NA	NA	NA	NA	NA	NA
	3/14/2002	177.66	8.44	169.22	NA	NA	NA	NA	NA	NA
	6/19/2002	177.66	10.97	166.69	NA	NA	NA	NA	NA	NA
	9/10/2002	177.66	9.27	168.39	NA	NA	NA	NA	NA	NA
	12/16/2002	177.66	6.90	170.76	NA	NA	NA	NA	NA	NA
	3/11/2003	177.66	8.83	168.83	NA	NA	NA	NA	NA	NA
	6/17/2003	177.66	8.84	168.82	NA	NA	NA	NA	NA	NA
ESE-5	10/5/1992	176.08	9.22	166.86	1300	200	3.8	1.2	18	NA
	4/1/1993	176.08	7.02	169.06	13000	2200	26	730	1000	NA
	4/1/1993	176.08	NM	NM	13000	2500	25	740	1100	NA
	6/29/1993	176.08	10.21	165.87	7600	1500	9.3	170	100	NA
	9/23/1993	176.08	10.64	165.44	560	19	1.2	0.9	1.8	NA
	12/10/1993	176.08	9.42	166.66	1700	300	3	76	110	14.07
	2/7/1994	176.08	9.35	166.73	3500	640	7.8	90	130	45.13
	8/8/1994	176.08	8.76	167.32	2600	210	4.6	9.4	4.4	33
	8/8/1994	176.08	NM	NM	2500	230	4.6	13	4.8	32
	10/12/1994	176.08	8.95	167.13	5600	560	9.5	75	21	79.2
	10/12/1994	176.08	NM	NM	6000	550	10	78	22	77

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5 cont	1/19/1995	176.08	5.40	170.68	1900	620	<5	95	15	NA
	1/19/1995	176.08	NM	NM	1600	620	<5	93	17	NA
	5/2/1995	176.08	6.48	169.60	5700	1100	<10	180	58	NA
	5/2/1995	176.08	NM	NM	5300	1100	<10	180	58	NA
	7/28/1995	176.08	7.97	168.11	520	15	<0.50	1.7	1.3	NA
	7/28/1995	176.08	NM	NM	460	7.2	<0.50	1.9	1.5	NA
	11/17/1995	176.08	8.39	167.69	850	39	1.8	7.6	2.7	24
	2/7/1996	176.08	4.71	171.37	4100	670	6	190	140	<50
	4/23/1996	176.08	7.35	168.73	3000	570	<5	79	100	84
	7/9/1996	176.08	9.40	166.68	620	150	1.7	9.3	6.4	25
	10/10/1996	176.08	9.04	167.04	1100	29	<5	<5	<5	<50
	10/10/1996	176.08	NM	NM	1100	31	<5	<5	<5	<50
	1/20/1997	176.08	5.82	170.26	2100	980	<25	280	80	<250
	1/20/1997	176.08	NM	NM	2700	910	8.8	280	84	180
	4/25/1997	176.08	7.24	168.84	NA	NA	NA	NA	NA	NA
	4/28/1997	176.08	NM	NM	<250	7.9	<5.0	<5.0	<5.0	<50
	7/18/1997	176.08	7.86	168.22	1200	<5	<10	<10	<10	<100
	7/18/1997	176.08	NM	NM	630	31	<5.0	<5.0	<5.0	130
	10/27/1997	176.08	7.91	168.17	<250	5.4	<5.0	<5.0	<5.0	<50
	1/22/1998	176.08	4.64	171.44	170	7.7	<1.0	<1.0	<1.0	130
	4/23/1998	176.08	6.31	169.77	720	79	<5.0	9	<5.0	180
	7/29/1998	176.08	7.43	168.65	NA	NA	NA	NA	NA	NA
	7/30/1998	176.08	NM	NM	840	9.8	<1.0	4	<1.0	710
	12/17/1998	176.08	7.05	169.03	NA	NA	NA	NA	NA	NA
	3/19/1999	176.08	5.00	171.08	<250	<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
	9/27/1999	176.08	8.11	167.97	450	10	<5.0	6.3	<5.0	220
	12/9/1999	176.08	7.66	168.42	NA	NA	NA	NA	NA	NA

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5 cont.	3/9/2000	176.08	5.08	171.00	1700	170	2.5	45	6.4	140
	6/8/2000	176.08	7.36	168.72	NA	NA	NA	NA	NA	NA
	9/18/2000	176.08	7.71	168.37	130	0.65	<0.50	0.71	<0.50	51
	12/14/2000	176.08	2.36	173.72	NA	NA	NA	NA	NA	NA
	3/21/2001	176.08	7.42	168.66	1000	10.3	<2.5	11	<7.5	70.8
	6/18/2001	176.08	7.92	168.16	NA	NA	NA	NA	NA	NA
	9/18/2001	176.26	8.23	168.03	200	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
	3/14/2002	176.26	6.55	169.71	1300	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
	9/10/2002	176.26	8.22	168.04	680	9.9	<5.0	<5.0	<5.0	44
	12/16/2002	176.26	6.58	169.68	NA	NA	NA	NA	NA	NA
	3/11/2003	176.26	6.77	169.49	2100	14	<2.5	15	3	80
	6/17/2003	176.26	6.75	169.51	NA	NA	NA	NA	NA	NA
	9/17/2003	176.26	8.48	167.78	970	10 C	<0.5	<0.5	5.3	34
	12/9/2003	176.26	7.32	168.94	700	6.5	<0.5	3.1	2.7 C	34
	2/26/2004	176.26	5.21	171.05	2400 H	41	2.8 C	18	2.4 C	29
	5/21/2004	176.26	7.50	168.76	1500	2.6 C	<0.5	2.1 C	2.1 C	25
	8/10/2004	178.80	8.28	170.52	680	<0.5	<0.5	<0.5	<0.5	33
	10/19/2004	178.80	8.26	170.54	380	<0.5	<0.5	<0.5	1.4	39
	1/14/2005	178.80	5.16	173.64	2400	18	1.4	22	2.1	26
	4/14/2005	178.80	6.13	172.67	4800	7.75	1.26	14.3	<1.0	23.1
	7/7/2005	178.80	7.52	171.28	3240	0.78	<2.0	1.18	<1.0	36.6
	11/15/2005	178.80	7.85	170.95	1190	0.51	<2.0	<0.5	<1.0	30
	2/8/2006	178.80	5.83	172.97	2510	1.91	<2.0	2.82	<1.0	20.7
	4/27/2006	178.80	5.71	173.09	4,700	2.76	<2.0	4.77	<1.0	28.3
	8/1/2006	178.80	7.71	171.09	1,890	0.7	<2.0	0.75	<1.0	24.7
	10/19/2006	178.80	8.00	170.80	474	<0.5	<2.0	3.39	<1.0	29
	1/12/2007	178.80	7.41	171.39	868	2.18	<2.0	2.66	<2.0	16.3
	4/17/2007	178.80	7.51	171.29	1,240	10.2	<2.0	10.4	2.37	17.2
	7/17/2007	178.80	7.47	171.33	836	3.1	<2.0	4.91	2.35	25.8
	10/16/2007	178.80	6.26	172.54	2,120	2.5	<2.0	6.19	2.61	17.5

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
ESE-5 cont.	1/17/2008	178.80	6.59	172.21	2,730	5.74	<2.0	14.3	<2.0	13.1
	4/17/2008	178.80	6.81	171.99	2,770	4.7	<2.0	15.9	<2.0	<0.5
	7/16/2008	178.80	7.76	171.04	2,160	0.9	<2.0	1.1	<2.0	6.28
	10/14/2008	178.80	8.40	170.40	1,300	<0.5	<0.5	0.6	<0.5	9.9
	1/6/2009	178.80	7.66	171.14	1,100 Y	0.61	<0.5	1.6	<0.5	8
	4/6/2009	178.80	7.79	171.01	1,900 Y	4.6	<0.5	9.3	0.59	5.3
	7/7/2009	178.80	7.84	170.96	2,700 Y	3.0	<0.5	2.3	<0.5	6.6
	1/27/2010	178.80	4.82	173.98	1,300 Y	0.76	<0.5	1.0	<0.5	3.5
	7/26/2010	178.80	7.01	171.79	1,800	0.75	<0.5	1.8	<0.5	2
ESE-5R	8/30/2010	178.64	8.97	169.67	75	<0.5	<0.5	<0.5	<0.5	7.3
	11/16/2010	178.64	10.46	168.18	74	<0.5	<0.5	<0.5	<0.5	12
	2/15/2011	178.64	11.19	167.45	140	<0.5	<0.5	<0.5	<0.5	9.6
	7/19/2011	**178.64**	**7.92**	**170.72**	**140**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**6.7**
MW-6	7/28/1995	179.24	10.00	169.24	<50	<0.50	<0.50	<0.50	<1.0	NA
	11/17/1995	179.24	10.44	168.80	<50	<0.50	<0.50	<0.50	<1.0	<5.0
	2/7/1996	179.24	7.68	171.56	<50	<0.5	<1.0	<1.0	<1.0	<10
	4/23/1996	179.24	9.33	169.91	<50	<0.5	<1.0	<1.0	<1.0	<10
	7/9/1996	179.24	10.10	169.14	<50	<0.5	<1.0	<1.0	<1.0	<10
	10/10/1996	179.24	11.00	168.24	<50	<0.5	<1.0	<1.0	<1.0	<10
	1/20/1997	179.24	8.70	170.54	<50	<0.5	<1.0	<1.0	<1.0	<10
	4/25/1997	179.24	10.16	169.08	<50	<0.5	<1.0	<1.0	<1.0	<10
	7/18/1997	179.24	10.66	168.58	<50	<0.5	<1.0	<1.0	<1.0	<10
	10/27/1997	179.24	10.25	168.99	<50	<0.5	<1.0	<1.0	<1.0	<10
	1/22/1998	179.24	7.76	171.48	<50	<0.5	<1.0	<1.0	<1.0	<10
	4/23/1998	179.24	9.10	170.14	<50	<0.5	<1.0	<1.0	<1.0	<10
	7/29/1998	179.24	10.40	168.84	NA	NA	NA	NA	NA	NA
	7/30/1998	179.24	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
	12/17/1998	179.24	9.40	169.84	NA	NA	NA	NA	NA	NA
	3/19/1999	179.24	9.10	170.14	NA	NA	NA	NA	NA	NA
	6/23/1999	179.24	9.79	169.45	NA	NA	NA	NA	NA	NA
	9/27/1999	179.24	10.10	169.14	NA	NA	NA	NA	NA	NA

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-6 cont.	12/9/1999	179.24	9.97	169.27	NA	NA	NA	NA	NA	NA
	3/9/2000	179.24	8.56	170.68	NA	NA	NA	NA	NA	NA
	6/8/2000	179.24	9.11	170.13	NA	NA	NA	NA	NA	NA
	9/18/2000	179.24	9.77	169.47	NA	NA	NA	NA	NA	NA
	12/14/2000	179.24	9.17	170.07	NA	NA	NA	NA	NA	NA
	3/21/2001	179.24	9.82	169.42	NA	NA	NA	NA	NA	NA
	6/18/2001	179.24	10.19	169.05	NA	NA	NA	NA	NA	NA
	9/18/2001	179.24	10.25	168.99	NA	NA	NA	NA	NA	NA
	12/13/2001	179.24	9.75	169.49	NA	NA	NA	NA	NA	NA
	3/14/2002	179.24	9.53	169.71	NA	NA	NA	NA	NA	NA
	6/19/2002	179.24	9.87	169.37	NA	NA	NA	NA	NA	NA
	9/10/2002	179.24	9.49	169.75	NA	NA	NA	NA	NA	NA
	12/16/2002	179.24	8.39	170.85	NA	NA	NA	NA	NA	NA
	3/11/2003	179.24	9.40	169.84	NA	NA	NA	NA	NA	NA
	6/17/2003	179.24	9.71	169.53	NA	NA	NA	NA	NA	NA
	9/17/2003	179.24	10.21	169.03	<50	<0.5	<0.5	<0.5	<0.5	<2.0
	12/9/2003	179.24	9.66	169.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	2/26/2004	179.24	7.83	171.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	5/21/2004	179.24	9.75	169.49	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/10/2004	181.80	10.28	171.52	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	10/19/2004	181.80	9.91	171.89	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/14/2005	181.80	8.40	173.40	<50	0.6	<0.5	<0.5	<0.5	<0.5
	4/14/2005	181.80	9.04	172.76	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	7/7/2005	181.80	9.94	171.86	<200	<0.5	<2.00	<0.5	<1.00	<0.5
	11/15/2005	181.80	9.98	171.82	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	2/8/2006	181.80	9.91	171.89	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	4/27/2006	181.80	9.54	172.26	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	8/1/2006	181.80	9.61	172.19	<50	<0.5	<2.0	<0.5	<1.0	0.51
	10/19/2006	181.80	10.23	171.57	<50	<0.5	<2.0	<0.5	<1.0	0.63
	1/12/2007	181.80	10.13	171.67	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/17/2007	181.80	10.22	171.58	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/17/2007	181.80	9.76	172.04	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/16/2007	181.80	9.82	171.98	<50	<0.5	<2.0	<0.5	<2.0	<0.5

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	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	<0.50	<2.0	<0.50	<2.0	<0.5
	4/17/2008	181.80	9.54	172.26	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/16/2008	181.80	9.80	172.00	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/14/2008	181.80	10.48	171.32	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/6/2009	181.80	10.01	171.79	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/6/2009	181.80	10.15	171.65	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	7/7/2009	181.80	10.28	171.52	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/27/2010	181.80	8.28	173.52	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	7/26/2010	181.80	9.64	172.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5
MW-6R	8/30/2010	181.34	9.55	171.79	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/2010	181.34	9.32	172.02	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	2/14/2011	181.34	9.79	171.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	7/19/2011	**181.34**	**9.60**	**171.74**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-7	7/28/1995	176.55	9.25	167.30	<50	0.54	0.54	<0.50	<1.0	NA
	11/17/1995	176.55	9.73	166.82	1100	<10	<10	<10	<20	4000
	2/7/1996	176.55	6.48	170.07	610	<0.50	<1.0	<1.0	<1.0	2500
	2/7/1996	176.55	NM	NM	280	<0.50	<1.0	<1.0	<1.0	2600
	4/23/1996	176.55	8.37	168.18	110	<0.50	<1.0	<1.0	<1.0	3500
	4/23/1996	176.55	NM	NM	230	<0.50	<1.0	<1.0	<1.0	3500
	7/9/1996	176.55	9.24	167.31	230	<0.50	<1.0	<1.0	<1.0	4296
	7/9/1996	176.55	NM	NM	220	<0.50	<1.0	<1.0	<1.0	4400
	10/10/1996	176.55	10.05	166.50	NA	NA	NA	NA	NA	NA
	10/11/1996	176.55	NM	NM	1600	<0.50	<1.0	<1.0	<1.0	3000
	1/20/1997	176.55	7.51	169.04	<50	0.63	<1.0	<1.0	<1.0	2600
	4/25/1997	176.55	8.79	167.76	NA	NA	NA	NA	NA	NA
	4/28/1997	176.55	NM	NM	1500	<0.50	<1.0	<1.0	<1.0	3600
	4/28/1997	176.55	NM	NM	7700	3500	<25	74	37	<250
	7/18/1997	176.55	9.50	167.05	1400	<0.50	<1.0	<1.0	<1.0	2600
	10/27/1997	176.55	9.19	167.36	420	<0.50	<1.0	<1.0	<1.0	560

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-7 cont.	1/22/1998	176.55	6.45	170.10	3100	<0.50	<1.0	<1.0	1.4	2300
	4/23/1998	176.55	8.02	168.53	3800	<0.50	<1.0	<1.0	<1.0	3800
	7/29/1998	176.55	8.88	167.67	NA	NA	NA	NA	NA	NA
	7/30/1998	176.55	NM	NM	500	<2.5	<5.0	<5.0	<5.0	<50
	7/30/1998	176.55	NM	NM	4700	<12	<25	<25	<25	4700
	12/17/1998	176.55	8.62	167.93	NA	NA	NA	NA	NA	NA
	3/19/1999	176.55	7.52	169.03	3800	<1.0	<1.0	<1.0	<1.0	3800
	6/23/1999	176.55	9.63	166.92	NA	NA	NA	NA	NA	NA
	9/27/1999	176.55	9.39	167.16	140	<10	<10	<10	<10	3800
	12/9/1999	176.55	9.94	166.61	NA	NA	NA	NA	NA	NA
	3/9/2000	176.55	6.72	169.83	<50	<0.50	<0.50	<0.50	<0.50	1400
	6/8/2000	176.55	7.38	169.17	NA	NA	NA	NA	NA	NA
	9/18/2000	176.55	9.18	167.37	190	<0.50	<0.50	<0.50	<0.50	580
	12/14/2000	176.55	8.13	168.42	NA	NA	NA	NA	NA	NA
	3/21/2001	176.55	8.98	167.57	1300	<0.50	<0.50	<0.50	<1.5	1460
	6/18/2001	176.55	9.68	166.87	NA	NA	NA	NA	NA	NA
	9/18/2001	176.55	9.80	166.75	<0.50	<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
	3/14/2002	176.55	8.69	167.86	800	<0.50	<0.50	<0.50	<1.0	952
	6/19/2002	176.55	9.06	167.49	NA	NA	NA	NA	NA	NA
	9/10/2002	176.55	9.23	167.32	260	<2.0	<2.0	<2.0	<2.0	580
	12/16/2002	176.55	7.77	168.78	NA	NA	NA	NA	NA	NA
	3/11/2003	176.55	8.30	168.25	620	<2.5	<2.5	<2.5	<2.5	1100
	6/17/2003	176.55	9.51	167.04	NA	NA	NA	NA	NA	NA
	9/17/2003	176.55	9.52	167.03	<50	<0.5	<0.5	<0.5	<0.5	460
	12/9/2003	176.55	8.99	167.56	<50	<0.5	<0.5	<0.5	<0.5	420
	2/26/2004	176.55	6.55	170.00	<50	<0.5	<0.5	<0.5	<0.5	330
	5/21/2004	176.55	8.90	167.65	<50	<0.5	<0.5	<0.5	<0.5	630
	8/10/2004	179.11	9.58	169.53	<50	<0.5	<0.5	<0.5	<0.5	750
	10/19/2004	179.11	9.20	169.91	<50	<0.5	<0.5	<0.5	<0.5	550

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
MW-7 cont.	1/14/2005	179.11	7.25	171.86	<50	<2.0	<2.0	<2.0	<2.0	250
	4/14/2005	179.11	7.94	171.17	<200	<0.5	<0.5	<0.5	<1.0	285
	7/7/2005	179.11	9.08	170.03	<400	<1.0	<4.0	<1.0	<2.0	452
	11/15/2005	179.11	9.14	169.97	<50	<0.5	<2.0	<0.5	<1.0	110
	2/8/2006	179.11	7.93	171.18	<50	<0.5	<2.0	<0.5	<1.0	101
	4/27/2006	179.11	8.40	170.71	<50	<0.5	<2.0	<0.5	<1.0	131
	8/1/2006	179.11	8.89	170.22	<50	<0.5	<2.0	<0.5	<1.0	68.6
	10/19/2006	179.11	9.44	169.67	<50	<0.5	<2.0	<0.5	<1.0	65.5
	1/12/2007	179.11	8.91	170.20	<50	<0.5	<2.0	<0.5	<2.0	38
	4/17/2007	179.11	8.58	170.53	<50	<0.5	<2.0	<0.5	<2.0	24.7
	7/17/2007	179.11	9.04	170.07	<50	2.07	<2.0	<0.5	<2.0	29.3
	10/6/2007	179.11	7.88	171.23	<50	0.88	<2.0	<0.5	<2.0	5.26
	1/17/2008	179.11	NM	NM	NA	NA	NA	NA	NA	NA
	4/17/2008	179.11	8.85	170.26	<50	1.87	<2.0	<0.5	<2.0	21.6
	7/16/2008	179.11	9.34	169.77	<50	<0.5	<2.0	<0.5	<2.0	11.4
	10/14/2008	179.11	10.06	169.05	<50	0.78	<0.5	<0.5	<0.5	12
	1/6/2009	179.11	9.12	169.99	<50	<0.5	<0.5	<0.5	<0.5	14
	4/6/2009	179.11	9.28	169.83	<50	<0.5	<0.5	<0.5	<0.5	13
	7/7/2009	179.11	9.59	169.52	<50	<0.5	<0.5	<0.5	<0.5	15
	1/27/2010	179.11	6.98	172.13	<50	<0.5	<0.5	<0.5	<0.5	6.3
	7/26/2010	179.11	9.11	170.00	<50	<0.5	<0.5	<0.5	<0.5	6
MW-7R	8/30/2010	179.14	9.39	169.75	<50	<0.5	<0.5	<0.5	<0.5	24
	11/16/2010	179.14	9.10	170.04	<50	<0.5	<0.5	<0.5	<0.5	4.9
	2/14/2011	179.14	9.26	169.88	<50	<0.5	<0.5	<0.5	<0.5	5.3
	7/19/2011	**179.14**	**9.38**	**169.76**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**2.8**
MW-8	7/28/1995	176.34	7.80	168.54	1,100	<2.5	<2.5	<2.5	<5.0	NA
	11/17/1995	176.34	8.29	168.05	8,300	75	5.3	670	240	140
	2/7/1996	176.34	4.99	171.35	2,300	33	<10	190	216	<100
	4/23/1996	176.34	6.09	170.25	2,000	390	<10	150	26	<250

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
QC-2	4/1/1993	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	6/29/1993	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	9/23/1993	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	12/10/1993	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	<5.0
	2/17/1994	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	8/8/1994	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	10/12/1994	NM	NM	NM	<50	<0.5	<0.5	<0.5	<0.5	NA
	1/19/1995	NM	NM	NM	<50	<0.5	<0.5	<0.5	<1.0	NA
	5/2/1995	NM	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	NA
	7/28/1995	NM	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	NA
	11/17/1995	NM	NM	NM	<50	<0.50	<0.50	<0.50	<1.0	<5.0
	2/7/1996	NM	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
	4/23/1996	NM	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
	7/9/1996	NM	NM	NM	<50	<0.5	<1.0	<1.0	<1.0	<10
SOMA-1	8/10/2004	180.95	11.53	169.42	84	<0.5	<0.5	1.5 C	2.2	2100
	10/19/2004	180.95	10.41	170.54	56	<0.5	<0.5	1.3 C	1.4 C	1600
	1/14/2005	180.95	9.68	171.27	58	<3.1	<3.1	<3.1	<3.1	330
	4/14/2005	180.95	9.37	171.58	<2200	<5.5	<5.5	<5.5	<11	668
	7/7/2005	180.95	10.21	170.74	<860	<2.15	<8.6	<2.15	<4.3	591
	11/15/2005	180.95	10.70	170.25	<50	<0.5	<2.0	1.1	<1.0	256
	2/8/2006	180.95	9.30	171.65	127	1.56	<2.0	3.23	3.12	176
	4/27/2006	180.95	9.64	171.31	81.6	1.14	<2.0	2.8	<1.0	189
	8/1/2006	180.95	10.25	170.70	<50	1.07	<2.0	1.46	<1.0	122
	10/19/2006	180.95	10.73	170.22	<50	0.68	<2.0	4.17	<1.0	116
	1/12/2007	180.95	10.38	170.57	<50	<0.5	<2.0	<0.5	<2.0	68.7
	4/17/2007	180.95	10.09	170.86	<50	5.76	<2.0	4.33	2.59	33.4
	7/17/2007	180.95	10.35	170.60	<50	14.8	<2.0	4.63	3.32	39.4
	10/16/2007	180.95	9.71	171.24	<50	5.7	<2.0	<0.5	<2.0	14.2

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
SOMA-1 cont.	1/17/2008	180.95	10.01	170.94	<50	1.02	<2.0	<0.5	<2.0	12.8
	4/17/2008	180.95	10.17	170.78	<50	3.13	<2.0	<0.5	<2.0	12.8
	7/16/2008	180.95	10.63	170.32	<50	10.6	<2.0	<0.5	<2.0	15.8
	10/14/2008	180.95	11.36	169.59	<50	1.1	<0.5	<0.5	<0.5	15
	1/6/2009	180.95	10.81	170.14	<50	0.6	<0.5	<0.5	<0.5	14
	4/6/2009	180.95	10.69	170.26	<50	<0.5	<0.5	<0.5	<0.5	12
	7/7/2009	180.95	11.01	169.94	<50	0.57	<0.5	1.2	0.91	12
	1/27/2010	180.95	8.81	172.14	<50	<0.5	<0.5	<0.5	<0.5	9.9
	7/26/2010	180.95	10.49	170.46	<50	<0.5	<0.5	<0.5	<0.5	5.9
	11/16/2010	180.95	10.49	170.46	<50	<0.5	<0.5	<0.5	<0.5	7.0
	2/15/2011	180.95	10.64	170.31	<50	<0.5	<0.5	<0.5	<0.5	5.3
	7/19/2011	**180.95**	**10.70**	**170.25**	**<50**	**2.3**	**<0.5**	**<0.5**	**<0.5**	**5.2**
SOMA-4	8/10/2004	176.94	9.44	167.50	140	0.98	<0.5	7.8	<0.5	11
	10/19/2004	176.94	9.91	167.03	150	<0.5	<0.5	10	<0.5	8.8
	1/14/2005	176.94	8.36	168.58	500	3.7	<0.5	53	<0.5	7.6
	4/14/2005	176.94	7.89	169.05	<200	0.74	<0.5	3.21	<1.0	5.65
	7/7/2005	176.94	11.62	165.32	<200	<0.5	<2.0	0.56	<1.0	7.09
	11/15/2005	176.94	9.33	167.61	<50	<0.5	<2.0	<0.5	<1.0	8.6
	2/8/2006	176.94	9.18	167.76	55.8	<0.5	<2.0	0.85	<1.0	10.4
	4/27/2006	176.94	8.75	168.19	172	1.35	<2.0	8.83	<1.0	11.7
	8/1/2006	176.94	9.52	167.42	<50	0.52	<2.0	1.53	<1.0	14.1
	10/19/2006	176.94	9.51	167.43	<50	<0.5	<2.0	<0.5	<1.0	19.2
	1/12/2007	176.94	8.98	167.96	<50	<0.5	<2.0	<0.5	<2.0	20.4
	4/17/2007	176.94	8.96	167.98	<50	<0.5	<2.0	4.33	<2.0	15.8
	7/17/2007	176.94	9.31	167.63	<50	<0.5	<2.0	4.47	<2.0	13.3
	10/16/2007	176.94	8.96	167.98	<50	<0.5	<2.0	4.5	<2.0	8.57
	1/17/2008	176.94	8.84	168.10	<50	<0.5	<2.0	<0.5	<2.0	8.87
	4/17/2008	176.94	9.44	167.50	<50	<0.5	<2.0	<0.5	<2.0	1.22
	7/16/2008	176.94	9.52	167.42	<50	<0.5	<2.0	<0.5	<2.0	8.58
	10/14/2008	176.94	9.98	166.96	<50	<0.5	<0.5	<0.5	<0.5	9.7

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
SOMA-4 cont	1/6/2009	176.94	9.29	167.65	<50	<0.5	<0.5	<0.5	<0.5	10
	4/6/2009	176.94	9.31	167.63	<50	<0.5	<0.5	<0.5	<0.5	5.3
	7/7/2009	176.94	9.54	167.40	<50	<0.5	<0.5	<0.5	<0.5	7
	1/27/2010	176.94	7.35	169.59	<50	<0.5	<0.5	<0.5	<0.5	5.1
	7/26/2010	176.94	9.13	167.81	220	<0.5	<0.5	<0.5	<0.5	2.3
	11/15/2010	176.94	8.85	168.09	75	<0.5	<0.5	<0.5	<0.5	2.5
	2/14/2011	176.94	8.92	168.02	<50	<0.5	<0.5	<0.5	<0.5	1.5
	7/19/2011	**176.94**	**9.19**	**167.75**	**57**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**0.97**
Shallow WBZ Wells										
SOMA-2	8/10/2004	178.99	10.69	168.30	<50	<0.5	<0.5	<0.5	<0.5	0.8
	10/19/2004	178.99	10.75	168.24	<50	<0.5	<0.5	<0.5	<0.5	2.4
	1/14/2005	178.99	9.45	169.54	<50	<0.5	<0.5	<0.5	<0.5	1.1
	4/14/2005	178.99	10.46	168.53	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	7/7/2005	178.99	11.81	167.18	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	11/15/2005	178.99	12.02	166.97	<50	<0.5	<2.0	<0.5	<1.0	1.61
	2/8/2006	178.99	11.88	167.11	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	4/27/2006	178.99	10.95	168.04	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	8/1/2006	178.99	11.85	167.14	<50	<0.5	<2.0	<0.5	<1.0	1.11
	10/19/2006	178.99	10.62	168.37	<50	<0.5	<2.0	<0.5	<1.0	1.36
	1/12/2007	178.99	10.26	168.73	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/17/2007	178.99	11.88	167.11	<50	<0.5	<2.0	<0.5	<2.0	0.87
	7/17/2007	178.99	10.84	168.15	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/16/2007	178.99	9.69	169.30	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	1/17/2008	178.99	9.62	169.37	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/17/2008	178.99	10.06	168.93	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/16/2008	178.99	10.63	168.36	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/14/2008	178.99	11.26	167.73	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/6/2009	178.99	10.22	168.77	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/6/2009	178.99	10.38	168.61	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	7/7/2009	178.99	10.40	168.59	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/27/2010	178.99	8.19	170.80	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	7/26/2010	178.99	10.24	168.75	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/2010	178.99	10.04	168.95	<50	<0.5	<0.5	<0.5	<0.5	<0.5

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
SOMA-2 cont.	2/14/2011	178.99	9.95	169.04	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	7/19/2011	**178.99**	**10.20**	**168.79**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
SOMA-3	8/10/2004	176.81	9.97	166.84	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	10/19/2004	176.81	9.59	167.22	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/14/2005	176.81	8.23	168.58	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2005	176.81	8.64	168.17	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	7/7/2005	176.81	9.60	167.21	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	11/15/2005	176.81	10.01	166.80	<50	<0.5	<2.0	<0.5	<1.0	5.1
	2/8/2006	176.81	8.80	168.01	<50	<0.5	<2.0	<0.5	<1.0	7.16
	4/27/2006	176.81	9.00	167.81	<50	<0.5	<2.0	<0.5	<1.0	14.2
	8/1/2006	176.81	9.91	166.90	<50	<0.5	<2.0	<0.5	<1.0	7.29
	10/19/2006	176.81	10.21	166.60	<50	<0.5	<2.0	<0.5	<1.0	41.4
	1/12/2007	176.81	9.73	167.08	<50	<0.5	<2.0	<0.5	<2.0	20.9
	4/17/2007	176.81	9.81	167.00	<50	<0.5	<2.0	<0.5	<2.0	32.1
	7/17/2007	176.81	10.06	166.75	<50	<0.5	<2.0	<0.5	<2.0	23.6
	10/16/2007	176.81	9.54	167.27	<50	<0.5	<2.0	<0.5	<2.0	22.3
	1/17/2008	176.81	9.06	167.75	<50	<0.5	<2.0	<0.5	<2.0	11.1
	4/17/2008	176.81	9.57	167.24	<50	<0.5	<2.0	<0.5	<2.0	23.7
	7/16/2008	176.81	10.25	166.56	<50	<0.5	<2.0	<0.5	<2.0	10.6
	10/14/2008	176.81	10.76	166.05	<50	<0.5	<0.5	<0.5	<0.5	19
	1/6/2009	176.81	9.53	167.28	<50	<0.5	<0.5	<0.5	<0.5	1.1
	4/6/2009	176.81	9.65	167.16	<50	<0.5	<0.5	<0.5	<0.5	5.7
	7/7/2009	176.81	10.19	166.62	<50	<0.5	<0.5	<0.5	<0.5	6
	1/27/2010	176.81	7.80	169.01	<50	<0.5	<0.5	<0.5	<0.5	56
	7/26/2010	176.81	9.67	167.14	<50	<0.5	<0.5	<0.5	<0.5	9.8
	11/15/2010	176.81	9.35	167.46	<50	<0.5	<0.5	<0.5	<0.5	30
	2/14/2011	176.81	10.57	166.24	<50	<0.5	<0.5	<0.5	<0.5	32
	7/19/2011	**176.81**	**9.74**	**167.07**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**17**
SOMA-5	1/27/2010	180.31	7.94	172.37	14,000	2,600	1.5	800	914	190
	7/26/2010	180.31	9.99	170.32	14,000	3,300	<20	1,100	1,340	150
	11/15/2010	180.31	10.01	170.30	11,000	2,400	3.3	920	733	130

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B
SOMA-5 cont.	2/15/2011	180.31	10.22	170.09	4,900	1,600	<13	430	84	94
pre-MPE	6/16/2011	180.31	NM	NC	6,400	2,500	<20	670	160	150
	7/19/2011	**180.31**	**9.95**	**170.36**	**1,300**	**470**	**<3.6**	**<3.6**	**212**	**8.8**
SOMA-7	8/30/2010	178.54	7.63	170.91	2,900	190	3.7	74	19.80	8.4
	11/16/2010	178.54	7.89	170.65	1,500	190	2.1	41	8.30	5.7
	2/15/2011	178.54	7.33	171.21	1,900	380	4	27	5.50	5.2
pre-MPE	6/16/2011	178.54	NM	NC	1,900	330	4.3	24	5.20	4.7
	7/19/2011	**178.54**	**7.89**	**170.65**	**7,600**	**1,100**	**15**	**200**	**61**	**12**
SOMA-8	8/30/2010	181.57	9.89	171.68	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	11/15/2010	181.57	9.37	172.20	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	2/14/2011	181.57	9.89	171.68	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	7/19/2011	**181.57**	**9.67**	**171.90**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
OB-1 pre-MPE	6/16/2011	178.7	NM	NC	1,900	9.3	<0.5	3.7	5.80	23
	7/19/2011	**178.7**	**7.89**	**170.81**	**250**	**1.9**	**<0.5**	**0.63**	**0.78**	**4.1**
OB-2 pre-MPE	6/16/2011	180.23	NM	NC	12,000	870	18	590	1,140	310
	7/19/2011	**180.23**	**9.76**	**170.47**	**30,000**	**1,000**	**31**	**1,300**	**3,020**	**310**
Equipment Blanks										
EB-PMP	1/17/2008	NA	NA	NA	<50	<0.5	<2.0	<0.5	<2.0	<0.5
EB-PRB	1/17/2008	NA	NA	NA	<50	<0.5	<2.0	<0.5	<2.0	<0.5
EB-PMP2	1/17/2008	NA	NA	NA	<50	<0.5	<2.0	<0.5	<2.0	<0.5
EB-PRB2	1/17/2008	NA	NA	NA	<50	<0.5	<2.0	<0.5	<2.0	<0.5

Notes:
< : Not detected above laboratory reporting limit.
1 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.

Table 4
Historical Groundwater Elevations & Analytical Data
TPH-g, BTEX, MtBE
3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	Top of casing elevation [1] (feet)	Depth to Groundwater (feet)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B

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.

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 condcuted on 6/16/2011 prior to start of MPE pilot testing from June 20 to July 1, 2011

Table 5
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)
Semi-Confined WBZ Wells								
ESE-1	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
ESE-1R	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**
ESE-2	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 5
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)
ESE-2R cont.	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
ESE-2R	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**
ESE-3	6/17/2003	<200	<5.0	<5.0	<5.0	NA	NA	NA
ESE-5	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 5
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)
ESE-5 cont.	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
ESE-5R	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**
MW-6	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 5
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)
MW-6 contd.	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
MW-6R	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**
MW-7	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
MW-7R	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**

Table 5
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)
SOMA-1	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**
SOMA-4	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 5
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)
SOMA-4 contd	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**
Shallow WBZ Wells								
SOMA-2	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**
SOMA-3	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 5
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)
SOMA-3 cont.	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**
SOMA-5	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
pre-MPE	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**
SOMA-7	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
pre-MPE	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**
SOMA-8	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**
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**
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**

Table 5
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)
Equipment Blanks								
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 duirng 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

Lead Scavengers:
1,2-DCA: 1,2-Dichloroethane
EDB: 1,2-Dibromoethane

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

Table 6
Water Injection Pilot Test Summary Table
3519 Castro Valley Blvd, Castro Valley, CA

Boring ID	Depth (ft bgs)	Injection Duration (min)	Volume (gallons)	Initial Pressure (psi)	Pressure Drop (notes/ psi)
IPT-1	**5**	1.13	5.25	20	-
	6	1.11	5.25	20	-
	7	1.07	5.25	20	-
	8	1.03	5.25	20	-
	9	1.05	5.25	20	-
	10	1.07	5.25	20	-
	11	1.05	5.25	20	-
	12	1.08	5.25	50	yes
	13	1.16	5.25	125	-
	14	1.07	5.25	110	50
	15	1.06	5.25	100	-
	16	1.03	5.25	150	100
	17	1.04	5.25	150	100
	18	1.15	5.25	200	120
	19	1.07	5.25	125	100
	20	1.06	5.25	125	100
	21	1.06	5.25	125	100
	22	1.07	5.25	110	100
	23	1.12	5.25	100	-
	24	1.06	5.25	110	100,50
	25	1.07	5.25	200	150,125,100
IPT-2	**5**	1.16	5.25	20	
	6	1.13	5.25	20	
	7	2.23	5.25	20	
	8	1.13	5.25	20	
	9	0.58	5.25	20	
	10	1.04	5.25	20	
	11	1.1	5.25	20	
	12	1.07	5.25	20	
	13	1.07	5.25	20, 100	yes
	14	1.02	5.25	100	50 and dropping
	15	1.01	5.25	100	50 and dropping
	16	1.09	5.25	20	
	17	0.57	5.25	100	50,20
	18	1.02	5.25	100	
	19	1.1	5.25	100	50
	20	1.09	5.25	100	
	21	1.07	5.25	100	
	22	1.06	5.25	100	
	23	1.12	5.25	20	
	24	1.1	5.25	100	50 and dropping
	25	1.1	5.25	50	20 and dropping

Table 7

June 2011 MPE Pilot Test
Operational Data Summary

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
										DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
MPE Operation Only																				
										SOMA-7		**OB-1**		**ESE-5R**		**OB-2**		**SOMA-5**		
6/20/2011	854									**EXTRACTION WELL**		**11 feet from SOMA-5**		**7 feet from SOMA-5**		**90 feet from SOMA-5**		**85 feet from SOMA-5**		DTW @ SOMA-7: 8.52 Ft., OB-1: 6.93 Ft.
	1615								0	8.52		6.93	-							Start MPE @ SOMA-7, stinger 1 Ft. from bottom
	1625	49	19.4	1,503	71	111	40	22.4	0			7.23	0.12							
	1645	101	23.2	1,517	19	44	25	26.6	0			7.95	0.45							
	1700	104	23.4	1,527	23	47	24	26.4	0			8.2	1.3							
	1730	100	22.8	1,533	19	44	25	26.6	0			8.46	0.07							
																				Shut off overnight
6/21/2011	915																			Restart system
	930	45	21.6	1,499	23	63	40	25.4	0											
	945	61	21.8	1,499	28	50	22	26.2	0			7.83	0.24							
	1045	116	24	1,529	41	41	0	26.8	0			8.4	0.14							
	1141	102	24	1,571	38	38	0	27	40			8.95	0.13							
	1241	106	24.5	1,586	38	38	0	27	40			9.18	0.15							
	1341	122	24	1,593	38	38	0	27	81			9.4	0.06							
	1441	71	24.3	1,603	38	38	0	27	120			9.57	0.07							
	1545	53	24	1,601	38	38	0	27	120			9.6	0.03							
	1645	126	24	1,599	38	38	0	27	157			9.6	0.03							
	1745	134	24	1,596	38	38	0	27	157			9.6	0.02							
																				System shut down @ 5:30 AM, high water limit
6/22/2011	600																			
	645																			Restart system
	655	132	23.8	1,504	44	44	0	26.6	423			8.72	0.28							
	730	160	23.8	1,535	44	44	0	26.6	423			9.08	0.7							
	800	161	24	1,556	44	44	0	26.6	423			9.43	0.5							
	830	144	23.8	1,549	44	44	0	26.6	460											
	900	145	23.8	1,554	44	44	0	26.6	460											
	1000	176	24	1,559	44	44	0	26.6	460			9.6	0.01	8.45	0.3					
	1100	142	24	1,553	44	44	0	26.6	497			8.56	0.01	9	0.2					
	1130	168	24	1,560	43	43	0	26.7	497			9.55	0.015	9.1	0.05					
	1200	178	24	1,563	43	43	0	26.7	534			9.56	0.01	9.1	0.05					
	1330	178	24	1,575	41	41	0	26.8	534			9.6	0.02	9.15	0.02					
	1430	177	24	1,571	41	41	0	26.8	569			9.6	0	9.15	0					
	1530	170	24	1,577	41	41	0	26.8	569											
	1550																			Shut down system
																		SOMA-5		
	1715																			restart @ SOMA-5
	1725	360	23.2	1,499	47	47	0	26.4	605							9.1	0	**EXTRACTION WELL**		
	1755	270	22.6	1,506	44	44	0	26.6	605							9.31	0	(TD 14.85' BGS)		
	1815	146	22.6	1,502	44	44	0	26.6	642							9.45	0			
6/23/2011	900	27	22	1,500	52	52	0	26.1	1,191							9.8	0.05			
	1000	26	21.8	1,499	52	52	0	26.1	1,191							9.85	0.08			

Table 7

June 2011 MPE Pilot Test
Operational Data Summary

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
										DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
										OB-2		**OB-1**		**SOMA-5**		**SOMA-8**		**SOMA-7**		Switched extraction to OB-2
										EXTRACTION WELL		**86 feet from OB-**		**14 feet from OB-**		**76 feet from OB-**		**90 feet from OB-**		
	1100	750	24	1,537	41	41	0	26.8	1,227					11.4	0.07					
	1105	750	24	1,537	41	41	0	26.8	1,227					11.4	0.07					
	1120	750	24	1,537	41	41	0	26.8	1,227					11.4	0.07					
	1145	680	24	1,530	41	41	0	26.8	1,227					11.4	0.07					
	1200	412	22	1,510	46	46	0	26.5	1,264					11.6	0.11					
	1300	192	21.8	1,502	47	47	0	26.4	1,300			7	0.4	10.7	0.13	8.3	0.2			
	1400	147	21.8	1,503	50	50	0	26.2	1,336			6.95	0.3	10.55	0.15	7.9	0			
	1500	110	21.6	1,501	52	52	0	26.1	1,371			6.8	0.09	10.45	0.15	8	0.1			
	1600	86	21.6	1,501	54	54	0	26	1,372			6.85	0.1	10.4	0.18	8.1	0.15	6.7	0	
	1700	65	21.2	1,498	58	58	0	25.7	1,407			6.85	0.05	10.7	0.2	8.4	0.1	6.7	0.05	
6/24/2011	800	17	19.2	1,503	79	79	0	24.4	1,692			6.87	0	10.28	0.18	9.17	0	6.82	0.01	
	830																			Switched extraction to SOMA-5
	840									**SOMA-5**		**OB-1**		**OB-2**		**SOMA-8**		**SOMA-7**		restart extraction, stinger @ 13.85 Ft.
										EXTRACTION WELL		**82 feet from**		**14 feet from**		**76 feet from**		**85 feet from**		
	850	68	22.4	1,508	54	54	0	26	1,726					12	0.06					
	930	30	21.8	1,503	54	54	0	26	1,760	(Stinger @13.85' b		6.98	0	11.09	0.09	9.18	0	6.85	0.015	
	1030	29	21.8	1,498	54	54	0	26	1,799											
	1130	33	22.2	1,503	54	54	0	26	1,835			6.94	0	10	0.1	9.28	0.005	6.9	0.005	
	1230	30	21.6	1,504	57	57	0	25.8	1,872											
	1330	33	21.8	1,503	60	60	0	25.6	1,907	(Stinger @11.85' b		6.98	0	10	0.1	9.33	0.02	6.94	0.01	
	1415	26	21.6	1,497	60	60	0	25.6	1,907											
										(Stinger @10.85' bgs)										raise stinger to 10.85 Ft.
	1425	19	22	1,504	60	60	0	25.6	1,944											
										(Stinger @13.85' bgs)										Stinger lowered to 1 Ft above bottom
	1530	41	21.6	1,504	60	60	0	25.6	1,944			7.03	0	9.96	0.13	9.37	0.01	6.98	0	
	1630	26	21.6	1,498	60	60	0	25.6	1,980											

Table 7

June 2011 MPE Pilot Test
Operational Data Summary

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
																		SOMA-7 EXTRACTION WELL		Shut down for weekend, equalize for air sparging
6/29/2011	1056	483	23.4	1,499	15	41	26	26.8	2,018											
	1100	175	24	1,532	28	38	10	27	2,018											June 28, 2011- all day rain event
	1115	97	22.8	1,524	19	38	19	27	2,019											
	1130	103	23.4	1,505	19	38	19	27	2,019											
	1145	104	22.6	1,501	19	38	19	27	2,019											
	1200	108	23.1	1,502	19	38	19	27	2,019											
	1230	118	23.9	1,504	20	39	19	26.9	2,019											
	1300	129	24	1,513	23	39	16	26.9	2,054											
	1330	162	23.6	1,534	27	39	12	26.9	2,054											
	1430	184	24	1,532	27	39	12	26.9	2,090											
	1500																			Air sparging off
	1530	165	23.9	1,532	27	39	12	26.9	2,090											
	1615	166	23.6	1,534	27	39	12	26.9	2,090											
	1722	205	23.5	1,534	26	38	12	27	2,135											
	1815	165	23.6	1,537	27	39	12	26.9	2,135											
	1835	155	23.6	1,537	27	39	12	26.9	2,161											
	1850																			Shut down
												OB-1		OB-2		SOMA-8		SOMA-7		
												86 feet from OB-2		EXTRACTION WELL		76 feet from OB-2		90 feet from OB-2		Moved truck over to OB-2, MTS down for maintenance
6/30/2011	1030																			
	1350																			MPE started
	1355	166	21.5	1,497	77	77	0	24.5	2,192											
	1400	87	21.6	1,496	79	79	0	24.4	2,192											
	1405	83	21.6	1,501	77	77	0	24.5	2,192											
	1410	123	21.5	1,502	79	79	0	24.4	2,192											
	1415	149	21.6	1,503	79	79	0	24.4	2,192											
	1420	165	21.6	1,497	79	79	0	24.4	2,192											
	1430	215	21.8	1,498	81	81	0	24.3	2,192											

Table 7

June 2011 MPE Pilot Test
Operational Data Summary

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
										DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
	1450	192	21.8	1,500	77	77	0	24.5	2,227											
	1520	178	21.5	1,501	77	77	0	24.5	2,227							9.4	0			
	1620	106	21.1	1,500	79	79	0	24.4	2,275							9.4	0			
	1700	106	20.6	1,498	79	79	0	24.4	2,302											
	1730	105	20.5	1,501	77	77	0	24.5	2,312											
7/1/2011	815	31	19.4	1,501	82	82	0	24.2	2,733											
	915	23	19.1	1,503	82	82	0	24.2	2,733											
	930																			Air sparging started
	950	28	19.5	1,499	82	82	0	24.2	2,770							9.45	0.05			
	1050	93	19.4	1,493	76	76	0	24.6	2,805							9.48	0.01			
	1150	130	19.2	1,504	77	77	0	24.5	2,806											
	1230	126	20	1,497	77	77	0	24.5	2,842							9.5	0.02			
	1240	151	24	1,600	17	39	22	26.9	2,842											Stinger moved to 1.5 Ft above bottom
	1255	204	21.1	1,521	70	70	0	25	2,842											
	1355	143	21	1,503	73	73	0	24.8	2,879											
	1430	107	20	1,497	74	74	0	24.7	2,924											
	1500	86	19.8	1,503	76	76	0	24.6	2,925											
	1505																			Air sparging on
	1530	83	20.6	1,504	74	74	0	24.7	2,952							9.55	0.02			
	1550	81	20	1,502	76	76	0	24.6	2,952											
	1635	71	19.5	1,499	76	76	0	24.6	2,952											
	1640	129	21	1,499	74	74	0	24.7	2,987							9.55	0.03			
	1735	78	20	1,505	76	76	0	24.6	2,987											Air sparging off @ 1735. Extraction stopped to take post Air sparging readings @ well
	1740																			
	1750																			Resume extraction
	1755	120	21	1,510	71	71	0	24.9	3,017											
	1800	126	21.05	1,508	70	70	0	24.95	3,017											
	1805	125	21	1,506	71	71	0	24.9	3,017											
	1810	127	21.05	1,504	71	71	0	24.9	3,017											
	1845								**3,083**											
min		*17*	*19*	*1,493*	*15*	*38*	*0*	*22*	-											
max		*750*	*25*	*1,603*	*82*	*111*	*40*	*27*	-											

Table 7

June 2011 MPE Pilot Test
Operational Data Summary

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
										DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
Final Totalizer readings = 3,083 gallons																				
Total time of test =			6,754	minutes=	112.5667 hours															

Notes

ppmv	parts per million vapor
In of Hg	inches of mercury
In of H_20	inches of water
^{0}F	degrees Fahrenheit
scfm	standard cubic feet per minute

Table 7A

June 2011 MPE Pilot Test
Operational Data (SOMA-7)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	WELL MANIFOLD VACUUM (In of Hg)	SYSTEM (BLOWER) VACUUM (In of Hg)	VAPOR FLOW RATE (scfm)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
						DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
MPE Operation Only																
						SOMA-7		OB-1		ESE-5R		OB-2		SOMA-5		
						EXTRACTION WELL		11 feet from SOMA-7		7 feet from SOMA-7		90 feet from SOMA-7		85 feet from SOMA-7		
6/20/2011	854															DTW @ SOMA-7: 8.52 Ft., OB-1: 6.93 Ft.
	1615				0	8.52		6.93	-							Start MPE @ SOMA-7, stinger 1 Ft. from bottom
	1625	19.4	22.4	111	0			7.23	0.12							
	1645	23.2	26.6	44	0			7.95	0.45							
	1700	23.4	26.4	47	0			8.2	1.3							
	1730	22.8	26.6	44	0			8.46	0.07							**SHUT DOWN**
6/21/2011	915															**SYSTEM RESTART**
	930	21.6	25.4	63	0											
	945	21.8	26.2	50	0			7.83	0.24							
	1045	24	26.8	41	0			8.4	0.14							
	1141	24	27	38	40			8.95	0.13							
	1241	24.5	27	38	40			9.18	0.15							
	1341	24	27	38	81			9.4	0.06							
	1441	24.3	27	38	120			9.57	0.07							
	1545	24	27	38	120			9.6	0.03							
	1645	24	27	38	157			9.6	0.03							
	1745	24	27	38	157			9.6	0.02							
6/22/2011	600															System shut down @ 5:30 AM, high water limit
	645															Restart system
	655	23.8	26.6	44	423			8.72	0.28							
	730	23.8	26.6	44	423			9.08	0.7							
	800	24	26.6	44	423			9.43	0.5							
	830	23.8	26.6	44	460											
	900	23.8	26.6	44	460											
	1000	24	26.6	44	460			9.6	0.01	8.45	0.3					
	1100	24	26.6	44	497			8.56	0.01	9	0.2					
	1130	24	26.7	43	497			9.55	0.015	9.1	0.05					
	1200	24	26.7	43	534			9.56	0.01	9.1	0.05					
	1330	24	26.8	41	534			9.6	0.02	9.15	0.02					
	1430	24	26.8	41	569			9.6	0	9.15	0					
	1530	24	26.8	41	569											
	1550															**SHUT DOWN**
change (beginning to end)								*-2.67*	*0.12*	*-0.7*	*0.3*					
min		*19.4*	*22.4*	*38*	-			*6.93*	*0*	*8.45*	*0*					
max		*24.5*	*27*	*111*	-			*9.6*	*1.3*	*9.15*	*0.3*					

Table 7A

June 2011 MPE Pilot Test
Operational Data (SOMA-7)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	WELL MANIFOLD VACUUM (In of Hg)	SYSTEM (BLOWER) VACUUM (In of Hg)	VAPOR FLOW RATE (scfm)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
						DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
MPE and AS Operation																
6/29/2011	1056	23.4	26.8	41	569											
	1100	24	27	38	569											
	1115	22.8	27	38	570											
	1130	23.4	27	38	571											
	1145	22.6	27	38	572											
	1200	23.1	27	38	573											
	1230	23.9	26.9	39	574											
	1300	24	26.9	39	610											
	1330	23.6	26.9	39	646											
	1430	24	26.9	39	718											
	1500				718											Air sparging off
	1530	23.9	26.9	39	790											
	1615	23.6	26.9	39	862											
	1722	23.5	27	38	979											
	1815	23.6	26.9	39	1,096											
	1835	23.6	26.9	39	1,239											
	1850															**SHUT DOWN**
min		*22.6*	*26.8*	*38*	-											
max		*24*	*27*	*41*	-											

Groundwater extracted = 1,239 gallons

Time of extraction = 2,274 minutes = 37.9 hours = 1.58 days

Notes

ppmv	parts per million vapor
In of Hg	inches of mercury
In of H_20	inches of water
^0F	degrees Fahrenheit
scfm	standard cubic feet per minute

Table 7B

June 2011 MPE Pilot Test
Operational Data (SOMA-5)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	WELL MANIFOLD VACUUM (In of Hg)	SYSTEM (BLOWER) VACUUM (In of Hg)	VAPOR FLOW RATE (scfm)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
						DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
MPE Operation Only																
						SOMA-5		**OB-1**		**OB-2**		**SOMA-8**		**SOMA-7**		
6/20/2011						**EXTRACTION WELL**		**82 feet from SOMA-5**		**14 feet from SOMA-5**		**76 feet from SOMA-5**		**85 feet from SOMA-5**		
						(TD 14.85' BGS)										
6/22/2011	1715															restart @ SOMA-5
	1725	23.2	26.4	47	0					9.1	0					
	1755	22.6	26.6	44	0					9.31	0					
	1815	22.6	26.6	44	37					9.45	0					
6/23/2011	900	22	26.1	52	586					9.8	0.05					
	1000	21.8	26.1	52	586					9.85	0.08					Switched extraction to OB-2
6/24/2011	830															Switched extraction to SOMA-5
	840															restart extraction, stinger @ 13.85 Ft
	850	22.4	26	54	586					12	0.06					
	930	21.8	26	54	620	(Stinger @13.85' bgs)		6.98	0	11.09	0.09	9.18	0	6.85	0.015	
	1030	21.8	26	54	659											
	1130	22.2	26	54	695			6.94	0	10	0.1	9.28	0.005	6.9	0.005	
	1230	21.6	25.8	57	732											
	1330	21.8	25.6	60	767	(Stinger @11.85' bgs)		6.98	0	10	0.1	9.33	0.02	6.94	0.01	
	1415	21.6	25.6	60	767	(Stinger @10.85' bgs)										
	1425	22	25.6	60	804											
	1530	21.6	25.6	60	804	(Stinger @13.85' bgs)		7.03	0	9.96	0.13	9.37	0.01	6.98	0	
	1630	21.6	25.6	60	840											**Shut down for weekend, to prepare for air sparging**
change								*-0.05*	*0*	*-0.86*	*-0.13*	*-0.19*	*-0.01*	*-0.13*	*0.015*	
min		*21.6*	*25.6*	*44*				*6.94*	*0*	*9.1*	*0*	*9.18*	*0*	*6.85*	*0*	
max		*23.2*	*26.6*	*60*				*7.03*	*0*	*12*	*0.13*	*9.37*	*0.02*	*6.98*	*0.015*	

Groundwater Extracted = 840 gallons
Time of extraction = 1,475 minutes = 24.58 hours = 1.024 days

Notes

ppmv	parts per million vapor
In of Hg	inches of mercury
In of H_20	inches of water
^0F	degrees Fahrenheit
scfm	standard cubic feet per minute

Table 7C

June 2011 MPE Pilot Test
Operational Data (OB-2)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	WELL MANIFOLD VACUUM (In of Hg)	SYSTEM (BLOWER) VACUUM (In of Hg)	VAPOR FLOW RATE (scfm)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
						DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
MPE Operation Only																
						OB-2		**OB-1**		**SOMA-5**		**SOMA-8**		**SOMA-7**		Switched extraction to OB-2
						EXTRACTION WELL		**86 feet from OB-2**		**14 feet from OB-2**		**76 feet from OB-2**		**90 feet from OB-2**		
6/23/2011	1100	24	26.8	41	0					11.4	0.07					
	1105	24	26.8	41	0					11.4	0.07					
	1120	24	26.8	41	0					11.4	0.07					
	1145	24	26.8	41	0					11.4	0.07					
	1200	22	26.5	46	37					11.6	0.11					
	1300	21.8	26.4	47	73			7	0.4	10.7	0.13	8.3	0.2			
	1400	21.8	26.2	50	109			6.95	0.3	10.55	0.15	7.9	0			
	1500	21.6	26.1	52	144			6.8	0.09	10.45	0.15	8	0.1			
	1600	21.6	26	54	145			6.85	0.1	10.4	0.18	8.1	0.15	6.7	0	
	1700	21.2	25.7	58	180			6.85	0.05	10.7	0.2	8.4	0.1	6.7	0.05	
6/24/2011	800	19.2	24.4	79	**465**			6.87	0	10.28	0.18	9.17	0	6.82	0.01	
	830															Switched extraction to SOMA-5
change (beginning to end)								*0.13*	*0.4*	*1.12*	*-0.11*	*-0.87*	*0.2*	*-0.12*	*-0.01*	
min		*19.2*	*24.4*	*41*	-			*6.8*	*0*	*10.28*	*0.07*	*7.9*	*0*	*6.7*	*0*	
max		*24*	*26.8*	*79*	-			*7*	*0.4*	*11.6*	*0.2*	*9.17*	*0.2*	*6.82*	*0.05*	
MPE and AS Operation																
6/30/2011	1030															Air sparging started, moved truck over to OB-2, MTS
	1350															MPE started
	1355	21.5	24.5	77	465											
	1400	21.6	24.4	79	465											
	1405	21.6	24.5	77	465											
	1410	21.5	24.4	79	465											
	1415	21.6	24.4	79	465											
	1420	21.6	24.4	79	465											
	1430	21.8	24.3	81	465											
	1450	21.8	24.5	77	500											
	1520	21.5	24.5	77	500							9.4	0			
	1620	21.1	24.4	79	548							9.4	0			
	1700	20.6	24.4	79	575											
	1730	20.5	24.5	77	585											
7/1/2011	815	19.4	24.2	82	1,006											
	915	19.1	24.2	82	1,006											
	930															Air sparging started
	950	19.5	24.2	82	1,043							9.45	0.05			
	1050	19.4	24.6	76	1,078							9.48	0.01			
	1150	19.2	24.5	77	1,079											
	1230	20	24.5	77	1,115							9.5	0.02			

Table 7C

June 2011 MPE Pilot Test
Operational Data (OB-2)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	WELL MANIFOLD VACUUM (In of Hg)	SYSTEM (BLOWER) VACUUM (In of Hg)	VAPOR FLOW RATE (scfm)	SYSTEM TOTALIZER READING (gallons)	OBSEVATION WELLS										COMMENTS
						DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	DTW (feet, bgs)	Vacuum (In of H_20)	
	1240	24	26.9	39	1,115											Stinger moved to 1.5 Ft above bottom
	1255	21.1	25	70	1,115											
	1355	21	24.8	73	1,152											
	1430	20	24.7	74	1,197											
	1500	19.8	24.6	76	1,198											
	1505															Air sparging on
	1530	20.6	24.7	74	1,225							9.55	0.02			
	1550	20	24.6	76	1,225											
	1635	19.5	24.6	76	1,225											
	1640	21	24.7	74	1,260							9.55	0.03			
	1735	20	24.6	76	1,260											
	1740															Air sparging off @ 1735. Extraction stopped to take post
	1750															Resume extraction
	1755	21	24.9	71	1,290											
	1800	21.05	24.95	70	1,290											
	1805	21	24.9	71	1,290											
	1810	21.05	24.9	71	1,290											
	1845				**1,356**											**Shut down**
change												*-0.15*	*-0.03*			
min		*19.1*	*24.2*	*39*	-							*9.4*	*0*			
max		*24*	*26.9*	*82*	-							*9.55*	*0.05*			

Groundwater Extracted = 1,356 gallons

Time of extraction = 3,005 minutes = 83.42 hours = 3.48 days

Notes

ppmv	parts per million vapor
In of Hg	inches of mercury
In of H_20	inches of water
^0F	degrees Fahrenheit
scfm	standard cubic feet per minute

Table 8A

June 2011 MPE Pilot Test
Operational Data Detail (SOMA-7)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
6/20/2011	854									DTW @ SOMA-7: 8.52 Ft., OB-1: 6.93 Ft.
	1615								0	Start MPE @ SOMA-7, stinger 1 Ft. from bottom
	1625	49	19.4	1,503	71	111	40	22.4	0	
	1645	101	23.2	1,517	19	44	25	26.6	0	
	1700	104	23.4	1,527	23	47	24	26.4	0	
	1730	100	22.8	1,533	19	44	25	26.6	0	**Shut off overnight**
6/21/2011	915									**Restart system**
	930	45	21.6	1,499	23	63	40	25.4	0	
	945	61	21.8	1,499	28	50	22	26.2	0	
	1045	116	24	1,529	41	41	0	26.8	0	
	1141	102	24	1,571	38	38	0	27	40	
	1241	106	24.5	1,586	38	38	0	27	40	
	1341	122	24	1,593	38	38	0	27	81	
	1441	71	24.3	1,603	38	38	0	27	120	
	1545	53	24	1,601	38	38	0	27	120	
	1645	126	24	1,599	38	38	0	27	157	
	1745	134	24	1,596	38	38	0	27	157	
6/22/2011	600									**System shut down @ 5:30 AM, high water limi**
	645									**Restart system**
	655	132	23.8	1,504	44	44	0	26.6	423	
	730	160	23.8	1,535	44	44	0	26.6	423	
	800	161	24	1,556	44	44	0	26.6	423	
	830	144	23.8	1,549	44	44	0	26.6	460	
	900	145	23.8	1,554	44	44	0	26.6	460	
	1000	176	24	1,559	44	44	0	26.6	460	
	1100	142	24	1,553	44	44	0	26.6	497	
	1130	168	24	1,560	43	43	0	26.7	497	
	1200	178	24	1,563	43	43	0	26.7	534	
	1330	178	24	1,575	41	41	0	26.8	534	
	1430	177	24	1,571	41	41	0	26.8	569	
	1530	170	24	1,577	41	41	0	26.8	569	
	1550									**Shut down system**
min		*45*	*19*	*1,499*	*19*	*38*	*0*	*22*	*-*	

Table 8A

June 2011 MPE Pilot Test
Operational Data Detail (SOMA-7)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
max		*178*	*25*	*1,603*	*71*	*111*	*40*	*27*	-	

Table 8A

June 2011 MPE Pilot Test
Operational Data Detail (SOMA-7)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
6/29/2011	1056	483	23.4	1,499	15	41	26	26.8	569	**Restart system w/AS**
	1100	175	24	1,532	28	38	10	27	569	
	1115	97	22.8	1,524	19	38	19	27	570	
	1130	103	23.4	1,505	19	38	19	27	571	
	1145	104	22.6	1,501	19	38	19	27	572	
	1200	108	23.1	1,502	19	38	19	27	573	
	1230	118	23.9	1,504	20	39	19	26.9	574	
	1300	129	24	1,513	23	39	16	26.9	610	
	1330	162	23.6	1,534	27	39	12	26.9	646	
	1430	184	24	1,532	27	39	12	26.9	718	Air sparging off @ 1500
	1530	165	23.9	1,532	27	39	12	26.9	718	
	1615	166	23.6	1,534	27	39	12	26.9	790	
	1722	205	23.5	1,534	26	38	12	27	862	
	1815	165	23.6	1,537	27	39	12	26.9	979	
	1835	155	23.6	1,537	27	39	12	26.9	1,096	
	1850								1,239	**Shut down**
min		*97*	*22.6*	*1,499*	*15*	*38*	*10*	*26.8*	-	
max		*483*	*24.0*	*1,537*	*28*	*41*	*26*	*27.0*	-	

Groundwater extracted = 1239 gallons

Time of extraction = 2,274 minutes = 37.9 hours = 1.58 days

Notes

ppmv	parts per million vapor
In of Hg	inches of mercury
In of H_20	inches of water
^{0}F	degrees Fahrenheit
scfm	standard cubic feet per minute

Table 8B

June 2011 MPE Pilot Test
Operational Data Detail (SOMA-5)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
6/22/2011	1715									restart @ SOMA-5
	1725	360	23.2	1,499	47	47	0	26.4	0	
	1755	270	22.6	1,506	44	44	0	26.6	0	
	1815	146	22.6	1,502	44	44	0	26.6	37	
6/23/2011	900	27	22	1,500	52	52	0	26.1	586	
	1000	26	21.8	1,499	52	52	0	26.1	586	Switched extraction to OB-2
6/24/2011	830									Switched extraction to SOMA-5
	840									restart extraction, stinger @ 13.85 Ft.
	850	68	22.4	1,508	54	54	0	26	586	
	930	30	21.8	1,503	54	54	0	26	620	
	1030	29	21.8	1,498	54	54	0	26	659	
	1130	33	22.2	1,503	54	54	0	26	695	
	1230	30	21.6	1,504	57	57	0	25.8	732	
	1330	33	21.8	1,503	60	60	0	25.6	767	
	1415	26	21.6	1,497	60	60	0	25.6	767	raise stinger to 10.85 Ft.
	1425	19	22	1,504	60	60	0	25.6	804	Stinger lowered to 1 Ft above bottom
	1530	41	21.6	1,504	60	60	0	25.6	804	
	1630	26	21.6	1,498	60	60	0	25.6	840	Shut down for weekend, equalize for air sparging
min		*19*	*21.6*	*1,497*	*44*	*44*	*0*	*25.60*	-	
max		*360*	*23.2*	*1,508*	*60*	*60*	*0*	*26.60*	-	

Groundwater extracted = 840 gallons

Time of extraction = 1,475 minutes = 24.58 hours = 1.024 days

Notes

ppmv	parts per million vapor
In of Hg	inches of mercury
In of H_20	inches of water
^{0}F	degrees Fahrenheit

Table 8B

June 2011 MPE Pilot Test
Operational Data Detail (SOMA-5)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS

scfm standard cubic feet per minute

Table 8C

June 2011 MPE Pilot Test
Operational Data Detail (OB-2)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
6/23/2011	1000									Switched extraction to OB-2
	1100	750	24	1,537	41	41	0	26.8	0	
	1105	750	24	1,537	41	41	0	26.8	0	
	1120	750	24	1,537	41	41	0	26.8	0	
	1145	680	24	1,530	41	41	0	26.8	0	
	1200	412	22	1,510	46	46	0	26.5	37	
	1300	192	21.8	1,502	47	47	0	26.4	73	
	1400	147	21.8	1,503	50	50	0	26.2	109	
	1500	110	21.6	1,501	52	52	0	26.1	144	
	1600	86	21.6	1,501	54	54	0	26	145	
	1700	65	21.2	1,498	58	58	0	25.7	180	
6/24/2011	800	17	19.2	1,503	79	79	0	24.4	465	
	830									Switched extraction to SOMA-5
min		*17*	*19*	*1,498*	*41*	*41*	*0*	*24*		
max		*750*	*24*	*1,537*	*79*	*79*	*0*	*27*		
6/30/2011	1030									Air sparging started, moved truck over to OB-2, MTS dowr for repairs
	1350									**MPE started w/AS**
	1355	166	21.5	1,497	77	77	0	24.5	465	
	1400	87	21.6	1,496	79	79	0	24.4	465	
	1405	83	21.6	1,501	77	77	0	24.5	465	
	1410	123	21.5	1,502	79	79	0	24.4	465	
	1415	149	21.6	1,503	79	79	0	24.4	465	
	1420	165	21.6	1,497	79	79	0	24.4	465	
	1430	215	21.8	1,498	81	81	0	24.3	465	
	1450	192	21.8	1,500	77	77	0	24.5	500	
	1520	178	21.5	1,501	77	77	0	24.5	500	
	1620	106	21.1	1,500	79	79	0	24.4	548	
	1700	106	20.6	1,498	79	79	0	24.4	575	
	1730	105	20.5	1,501	77	77	0	24.5	585	
7/1/2011	815	31	19.4	1,501	82	82	0	24.2	1,006	
	915	23	19.1	1,503	82	82	0	24.2	1,006	Air sparging started @ 9:30
	950	28	19.5	1,499	82	82	0	24.2	1,043	
	1050	93	19.4	1,493	76	76	0	24.6	1,078	
	1150	130	19.2	1,504	77	77	0	24.5	1,079	
	1230	126	20	1,497	77	77	0	24.5	1,115	Stinger moved to 1.5 Ft above bottom
	1240	151	24	1,600	17	39	22	26.9	1,115	
	1255	204	21.1	1,521	70	70	0	25	1,115	
	1355	143	21	1,503	73	73	0	24.8	1,152	
	1430	107	20	1,497	74	74	0	24.7	1,197	
	1500	86	19.8	1,503	76	76	0	24.6	1,198	Air sparging on @ 1505
	1530	83	20.6	1,504	74	74	0	24.7	1,225	
	1550	81	20	1,502	76	76	0	24.6	1,225	
	1635	71	19.5	1,499	76	76	0	24.6	1,225	

Table 8C

June 2011 MPE Pilot Test
Operational Data Detail (OB-2)

3519 Castro Valley Blvd,
Castro Valley, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD VAPOR FLOW RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
	1640	129	21	1,499	74	74	0	24.7	1,260	
	1735	78	20	1,505	76	76	0	24.6	1,260	Air sparging off. Extraction stopped to take post Air sparging readings @ 1740
	1750								1,290	Resume extraction
	1755	120	21	1,510	71	71	0	24.9	1,290	
	1800	126	21.05	1,508	70	70	0	24.95	1,290	
	1805	125	21	1,506	71	71	0	24.9	1,290	
	1810	127	21.05	1,504	71	71	0	24.9	**1,356**	
	1845									**End Extraction**
min		*23*	*19.1*	*1,493*	*17*	*39*	*0*	*24.2*		
max		*215*	*24.0*	*1,600*	*82*	*82*	*22*	*26.9*		

Groundwater Extracted = 1,356 gallons

Time of extraction = 3,005 minutes = 50.08 hours = 2.09 days

Notes

ppmv	parts per million vapor
In of Hg	inches of mercury
In of H_20	inches of water
^{0}F	degrees Fahrenheit
scfm	standard cubic feet per minute

Table 9A

Summary of **Extraction Data and VOC Mass Removal Rate (SOMA-7)**
June 2011 MPE Pilot Test

3519 Castro Valley Blvd
Castro Valley, California

WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			FID		MASS REMOVAL		
				minutes	minutes	SCFM	ft^3 of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
SOMA-7	**START**	6/20/2011	854	0	0								
	MPE ONLY		1615	0	0								
			1625	10	10	111	1,108	2.9223	49	0.0000	0.0123	0.0012	2
			1645	20	30	44	882	2.3278	101	0.0001	0.0203	0.0010	1
			1700	15	45	47	709	1.8714	104	0.0001	0.0168	0.0011	2
	STOP		1730	30	75	44	1,323	3.4917	100	0.0001	0.0301	0.0010	1
SOMA-7	**START**	6/21/2011	915	0	75								
	MPE ONLY		930	15	90	63	947	2.4995	45	0.0000	0.0097	0.0006	1
			945	15	105	50	757	1.9970	61	0.0001	0.0105	0.0007	1
			1045	60	165	41	2,456	6.4809	116	0.0001	0.0648	0.0011	2
			1141	56	221	38	2,115	5.5799	102	0.0001	0.0491	0.0009	1
			1241	60	281	38	2,266	5.9785	106	0.0001	0.0546	0.0009	1
			1341	60	341	38	2,266	5.9785	122	0.0001	0.0629	0.0010	2
			1441	60	401	38	2,266	5.9785	71	0.0001	0.0366	0.0006	1
			1545	64	465	38	2,417	6.3770	53	0.0001	0.0291	0.0005	1
			1645	60	525	38	2,266	5.9785	126	0.0001	0.0649	0.0011	2
	STOP(5:30 AM TO 6:45AM)		1745	60	585	38	2,266	5.9785	134	0.0001	0.0691	0.0012	2
SOMA-7	**START**	6/22/2011	655	715	1,300	44	31,540	83.2177	132	0.0001	0.9469	0.0013	2
	MPE ONLY		730	35	1,335	44	1,544	4.0736	160	0.0002	0.0562	0.0016	2
			800	30	1,365	44	1,323	3.4917	161	0.0002	0.0485	0.0016	2
			830	30	1,395	44	1,323	3.4917	144	0.0001	0.0433	0.0014	2
			900	30	1,425	44	1,323	3.4917	145	0.0001	0.0436	0.0015	2
			1000	60	1,485	44	2,647	6.9833	176	0.0002	0.1059	0.0018	3
			1100	60	1,545	44	2,647	6.9833	142	0.0001	0.0855	0.0014	2
			1130	30	1,575	43	1,276	3.3660	168	0.0002	0.0487	0.0016	2
			1200	30	1,605	43	1,276	3.3660	178	0.0002	0.0516	0.0017	2
			1330	90	1,695	41	3,684	9.7213	178	0.0002	0.1492	0.0017	2
			1430	60	1,755	41	2,456	6.4809	177	0.0002	0.0989	0.0016	2
			1530	60	1,815	41	2,456	6.4809	170	0.0002	0.0950	0.0016	2
	STOP		1550	0	1,815								
	TOTAL				**1,815**		**77,539**	**205**			**2.30**	**0.0013**	**1.83**
	MEDIAN					**43**			**129**	**0.0001**			

Table 9A

Summary of **Extraction Data and VOC Mass Removal Rate (SOMA-7)**
June 2011 MPE Pilot Test

3519 Castro Valley Blvd
Castro Valley, California

WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			FID		MASS REMOVAL		
				minutes	minutes	SCFM	ft^3 of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
SOMA-7	**START**	6/29/2011	1056	6	0	41	246	0.6481	483	0.0005	0.0270	0.0045	6
	MPE/AS OPERATION		1100	4	4	38	151	0.3986	175	0.0002	0.0060	0.0015	2
			1115	15	19	38	566	1.4946	97	0.0001	0.0125	0.0008	1
			1130	15	34	38	566	1.4946	103	0.0001	0.0133	0.0009	1
			1145	15	49	38	566	1.4946	104	0.0001	0.0134	0.0009	1
			1200	15	64	38	566	1.4946	108	0.0001	0.0139	0.0009	1
			1230	30	94	39	1,181	3.1148	118	0.0001	0.0317	0.0011	2
			1300	30	124	39	1,181	3.1148	129	0.0001	0.0346	0.0012	2
			1330	30	154	39	1,181	3.1148	162	0.0002	0.0435	0.0014	2
			1430	60	214	39	2,361	6.2297	184	0.0002	0.0988	0.0016	2
			1530	60	274	39	2,361	6.2297	165	0.0002	0.0886	0.0015	2
			1615	45	319	39	1,771	4.6723	166	0.0002	0.0669	0.0015	2
			1722	67	386	38	2,530	6.6760	205	0.0002	0.1180	0.0018	3
			1815	53	439	39	2,086	5.5029	165	0.0002	0.0783	0.0015	2
			1835	20	459	39	787	2.0766	155	0.0002	0.0277	0.0014	2
	STOP		1850	0	459								
	TOTAL				**459**		**18,100**	**48**			**0.67**	**0.0015**	**2.11**
	MEDIAN					**39**			**162**	**0.0002**			
										TOTAL	**2.98**		
											7.05	**Average 9A, 9B, 9C:**	**2.46**
											Grand Total (9A, 9B, 9C)		

Notes

Q	volumetric flow rate
SCFM	standard cubic feet per minute
ft^3	cubic feet per minute
VOC	volatile organic compounds
PID	photo-ionization detector
ppmv	parts per million vapor

DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %
ft3 of extracted air/(379 ft3 air/lb-mole air) = moles of extracted air
(moles of extracted air)(VOC mole %)(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane
(lbs of VOC mass removed as hexane)(elapsed time) = lbs/min of VOC removed as hexane
(lbs/min of VOC removed as hexane)(60 min/1 hour)(24 hours/1 day) = lbs/day of VOC removed as hexane

Table 9B

Summary of Extraction Data and VOC Mass Removal Rate (SOMA-5)

June 2011 MPE Pilot Test

3519 Castro Valley Blvd
Castro Valley, California

WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			FID		MASS REMOVAL		
				minutes	minutes	SCFM	ft^3 of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
SOMA-5	**START**	6/22/2011	1715	0	0								
			1725	10	10	47	473	1.2476	360	0.0004	0.0387	0.0039	6
			1755	30	40	44	1,323	3.4917	270	0.0003	0.0813	0.0027	4
			1815	20	60	44	882	2.3278	146	0.0001	0.0293	0.0015	2
		6/23/2011	900	885	945	52	46,060	121.5303	27	0.0000	0.2828	0.0003	0
	STOP		1000	60	1,005	52	3,123	8.2393	26	0.0000	0.0185	0.0003	0
SOMA-5	**START**	6/24/2011	840	0	1,005								
			850	10	1,015	54	536	1.4151	68	0.0001	0.0083	0.0008	1
			930	40	1,055	54	2,145	5.6604	30	0.0000	0.0146	0.0004	1
			1030	60	1,115	54	3,218	8.4906	29	0.0000	0.0212	0.0004	1
			1130	60	1,175	54	3,218	8.4906	33	0.0000	0.0242	0.0004	1
			1230	60	1,235	57	3,408	8.9930	30	0.0000	0.0233	0.0004	1
			1330	60	1,295	60	3,599	9.4954	33	0.0000	0.0270	0.0005	1
			1415	45	1,340	60	2,699	7.1215	26	0.0000	0.0160	0.0004	1
			1425	10	1,350	60	600	1.5826	19	0.0000	0.0026	0.0003	0
			1530	65	1,415	60	3,899	10.2867	41	0.0000	0.0364	0.0006	1
	STOP		1630	60	1,475	60	3,599	9.4954	26	0.0000	0.0213	0.0004	1
	TOTAL				**1,475**		**78,782**	**208**			**0.65**	**0.0004**	**0.63**
	MEDIAN					**54**			**30**	**0.0000**			

Notes

Q	volumetric flow rate
SCFM	standard cubic feet per minute
ft^3	cubic feet per minute
VOC	volatile organic compounds
PID	photo-ionization detector
ppmv	parts per million vapor

DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %
ft3 of extracted air/(379 ft3 air/lb-mole air) = moles of extracted air
(moles of extracted air)(VOC mole %)(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane
(lbs of VOC mass removed as hexane)(elapsed time) = lbs/min of VOC removed as hexane
(lbs/min of VOC removed as hexane)(60 min/1 hour)(24 hours/1 day) = lbs/day of VOC removed as hexane

Table 9C

Summary of Extraction Data and VOC Mass Removal Rate (OB-2)
June 2011 MPE Pilot Test

3519 Castro Valley Blvd
Castro Valley, California

WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			FID		MASS REMOVAL		
				minutes	minutes	SCFM	ft^3 of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
OB-2	START	6/23/2011	1000	0	0								
	(MPE ONLY)		1100	60	60	41	2,456	6.4809	750	0.0008	0.4190	0.0070	10
			1105	5	65	41	205	0.5401	750	0.0008	0.0349	0.0070	10
			1120	15	80	41	614	1.6202	750	0.0008	0.1047	0.0070	10
			1145	25	105	41	1,023	2.7004	680	0.0007	0.1583	0.0063	9
			1200	15	120	46	685	1.8086	412	0.0004	0.0642	0.0043	6
			1300	60	180	47	2,837	7.4857	192	0.0002	0.1239	0.0021	3
			1400	60	240	50	3,028	7.9881	147	0.0001	0.1012	0.0017	2
			1500	60	300	52	3,123	8.2393	110	0.0001	0.0781	0.0013	2
			1600	60	360	54	3,218	8.4906	86	0.0001	0.0629	0.0010	2
			1700	60	420	58	3,504	9.2442	65	0.0001	0.0518	0.0009	1
		6/24/2011	800	900	1,320	79	71,119	187.6483	17	0.0000	0.2750	0.0003	0
	STOP		830	0	1,320								
	TOTAL				**1,320**		**91,811**	**242**			**1.47**	**0.0011**	**1.61**
	MEDIAN					**47**			**192**	**0.0002**			
OB-2	START	6/30/2011	1350	0	1,320								
	(MPE AND AS)		1355	5	1,325	77	387	1.0216	166	0.0002	0.0146	0.0029	4
			1400	5	1,330	79	395	1.0425	87	0.0001	0.0078	0.0016	2
			1405	5	1,335	77	387	1.0216	83	0.0001	0.0073	0.0015	2
			1410	5	1,340	79	395	1.0425	123	0.0001	0.0111	0.0022	3
			1415	5	1,345	79	395	1.0425	149	0.0001	0.0134	0.0027	4
			1420	5	1,350	79	395	1.0425	165	0.0002	0.0148	0.0030	4
			1430	10	1,360	81	806	2.1268	215	0.0002	0.0394	0.0039	6
			1450	20	1,380	77	1,549	4.0862	192	0.0002	0.0676	0.0034	5
			1520	30	1,410	77	2,323	6.1293	178	0.0002	0.0940	0.0031	5
			1620	60	1,470	79	4,741	12.5099	106	0.0001	0.1143	0.0019	3
			1700	40	1,510	79	3,161	8.3399	106	0.0001	0.0762	0.0019	3
			1730	30	1,540	77	2,323	6.1293	105	0.0001	0.0555	0.0018	3
		7/1/2011	815	885	2,425	82	72,742	191.9315	31	0.0000	0.5129	0.0006	1
			915	60	2,485	82	4,932	13.0123	23	0.0000	0.0258	0.0004	1
			950	35	2,520	82	2,877	7.5905	28	0.0000	0.0183	0.0005	1
			1050	60	2,580	76	4,551	12.0075	93	0.0001	0.0963	0.0016	2
			1150	60	2,640	77	4,646	12.2587	130	0.0001	0.1374	0.0023	3
			1230	40	2,680	77	3,097	8.1725	126	0.0001	0.0888	0.0022	3
			1240	10	2,690	39	394	1.0383	151	0.0002	0.0135	0.0014	2
			1255	15	2,705	70	1,043	2.7507	204	0.0002	0.0484	0.0032	5
			1355	60	2,765	73	4,360	11.5051	143	0.0001	0.1418	0.0024	3
			1430	35	2,800	74	2,599	6.8578	107	0.0001	0.0633	0.0018	3
			1500	30	2,830	76	2,275	6.0037	86	0.0001	0.0445	0.0015	2
			1530	30	2,860	74	2,228	5.8781	83	0.0001	0.0421	0.0014	2
			1550	20	2,880	76	1,517	4.0025	81	0.0001	0.0279	0.0014	2
			1635	45	2,925	76	3,413	9.0056	71	0.0001	0.0551	0.0012	2
			1640	5	2,930	74	371	0.9797	129	0.0001	0.0109	0.0022	3
			1735	55	2,985	76	4,172	11.0068	78	0.0001	0.0740	0.0013	2
	STOP		1740	0	2,985								

Table 9C

Summary of Extraction Data and VOC Mass Removal Rate (OB-2)
June 2011 MPE Pilot Test

3519 Castro Valley Blvd
Castro Valley, California

WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			FID		MASS REMOVAL		
				minutes	minutes	SCFM	ft^3 of extracted air	Moles of extracted air	ppmv as hexane	VOC mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
OB-2	**START**		1750	0	2,985								
			1755	5	2,990	71	355	0.9378	120	0.0001	0.0097	0.0019	3
			1800	5	2,995	70	351	0.9274	126	0.0001	0.0101	0.0020	3
			1805	5	3,000	71	355	0.9378	125	0.0001	0.0101	0.0020	3
			1810	5	3,005	71	355	0.9378	127	0.0001	0.0103	0.0021	3
	STOP		1845										
	TOTAL				**3,005**		**133,892**	**353**			**1.96**	**0.0007**	**0.94**
	MEDIAN					**77**			**122**	**0.0001**			
										TOTAL	**3.43**		

Notes

Q	volumetric flow rate
SCFM	standard cubic feet per minute
ft^3	cubic feet per minute
VOC	volatile organic compounds
PID	photo-ionization detector
ppmv	parts per million vapor

DERIVATION OF MASS REMOVAL RATE

ppmv as hexane/1,000,000 = VOC mole %
ft3 of extracted air/(379 ft3 air/lb-mole air) = moles of extracted air
(moles of extracted air)(VOC mole %)(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane
(lbs of VOC mass removed as hexane)(elapsed time) = lbs/min of VOC removed as hexane
(lbs/min of VOC removed as hexane)(60 min/1 hour)(24 hours/1 day) = lbs/day of VOC removed as hexane

Table 10

June 2011 Pilot Test
Mass Removal Efficiencies

3519 Castro Valley Blvd.
Castro Valley, California

Extraction Well	Vapor Sample ID	Collection Date/Time	USEPA TO-3 MODIFIED	USEPA TO-15 MODIFIED						Q (CFM)	Mass Removal Rate (lbs/day) (TPHg/benzene)	Total Test time (minutes/days)	Total Mass Removed (lbs) (TPHg/benzene)
			TPH-g (ug/m^3)	Benzene (ug/m^3)	Toluene (ug/m^3)	Ethyl Benzene (ug/m^3)	m,p-Xylenes (ug/m^3)	o-Xylenes (ug/m^3)	MtBE (ug/m^3)				
SOMA-7	Effluent	6/21/2011	<1800	<3.4	<4.8	<5.0	<8.1	<4.0	<4.3	63	0.848 / 4.26E-3	90 / 0.06	0.05 / 2.56E-4
SOMA-7	Influent	6/21/2011	150,000	755	<48	<50	<81	<40	<43				
		REMOVAL EFFICIENCIES	99.9967%	99.5497%	na	na	na	na	na				
SOMA-5	Effluent	6/23/2011	<1800	<3.4	<4.8	<5.0	<8.1	<4.0	<4.3	52	0.191 / 5.82E-3	945 / 0.65	0.12 / 3.84E-3
SOMA-5	Influent	6/23/2011	41,000	1,030	<19	285	568	139	<17				
		REMOVAL EFFICIENCIES	99.9878%	99.6699%	na	98.2456%	98.5739%	na	na				
OB-2	Effluent	7/1/2011	<1800	<3.4	<4.8	<5.0	<8.1	<4.0	<4.3	82	0.11 / 7.18E-4	1105 / 0.77	0.09 / 5.53E-4
OB-2	Influent	7/1/2011	16,000	127	7.79	149	340	44.1	<4.3				
		REMOVAL EFFICIENCIES	99.9688%	99.2126%	na	96.6443%	97.6176%	na	na				
									median / total	52	0.39 / 3.6E-3	6754 / 4.69	1.83 / 1.69E-2

Notes

ug/m^3 micrograms per cubic meter

< not detected at or above detection limit

cubic feet per minute

pounds per day

micrograms per cubic meter

Methyl ter-butyl ether

not detected at or above laboratory detection limit

dilution factor 5

dilution factor 10

dilution factor 250

dilution factor 500

average value

dilution factor 10

Result reported as gasoline, but sample chromatogram does not resemble gasoline standard pattern. Reported value due to

Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather

DERIVATION OF MASS REMOVAL RATE

(**ug/m^3**) [(1mg/1000ug) ($1m^3$/1000 L)] = **mg/L**
(**mg/L**) (28.32 L/1 ft^3) ([Q} ft^3/min) = **mg/min**
(**mg/min**)(1g/1000mg)(1kg/1000g)(60min/1hr)(24hr/1day) =**kg/day**
(**kg/day**)(2.2lbs/1kg) = **lbs/day**

DERIVATION OF TOTAL MASS REMOVED

Total time of test = **days**
(mass removal rate [**lbs/day**])(total time of test [**days**]) = Total Removed (**lbs**)

DERIVATION OF REMOVAL EFFICIENCIES
Influent sample concentration / STACK sample concentration

Table 11

Dissolved-Phase Hydrocarbon Concentrations in Groundwater
Pre- and Post-MPE Pilot Test

3519 Castro Valley Blvd, Castro Valley, CA

Monitoring Well	Date	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl benzene (µg/L)	Total Xylenes (µg/L)	MtBE (µg/L) 8260B	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
SOMA-5	6/16/2011	6,400	2,500	<20	670	160	150	450	<20	<20	<20	<20	<20
	7/19/2011	**1,300**	**470**	**<3.6**	**<3.6**	**212**	**8.8**	**<71**	**<3.6**	**<3.6**	**<3.6**	**<3.6**	**<3.6**
SOMA-7	6/16/2011	1,900	330	4.3	24	5.2	4.7	<33	<1.7	<1.7	<1.7	<1.7	<1.7
	7/19/2011	**7,600**	**1,100**	**15**	**200**	**61**	**12**	**<25**	**<1.3**	**<1.3**	**<1.3**	**<1.3**	**<1.3**
OB-1	6/16/2011	1,900	9.3	<0.5	3.7	5.8	23	20	<0.5	<0.5	<0.5	<0.5	<0.5
	7/19/2011	**250**	**1.9**	**<0.5**	**0.63**	**0.78**	**4.1**	**<10**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
OB-2	6/16/2011	12,000	870	18	590	1,140	310	220	<5.0	<5.0	<5.0	<5.0	<5.0
	7/19/2011	**30,000**	**1,000**	**31**	**1,300**	**3,020**	**310**	**260**	**<10**	**<10**	**<10**	**<10**	**<10**

Notes:
< : Not detected above laboratory reporting limit.

Table 12
Air Sparging Summary Table (Monitoring Point Data)
3519 Castro Valley Blvd.
Castro Valley, CA

Monitoring Point ID	Date	Time	Incremental time (min)	Elapsed Time (minutes)	PID (ppm)	In Well Water Level (to 0.1 ft.)	Pressure ("H_20)	Water Temp. (°C)	E.C. (ms/cm)	D.O. (mg/L)	ORP	pH	Notes
MONITORING POINT DATA													
OB-2	**6/27/2011**	1:37:00 PM	0:00:00	0:00:00	***pre-AS air sample***								
		4:20:00 PM	2:43:00	2:43:00	401	9.4	0.05	19.08	1207	1.7	154.8	5.85	Compressor @ 20-25 psi
		4:45:00 PM	0:25:00	3:08:00	290	9.3	0.06	19.04	1225	0.8	154.4	5.98	Odor
		5:15:00 PM	0:30:00	3:38:00	58	9.4	0.05	18.91	1260	0.43	146	6.15	Odor
		5:45:00 PM	0:30:00	4:08:00	368	9.5	0.05	18.87	1223	0.65	200	6.22	Odor
		6:15:00 PM	0:30:00	4:38:00	210	9.45	0.04	18.96	1259	4.43	215	6.27	Odor
		6:18:00 PM	0:03:00	4:41:00	***post-AS air sample***								
MPE Operation Started													
	6/30/2011	9:52:00 AM	0:00:00	0:00:00	135	9	-	18.69	1280	0.4	261.2	6.34	Pre AS system start
		10:46:00 AM	0:54:00	0:54:00	135	-	0.05	-	-	-	-	-	Odor
		11:05:00 AM	0:19:00	1:13:00	136	9	0.05	18.74	1277	1.08	188.8	6.57	Odor
		11:25:00 AM	0:20:00	1:33:00	142	9	0.04	18.77	1277	0.95	193.2	6.44	Odor
		12:00:00 PM	0:35:00	2:08:00	-	-	0.05	-	-	-	-	-	Compressor off
		12:20:00 PM	0:20:00	2:28:00	-	-	-	-	-	-	-	-	Compressor restarted
		12:25:00 PM	0:05:00	2:33:00	141	9.1	0.05	18.78	1279	0.53	166.4	6.43	Odor
		1:12:00 PM	0:47:00	3:20:00	425	9.1	0.06	20.56	1298	0.62	152.8	6.66	Odor
		1:35:00 PM	0:23:00	3:43:00	-	9.05	-	-	-	-	-	-	Prior to stinger insertion
	7/1/2011	10:20:00 AM	0:00:00	0:00:00	272	14.9	0.05	18.89	1091	2.59	32.9	6.4	Free product on probe
		1:30:00 PM	3:10:00	3:10:00	162	14.7	0.06	20.15	1118	2.08	19.8	6.3	Odor
		5:40:00 PM	4:10:00	7:20:00	128	14.55	0.02	19.15	1095	1.99	70.2	5.15	Odor
SOMA-7	**6/28/2011**	10:11:00 AM	0:00:00	0:00:00	***pre-AS air sample***								
		10:26:00 AM	0:15:00	0:15:00	38	7.55		18.68	1106	0.52	103.1	6.42	Pre AS System start
		12:00:00 PM	1:34:00	1:49:00	978	7.5	0.05	18.54	1069	1.83	122.9	6.5	
		1:00:00 PM	1:00:00	2:49:00	1778	7.2	0.04	18.4	1064	1.66	165	6.31	
		1:30:00 PM	0:30:00	3:19:00	775	7.3	0.14	18.62	1060	0.89	168.9	6.37	
		2:05:00 PM	0:35:00	3:54:00	1310	7.35	0.05	18.44	1054	0.93	162.8	6.32	
		2:50:00 PM	0:45:00	4:39:00	1620	7.2	0.09	18.59	1027	0.41	136	6.43	
		3:08:00 PM	0:18:00	4:57:00	-	-	-	-	-	-	-	-	Stopped
		3:20:00 PM	0:12:00	5:09:00	***post-AS air sample***								
MPE Operation Started													
	6/29/2011	9:27:00 AM	0:00:00	0:00:00	160	7	0.01	17.95	1062	0.78	143.2	6.44	Pre AS System start
		10:29:00 AM	1:02:00	1:02:00	-	6.8	0.02	-	-	-	-	-	Start MPE
		10:36:00 AM	0:07:00	1:09:00	-	-	-	18.5	1070	2.06	127	6.45	
		12:00:00 PM	1:24:00	2:33:00	-	-	-	-	-	-	-	-	MPE
		12:30:00 PM	0:30:00	3:03:00	-	-	-	-	-	-	-	-	MPE, AS System restart
		1:30:00 PM	1:00:00	4:03:00	-	-	-	-	-	-	-	-	AS System start
		2:00:00 PM	0:30:00	4:33:00	-	-	-	-	-	-	-	-	As System restart
		2:30:00 PM	0:30:00	5:03:00	-	-	-	-	-	-	-	-	AS System run, MPE sampling/readings
		3:00:00 PM	0:30:00	5:33:00	-	-	-	-	-	-	-	-	AS System off
		3:30:00 PM	0:30:00	6:03:00	-	-	-	-	-	-	-	-	System off
		4:18:00 PM	0:48:00	6:51:00	-	-	-	-	-	-	-	-	As System restart
		7:00:00 PM	2:42:00	9:33:00	-	12.5	0.05	17.84	1015	4	80	6.89	Odor

Table 13

In Well Vapor Concentrations (Pre & Post Air Sparging)

3519 Castro Valley Blvd.
Castro Valley, California

Monitoring Point During AS	Air Sparge Point	Distance from AS	Vapor Sample ID	Collection Date/Time	TPH-g (ug/m^3)	Benzene (ug/m^3)	Toluene (ug/m^3)	Ethyl Benzene (ug/m^3)	m,p-Xylenes (ug/m^3)	o-Xylenes (ug/m^3)	MtBE (ug/m^3)	Carbon Dioxide (%)	Oxygen (%)	Nitrogen (%)	Methane (%)
OB-2	SOMA-5	11 feet	Pre As	6/27/2011	560,000	<34	<48	<50	<81	<40	<43	1.54	16.1	73.3	<0.0005
OB-2	SOMA-5	11 feet	Post As	6/27/2011	510,000	96	<48	705	2,700	312.00	<43	1.21	17.5	72.9	<0.0005
SOMA-7	OB-1	14 feet	Pre As	6/28/2011	31,000	310	<9.5	<9.9	<16	<8.1	<8.7	1.08	16.2	72.6	<0.0005
SOMA-7	OB-1	14 feet	Post As	6/28/2011	700,000	909	<48	<50	<81	<40	<43	1.43	15.7	73.5	<0.0005

Notes

ug/m^3	micrograms per cubic meter
<	not detected at or above detection limit

Table 14
Waste Water Discharge Log
3519 Castro Valley Blvd, Castro Valley, CA

Date	**Time** (Groundwater Extraction)	**Total Minutes** (Groundwater Extraction)	**Totalizer Reading** (Groundwater Extraction)	**Discharge to CVSAN (gallons total)**
6/20/2011	854	0	-	Holding tank
	1615	0	0	Holding tank
	1625	10	0	Holding tank
	1645	30	0	Holding tank
	1700	45	0	Holding tank
	1730	75	0	Holding tank
6/21/2011	915	75	-	Holding tank
	930	90	0	Holding tank
	945	105	0	Holding tank
	1045	165	0	Holding tank
	1141	221	40	Holding tank
	1241	281	40	Holding tank
	1341	341	81	Holding tank
	1441	401	120	Holding tank
	1545	465	120	Holding tank
	1645	525	157	Holding tank
	1745	585	157	Holding tank
6/22/2011	655	1300	423	Holding tank
	730	1335	423	Holding tank
	800	1365	423	Holding tank
	830	1395	460	Holding tank
	900	1425	460	Holding tank
	1000	1485	460	Holding tank
	1100	1545	497	Holding tank
	1130	1575	497	Holding tank
	1200	1605	534	Holding tank
	1330	1695	534	Holding tank
	1430	1755	569	Holding tank
	1530	1815	569	Holding tank
	1550	1815	-	Holding tank
	1715	1815	-	Holding tank
	1725	1825	605	Holding tank
	1755	1855	605	Holding tank
	1815	1875	642	Holding tank
6/23/2011	900	2760	1,191	Holding tank
	1000	2820	1,191	Holding tank
	1100	2880	1,227	Holding tank
	1200	2940	1,264	Holding tank
	1300	3000	1,300	Holding tank
	1400	3060	1,336	Holding tank
	1500	3120	1,371	Holding tank
	1600	3180	1,372	Holding tank
	1700	3240	1,407	Holding tank
6/24/2011	800	4140	1,692	Holding tank
	830	4140	-	Holding tank
	840	4140	-	Holding tank
	850	4150	1,726	Holding tank
	930	4190	1,760	Holding tank
	1030	4250	1,799	Holding tank

Table 14
Waste Water Discharge Log
3519 Castro Valley Blvd, Castro Valley, CA

Date	**Time** (Groundwater Extraction)	**Total Minutes** (Groundwater Extraction)	**Totalizer Reading** (Groundwater Extraction)	**Discharge to CVSAN (gallons total)**
	1130	4310	1,835	Holding tank
	1230	4370	1,872	Holding tank
	1330	4430	1,907	Holding tank
	1415	4475	1,907	Holding tank
	1425	4485	1,944	Holding tank
	1530	4550	1,944	Holding tank
	1630	4610	1,980	Holding tank
6/28/2011	-	-	-	**220**
6/29/2011	1056	4616	2,018	**1700**
	1100	4620	2,018	Holding tank
	1115	4635	2,019	Holding tank
	1130	4650	2,019	Holding tank
	1145	4665	2,019	Holding tank
	1200	4680	2,019	Holding tank
	1230	4710	2,019	Holding tank
	1300	4740	2,054	Holding tank
	1330	4770	2,054	Holding tank
	1430	4830	2,090	Holding tank
	1530	4890	2,090	Holding tank
	1615	4935	2,090	Holding tank
	1722	5002	2,135	Holding tank
	1815	5055	2,135	Holding tank
	1835	5075	2,161	Holding tank
	1850	5075	-	Holding tank
6/30/2011	1030	5075	-	Holding tank
	1350	5075	-	Holding tank
	1355	5080	2,192	Holding tank
	1400	5085	2,192	Holding tank
	1405	5090	2,192	Holding tank
	1410	5095	2,192	Holding tank
	1415	5100	2,192	Holding tank
	1420	5105	2,192	Holding tank
	1430	5115	2,192	Holding tank
	1450	5135	2,227	Holding tank
	1520	5165	2,227	Holding tank
	1620	5225	2,275	Holding tank
	1700	5265	2,302	Holding tank
	1730	5295	2,312	Holding tank
7/1/2011	815	6180	2,733	Holding tank
	915	6240	2,733	Holding tank
	950	6275	2,770	Holding tank
	1050	6335	2,805	Holding tank
	1150	6395	2,806	Holding tank
	1230	6435	2,842	Holding tank
	1240	6445	2,842	Holding tank
	1255	6460	2,842	Holding tank
	1355	6520	2,879	Holding tank
	1430	6555	2,924	Holding tank
	1500	6585	2,925	Holding tank

Table 14
Waste Water Discharge Log
3519 Castro Valley Blvd, Castro Valley, CA

Date	**Time** (Groundwater Extraction)	**Total Minutes** (Groundwater Extraction)	**Totalizer Reading** (Groundwater Extraction)	**Discharge to CVSAN (gallons total)**
	1530	6615	2,952	Holding tank
	1550	6635	2,952	Holding tank
	1635	6680	2,952	Holding tank
	1640	6685	2,987	Holding tank
	1735	6740	2,987	Holding tank
	1740	6740	-	Holding tank
	1750	6740	-	Holding tank
	1755	6745	3,017	Holding tank
	1800	6750	3,017	Holding tank
	1805	6755	3,017	Holding tank
	1810	6760	3,017	Holding tank
	1845	-	3,083	Holding tank
7/19/2011	-	-	-	**1,163**
TOTAL			**3,083**	**3,083**

** Gravity-fed pipe, flow estimated by Hazen-Williams Equation*

*** Average discharge rate between 1.2 and 6 gallons/minute*

Table 15
Contaminant Mass Evaluation
3519 Castro Valley Blvd, Castro Valley, CA

Chemical of Concern (COC)	Bulk Density [a] (g/cm3)	Porosity (n)	Organic Carbon Partition Coefficient (K oc) [cm3/g]	Fraction of Organic Carbon (foc) g/g*	Distribution Coefficient (Kd) [cm3/g]	Retardation Coefficient (Rd)	Total Mass [c] (lb)
Shallow WBZ							
TPH-g	1.64	0.32	5000	0.002	10	52.25	**57.10**
Benzene	1.64	0.32	59	0.002	0.118	1.60475	**2.19**
MtBE	1.64	0.32	6	0.002	0.012	1.0615	**0.032**
						TOTAL (lb):	***59.32***
Semi-Confined WBZ							
TPH-g	1.64	0.32	5000	0.002	10	52.25	**8.87**
Benzene	1.64	0.32	59	0.002	0.118	1.60475	**0.018**
MtBE	1.64	0.32	6	0.002	0.012	1.0615	**0.012**
						TOTAL (lb):	***8.91***
Shallow Soil							
TPH-g	1.32	-	-	-	-	-	**468.45**
						TOTAL (lb):	***468.45***
						Grand Total	**536.68**

Note:
[a] Bulk Density= silty clay loam and sandy loam (ρb)
[c] For details refer to report attachment
COC- Contaminant Of Concern
NA- Not Applicable
* U.S EPA Soil Screening Guidance: User's Guide. EPA/540/R-96/0188, April 1996
Organic carbon partition coefficients (K oc) were obtained from "August 2007 Update to Environmental Screening Levels ("ESLs") Technical Document, (VLOOKUP table)
The EPA's Soil Screening Guidance recommends 0.2% (0.002 g/g) as the default concentration of organic carbon for subsurface soils.
Equations used (Mass within WBZ):
Mass in WBZ=Porosity*Concentration*Volume*Rd
Rd=1+(Kd*ρb/n)
Kd=Koc*foc

Table 16
Remedial Approaches Screening Evaluation
3519 Castro Valley Blvd, Castro Valley, CA

Estimated Contaminant Mass, Shallow WBZ, lbs	**59**
Estimated Contaminant Mass, Soils 4-12 ft bgs, lbs	**468**
Total Calculated Mass Removed by MPE and MPE/AS	**7.05**
Average Mass Removal Rate, lbs/day	**2.46**
Total MPE Operation Time (@24 hour per day operation)	**6.06**
Remaining Mass, lbs	**521**
Estimated MPE Operation Time (to remove all the calculated mass, at constant removal rate of 2.46 lb/day), days	**212**
Estimated 5-day MPE Events, constant mass removal rates	**42**

MPE Permanent Installation

Item			Cost
Installation Costs:			
420 CFM Electric Catalytic Oxidizer, equipment cost			**$89,000**
Electrical connections and inspections, source of 3-phase power (PG&E), preliminary research indicates that it's present on-site			**$4,500**
Air sparging installation (connections to 2 wells)			**$19,000**
Water Pre-treatment Skid			**$15,000**
Additional Wells Installation			**$28,000**
Installation, Trenching, Electrical Work, and Soil Disposal, treatment system compound			**$25,000**
	Subtotal		**$180,500**
Operation Costs:			
Operation and Maintenance and Reporting, annual			**$30,000**
Yearly power cost, annual			**$36,000**
	Subtotal		**$66,000**
		Total	**$246,500**

MPE Intermittent Operation (5-day Events)

Item			Cost
24 Hour Unit Operation ($2,300 x 5)			**$11,500**
Fuel Charge (Diesel)		*660*	
Unit Operation		*640*	
Unit Rental		*1000*	
	Sub Total	*$ 2,300*	
Labor and Reporting			**$3,300**
Fuel Surcharge (Propane)			**$950**
Field Work Oversight			**$1,600**
Temporary AS Application			**$750**
Pre- and Post- Groundwater Sampling for Effectiveness Evaluation			**$900**
Waste Water Disposal*			**$400.00**
Additional Well Installation			**$28,000**
		Total	**$19,400**
		35 Events*	**$707,000**

**Pulsed (on/off) MPE operation will likely reduce the operation time from 42 events to 30 to 35 (estimated)*

Table 16
Remedial Approaches Screening Evaluation
3519 Castro Valley Blvd, Castro Valley, CA

Remedial Excavation (3 Areas)	
Item	**Cost**
Excavation preparation, permits, well decommissioning, excavation ~600 tons, backfill, ORC application, sampling, report preparation**	**$255,933**
Total	**$255,933**

ORC Chemical Injection	
Item	**Cost**
Drilling (3 areas), injection and report preparation	**$193,710**
Possible 40% reapplication after 12 month	**$77,484**
Total	**$271,193**

Excavation Cost Breakdown			
TASK DESCRIPTIONS	**QUANTITY**	**UNIT COST**	**TOTAL COST**
TASK#1			
PERMIT ACQUISITION/ EXCAVATION SCHEDULING			
Engineer/ Geologist, hours	15	$90.00	$1,350.00
Permits Costs (preliminary)	1	$1,000.00	$1,000.00
Well decommissioning permits	6	$304.75	$1,828.50
Storm Water Pollution Prevention and Erosion Control Plan (not included)	-	-	-
Total Task #1			**$2,350.00**
TASK#2			
HEALTH AND SAFETY PLAN PREPARATION			
Engineer/ Geologist, hours	4.0	$90.00	$360.00
Total Task #2			**$360.00**
TASK#3			
SITE/PREPARATION			
Engineer/ Geologist, excavation delineation, USA North utility clearance, hours	8.0	$90.00	$720.00
Perimeter Fence installation	1.0	$850.00	$1,000.00
Total Task#3			**$1,720.00**
TASK#4			
FIELD ACTIVITIES			
Consultant's Labor and Materials:			
Wells Destruction	1	$13,625.00	$13,626.00
Engineer/ Geologist, well destruction, hours	10	$90.00	$900.00
Engineer/ Geologist, project coordination and implementation of field-related activities, sample collection and delivery to the analytical laboratory, results evaluation, hours	100	$90.00	$9,000.00
Travel, utility truck, per day	10	$70.00	$700.00
Toolbox charge, supplies	10	$150.00	$1,500.00
			$25,726.00
Excavation Labor and Materials (does not include replacement of damaged equipment or lines):			
Excavation	1	$208,150.00	$208,150.00
ORC chemical and its application	1	$18,000.00	$18,000.00
Traffic Control, per day	6	$1,257.50	$7,545.00
Excavation Dewatering, as needed (water disposal)	1	$8,000.00	$8,000.00
Waste Disposal and Clean Fill			
Engineer/ Geologist, Waste Profiling	8	$90.00	$720.00
Total Task#4			**$242,415.00**
TASK#5			
LABORATORY ANALYSIS			
Soil sampling (standard 5 day turnaround)			
TPH-g, TPH-d, BTEX, MtBE (8260B)			
soil samples (preliminary)	20	$161.00	$3,220.00
Sample disposal fee, each sample	20	$5.75	$115.00
waste profile (composite sampling) as per landfill requirements	1	$650.00	$650.00

Excavation Cost Breakdown			
TASK DESCRIPTIONS	**QUANTITY**	**UNIT COST**	**TOTAL COST**
Sample disposal fee, each sample	20	$5.75	$115.00
Total Task#5			**$4,100.00**
TASK#6			
REPORT PREPARATION			
Geologist, report preparation, hours	40	$90.00	$3,600.00
Principal Professional Engineer, review and approval, ho	2	$145.00	$290.00
CAD Drawings	12	$65.00	$780.00
PDF report uploading, hours	2	$65.00	$97.50
Secretarial and Reproduction, hours	4.0	$55.00	$220.00
Total Task#6			**$4,987.50**
TOTAL COST (Task 1 through 6)			**$255,932.50**

Limitations:

Per ton of soil	**$**	**426.55**

**Excavation areas (tons removed) are preliminary and may increase based on the results of the confirmation samples*
**Only actual tons excavated/imported will billed*
Number of confirmation samples is preliminary and may increase based on the observed field conditions
Normal working conditions without interfering utility lines were assumed

ORC Injection Cost Breakdown (Single Application)			
TASK DESCRIPTIONS	**QUANTITY**	**UNIT COST**	**TOTAL COST**
TASK#1			
PERMIT ACQUISITION/ EXCAVATION SCHEDULING			
Engineer/ Geologist, hours	4	$90.00	$360.00
Permits Costs (preliminary)	1	$1,000.00	$1,000.00
Total Task #1			**$1,360.00**
TASK#2			
HEALTH AND SAFETY PLAN PREPARATION			
Engineer/ Geologist, hours	2.0	$90.00	$180.00
Total Task #2			**$180.00**
TASK#3			
SITE/PREPARATION			
Engineer/ Geologist, excavation delineation, USA North utility clearance, hours	2.0	$90.00	$180.00
Perimeter Fence installation	1.0	$850.00	$1,000.00
Total Task#3			**$1,180.00**
TASK#4			
FIELD ACTIVITIES (Based on 5 days of operation, could increase based on unforeseen conditions)			
Consultant's Labor and Materials:			
Drillers Cost (28+16+20+9 DPT borings)	1	$92,000.00	$92,001.00
Chemical Cost	1	$71,300.00	$71,301.00
Engineer/ Geologist, (estimated at 21 days of drilling) project coordination and implementation of field-related activities, sample collection and delivery to the analytical laboratory, results evaluation, hours	218	$90.00	$19,620.00
Travel, utility truck, per day	14	$70.00	$980.00
Toolbox charge, supplies	14	$150.00	$2,100.00
Total Task#4			**$186,002.00**
TASK#5			
REPORT PREPARATION (As part of the Final Investigation and Remedial Excavation Report)			
Geologist, report preparation, hours	40	$90.00	$3,600.00
Principal Professional Engineer, review and approval, ho	2	$145.00	$290.00
CAD Drawings	12	$65.00	$780.00
PDF report uploading, hours	2	$65.00	$97.50
Secretarial and Reproduction, hours	4.0	$55.00	$220.00
Total Task#5			**$4,987.50**
TOTAL COST (Task 1 through 5)			**$193,709.50**

Limitations:

Per ton of soil	**$**	**322.85**

APPENDIX A
Site History

Violation History

A Notice of Violation (NOV) was issued in June 1991 due to non-compliance issues at the station; a second NOV was issued in October 1991. An Unauthorized Release was detected during the 1992 Preliminary Site Assessment. A second Unauthorized Release was reported in May 2000, due to a leaking shear valve on piping in the former UST pit. The site underwent remodeling in December 2003, when the former UST pit was excavated and four USTs were removed. Soils were over excavated to 12 feet bgs; the shallow soil (top 5 feet) was reused to backfill the new UST pit, after confirmation sampling determined that no chemicals of potential concern (COCs) were present. The remaining soil and purge water were transported off-site for disposal. The upgraded gasoline USTs, with capacities of 12,000 gallons and 20,000 gallons, as well as new piping and distribution lines, were installed during remodeling. A former dispenser island (and possible source of on-site contamination) was located along the western side of the site and was removed sometime prior to the 1995 Phase II Site Investigation (BP).

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.

March 2010: SOMA submitted a workplan suggesting replacing (reconstructing) ESE-1, ESE-2, ESE-5, MW-6 and MW-7 with wells screened within the confined WBZ and installing four additional groundwater monitoring wells (SOMA-6 through SOMA-9) adjacent to the reconstructed wells (within 5 feet) and completed within the shallow zone.

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).

APPENDIX B
Drilling Permits

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 06/01/2011 By jamesy

Permit Numbers: W2011-0356
Permits Valid from 06/07/2011 to 06/07/2011

Application Id: 1306864071368
City of Project Site: Castro Valley
Site Location: 3519 Castro Valley Blvd
Project Start Date: 06/07/2011
Completion Date: 06/07/2011
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

Applicant: SOMA Environmental Engineering - Mansour Sepehr
6620 Owens Drive, Sutie A, Pleasanton, CA 94588
Phone: 925-734-6400

Property Owner: Mirazim Shakoori
4313 Mansfield Drive, Danville, CA 94506
Phone: 925-648-0954

Client: ** same as Property Owner **

Contact: Erica Fisker
Phone: 925-734-6400
Cell: 925-989-8250

Total Due: $265.00
Receipt Number: WR2011-0158 **Total Amount Paid:** $265.00
Payer Name : SOMA Environmental Engineering Paid By: VISA
PAID IN FULL

Works Requesting Permits:

Borehole(s) for Geo Probes-Injection Points - 2 Boreholes
Driller: RSI - Lic #: 802334 - Method: injec

Work Total: $265.00

Specifications

Permit Number	Issued Dt	Expire Dt	# Boreholes	Hole Diam	Max Depth
W2011-0356	06/01/2011	09/05/2011	2	2.75 in.	30.00 ft

Specific Work Permit Conditions

1. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

4. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend

and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost and liability in connection with or resulting from the exercise of this Permit including, but not limited to, property damage, personal injury and wrongful death.

5. Inject borehole and backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.

6. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

PROGRAMS AND SERVICES

Well Standards Program

The Alameda County Public Works Agency, Water Resources is located at:
399 Elmhurst Street
Hayward, CA 94544
For Driving Directions or General Info, Please Contact 510-670-5480 or wells@acpwa.org
For Drilling Permit information and process contact James Yoo at
Phone: 510-670-6633
FAX: 510-782-1939
Email: Jamesy@acpwa.org

Alameda County Public Works is the administering agency of General Ordinance Code, Chapter 6.88 . The purpose of this chapter is to provide for the regulation of groundwater wells and exploratory holes as required by California Water Code. The provisions of these laws are administered and enforced by Alameda County Public Works Agency through its Well Standards Program.

Drilling Permit Jurisdictions in Alameda County: There are four jurisdictions in Alameda County.

Location: Agency with Jurisdiction Contact Number

Berkeley City of Berkeley Ph: 510-981-7460
Fax: 510-540-5672

Fremont, Newark, Union City Alameda County Water District Ph: 510-668-4460
Fax: 510-651-1760

Pleasanton, Dublin, Livermore, Sunol Zone 7 Water Agency Ph: 925-454-5000
Fax: 510-454-5728

The Alameda County Public Works Agency, Water Resources has the responsibility and authority to issue drilling permits and to enforce the County Water Well Ordinance 73-68. This jurisdiction covers the western Alameda County area of **Oakland**, **Alameda**,**Piedmont**, **Emeryville**, **Albany**, **San Leandro**, **San Lorenzo**, **Castro Valley**, and **Hayward** . The purpose of the drilling permits are to ensure that any new well or the destruction of wells, including geotechnical investigations and environmental sampling within the above jurisdiction and within Alameda County will not cause pollution or contamination of ground water or otherwise jeopardize the health, safety or welfare of the people of Alameda County.

Permits are required for all work pertaining to wells and exploratory holes at any depth within the jurisdiction of the Well Standards Program. A completed permit application *(30 Kb)** , along with a site map, should be submitted at least **ten (10) working days prior to the planned start of work**. Submittals should be sent to the address or fax number provided on the application form. When submitting an application via fax, please use a high resolution scan to retain legibility.

Fees
Beginning April 11, 2005 , the following fees shall apply:

A permit to construct, rehabilitate, or destroy wells, including cathodic protection wells, but excluding dewatering wells (*Horizontal hillside dewatering and dewatering for construction period only), shall cost $300.00 per well.

A permit to bore exploratory holes, including temporary test wells, shall cost $200 per site. A site includes the project parcel as well as any adjoining parcels.

Please make checks payable to: **Treasurer, County of Alameda**

Permit Fees are exempt to State & Federal Projects
Applicants shall submit a letter from the agency requesting the fee exemption.

Scheduling Work/Inspections:
Alameda County Public Works Agency (ACPWA), Water Resources Section requires scheduling and inspection of permitted work. All drilling activities must be scheduled in advance. Availability of inspections will vary from week to week and will come on a first come, first served bases. To ensure inspection availability on your desired or driller scheduled date, the following procedures are required:

Please contact **James Yoo at 510-670-6633** to schedule the inspection date and time (You must have drilling permit approved prior to scheduling).

Schedule the work as far in advance as possible (at least 5 days in advance); and confirm the scheduled drilling date(s) at least 24 hours prior to drilling.

Once the work has been scheduled, an ACPWA Inspector will coordinate the inspection requirements as well as how the Inspector can be reached if they are not at the site when Inspection is required. Expect for special circumstances given, all work will require the inspection to be conducted during the working hours of 8:30am to 2:30pm., Monday to Friday, excluding holidays.

Request for Permit Extension:
Permits are only valid from the start date to the completion date as stated on the drilling permit application and Conditions of Approval. To request an extension of a drilling permit application, applicants must request in writing prior to the completion date as set forth in the Conditions of Approval of the drilling permit application. Please send fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. There are no additional fees for permit extensions or for re-scheduling inspection dates. You may not extend your drilling permit dates beyond 90 days from the approval date of the permit application. **NO refunds** shall be given back after 90 days and the permit shall be deemed voided.

Cancel a Drilling Permit:
Applicants may cancel a drilling permit only in writing by mail, fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. If you do not cancel your drilling permit application before the drilling completion date or notify in writing within 90 days, Alameda County Public Works Agency, Water Resources Section may void the permit and No refunds may be given back.

Refunds/Service Charge:
A service charge of $25.00 dollars for the first check returned and $35.00 dollars for each subsequent check returned.

Applicants who cancel a drilling permit application **before** we issue the approved permit(s), will receive a **FULL** refund (at any amount) and will be mailed back within two weeks.

Applicants who cancel a drilling permit application **after** a permit has been issued will then be charged a service fee of $50.00 (fifty Dollars).

To collect the remaining funds will be determined by the amount of the refund to be refunded (see process below).

Board of Supervisors Minute Order, File No. 9763, dated January 9, 1996, gives blanket authority to the Auditor-Controller to process claims, from all County departments for the refund of fees which do not exceed $500 (Five Hundred Dollars)(with the exception of the County Clerk whose limit is $1,500).

Refunds over the amounts must be authorized by the Board of Supervisors Minute Order, File No. 9763 require specific approval by the Board of Supervisors. The forms to request for refunds under $500.00 (Five Hundred Dollars) are available at this office or any County Offices. If the amount is exceeded, a Board letter and Minute Order must accompany the claim. Applicant shall fill out the request form and the County Fiscal department will process the request.

Enforcement
Penalty. Any person who does any work for which a permit is required by this chapter and who fails to obtain a permit shall be guilty of a misdemeanor punishable by fine not exceeding Five Hundred Dollars ($500.00) or by imprisonment not exceeding six months, or by both such fine and imprisonment, and such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such

violation is committed, continued, or permitted, and shall be subject to the same punishment as for the original offense. (Prior gen. code §3-160.6)

Enforcement actions will be determined by this office on a case-by-case basis
Drilling without a permit shall be the cost of the permit(s) and a fine of $500.00 (Five Hundred Dollars).

Well Completion Reports (State DWR-188 forms) must be filed with the Well Standards Program within 60 days of completing work. Staff will review the report, assign a state well number, and then forward it to the California Department of Water Resources (DWR). Drillers should not send completed reports to DWR directly. Failure to file a Well Completion Report or deliberate falsification of the information is a misdemeanor; it is also grounds for disciplinary action by the Contractors' State License Board. Also note that filed Well Completion Reports are considered private record protected by state law and can only be released to the well owner or those specifically authorized by government agencies.

See our website (www.acgov.org/pwa/wells/index.shtml) for links to additional forms.

Alameda County Public Works Agency - Water Resources Well Permit

399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 06/01/2011 By jamesy

Permit Numbers: W2011-0355
Permits Valid from 06/06/2011 to 06/06/2011

Application Id:	1306449250041	**City of Project Site:** Castro Valley
Site Location:	3519 Castro Valley Blvd	
Project Start Date:	06/06/2011	**Completion Date:** 06/06/2011
Assigned Inspector:	Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org	
Applicant:	SOMA Environmental Engineering - Mansour Sepehr 6620 Owens Drive, Suite A, Pleasanton, CA 94588	**Phone:** 925-734-6400
Property Owner:	Mirazim Shakoori 4313 Mansfield Drive, Danville, CA 94506	**Phone:** 925-648-0954
Client:	** same as Property Owner **	
Contact:	Erica Fisker	**Phone:** 925-734-6400 **Cell:** 925-989-8250

Total Due: $265.00
Receipt Number: WR2011-0157 **Total Amount Paid:** $265.00
Payer Name : SOMA Environental Paid By: VISA **PAID IN FULL**
Engineering

Works Requesting Permits:

Remediation Well Construction-Injection - 2 Wells
Driller: Gregg Drilling & Testing - Lic #: 485165 - Method: hstem **Work Total: $265.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2011-0355	06/01/2011	09/04/2011	OB-1	8.00 in.	2.00 in.	8.00 ft	20.00 ft
W2011-0355	06/01/2011	09/04/2011	OB-2	8.00 in.	2.00 in.	8.00 ft	20.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

2. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.

3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit number and site map.

4. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

6. Minimum seal depth (Neat Cement Seal) is 2 feet below ground surface (BGS).

7. Minimum surface seal thickness is two inches of cement grout placed by tremie

8. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of $500.00.

9. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

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Fax: 510-540-5672

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Fees
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Schedule the work as far in advance as possible (at least 5 days in advance); and confirm the scheduled drilling date(s) at least 24 hours prior to drilling.

Once the work has been scheduled, an ACPWA Inspector will coordinate the inspection requirements as well as how the Inspector can be reached if they are not at the site when Inspection is required. Expect for special circumstances given, all work will require the inspection to be conducted during the working hours of 8:30am to 2:30pm., Monday to Friday, excluding holidays.

Request for Permit Extension:
Permits are only valid from the start date to the completion date as stated on the drilling permit application and Conditions of Approval. To request an extension of a drilling permit application, applicants must request in writing prior to the completion date as set forth in the Conditions of Approval of the drilling permit application. Please send fax or email to Water Resources Section, Fax 510-782-1939 or email at wells@acpwa.org. There are no additional fees for permit extensions or for re-scheduling inspection dates. You may not extend your drilling permit dates beyond 90 days from the approval date of the permit application. **NO refunds** shall be given back after 90 days and the permit shall be deemed voided.

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Refunds/Service Charge:
A service charge of $25.00 dollars for the first check returned and $35.00 dollars for each subsequent check returned.

Applicants who cancel a drilling permit application **before** we issue the approved permit(s), will receive a **FULL** refund (at any amount) and will be mailed back within two weeks.

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Enforcement
Penalty. Any person who does any work for which a permit is required by this chapter and who fails to obtain a permit shall be guilty of a misdemeanor punishable by fine not exceeding Five Hundred Dollars ($500.00) or by imprisonment not exceeding six months, or by both such fine and imprisonment, and such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any such

violation is committed, continued, or permitted, and shall be subject to the same punishment as for the original offense. (Prior gen. code §3-160.6)

Enforcement actions will be determined by this office on a case-by-case basis
Drilling without a permit shall be the cost of the permit(s) and a fine of $500.00 (Five Hundred Dollars).

Well Completion Reports (State DWR-188 forms) must be filed with the Well Standards Program within 60 days of completing work. Staff will review the report, assign a state well number, and then forward it to the California Department of Water Resources (DWR). Drillers should not send completed reports to DWR directly. Failure to file a Well Completion Report or deliberate falsification of the information is a misdemeanor; it is also grounds for disciplinary action by the Contractors' State License Board. Also note that filed Well Completion Reports are considered private record protected by state law and can only be released to the well owner or those specifically authorized by government agencies.

See our website (www.acgov.org/pwa/wells/index.shtml) for links to additional forms.

APPENDIX C
Boring and Well Development Logs

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: OB-1

PROJECT: 2762

DATE DRILLED: June 6, 2011

SITE LOCATION: 3519 Castro Valley Blvd., Castro Valley

CASING ELEVATION: 178.698 Ft.

DRILLER: Gregg Drilling & Testing

First Encountered GW: NA
Stablized GW: 7.8 Ft

DRILLING METHOD: Direct Push / Hollow Stem Auger

T.O.C. TO SCREEN: 5 Ft.

BORING DIAMETER: 8-inch

SCREEN LENGTH: 11 Ft.

LOGGED BY: E. Fisker

APPROVED BY: M. Sepehr

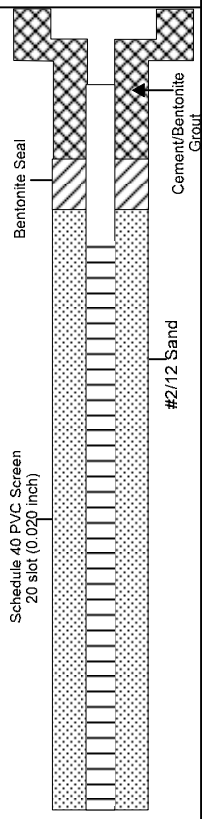
PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION
35.4 4.6 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0	0		CL	Hand Auger top 5 feet, 6-inches asphalt LEAN CLAY: Black, soft, moist, ~10% very fine sand, medium toughness, high plastic, medium dry strength, slow dilatancy, slight to no Petroleum Hydrocarbon (PHC) odor
	5		CL	LEAN CLAY: Black, soft, moist, ~10% very fine sand, medium toughness, high plastic, medium dry strength, slow dilatancy, slight PHC odor at 6 ft. bgs Becomes grey with rust nodules at 7 ft. bgs As above: no PHC odor Becomes rust with grey mottling at 10 feet, damp to moist, CaCO3 nodules, strong HCl rxn.
	10		CL-ML	SILTY CLAY: Reddish-brown w/grey mottling and black nodules, dry, soft, low dry strength, no dilatancy, low toughness, no HCl reaction, medium to low plasticity, no PHC odor. As above: damp, no mottling, no PHC odor
	15		CL/SC	SANDY LEAN CLAY to CLAYEY SAND: Reddish brown with grey mottling, moist, soft to firm, medium plastic, medium toughness, medium dry strength, slow dilatancy, ~30 % to 70% fine- to medium-grained sand (increases with depth), no PHC odor
	20		CL	LEAN CLAY: Light brown with black nodules, moist to very moist, soft, ~5% fine- to coarse-grained sand, no PHC odor
	25			

SAMPLED: SPLIT SPOON, CORE

GW LEVEL

BLOWCOUNTS

WELL DIAGRAM



COMMENTS: Total depth at 20 feet, well set to 16 feet bgs. Stablized groundwater at 7.8 ft on 6/7/2011

SOMA ENVIRONMENTAL ENGINEERING, INC.

GEOLOGIC LOG OF BOREHOLE: OB-2

PROJECT: 2762

DATE DRILLED: June 6, 2011

SITE LOCATION: 3519 Castro Valley Blvd., Castro Valley

CASING ELEVATION: 180.227 Ft.

DRILLER: Gregg Drilling & Testing

First Encountered GW: 16 Ft.
Stablized GW: 9.53 Ft.

DRILLING METHOD: Direct Push / Hollow Stem Auger

T.O.C. TO SCREEN: 5 ft.

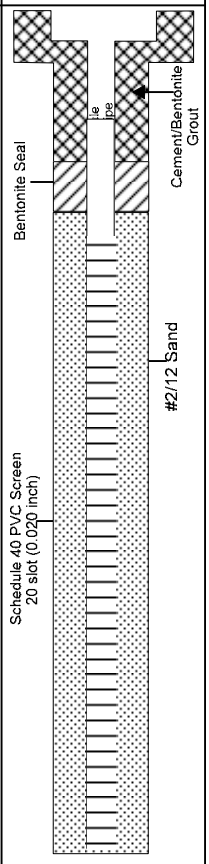
BORING DIAMETER: 8-inch

SCREEN LENGTH: 12 ft.

LOGGED BY: E. Fisker

APPROVED BY: M. Sepehr

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS	GEOLOGIC DESCRIPTION	SAMPLED: SPLIT SPOON / CORE	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
0.0	0		CL	Hand Auger top 5 feet, 7-inches concrete, 4-inch sand fill SANDY LEAN CLAY: Brown with rust mottling, soft to firm, moist, ~20% fine- to coarse-grained sand, medium toughness, medium plastic, medium dry strength, slow dilatancy, very slight HCl reaction, no Petroleum Hydrocarbon (PHC) odor				
0.0				As above: soft, ~40% sand, no HCl reaction, medium to high plastic				
0.0	5		CL	LEAN CLAY: Dark brown w/rust mottling, soft to firm, damp to moist, ~5 to 10% very fine-grained sand, medium toughness, high plastic, medium dry strength, slow dilatancy, no HCl reaction, no PHC odor				
176.2				As above: dry				
930			CL	LEAN CLAY: Grey with black mottling, becomes brown with grey mottling (10-12 ft), soft to firm, moist, slow dilatancy, medium toughness, medium dry strength, high plastic, CaCO3 mottling with strong HCl reaction (10-12 ft), PHC odor starts at 10 feet bgs				
>2118	10							
159.3			CL-ML	SILTY CLAY: Reddish-brown w/grey mottling and black nodules, moist, soft, low dry strength, no dilatancy, low toughness, no HCl reaction, medium to low plasticity, strong PHC odor.				
164.4								
360			CL-ML	SILTY CLAY: Brown w/grey mottling, moist, soft to firm, high dry strength, slow dilatancy, medium toughness, no HCl reaction, medium plasticity, no PHC odor.				
200.5								
334	15							
969			SM	SILTY SAND: Brown w/grey mottling, wet, soft to firm, high dry strength, slow dilatancy, medium toughness, no HCl reaction, medium plasticity, strong PHC odor.				
962								
437			CL	SANDY LEAN CLAY: Brown w/grey mottling, wet sand/gravel, hard, high dry strength, rapid dilatancy, medium toughness, no HCl reaction, medium plasticity, strong PHC odor.				
248								
22.3			CL	SANDY LEAN CLAY: Lt brown w/black and grey mottling, dry, hard, medium dry strength, slow dilatancy, high toughness, fine- to medium-graine sand, no HCl reaction, medium plasticity, no PHC odor.				
0.3								
4.6	20							
	25							



COMMENTS: Total depth at 20 ft., well set at 17 feet. Stablized groundwater at 9.53 ft on 6/6/2011

GREGG

MONITORING WELL DEVELOPMENT LOG

All measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number GB2
Date 6-10-11
Time Start: 10:15 End: 11:20
Client EMG
Project Castle Valley Blvd Well
Job Number D2090492
Installation Date —
Well Diameter 2"

Borehole Diameter 8"
Screen Length —
Measured Depth (pre-development) 16.7
Measured Depth (post-development) 16.7
Static Water Level (ft.) 9.9
Standing Water Column (ft.) 6.8
One Well Volume (gal.) 1.156
One Annulus Vol. (gal.) —

Sample ID —
Qty. of Drilling Fluid Lost —
Minimum Gal. to be Purged 11.56
Development Method Bail-Surge-Bail-pump
Purging Equipment Bailer-2" pump
Water Level Equipment Solinst
pH/EC Meter HORIBA U50
Turbidity Meter HORIBA U50
Other —

Time	Amount Purged (gal.)	Field Parameters Measured: pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.	GPM / W.L.	W.L	Comments	Field Tech.
10:55	7	7.19	1.89	450	—	20.36	1.0	½	13.52	Bail-2	GAC
10:57	8	7.07	1.62	329	—	20.39	1.0	½	13.73	Surge-	IONIC
10:59	9	7.03	1.49	266	—	20.68	1.0	½	13.91	Bail-2	GAC
11:03	10	6.89	1.72	153	—	21.13	0.9	½	14.09		
11:07	11	6.91	1.74	64	—	20.98	0.9	½	14.64		
11:09	11.5	6.89	1.73	91	—	21.11	0.9	½	14.86		
11:11	12	6.87	1.70	88	—	21.16	0.9	½	14.99		

FINAL FIELD PARAMETER MEASUREMENTS

GREGG

MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

All measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number OD-1
Date 6-10-11
Time Start: 8:40 End: 10:10
Client Sonic
Project [illegible]
Job Number D2090422
Installation Date -
Well Diameter 2"

Borehole Diameter 8"
Screen Length
Measured Depth (pre-development) 15.7
Measured Depth (post-development) 15.7
Static Water Level (ft.) 7.75
Standing Water Column (ft.) 7.95
One Well Volume (gal.) 1.3515
One Annulus Vol. (gal.)

Sample ID -
Qty. of Drilling Fluid Lost -
Minimum Gal. to be Purged 13.5515
Development Method Bail-Surge-Bail-pump
Purging Equipment Bailer-2 pump
Water Level Equipment Solinst
pH/EC Meter HORIBA U50
Turbidity Meter HORIBA U50
Other -

Time	Amount Purged (gal.)	Field Parameters Measured						GPM / W.L.	Comments	Field Tech.
		pH	EC	Turbidity	D.O.	D.O. Temp.	SAL.		W.L	
9:25	6	7.42	2.68	742	-	18.20	1.4	1/2	11.89	Bail-1 GAL
9:27	7	7.16	2.53	693	-	18.69	1.4	1/2	12.11	Surge 1 MIN
9:29	8	7.03	2.41	453	-	19.10	1.2	1/2	12.49	Bail-1 GAL
9:31	9	7.01	2.43	207	-	19.36	1.2	1/2	12.92	
9:33	10	7.01	2.06	240	-	19.86	1.2	1/2	13.53	
9:39	11	7.03	2.03	186	-	19.96	1.2	1/2	13.64	
9:43	12	7.01	2.02	126	-	19.94	1.2	1/2	13.75	
9:47	13	7.05	2.01	86	-	19.93	1.2	1/2	14.0	
9:51	14	7.04	2.06	94	-	19.97	1.2	1/2	14.13	
9:53	14.5	7.02	2.05	92	-	20.10	1.2	1/2	14.16	

FINAL FIELD PARAMETER MEASUREMENTS

APPENDIX D
Well Survey

DATE: 08/30/2010

JOB#

TABLE OF ELEVATIONS & COORDINATES ON MONITORING WELLS

SOMA ENVIRONMENTAL ENGINEERING
3519 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CA

WELL ID #	NORTHING (FT.) / LATITUDE (D.DEG.)	EASTING (FT.) / LONGITUDE (D.DEG.)	ELEVATION (FT.)	DESCRIPTION
OB-1	2079384.618	6106391.986	178.698	NOTCH N SIDE 2" PVC
	37.695080822 N	122.073609406 W	179.254	PUNCH
			179.247	PAV
OB-2	2079378.94	6106477.954	180.227	NOTCH N SIDE 2" PVC
	37.695069200 N	122.073311993 W	180.616	PUNCH
			180.595	CONC

HORIZONTAL AND VERTICAL CONTROL
SURVEY BASED ON PREVIOUS SURVEY BY EDGIS LAND SURVEYING DATED: 8/30/2010
COORDINATE VALUES ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM, ZONE 3, NAD83.
ELEVATIONS ARE NAVD 88 DATUM.

SOMA-1, NOTCH
NORTHING 2,079,370.39, EASTING 6,106,506.79, ELEVATION 180.95

SOMA-8, PUNCH
NORTHING 2,079,453.45, EASTING 6,106,488.28, ELEVATION 181.65

EQUIPMENT USED: TRIMBLE S6, TOPCON GT-3S

Edgis Land Surveying
Land Surveying and Mapping
1374 Garland Avenue, Clovis, CA 93612
Phone (559) 803-2679 Fax (559) 292-0560
email: edgis@aol.com

APPENDIX E
Waste Disposal Manifest

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: CAL000162251
2. Page 1 of: 1
3. Emergency Response Phone: 510-748-1390
4. Waste Tracking Number: 59879-CV

5. Generator's Name and Mailing Address
Att: MIRAZIM SHAKOORI
AZIM SHAKOORI
4313 MANSFIELD DR
DANVILLE CA 94506
Generator's Phone: 510 432-5568

Generator's Site Address (if different than mailing address)
AZIM SHAKOORI
3519 CASTRO VALLEY BLVD.
CASTRO VALLEY CA 94506

6. Transporter 1 Company Name: NRC ENVIRONMENTAL SERVICES INC.
U.S. EPA ID Number: CAR000030114

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Crosby & Overton, Inc.
1630 W. 17th Street
Long Beach CA 90813
Facility's Phone: 562 432-5445
U.S. EPA ID Number: CAD028409812

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit WL/Vol.
1.	NON-HAZARDOUS WASTE SOLID (SOIL CUTTINGS)	004	DM	03200 ~~0030~~ 05	P
2.	NON-HAZARDOUS WASTE LIQUID (PURGE WATER)	001	DM	0030 ~~0320~~ 05	G
3.					
4.					

13. Special Handling Instructions and Additional Information
WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT
JOB#/PO#: 59879 PROFILE # 1)51544 2)51545 SOMA PROJECT # 2761
CONSULTANT: SOMA ENVIRONMENTAL 6620 OWENS DRIVE, SUITE A, PLEASANTON, CA.
D49992

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

GENERATOR
Generator's/Offeror's Printed/Typed Name: Elena Manzo
Signature:
Month 06 Day 13 Year 11

INT'L
15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER
16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: OCTAVIO SANTANA
Signature:
Month 06 Day 13 Year 11
Transporter 2 Printed/Typed Name:
Signature:
Month Day Year

DESIGNATED FACILITY
17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator)
U.S. EPA ID Number:
Facility's Phone:
17c. Signature of Alternate Facility (or Generator)
Month Day Year

M141 / M135

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Liset Vicuna
Signature:
Month 06 Day 14 Year 11

DESIGNATED FACILITY TO GENERATOR

169-BLC-O 6 10498 (Rev. 9/09)

APPENDIX F
Certified Laboratory Analytical Reports and Chain-of-Custody Documentation

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 228554
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2762
6620 Owens Dr.	Location : 3519 Castro Vally Rd.
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
OB-1 @ 11FT	228554-001
OB-2 @ 7.5FT	228554-002
OB-2 @ 11FT	228554-003
OB-2 @ 13.5FT	228554-004
OB-2 @ 15FT	228554-005
OB-2 @ 16FT	228554-006

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/17/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**228554**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2762**
Location:	**3519 Castro Vally Rd.**
Request Date:	**06/07/11**
Samples Received:	**06/07/11**

This data package contains sample and QC results for four soil samples, requested for the above referenced project on 06/07/11. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):
No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 228554

Project No.: 2762
Project Name: 3519 Castro Valley Blvd Castro Valley
Project P.O.: 2762
Turnaround Time: Standard

Sampler: Erica Fisher
Report To: Joyce Bobek
Company: SOMA Env. Eng
Telephone: 925-734-6400
Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	Analysis: TPH-g (8015)	VOCs (Full List) 8260
1	OB-1 @ 11 ft	6-6-11 10:58	X			1 b-in sw				X	X	X
2	OB-2 @ 7.5 ft	10:06	X							X	HOLD	
3	OB-2 @ 11 ft	10:22	X							X	X	X
4	OB-2 @ 13.5 ft	9:54	X							X	HOLD	
5	OB-2 @ 15 ft	9:47	X							X	X	X
6	OB-2 @ 16 ft	10:04	X							X	X	X

Notes: EDF required
VOCs to include: BTEX, MTBE, Lead Scav & gas ox: TBA, ETBE, DIPE, TAME, 1,2 DCA, EDB, ethanol

SAMPLE RECEIPT
☐ Intact ☐ Cold
☐ On Ice ☐ Ambient
Preservative Correct?
☐ Yes ☐ No ☐ N/A

RELINQUISHED BY:
SIGNATURE — DATE / TIME: 6-6-11 16:30
DATE / TIME
DATE / TIME

RECEIVED BY:
SIGNATURE — DATE / TIME: 6-7-11 1351
DATE / TIME
DATE / TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 228554 Date Received 6/7/11 Number of coolers 1
Client Sona Project 3519 Castro Valley Rd.

Date Opened 6/7/11 By (print) R. Pams (sign) [signature]
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☒ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation:

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C)

☒ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are samples in the appropriate containers for indicated tests? (YES) NO
11. Are sample labels present, in good condition and complete? (YES) NO
12. Do the sample labels agree with custody papers? (YES) NO
13. Was sufficient amount of sample sent for tests requested? (YES) NO
14. Are the samples appropriately preserved? YES NO (N/A)
15. Did you check preservatives for all bottles for each sample? YES NO (N/A)
16. Did you document your preservative check YES NO (N/A)
17. Are bubbles > 6mm absent in VOA samples? YES NO (N/A)
18. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	06/06/11
Units:	mg/Kg	Received:	06/07/11
Basis:	as received		

Field ID:	OB-1 @ 11FT	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	175629
Lab ID:	228554-001	Analyzed:	06/09/11

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	104	74-132

Field ID:	OB-2 @ 11FT	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	175629
Lab ID:	228554-003	Analyzed:	06/09/11

Analyte	Result	RL
Gasoline C7-C12	31	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	74-132

Field ID:	OB-2 @ 15FT	Diln Fac:	50.00
Type:	SAMPLE	Batch#:	175668
Lab ID:	228554-005	Analyzed:	06/10/11

Analyte	Result	RL
Gasoline C7-C12	120	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	74-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	06/06/11
Units:	mg/Kg	Received:	06/07/11
Basis:	as received		

Field ID:	OB-2 @ 16FT	Diln Fac:	1.000
Type:	SAMPLE	Batch#:	175668
Lab ID:	228554-006	Analyzed:	06/10/11

Analyte	Result	RL
Gasoline C7-C12	1.2	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	74-132

Type:	BLANK	Batch#:	175629
Lab ID:	QC595281	Analyzed:	06/08/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	74-132

Type:	BLANK	Batch#:	175668
Lab ID:	QC595484	Analyzed:	06/09/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	74-132

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC595278	Batch#:	175629
Matrix:	Soil	Analyzed:	06/08/11
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9138	91	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	74-132

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	228551-001	Batch#:	175629
Matrix:	Soil	Sampled:	06/07/11
Units:	mg/Kg	Received:	06/07/11
Basis:	as received	Analyzed:	06/08/11

Type: MS Lab ID: QC595283

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	<0.05739	10.99	5.595	51	43-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	111	74-132

Type: MSD Lab ID: QC595284

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.10	4.573	45	43-120	12	34

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	74-132

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC595481	Batch#:	175668
Matrix:	Soil	Analyzed:	06/09/11
Units:	mg/Kg		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.8783	88	80-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	74-132

Curtis & Tompkins, Ltd.

Batch QC Report

Total Volatile Hydrocarbons

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	228597-001	Batch#:	175668
Matrix:	Soil	Sampled:	06/09/11
Units:	mg/Kg	Received:	06/09/11
Basis:	as received	Analyzed:	06/10/11

Type: MS Lab ID: QC595485

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.07878	10.31	4.788	46	43-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	101	74-132

Type: MSD Lab ID: QC595486

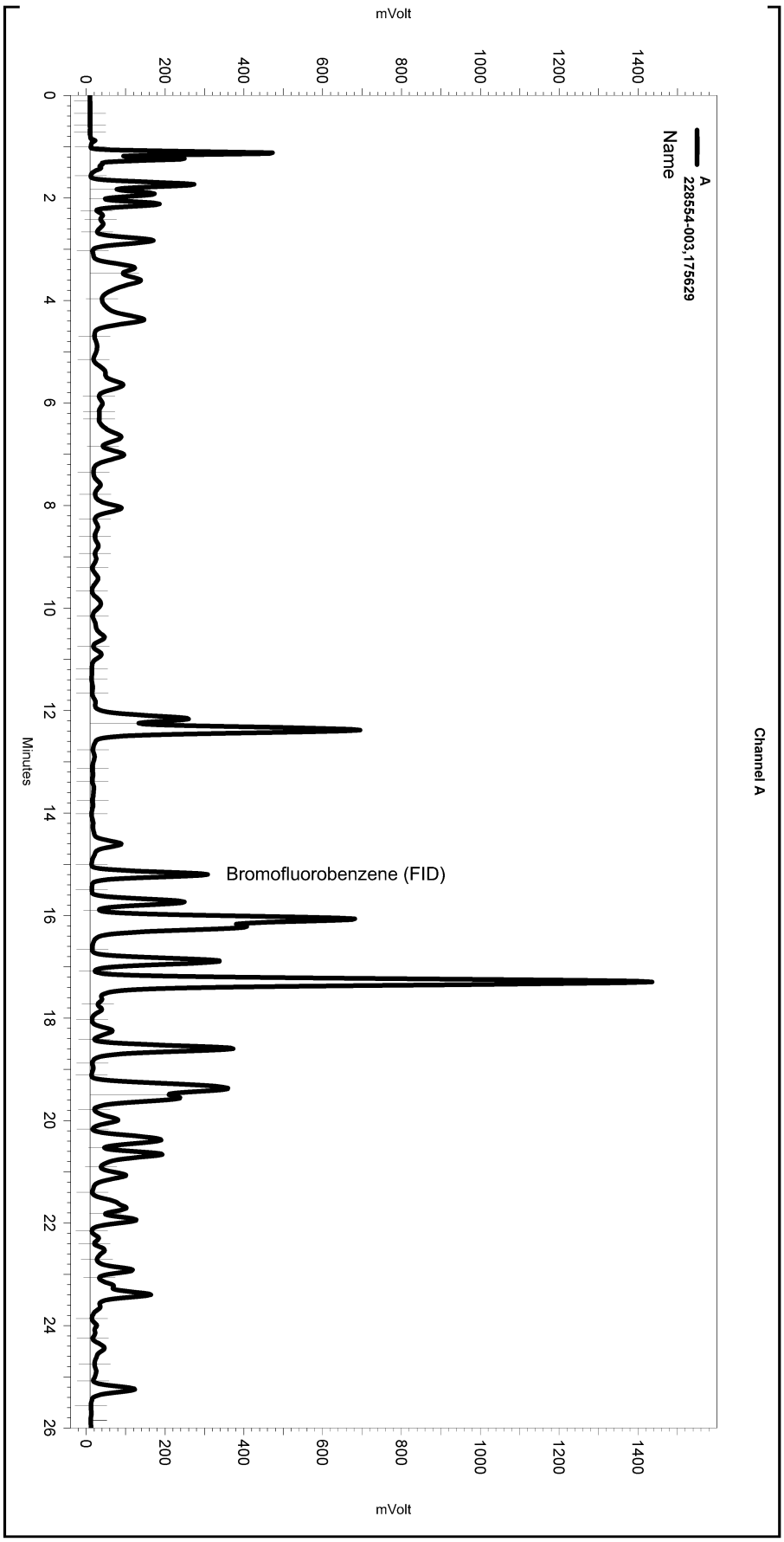
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.20	4.975	48	43-120	5	34

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	74-132

RPD= Relative Percent Difference

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\159.seq**
Sample Name: **228554-003,175629**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\159-024**
Instrument: GC07 (Offline) Vial: N/A Operator: Tvh 1. Analyst (lims2k3\tvh1)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe153.met

Software Version 3.1.7
Run Date: 6/9/2011 5:38:48 AM
Analysis Date: 6/9/2011 11:03:32 AM
Sample Amount: 1 Multiplier: 1
Vial & pH or Core ID: a



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No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

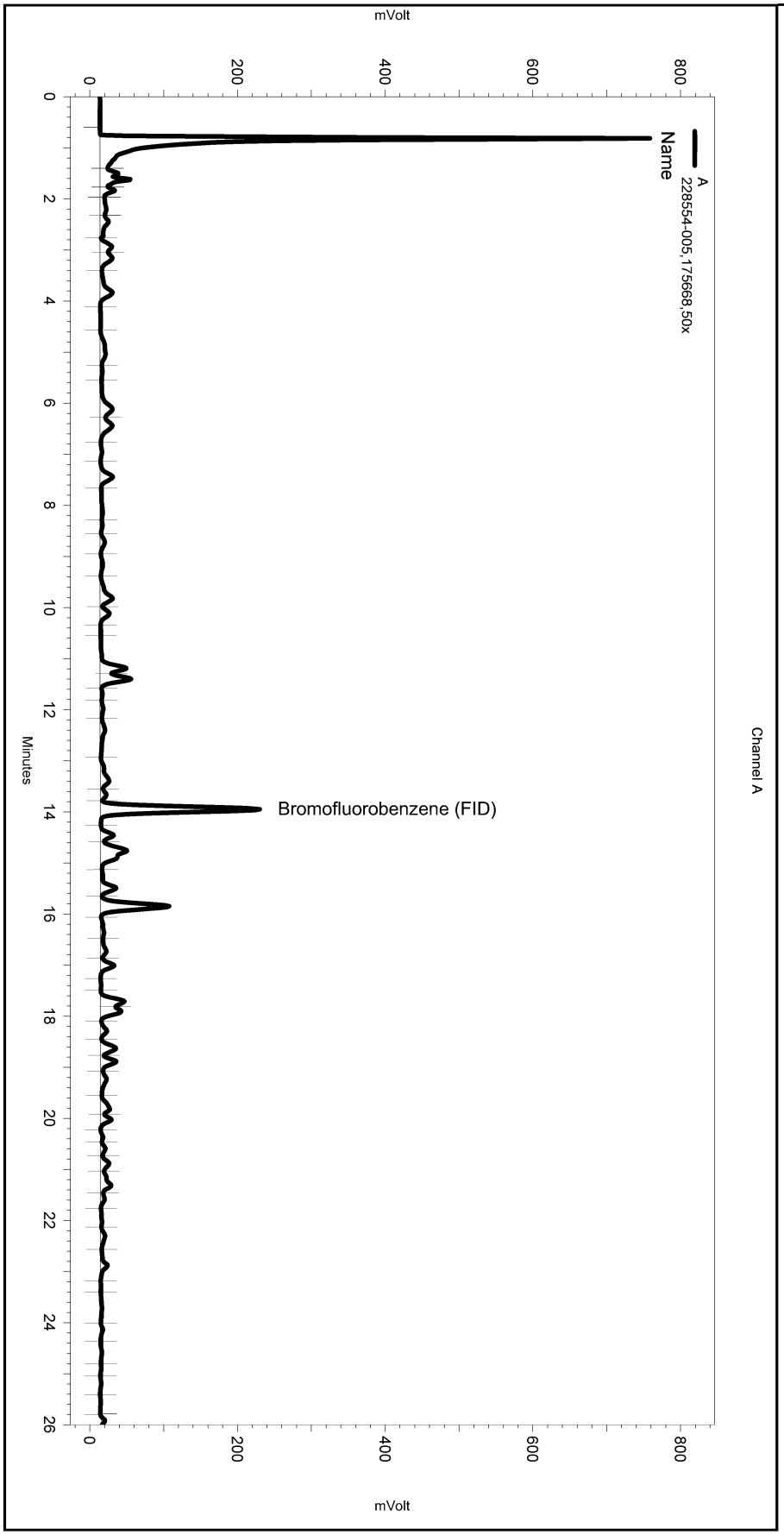
Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC07\Data\159-024

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Lowest Point Horizontal Baseli	0	26.017	0

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC19\Sequence\160.seq**
Sample Name: **228554-005,175668,50x**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC19\Data\160-017**
Instrument: GC19 Vial: N/A Operator: lims2k3\tvh3
Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\tvhbtxe159.met

Software Version 3.1.7
Run Date: 6/10/2011 12:48:34 AM
Analysis Date: 6/10/2011 1:17:43 AM
Sample Amount: 1 Multiplier: 1
Vial & pH or Core ID: a



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

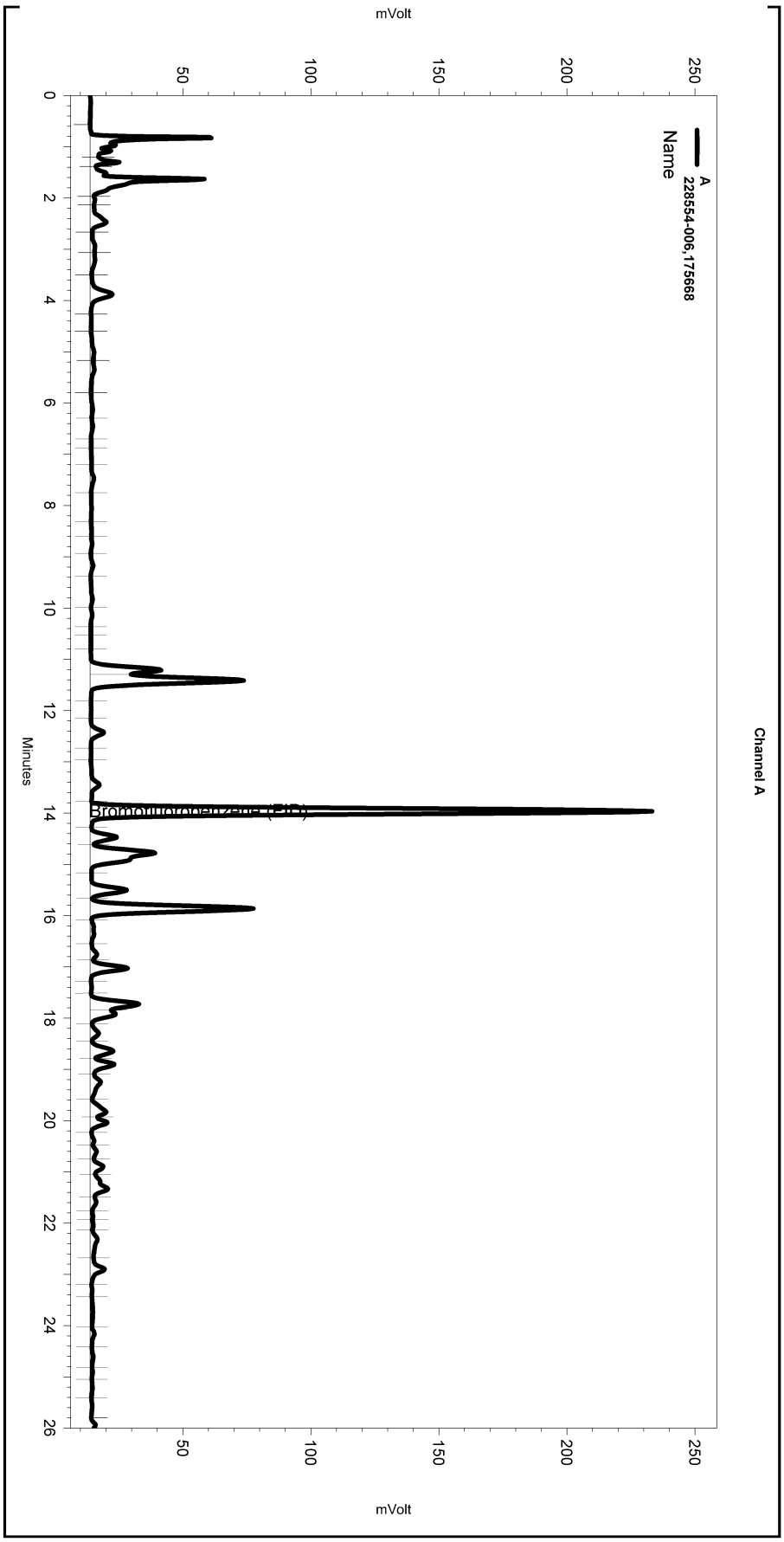
Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10050\160-017_6761.tmp

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value

None

Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC19\Sequence\160.seq**
Sample Name: **228554-006,175668**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC19\Data\160-018**
Instrument: GC19 (Offline) Vial: N/A Operator: Tvh 1. Analyst (lims2k3\tvh1)
Method Name: \\Lims\gdrive\ezchrom\Projects\GC19\Method\tvhbtxe159.met

Software Version 3.1.7
Run Date: 6/10/2011 1:26:07 AM
Analysis Date: 6/10/2011 1:42:01 PM
Sample Amount: 0.97 Multiplier: 0.97
Vial & pH or Core ID: a



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: \\Lims\gdrive\ezchrom\Projects\GC19\Data\160-018

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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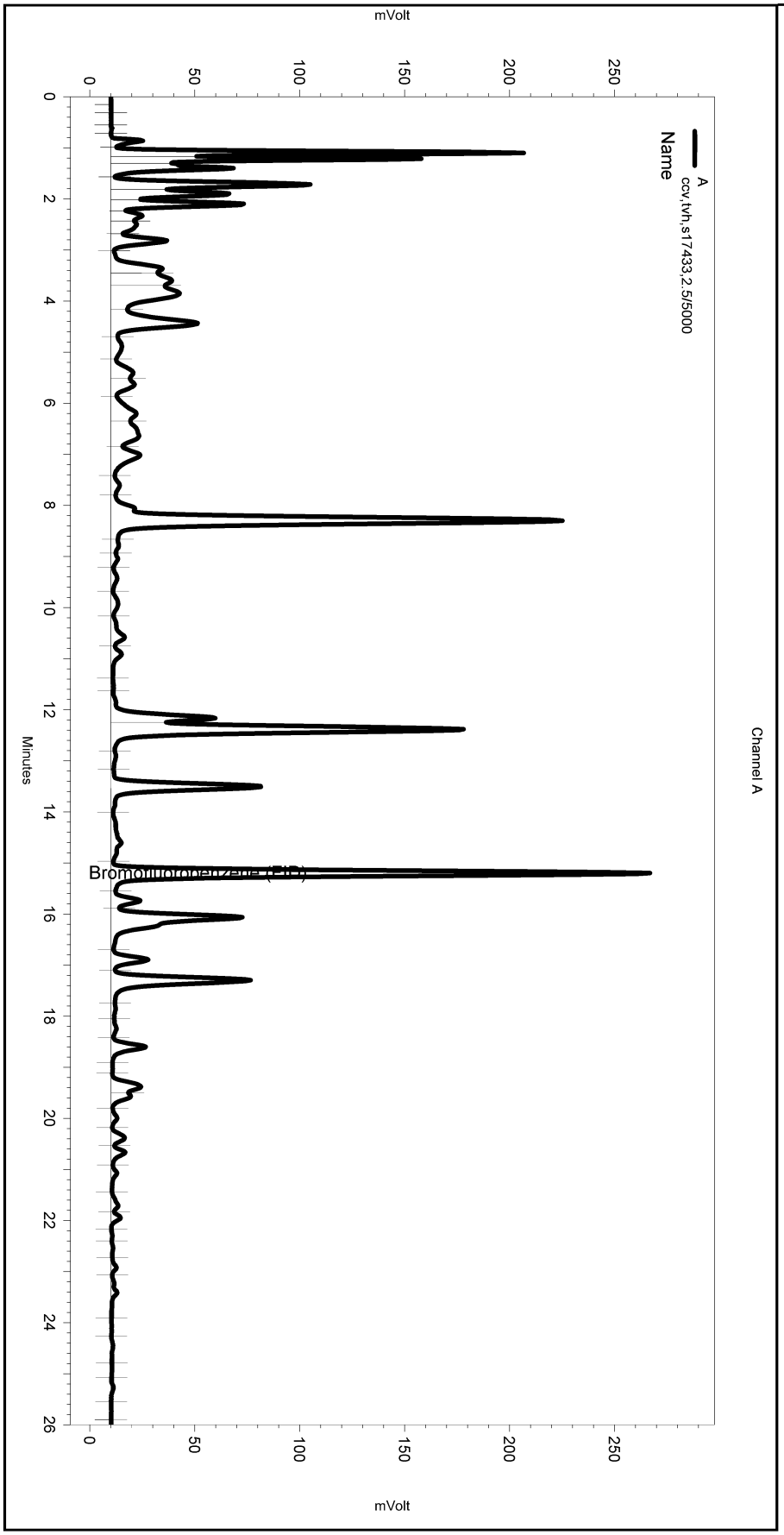
Sequence File: **\\Lims\gdrive\ezchrom\Projects\GC07\Sequence\159.seq**
Sample Name: **ccv,tvh,s17433,2.5/5000**
Data File: **\\Lims\gdrive\ezchrom\Projects\GC07\Data\159-003**
Instrument: GC07 Vial: N/A Operator: lims2k3\tvh3
Method Name: \\Lims\gdrive\ezchrom\Projects\GC07\Method\tvhbtxe153.met

Software Version 3.1.7
Run Date: 6/8/2011 12:16:29 PM
Analysis Date: 6/8/2011 12:45:12 PM
Sample Amount: 5 Multiplier: 5
Vial & pH or Core ID: {Data Description}



---< General Method Parameters >---

No items selected for this section

---< A >---

No items selected for this section

Integration Events

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery Data\Instrument.10049\159-003_5EDB.tmp

Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value

None

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-1 @ 11FT	Diln Fac:	0.9506
Lab ID:	228554-001	Batch#:	175820
Matrix:	Soil	Sampled:	06/06/11
Units:	ug/Kg	Received:	06/07/11
Basis:	as received	Analyzed:	06/14/11

Analyte	Result	RL
Freon 12	ND	9.5
tert-Butyl Alcohol (TBA)	ND	95
Chloromethane	ND	9.5
Isopropyl Ether (DIPE)	ND	4.8
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
Chloroethane	ND	9.5
Methyl tert-Amyl Ether (TAME)	ND	4.8
Trichlorofluoromethane	ND	4.8
Ethanol	ND	950
Acetone	19	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-1 @ 11FT	Dil'n Fac:	0.9506
Lab ID:	228554-001	Batch#:	175820
Matrix:	Soil	Sampled:	06/06/11
Units:	ug/Kg	Received:	06/07/11
Basis:	as received	Analyzed:	06/14/11

Analyte	Result	RL
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	108	71-126
1,2-Dichloroethane-d4	109	74-130
Toluene-d8	101	80-120
Bromofluorobenzene	102	76-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-2 @ 11FT	Basis:	as received
Lab ID:	228554-003	Sampled:	06/06/11
Matrix:	Soil	Received:	06/07/11
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	500	50.00	175851	06/15/11
tert-Butyl Alcohol (TBA)	ND	5,000	50.00	175851	06/15/11
Chloromethane	ND	500	50.00	175851	06/15/11
Isopropyl Ether (DIPE)	ND	250	50.00	175851	06/15/11
Vinyl Chloride	ND	500	50.00	175851	06/15/11
Bromomethane	ND	500	50.00	175851	06/15/11
Ethyl tert-Butyl Ether (ETBE)	ND	250	50.00	175851	06/15/11
Chloroethane	ND	500	50.00	175851	06/15/11
Methyl tert-Amyl Ether (TAME)	ND	250	50.00	175851	06/15/11
Trichlorofluoromethane	ND	250	50.00	175851	06/15/11
Ethanol	ND	50,000	50.00	175851	06/15/11
Acetone	ND	1,000	50.00	175851	06/15/11
Freon 113	ND	250	50.00	175851	06/15/11
1,1-Dichloroethene	ND	250	50.00	175851	06/15/11
Methylene Chloride	ND	1,000	50.00	175851	06/15/11
Carbon Disulfide	ND	250	50.00	175851	06/15/11
MTBE	ND	250	50.00	175851	06/15/11
trans-1,2-Dichloroethene	ND	250	50.00	175851	06/15/11
Vinyl Acetate	ND	2,500	50.00	175851	06/15/11
1,1-Dichloroethane	ND	250	50.00	175851	06/15/11
2-Butanone	ND	500	50.00	175851	06/15/11
cis-1,2-Dichloroethene	ND	250	50.00	175851	06/15/11
2,2-Dichloropropane	ND	250	50.00	175851	06/15/11
Chloroform	ND	250	50.00	175851	06/15/11
Bromochloromethane	ND	250	50.00	175851	06/15/11
1,1,1-Trichloroethane	ND	250	50.00	175851	06/15/11
1,1-Dichloropropene	ND	250	50.00	175851	06/15/11
Carbon Tetrachloride	ND	250	50.00	175851	06/15/11
1,2-Dichloroethane	ND	250	50.00	175851	06/15/11
Benzene	ND	250	50.00	175851	06/15/11
Trichloroethene	ND	250	50.00	175851	06/15/11
1,2-Dichloropropane	ND	250	50.00	175851	06/15/11
Bromodichloromethane	ND	250	50.00	175851	06/15/11
Dibromomethane	ND	250	50.00	175851	06/15/11
4-Methyl-2-Pentanone	ND	500	50.00	175851	06/15/11
cis-1,3-Dichloropropene	ND	250	50.00	175851	06/15/11
Toluene	ND	250	50.00	175851	06/15/11
trans-1,3-Dichloropropene	ND	250	50.00	175851	06/15/11
1,1,2-Trichloroethane	ND	250	50.00	175851	06/15/11
2-Hexanone	ND	500	50.00	175851	06/15/11
1,3-Dichloropropane	ND	250	50.00	175851	06/15/11
Tetrachloroethene	ND	250	50.00	175851	06/15/11
Dibromochloromethane	ND	250	50.00	175851	06/15/11
1,2-Dibromoethane	ND	250	50.00	175851	06/15/11
Chlorobenzene	ND	250	50.00	175851	06/15/11
1,1,1,2-Tetrachloroethane	ND	250	50.00	175851	06/15/11
Ethylbenzene	940	250	50.00	175851	06/15/11
m,p-Xylenes	2,700	250	50.00	175851	06/15/11
o-Xylene	ND	250	50.00	175851	06/15/11
Styrene	ND	250	50.00	175851	06/15/11
Bromoform	ND	250	50.00	175851	06/15/11
Isopropylbenzene	580	250	50.00	175851	06/15/11
1,1,2,2-Tetrachloroethane	ND	250	50.00	175851	06/15/11
1,2,3-Trichloropropane	ND	250	50.00	175851	06/15/11
Propylbenzene	2,000	250	50.00	175851	06/15/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-2 @ 11FT	Basis:	as received
Lab ID:	228554-003	Sampled:	06/06/11
Matrix:	Soil	Received:	06/07/11
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Bromobenzene	ND	250	50.00	175851	06/15/11
1,3,5-Trimethylbenzene	3,500	250	50.00	175851	06/15/11
2-Chlorotoluene	ND	250	50.00	175851	06/15/11
4-Chlorotoluene	ND	250	50.00	175851	06/15/11
tert-Butylbenzene	ND	250	50.00	175851	06/15/11
1,2,4-Trimethylbenzene	12,000	500	100.0	175912	06/16/11
sec-Butylbenzene	330	250	50.00	175851	06/15/11
para-Isopropyl Toluene	ND	250	50.00	175851	06/15/11
1,3-Dichlorobenzene	ND	250	50.00	175851	06/15/11
1,4-Dichlorobenzene	ND	250	50.00	175851	06/15/11
n-Butylbenzene	1,000	250	50.00	175851	06/15/11
1,2-Dichlorobenzene	ND	250	50.00	175851	06/15/11
1,2-Dibromo-3-Chloropropane	ND	250	50.00	175851	06/15/11
1,2,4-Trichlorobenzene	ND	250	50.00	175851	06/15/11
Hexachlorobutadiene	ND	250	50.00	175851	06/15/11
Naphthalene	1,700	250	50.00	175851	06/15/11
1,2,3-Trichlorobenzene	ND	250	50.00	175851	06/15/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	96	71-126	50.00	175851	06/15/11
1,2-Dichloroethane-d4	99	74-130	50.00	175851	06/15/11
Toluene-d8	101	80-120	50.00	175851	06/15/11
Bromofluorobenzene	101	76-131	50.00	175851	06/15/11
Trifluorotoluene (MeOH)	103	58-142	50.00	175851	06/15/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-2 @ 15FT	Basis:	as received
Lab ID:	228554-005	Sampled:	06/06/11
Matrix:	Soil	Received:	06/07/11
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	500	50.00	175851	06/15/11
tert-Butyl Alcohol (TBA)	ND	5,000	50.00	175851	06/15/11
Chloromethane	ND	500	50.00	175851	06/15/11
Isopropyl Ether (DIPE)	ND	250	50.00	175851	06/15/11
Vinyl Chloride	ND	500	50.00	175851	06/15/11
Bromomethane	ND	500	50.00	175851	06/15/11
Ethyl tert-Butyl Ether (ETBE)	ND	250	50.00	175851	06/15/11
Chloroethane	ND	500	50.00	175851	06/15/11
Methyl tert-Amyl Ether (TAME)	ND	250	50.00	175851	06/15/11
Trichlorofluoromethane	ND	250	50.00	175851	06/15/11
Ethanol	ND	50,000	50.00	175851	06/15/11
Acetone	ND	1,000	50.00	175851	06/15/11
Freon 113	ND	250	50.00	175851	06/15/11
1,1-Dichloroethene	ND	250	50.00	175851	06/15/11
Methylene Chloride	ND	1,000	50.00	175851	06/15/11
Carbon Disulfide	ND	250	50.00	175851	06/15/11
MTBE	ND	250	50.00	175851	06/15/11
trans-1,2-Dichloroethene	ND	250	50.00	175851	06/15/11
Vinyl Acetate	ND	2,500	50.00	175851	06/15/11
1,1-Dichloroethane	ND	250	50.00	175851	06/15/11
2-Butanone	ND	500	50.00	175851	06/15/11
cis-1,2-Dichloroethene	ND	250	50.00	175851	06/15/11
2,2-Dichloropropane	ND	250	50.00	175851	06/15/11
Chloroform	ND	250	50.00	175851	06/15/11
Bromochloromethane	ND	250	50.00	175851	06/15/11
1,1,1-Trichloroethane	ND	250	50.00	175851	06/15/11
1,1-Dichloropropene	ND	250	50.00	175851	06/15/11
Carbon Tetrachloride	ND	250	50.00	175851	06/15/11
1,2-Dichloroethane	ND	250	50.00	175851	06/15/11
Benzene	ND	250	50.00	175851	06/15/11
Trichloroethene	ND	250	50.00	175851	06/15/11
1,2-Dichloropropane	ND	250	50.00	175851	06/15/11
Bromodichloromethane	ND	250	50.00	175851	06/15/11
Dibromomethane	ND	250	50.00	175851	06/15/11
4-Methyl-2-Pentanone	ND	500	50.00	175851	06/15/11
cis-1,3-Dichloropropene	ND	250	50.00	175851	06/15/11
Toluene	ND	250	50.00	175851	06/15/11
trans-1,3-Dichloropropene	ND	250	50.00	175851	06/15/11
1,1,2-Trichloroethane	ND	250	50.00	175851	06/15/11
2-Hexanone	ND	500	50.00	175851	06/15/11
1,3-Dichloropropane	ND	250	50.00	175851	06/15/11
Tetrachloroethene	ND	250	50.00	175851	06/15/11
Dibromochloromethane	ND	250	50.00	175851	06/15/11
1,2-Dibromoethane	ND	250	50.00	175851	06/15/11
Chlorobenzene	ND	250	50.00	175851	06/15/11
1,1,1,2-Tetrachloroethane	ND	250	50.00	175851	06/15/11
Ethylbenzene	3,100	250	50.00	175851	06/15/11
m,p-Xylenes	5,300	250	50.00	175851	06/15/11
o-Xylene	410	250	50.00	175851	06/15/11
Styrene	ND	250	50.00	175851	06/15/11
Bromoform	ND	250	50.00	175851	06/15/11
Isopropylbenzene	690	250	50.00	175851	06/15/11
1,1,2,2-Tetrachloroethane	ND	250	50.00	175851	06/15/11
1,2,3-Trichloropropane	ND	250	50.00	175851	06/15/11
Propylbenzene	2,600	250	50.00	175851	06/15/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-2 @ 15FT	Basis:	as received
Lab ID:	228554-005	Sampled:	06/06/11
Matrix:	Soil	Received:	06/07/11
Units:	ug/Kg		

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Bromobenzene	ND	250	50.00	175851	06/15/11
1,3,5-Trimethylbenzene	3,500	250	50.00	175851	06/15/11
2-Chlorotoluene	ND	250	50.00	175851	06/15/11
4-Chlorotoluene	ND	250	50.00	175851	06/15/11
tert-Butylbenzene	ND	250	50.00	175851	06/15/11
1,2,4-Trimethylbenzene	15,000	500	100.0	175912	06/16/11
sec-Butylbenzene	510	250	50.00	175851	06/15/11
para-Isopropyl Toluene	350	250	50.00	175851	06/15/11
1,3-Dichlorobenzene	ND	250	50.00	175851	06/15/11
1,4-Dichlorobenzene	ND	250	50.00	175851	06/15/11
n-Butylbenzene	1,600	250	50.00	175851	06/15/11
1,2-Dichlorobenzene	ND	250	50.00	175851	06/15/11
1,2-Dibromo-3-Chloropropane	ND	250	50.00	175851	06/15/11
1,2,4-Trichlorobenzene	ND	250	50.00	175851	06/15/11
Hexachlorobutadiene	ND	250	50.00	175851	06/15/11
Naphthalene	3,000	250	50.00	175851	06/15/11
1,2,3-Trichlorobenzene	ND	250	50.00	175851	06/15/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	97	71-126	50.00	175851	06/15/11
1,2-Dichloroethane-d4	95	74-130	50.00	175851	06/15/11
Toluene-d8	98	80-120	50.00	175851	06/15/11
Bromofluorobenzene	96	76-131	50.00	175851	06/15/11
Trifluorotoluene (MeOH)	96	58-142	50.00	175851	06/15/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-2 @ 16FT	Diln Fac:	0.9901
Lab ID:	228554-006	Batch#:	175820
Matrix:	Soil	Sampled:	06/06/11
Units:	ug/Kg	Received:	06/07/11
Basis:	as received	Analyzed:	06/14/11

Analyte	Result	RL
Freon 12	ND	9.9
tert-Butyl Alcohol (TBA)	ND	99
Chloromethane	ND	9.9
Isopropyl Ether (DIPE)	ND	5.0
Vinyl Chloride	ND	9.9
Bromomethane	ND	9.9
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Chloroethane	ND	9.9
Methyl tert-Amyl Ether (TAME)	ND	5.0
Trichlorofluoromethane	ND	5.0
Ethanol	ND	990
Acetone	63	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	17	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	20	9.9
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	9.9
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	9.9
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	30	5.0
m,p-Xylenes	67	5.0
o-Xylene	5.9	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	OB-2 @ 16FT	Dil'n Fac:	0.9901
Lab ID:	228554-006	Batch#:	175820
Matrix:	Soil	Sampled:	06/06/11
Units:	ug/Kg	Received:	06/07/11
Basis:	as received	Analyzed:	06/14/11

Analyte	Result	RL
Propylbenzene	15	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	25	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	110	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	7.3	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	14	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	108	71-126
1,2-Dichloroethane-d4	110	74-130
Toluene-d8	97	80-120
Bromofluorobenzene	102	76-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC596147	Batch#:	175820
Matrix:	Soil	Analyzed:	06/14/11
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
tert-Butyl Alcohol (TBA)	ND	100
Chloromethane	ND	10
Isopropyl Ether (DIPE)	ND	5.0
Vinyl Chloride	ND	10
Bromomethane	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Chloroethane	ND	10
Methyl tert-Amyl Ether (TAME)	ND	5.0
Trichlorofluoromethane	ND	5.0
Ethanol	ND	1,000
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC596147	Batch#:	175820
Matrix:	Soil	Analyzed:	06/14/11
Units:	ug/Kg		

Analyte	Result	RL
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	71-126
1,2-Dichloroethane-d4	105	74-130
Toluene-d8	98	80-120
Bromofluorobenzene	105	76-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC596148	Batch#:	175820
Matrix:	Soil	Analyzed:	06/14/11
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	106.9	107	44-138
Isopropyl Ether (DIPE)	20.00	22.87	114	54-130
Ethyl tert-Butyl Ether (ETBE)	20.00	23.10	115	58-124
Methyl tert-Amyl Ether (TAME)	20.00	19.18	96	63-120
1,1-Dichloroethene	20.00	20.50	103	69-127
Benzene	20.00	20.86	104	80-122
Trichloroethene	20.00	19.70	99	76-123
Toluene	20.00	20.84	104	80-120
Chlorobenzene	20.00	20.59	103	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	71-126
1,2-Dichloroethane-d4	100	74-130
Toluene-d8	102	80-120
Bromofluorobenzene	100	76-131

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	175820
MSS Lab ID:	228566-003	Sampled:	06/03/11
Matrix:	Soil	Received:	06/07/11
Units:	ug/Kg	Analyzed:	06/14/11
Basis:	as received		

Type: MS
Lab ID: QC596149

Diln Fac: 0.9671

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<15.22	241.8	251.2	104	45-131
Isopropyl Ether (DIPE)	<1.256	48.36	45.84	95	53-120
Ethyl tert-Butyl Ether (ETBE)	<0.9465	48.36	47.54	98	53-120
Methyl tert-Amyl Ether (TAME)	<0.6165	48.36	42.29	87	56-120
1,1-Dichloroethene	<0.5795	48.36	50.49	104	57-134
Benzene	<0.9442	48.36	51.70	107	62-123
Trichloroethene	<1.102	48.36	49.01	101	50-146
Toluene	<1.274	48.36	52.02	108	59-120
Chlorobenzene	<0.2845	48.36	49.93	103	53-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	71-126
1,2-Dichloroethane-d4	96	74-130
Toluene-d8	101	80-120
Bromofluorobenzene	99	76-131

Type: MSD
Lab ID: QC596150

Diln Fac: 0.9766

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	244.1	234.4	96	45-131	8	44
Isopropyl Ether (DIPE)	48.83	45.32	93	53-120	2	39
Ethyl tert-Butyl Ether (ETBE)	48.83	46.87	96	53-120	2	39
Methyl tert-Amyl Ether (TAME)	48.83	41.41	85	56-120	3	39
1,1-Dichloroethene	48.83	47.92	98	57-134	6	45
Benzene	48.83	50.11	103	62-123	4	40
Trichloroethene	48.83	47.35	97	50-146	4	46
Toluene	48.83	51.16	105	59-120	3	43
Chlorobenzene	48.83	48.72	100	53-120	3	43

Surrogate	%REC	Limits
Dibromofluoromethane	101	71-126
1,2-Dichloroethane-d4	95	74-130
Toluene-d8	103	80-120
Bromofluorobenzene	99	76-131

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC596309	Batch#:	175851
Matrix:	Soil	Analyzed:	06/15/11
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
tert-Butyl Alcohol (TBA)	ND	100
Chloromethane	ND	10
Isopropyl Ether (DIPE)	ND	5.0
Vinyl Chloride	ND	10
Bromomethane	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Chloroethane	ND	10
Methyl tert-Amyl Ether (TAME)	ND	5.0
Trichlorofluoromethane	ND	5.0
Ethanol	ND	1,000
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC596309	Batch#:	175851
Matrix:	Soil	Analyzed:	06/15/11
Units:	ug/Kg		

Analyte	Result	RL
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	105	71-126
1,2-Dichloroethane-d4	104	74-130
Toluene-d8	98	80-120
Bromofluorobenzene	105	76-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC596310	Batch#:	175851
Matrix:	Soil	Analyzed:	06/15/11
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	86.45	86	44-138
Isopropyl Ether (DIPE)	20.00	22.38	112	54-130
Ethyl tert-Butyl Ether (ETBE)	20.00	21.78	109	58-124
Methyl tert-Amyl Ether (TAME)	20.00	19.16	96	63-120
1,1-Dichloroethene	20.00	20.27	101	69-127
Benzene	20.00	22.07	110	80-122
Trichloroethene	20.00	20.72	104	76-123
Toluene	20.00	22.43	112	80-120
Chlorobenzene	20.00	21.29	106	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	71-126
1,2-Dichloroethane-d4	99	74-130
Toluene-d8	100	80-120
Bromofluorobenzene	100	76-131

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Dil'n Fac:	0.9785
MSS Lab ID:	228688-003	Batch#:	175851
Matrix:	Soil	Sampled:	06/10/11
Units:	ug/Kg	Received:	06/13/11
Basis:	as received	Analyzed:	06/15/11

Type: MS Lab ID: QC596311

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<15.47	244.6	207.5	85	45-131
Isopropyl Ether (DIPE)	<1.276	48.92	36.97	76	53-120
Ethyl tert-Butyl Ether (ETBE)	<0.9615	48.92	37.90	77	53-120
Methyl tert-Amyl Ether (TAME)	<0.6263	48.92	35.06	72	56-120
1,1-Dichloroethene	<0.5887	48.92	33.55	69	57-134
Benzene	<0.9591	48.92	37.53	77	62-123
Trichloroethene	3.600	48.92	37.18	69	50-146
Toluene	<1.294	48.92	36.14	74	59-120
Chlorobenzene	<0.2890	48.92	34.08	70	53-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	71-126
1,2-Dichloroethane-d4	101	74-130
Toluene-d8	101	80-120
Bromofluorobenzene	101	76-131

Type: MSD Lab ID: QC596312

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	244.6	252.2	103	45-131	19	44
Isopropyl Ether (DIPE)	48.92	44.35	91	53-120	18	39
Ethyl tert-Butyl Ether (ETBE)	48.92	44.96	92	53-120	17	39
Methyl tert-Amyl Ether (TAME)	48.92	40.58	83	56-120	15	39
1,1-Dichloroethene	48.92	42.29	86	57-134	23	45
Benzene	48.92	45.43	93	62-123	19	40
Trichloroethene	48.92	45.04	85	50-146	19	46
Toluene	48.92	44.99	92	59-120	22	43
Chlorobenzene	48.92	41.59	85	53-120	20	43

Surrogate	%REC	Limits
Dibromofluoromethane	103	71-126
1,2-Dichloroethane-d4	101	74-130
Toluene-d8	100	80-120
Bromofluorobenzene	99	76-131

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	BLANK	Dil'n Fac:	1.000
Lab ID:	QC596552	Batch#:	175912
Matrix:	Soil	Analyzed:	06/16/11
Units:	ug/Kg		

Analyte	Result	RL
Freon 12	ND	10
tert-Butyl Alcohol (TBA)	ND	100
Chloromethane	ND	10
Isopropyl Ether (DIPE)	ND	5.0
Vinyl Chloride	ND	10
Bromomethane	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Chloroethane	ND	10
Methyl tert-Amyl Ether (TAME)	ND	5.0
Trichlorofluoromethane	ND	5.0
Ethanol	ND	1,000
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0

ND= Not Detected
RL= Reporting Limit

20.0

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC596552	Batch#:	175912
Matrix:	Soil	Analyzed:	06/16/11
Units:	ug/Kg		

Analyte	Result	RL
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	71-126
1,2-Dichloroethane-d4	102	74-130
Toluene-d8	100	80-120
Bromofluorobenzene	101	76-131

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC596553	Batch#:	175912
Matrix:	Soil	Analyzed:	06/16/11
Units:	ug/Kg		

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	99.24	99	44-138
Isopropyl Ether (DIPE)	20.00	20.52	103	54-130
Ethyl tert-Butyl Ether (ETBE)	20.00	20.81	104	58-124
Methyl tert-Amyl Ether (TAME)	20.00	19.67	98	63-120
1,1-Dichloroethene	20.00	18.24	91	69-127
Benzene	20.00	20.70	104	80-122
Trichloroethene	20.00	19.97	100	76-123
Toluene	20.00	19.51	98	80-120
Chlorobenzene	20.00	19.59	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	71-126
1,2-Dichloroethane-d4	103	74-130
Toluene-d8	102	80-120
Bromofluorobenzene	99	76-131

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics

Lab #:	228554	Location:	3519 Castro Vally Rd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2762	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	175912
MSS Lab ID:	228737-001	Sampled:	06/15/11
Matrix:	Soil	Received:	06/15/11
Units:	ug/Kg	Analyzed:	06/17/11
Basis:	as received		

Type: MS
Lab ID: QC596554

Diln Fac: 0.9804

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<14.99	245.1	246.0	100	45-131
Isopropyl Ether (DIPE)	<1.236	49.02	45.59	93	53-120
Ethyl tert-Butyl Ether (ETBE)	<0.9319	49.02	46.65	95	53-120
Methyl tert-Amyl Ether (TAME)	<0.6070	49.02	42.78	87	56-120
1,1-Dichloroethene	<0.5706	49.02	40.49	83	57-134
Benzene	<0.9296	49.02	43.41	89	62-123
Trichloroethene	<1.085	49.02	41.53	85	50-146
Toluene	<1.254	49.02	43.15	88	59-120
Chlorobenzene	<0.2801	49.02	41.83	85	53-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	71-126
1,2-Dichloroethane-d4	97	74-130
Toluene-d8	100	80-120
Bromofluorobenzene	103	76-131

Type: MSD
Lab ID: QC596555

Diln Fac: 0.9766

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	244.1	235.4	96	45-131	4	44
Isopropyl Ether (DIPE)	48.83	45.19	93	53-120	0	39
Ethyl tert-Butyl Ether (ETBE)	48.83	45.75	94	53-120	2	39
Methyl tert-Amyl Ether (TAME)	48.83	43.48	89	56-120	2	39
1,1-Dichloroethene	48.83	40.19	82	57-134	0	45
Benzene	48.83	46.70	96	62-123	8	40
Trichloroethene	48.83	44.17	90	50-146	7	46
Toluene	48.83	45.07	92	59-120	5	43
Chlorobenzene	48.83	43.76	90	53-120	5	43

Surrogate	%REC	Limits
Dibromofluoromethane	101	71-126
1,2-Dichloroethane-d4	100	74-130
Toluene-d8	100	80-120
Bromofluorobenzene	98	76-131

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 228880
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2764
6620 Owens Dr.	Location : 3519 Castro Valley Blvd, Castro Valle
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
EFF	228880-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/24/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**228880**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2764**
Location:	**3519 Castro Valley Blvd, Castro Valle**
Request Date:	**06/22/11**
Samples Received:	**06/21/11**

This data package contains sample and QC results for one water sample, requested for the above referenced project on 06/22/11. The sample was received cold and intact.

Volatile Organics by GC/MS (EPA 624):
EFF (lab # 228880-001) had pH greater than 2. No other analytical problems were encountered.

Metals (EPA 200.7 and EPA 245.1):
No analytical problems were encountered.

Total Cyanide (SM4500CN-E):
No analytical problems were encountered.

Total Oil & Grease (HEM) (EPA 1664A):
Matrix spikes were not performed for this analysis due to insufficient sample volume. High recoveries were observed for oil & grease (HEM) in the MS/MSD for batch 176150; the parent sample was not a project sample, the LCS was within limits, the associated RPD was within limits, and this analyte was not detected at or above the RL in the associated sample. No other analytical problems were encountered.

Phenolic Compounds (EPA 420.1):
No analytical problems were encountered.

CHAIN OF CUSTODY

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C&T LOGIN # 228330

Page 1 of 1
Chain of Custody # ______

Project No: 2764
Project Name: 3519 Castro Valley
Project P. O. No: 2764 Blvd. Castro Valley
EDD Format: EDF Report Level ☐ II ☐ III ☐ IV
Turnaround Time: ☒ RUSH 48hr. ~~☒ Standard~~

Sampler: Erica Fisker
Report To: Joyce Bobek
Company: SOMA Environmental
Telephone: 925-734-6400
Email: jbobek@somaenv.com

ANALYTICAL REQUEST: Metals 200.7/245.1 6010 → As, Cd, Cu, Pb, Cr, Ag, Zn, Hg, Ni, Se; Cyanide; Phenolic compounds ~~(8270)~~ ? ~~8270~~ wait phenol; 8260 Full List - 624; TOTAL Oil & Grease 1664 T

Lab No.	Sample ID.	Date Collected	Time Collected	Water	Solid			# of Containers	HCl	H2SO4	HNO3	NaOH	None	Metals	Cyanide	Phenolic compounds	8260 Full List - 624	TOTAL Oil & Grease 1664 T
	EFF	6-21-11	12:20	✓				9	5		1	1	2	X	X	X	X	X

Notes:
EDF required
If Total O&G detected at or above 100 mg/L then run silica gel
~~may need to expidite based on future production~~

SAMPLE RECEIPT
☐ Intact
☐ Cold
☒ On Ice
☐ Ambient

RELINQUISHED BY:	DATE:	TIME:	RECEIVED BY:	DATE:	TIME:
Erica Fisker	6-21-11	13:45	Pat [signature]	6/21/11	13:45

COOLER RECEIPT CHECKLIST Curtis & Tompkins, Ltd.

Login # 228380 Date Received 6/21/11 6/22 Number of coolers 1
Client SOMA Project 3519 Castro Valley

Date Opened 6/21/11 By (print) Vidia Gandhi (sign)
Date Logged in 6/22/11 By (print) R. Parris (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO (N/A)
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☒ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 6.0

☐ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are samples in the appropriate containers for indicated tests? (YES) NO
11. Are sample labels present, in good condition and complete? (YES) NO
12. Do the sample labels agree with custody papers? (YES) NO
13. Was sufficient amount of sample sent for tests requested? (YES) NO
14. Are the samples appropriately preserved? YES (NO) N/A
15. Did you check preservatives for all bottles for each sample? (YES) NO N/A
16. Did you document your preservative check? (YES) NO N/A
17. Did you change the hold time in LIMS for unpreserved VOAs? YES (NO) N/A
18. Are bubbles > 6mm absent in VOA samples? (YES) NO N/A
19. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS
pH was below 12 when rec'd. Added NaOH (J47009) 6/22/11 9:37
Preserved 1L amber w/ H_2SO_4 (J42030) 6/22/11 9:39 for phenols.

Rev 8, 6/11

Curtis & Tompkins Sample Preservation for 228880

Sample	pH: <2	>12	Other
-001a	[ ]	[ ]	_____
b	[ ]	[ ]	_____
c	[ ]	[ ]	_____
d	[/]	[ ]	_____
e	[/]	[ ]	_____
f	[ ]	[/]	_____
g	[ ]	[ ]	_____
h	[ ]	[ ]	_____
i	[ ]	[ ]	_____

Analyst: _____

Date: 6/22/11

Page 1 of 1

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Field ID:	EFF	Batch#:	176094
Lab ID:	228880-001	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	89	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Matrix:	Water	Batch#:	176094
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	1.000		

Type: BS Lab ID: QC597346

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	20.94	84	64-133
Benzene	25.00	23.63	95	80-122
Trichloroethene	25.00	23.26	93	78-120
Toluene	25.00	24.34	97	80-120
Chlorobenzene	25.00	24.68	99	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	91	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	95	80-120

Type: BSD Lab ID: QC597347

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	19.71	79	64-133	6	20
Benzene	25.00	22.37	89	80-122	5	20
Trichloroethene	25.00	22.12	88	78-120	5	20
Toluene	25.00	23.53	94	80-120	3	20
Chlorobenzene	25.00	24.03	96	80-120	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	90	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	94	80-120

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC597360	Batch#:	176094
Matrix:	Water	Analyzed:	06/22/11
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	89	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	96	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Field ID:	ZZZZZZZZZZ	Batch#:	176094
MSS Lab ID:	228844-004	Sampled:	06/20/11
Matrix:	Water	Received:	06/20/11
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	1.000		

Type: MS Lab ID: QC597455

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1591	25.00	22.34	89	73-126
Benzene	1.273	25.00	24.88	94	80-120
Trichloroethene	<0.1000	25.00	23.46	94	69-122
Toluene	3.995	25.00	28.66	99	80-120
Chlorobenzene	<0.1000	25.00	25.03	100	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-120

Type: MSD Lab ID: QC597456

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	21.20	85	73-126	5	20
Benzene	25.00	24.21	92	80-120	3	20
Trichloroethene	25.00	22.81	91	69-122	3	20
Toluene	25.00	27.82	95	80-120	3	20
Chlorobenzene	25.00	24.33	97	80-120	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Field ID:	ZZZZZZZZZZ	Batch#:	176094
MSS Lab ID:	228879-002	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	1.000		

Type: MS Lab ID: QC597457

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.1591	25.00	22.25	89	73-126
Benzene	<0.1000	25.00	23.54	94	80-120
Trichloroethene	<0.1000	25.00	23.40	94	69-122
Toluene	<0.1000	25.00	24.65	99	80-120
Chlorobenzene	<0.1000	25.00	24.45	98	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	89	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-120

Type: MSD Lab ID: QC597458

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	20.73	83	73-126	7	20
Benzene	25.00	22.20	89	80-120	6	20
Trichloroethene	25.00	22.18	89	69-122	5	20
Toluene	25.00	23.55	94	80-120	5	20
Chlorobenzene	25.00	23.59	94	80-120	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	88	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Metals Analytical Report

Lab #:	228880	Project#:	2764
Client:	SOMA Environmental Engineering Inc.	Location:	3519 Castro Valley Blvd, Castro Valle
Field ID:	EFF	Diln Fac:	1.000
Lab ID:	228880-001	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	ug/L	Prepared:	06/22/11

Analyte	Result	RL	Batch#	Analyzed	Prep	Analysis
Arsenic	840	6.1	176135	06/23/11	EPA 200.7	EPA 200.7
Cadmium	ND	5.0	176135	06/23/11	EPA 200.7	EPA 200.7
Chromium	ND	5.0	176135	06/23/11	EPA 200.7	EPA 200.7
Copper	ND	5.0	176135	06/24/11	EPA 200.7	EPA 200.7
Lead	ND	5.0	176135	06/23/11	EPA 200.7	EPA 200.7
Mercury	ND	0.20	176116	06/22/11	METHOD	EPA 245.1
Nickel	ND	5.0	176135	06/23/11	EPA 200.7	EPA 200.7
Selenium	ND	10	176135	06/23/11	EPA 200.7	EPA 200.7
Silver	ND	5.0	176135	06/23/11	EPA 200.7	EPA 200.7
Zinc	89	20	176135	06/23/11	EPA 200.7	EPA 200.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 245.1
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	176116
Lab ID:	QC597429	Prepared:	06/22/11
Matrix:	Filtrate	Analyzed:	06/22/11
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Batch QC Report

Metals Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 245.1
Analyte:	Mercury	Batch#:	176116
Matrix:	Filtrate	Prepared:	06/22/11
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC597430	2.500	2.400	96	80-120		
BSD	QC597431	2.500	2.310	92	80-120	4	27

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 245.1
Analyte:	Mercury	Batch#:	176116
Field ID:	ZZZZZZZZZZ	Sampled:	06/21/11
MSS Lab ID:	228879-002	Received:	06/21/11
Matrix:	Water	Prepared:	06/22/11
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	100.0		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC597437	217.0	2.500	214.0	NM	67-120		
MSD	QC597438		2.500	219.0	NM	67-120	2	39

NM= Not Meaningful: Sample concentration > 4X spike concentration
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC597503	Batch#:	176135
Matrix:	Water	Prepared:	06/22/11
Units:	ug/L	Analyzed:	06/23/11

Analyte	Result	RL
Arsenic	ND	6.1
Cadmium	ND	5.0
Chromium	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Matrix:	Water	Batch#:	176135
Units:	ug/L	Prepared:	06/22/11
Diln Fac:	1.000	Analyzed:	06/23/11

Type: BS Lab ID: QC597504

Analyte	Spiked	Result	%REC	Limits
Arsenic	100.0	115.0	115	80-128
Cadmium	50.00	51.56	103	80-120
Chromium	200.0	190.7	95	80-120
Copper	250.0	229.8	92	77-120
Lead	100.0	89.76	90	77-120
Nickel	500.0	485.7	97	80-120
Selenium	100.0	102.0	102	80-123
Silver	50.00	48.84	98	79-120
Zinc	500.0	517.3	103	80-120

Type: BSD Lab ID: QC597505

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	100.0	113.4	113	80-128	1	20
Cadmium	50.00	50.03	100	80-120	3	20
Chromium	200.0	186.9	93	80-120	2	20
Copper	250.0	223.4	89	77-120	3	20
Lead	100.0	88.03	88	77-120	2	20
Nickel	500.0	471.7	94	80-120	3	20
Selenium	100.0	96.82	97	80-123	5	24
Silver	50.00	48.33	97	79-120	1	20
Zinc	500.0	498.4	100	80-120	4	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Field ID:	ZZZZZZZZZZ	Batch#:	176135
MSS Lab ID:	228879-002	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	ug/L	Prepared:	06/22/11
Diln Fac:	1.000	Analyzed:	06/23/11

Type: MS Lab ID: QC597506

Analyte	MSS Result	Spiked	Result	%REC	Limits
Arsenic	7.761	100.0	111.5	104	70-139
Cadmium	<1.000	50.00	48.05	96	70-123
Chromium	<1.529	200.0	186.9	93	70-120
Copper	4.892	250.0	222.5	87	66-124
Lead	<1.425	100.0	84.33	84	58-120
Nickel	22.31	500.0	484.7	92	66-120
Selenium	<3.189	100.0	93.45	93	64-132
Silver	<0.6196	50.00	47.70	95	50-127
Zinc	70.05	500.0	555.2	97	69-126

Type: MSD Lab ID: QC597507

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	100.0	114.1	106	70-139	2	28
Cadmium	50.00	48.10	96	70-123	0	22
Chromium	200.0	183.1	92	70-120	2	22
Copper	250.0	221.5	87	66-124	0	30
Lead	100.0	83.86	84	58-120	1	29
Nickel	500.0	476.9	91	66-120	2	22
Selenium	100.0	92.40	92	64-132	1	31
Silver	50.00	46.75	94	50-127	2	27
Zinc	500.0	551.3	96	69-126	1	23

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Oil & Grease (HEM)

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 1664A
Analyte:	Oil & Grease (HEM)	Batch#:	176150
Field ID:	EFF	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	mg/L	Analyzed:	06/23/11
Diln Fac:	1.000		

Type	Lab ID	Result	RL
SAMPLE	228880-001	ND	5.00
BLANK	QC597573	ND	5.00

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Oil & Grease (HEM)

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 1664A
Analyte:	Oil & Grease (HEM)	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	176150
MSS Lab ID:	228879-002	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	mg/L	Analyzed:	06/23/11

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC597574		40.00	32.80	82	78-114		
MS	QC597575	<4.700	40.00	30.19	151 *	68-124		
MSD	QC597576		40.00	29.71	149 *	68-124	2	28

*= Value outside of QC limits; see narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Cyanide

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	SM4500CN-E
Analyte:	Cyanide	Batch#:	176141
Field ID:	EFF	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	mg/L	Analyzed:	06/23/11
Diln Fac:	1.000		

Type	Lab ID	Result	RL
SAMPLE	228880-001	ND	0.01
BLANK	QC597541	ND	0.01

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Cyanide

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	SM4500CN-E
Analyte:	Cyanide	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	176141
MSS Lab ID:	228879-002	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	mg/L	Analyzed:	06/23/11

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC597542	<0.01000	0.2000	0.1895	95	78-120		
MSD	QC597543		0.2000	0.1787	89	78-120	6	20
LCS	QC597544		0.2000	0.1975	99	80-120		

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Phenolic Compounds

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 420.1
Analyte:	Phenolic Compounds	Batch#:	176112
Field ID:	EFF	Sampled:	06/21/11
Matrix:	Water	Received:	06/21/11
Units:	mg/L	Prepared:	06/22/11
Diln Fac:	1.000	Analyzed:	06/23/11

Type	Lab ID	Result	RL
SAMPLE	228880-001	ND	0.050
BLANK	QC597412	ND	0.050

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Phenolic Compounds

Lab #:	228880	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 420.1
Analyte:	Phenolic Compounds	Batch#:	176112
Field ID:	EFF	Sampled:	06/21/11
MSS Lab ID:	228880-001	Received:	06/21/11
Matrix:	Water	Prepared:	06/22/11
Units:	mg/L	Analyzed:	06/23/11
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC597413		0.1000	0.9305	93	80-120		
MS	QC597414	<0.05000	0.1000	0.8969	90	40-135		
MSD	QC597415		0.1000	0.9159	92	40-135	2	31

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 228819
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2764
6620 Owens Dr.	Location : 3519 Castro Valley Blvd, Castro Valle
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
SOMA-5	228819-001
SOMA-7	228819-002
OB-1	228819-003
OB-2	228819-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/24/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**228819**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2764**
Location:	**3519 Castro Valley Blvd, Castro Valle**
Request Date:	**06/17/11**
Samples Received:	**06/17/11**

This data package contains sample and QC results for four water samples, requested for the above referenced project on 06/17/11. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

CHAIN OF CUSTODY

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 228819

Sampler: Lizzie Hightower

Project No: 2764

Project Name: 3519 Castro Valley Blvd., Castro Valley

Turnaround Time: Standard

Report To: Joyce Bobek
Company : SOMA Environmental
Telephone: 925-734-6400
Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date	Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Analyses: TPHg, BTEX, MtBE 8260B	Analyses: Gasoline Oxygenates & Lead Scavengers	Analyses: Ethanol
	SOMA-5	6/16/11	13:32		*		4-VOAs	*			*	*	*	*
	SOMA-7		12:29		*		4-VOAs	*			*	*	*	*
	OB-1		11:57		*		4-VOAs	*			*	*	*	*
	OB-2		13:00		*		4-VOAs	*			*	*	*	*

Notes: **EDF OUTPUT REQUIRED**
GASOLINE OXYGENATES: TBA, DIPE, ETBE, TAME

LEAD SCAVENGERS: 1,2-DCA, EDB

RELINQUISHED BY:		RECEIVED BY:	
[signature]	6/16/11 17:41 DATE/TIME	[signature]	6/16/11 1730 DATE/TIME
	DATE/TIME		DATE/TIME
	DATE/TIME		DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 22881 9 Date Received 6/17/11 Number of coolers 1
Client SOMA Project 6501 Shattuck Ave

Date Opened 6/17/11 By (print) Vidia Cadiz (sign)
Date Logged in 6/20/11 By (print) R. Pamis (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES (NO)
Shipping info

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☐ NO
How many Name Date
2B. Were custody seals intact upon arrival? YES NO N/A
3. Were custody papers dry and intact when received? (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe)

☐ Bubble Wrap ☒ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C)

☒ Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES (NO)
If YES, what time were they transferred to freezer?
9. Did all bottles arrive unbroken/unopened? (YES) NO
10. Are samples in the appropriate containers for indicated tests? (YES) NO
11. Are sample labels present, in good condition and complete? (YES) NO
12. Do the sample labels agree with custody papers? (YES) NO
13. Was sufficient amount of sample sent for tests requested? (YES) NO
14. Are the samples appropriately preserved? (YES) NO N/A
15. Did you check preservatives for all bottles for each sample? YES NO (N/A)
16. Did you document your preservative check? YES NO (N/A)
17. Did you change the hold time in LIMS for unpreserved VOAs? YES NO (N/A)
18. Are bubbles > 6mm absent in VOA samples? (YES) NO N/A
19. Was the client contacted concerning this sample delivery? YES (NO)
If YES, Who was called? By Date:

COMMENTS

Rev 8, 6/11

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Field ID:	SOMA-5	Batch#:	176053
Lab ID:	228819-001	Sampled:	06/16/11
Matrix:	Water	Received:	06/17/11
Units:	ug/L	Analyzed:	06/21/11
Diln Fac:	40.00		

Analyte	Result	RL
Gasoline C7-C12	6,400	2,000
tert-Butyl Alcohol (TBA)	450	400
Isopropyl Ether (DIPE)	ND	20
Ethyl tert-Butyl Ether (ETBE)	ND	20
Methyl tert-Amyl Ether (TAME)	ND	20
MTBE	150	20
1,2-Dichloroethane	ND	20
Benzene	2,500	20
Toluene	ND	20
1,2-Dibromoethane	ND	20
Ethylbenzene	670	20
m,p-Xylenes	160	20
o-Xylene	ND	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	105	73-145
Toluene-d8	108	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Field ID:	SOMA-7	Batch#:	176053
Lab ID:	228819-002	Sampled:	06/16/11
Matrix:	Water	Received:	06/17/11
Units:	ug/L	Analyzed:	06/21/11
Diln Fac:	3.333		

Analyte	Result	RL
Gasoline C7-C12	1,900	170
tert-Butyl Alcohol (TBA)	ND	33
Isopropyl Ether (DIPE)	ND	1.7
Ethyl tert-Butyl Ether (ETBE)	ND	1.7
Methyl tert-Amyl Ether (TAME)	ND	1.7
MTBE	4.7	1.7
1,2-Dichloroethane	ND	1.7
Benzene	330	1.7
Toluene	4.3	1.7
1,2-Dibromoethane	ND	1.7
Ethylbenzene	24	1.7
m,p-Xylenes	5.2	1.7
o-Xylene	ND	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	115	80-127
1,2-Dichloroethane-d4	117	73-145
Toluene-d8	105	80-120
Bromofluorobenzene	108	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Field ID:	OB-1	Batch#:	176114
Lab ID:	228819-003	Sampled:	06/16/11
Matrix:	Water	Received:	06/17/11
Units:	ug/L	Analyzed:	06/23/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	1,900	50
tert-Butyl Alcohol (TBA)	20	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	23	0.50
1,2-Dichloroethane	ND	0.50
Benzene	9.3	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	3.7	0.50
m,p-Xylenes	4.6	0.50
o-Xylene	1.2	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	122	80-127
1,2-Dichloroethane-d4	115	73-145
Toluene-d8	85	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Field ID:	OB-2	Batch#:	176114
Lab ID:	228819-004	Sampled:	06/16/11
Matrix:	Water	Received:	06/17/11
Units:	ug/L	Analyzed:	06/23/11
Diln Fac:	10.00		

Analyte	Result	RL
Gasoline C7-C12	12,000	500
tert-Butyl Alcohol (TBA)	220	100
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
MTBE	310	5.0
1,2-Dichloroethane	ND	5.0
Benzene	870	5.0
Toluene	18	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	590	5.0
m,p-Xylenes	940	5.0
o-Xylene	200	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	103	73-145
Toluene-d8	91	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC597168	Batch#:	176053
Matrix:	Water	Analyzed:	06/21/11
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	112	80-127
1,2-Dichloroethane-d4	115	73-145
Toluene-d8	107	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	176053
Units:	ug/L	Analyzed:	06/21/11
Diln Fac:	1.000		

Type: BS Lab ID: QC597169

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	106.3	130.9	123	46-141
Isopropyl Ether (DIPE)	21.25	23.92	113	52-139
Ethyl tert-Butyl Ether (ETBE)	21.25	22.60	106	56-131
Methyl tert-Amyl Ether (TAME)	21.25	21.21	100	65-120
MTBE	21.25	22.32	105	59-123
1,2-Dichloroethane	21.25	22.74	107	71-135
Benzene	21.25	21.43	101	80-122
Toluene	21.25	21.78	102	80-120
1,2-Dibromoethane	21.25	22.76	107	79-120
Ethylbenzene	21.25	22.87	108	80-120
m,p-Xylenes	42.50	42.07	99	80-120
o-Xylene	21.25	22.13	104	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	110	73-145
Toluene-d8	106	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC597170

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	106.3	124.3	117	46-141	5	31
Isopropyl Ether (DIPE)	21.25	22.86	108	52-139	5	20
Ethyl tert-Butyl Ether (ETBE)	21.25	22.79	107	56-131	1	20
Methyl tert-Amyl Ether (TAME)	21.25	20.24	95	65-120	5	20
MTBE	21.25	21.55	101	59-123	4	20
1,2-Dichloroethane	21.25	21.99	103	71-135	3	20
Benzene	21.25	20.40	96	80-122	5	20
Toluene	21.25	20.02	94	80-120	8	20
1,2-Dibromoethane	21.25	22.99	108	79-120	1	20
Ethylbenzene	21.25	21.52	101	80-120	6	20
m,p-Xylenes	42.50	41.02	97	80-120	3	20
o-Xylene	21.25	20.84	98	80-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	109	73-145
Toluene-d8	103	80-120
Bromofluorobenzene	106	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	176053
Units:	ug/L	Analyzed:	06/21/11
Diln Fac:	1.000		

Type: BS Lab ID: QC597171

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	950.0	902.1	95	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-127
1,2-Dichloroethane-d4	114	73-145
Toluene-d8	105	80-120
Bromofluorobenzene	105	80-120

Type: BSD Lab ID: QC597172

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	950.0	910.2	96	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	113	73-145
Toluene-d8	105	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC597420	Batch#:	176114
Matrix:	Water	Analyzed:	06/22/11
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	110	80-127
1,2-Dichloroethane-d4	111	73-145
Toluene-d8	88	80-120
Bromofluorobenzene	95	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	176114
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	1.000		

Type: BS Lab ID: QC597421

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	112.5	139.4	124	46-141
Isopropyl Ether (DIPE)	22.50	23.40	104	52-139
Ethyl tert-Butyl Ether (ETBE)	22.50	25.57	114	56-131
Methyl tert-Amyl Ether (TAME)	22.50	22.06	98	65-120
MTBE	22.50	24.64	110	59-123
1,2-Dichloroethane	22.50	26.31	117	71-135
Benzene	22.50	24.07	107	80-122
Toluene	22.50	22.13	98	80-120
1,2-Dibromoethane	22.50	24.74	110	79-120
Ethylbenzene	22.50	23.19	103	80-120
m,p-Xylenes	45.00	46.27	103	80-120
o-Xylene	22.50	23.78	106	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	98	73-145
Toluene-d8	90	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC597422

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	112.5	135.5	120	46-141	3	31
Isopropyl Ether (DIPE)	22.50	24.75	110	52-139	6	20
Ethyl tert-Butyl Ether (ETBE)	22.50	26.05	116	56-131	2	20
Methyl tert-Amyl Ether (TAME)	22.50	23.11	103	65-120	5	20
MTBE	22.50	25.43	113	59-123	3	20
1,2-Dichloroethane	22.50	27.51	122	71-135	4	20
Benzene	22.50	25.51	113	80-122	6	20
Toluene	22.50	23.32	104	80-120	5	20
1,2-Dibromoethane	22.50	25.50	113	79-120	3	20
Ethylbenzene	22.50	24.68	110	80-120	6	20
m,p-Xylenes	45.00	49.19	109	80-120	6	20
o-Xylene	22.50	24.43	109	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	109	80-127
1,2-Dichloroethane-d4	100	73-145
Toluene-d8	88	80-120
Bromofluorobenzene	96	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	228819	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2764	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	176114
Units:	ug/L	Analyzed:	06/22/11
Diln Fac:	1.000		

Type: BS Lab ID: QC597423

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,002	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	122	80-127
1,2-Dichloroethane-d4	114	73-145
Toluene-d8	92	80-120
Bromofluorobenzene	105	80-120

Type: BSD Lab ID: QC597424

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	964.8	96	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	121	80-127
1,2-Dichloroethane-d4	116	73-145
Toluene-d8	93	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Data File: \\Gcmsserver\DD\chem\MSVOA09.i\062111.b\IFL19TVH.D

Date : 21-JUN-2011 22:05

Client ID: DYNA P&T

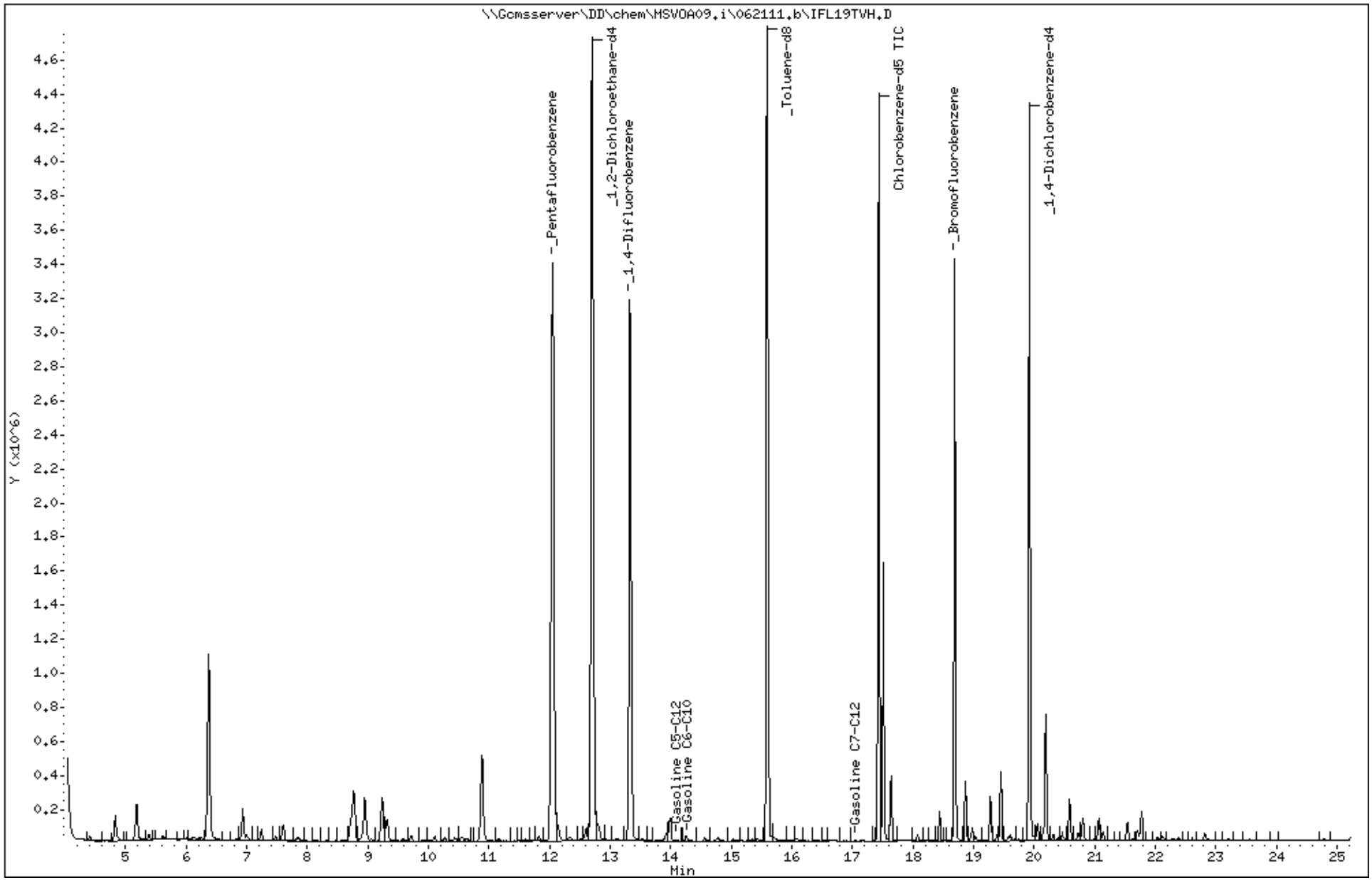
Instrument: MSVOA09.i

Sample Info: S,228819-002

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 21-JUN-2011 20:23

Client ID: DYNA P&T

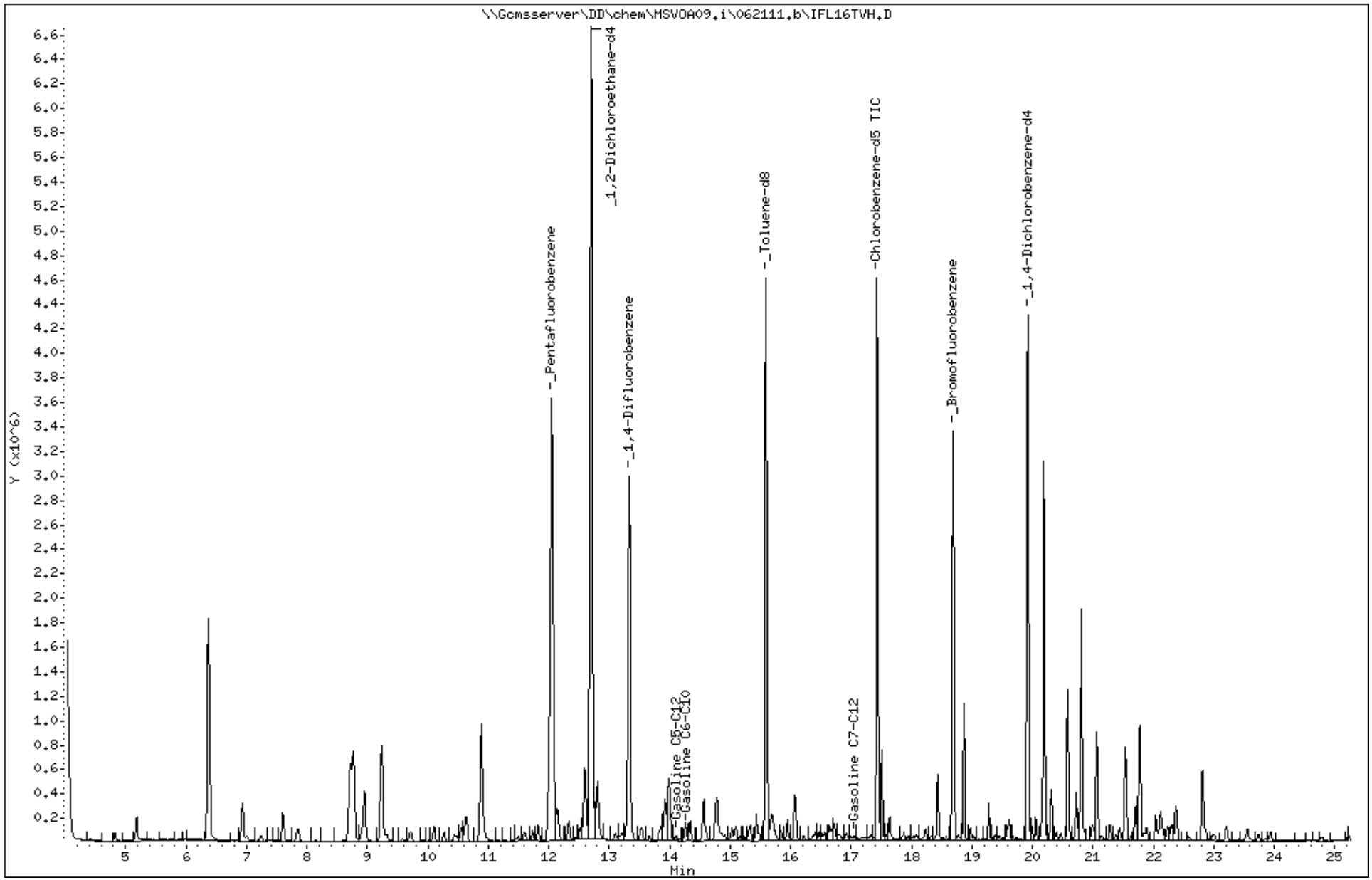
Instrument: MSVOA09.i

Sample Info: S,228819-002

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 23-JUN-2011 02:42

Client ID: DYNA P&T

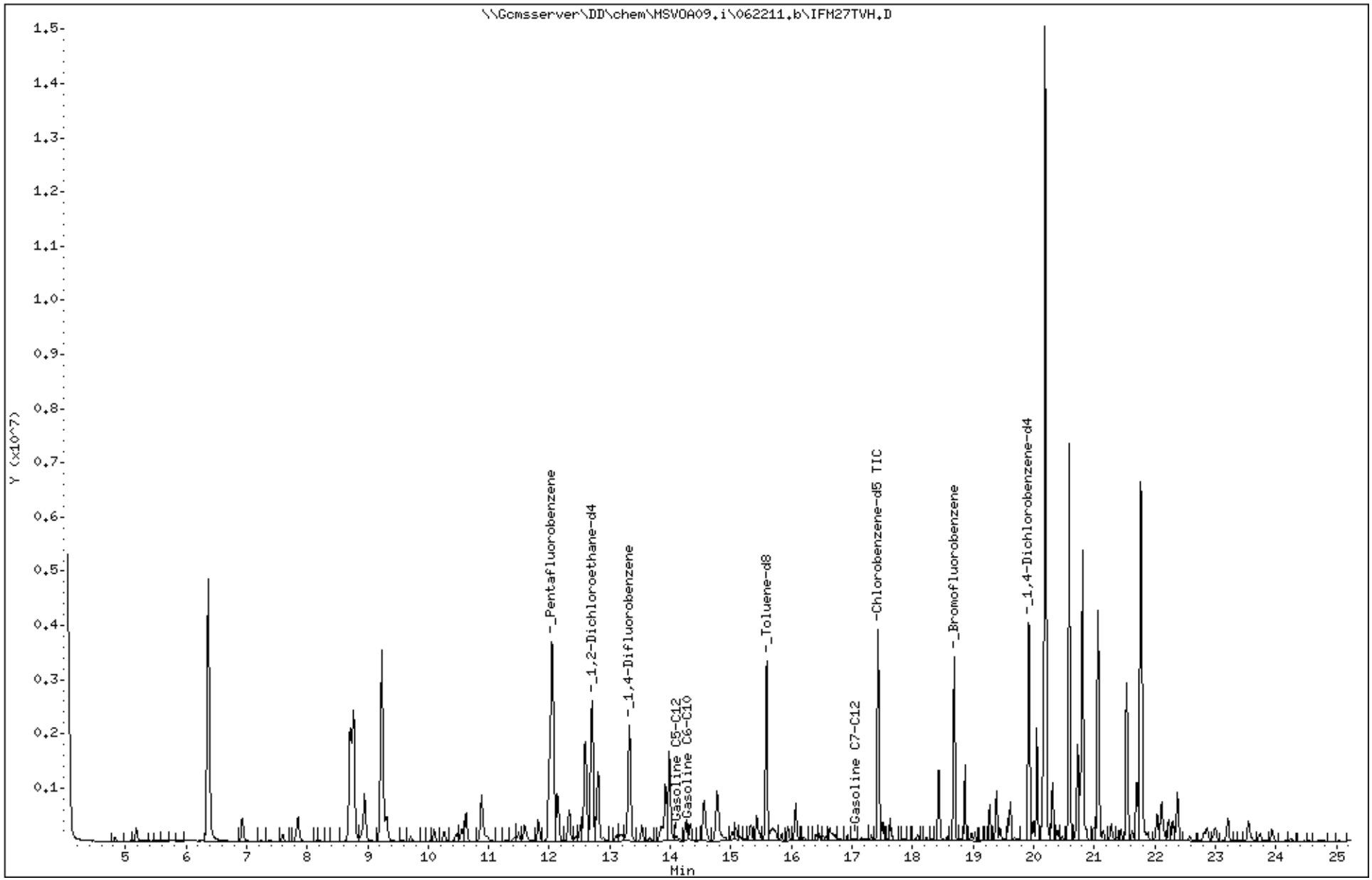
Instrument: MSVOA09.i

Sample Info: S,228819-003

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA09.i\062211.b\IFM28TVH.D

Date : 23-JUN-2011 03:16

Client ID: DYNA P&T

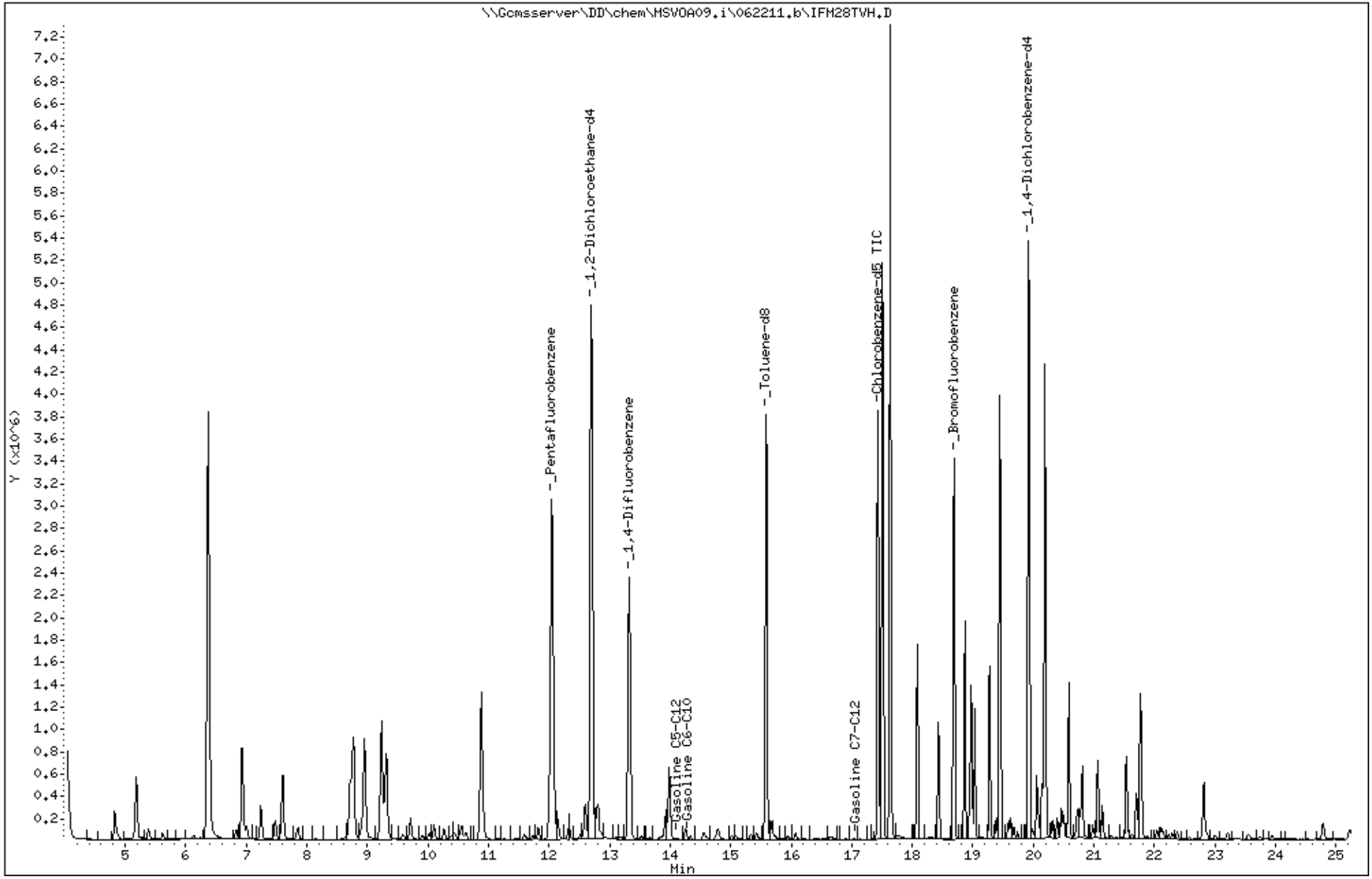
Instrument: MSVOA09.i

Sample Info: S,228819-004

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA09.i\062111.b\IFL05TVH.D

Date : 21-JUN-2011 13:44

Client ID: DYNA P&T

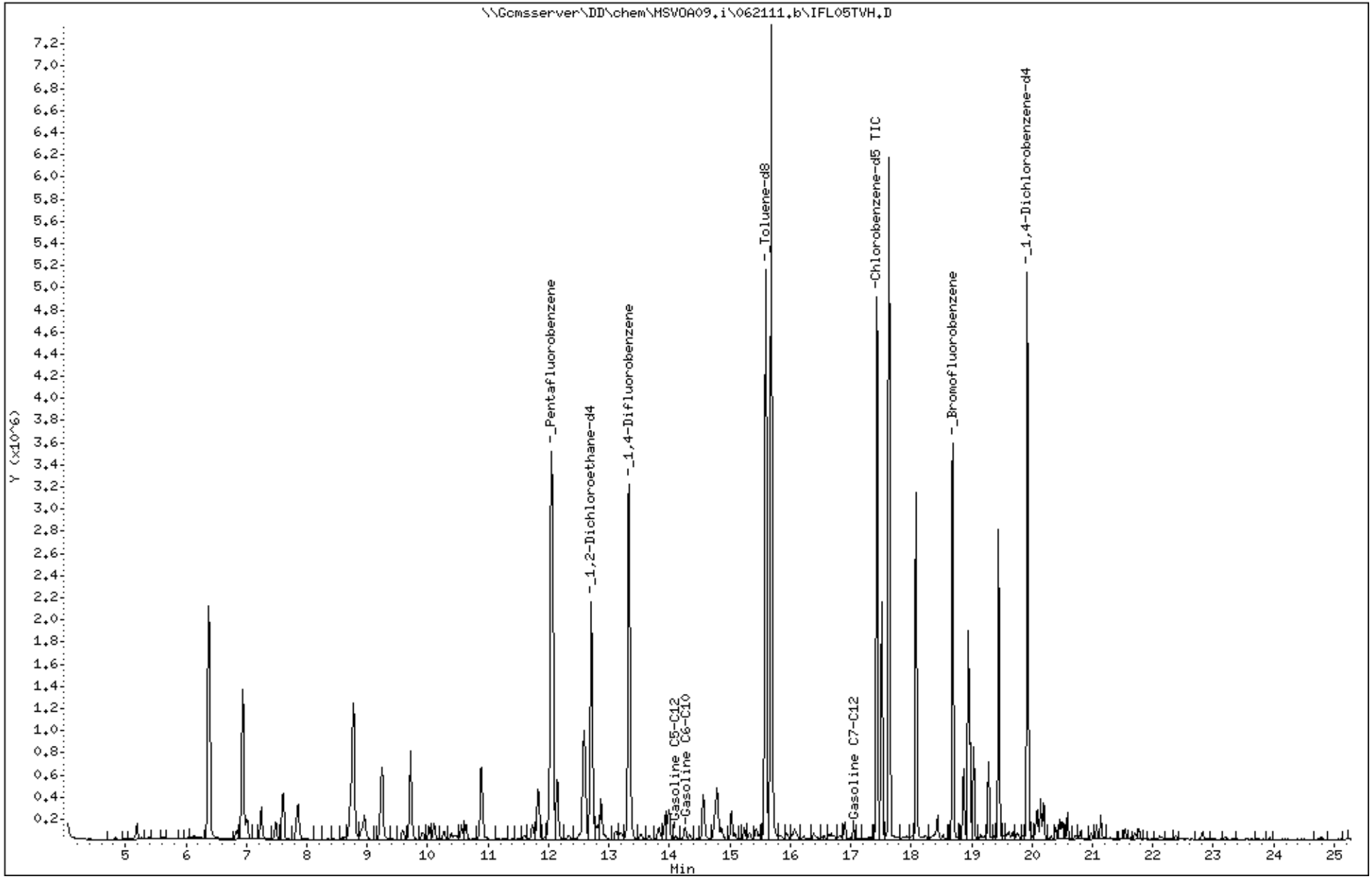
Instrument: MSVOA09.i

Sample Info: CCV/BS,QC597171,176053,S17254,0.0095/100

Operator: VOC

Column phase:

Column diameter: 2.00



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 229044
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2764
6620 Owens Dr.	Location : 3519 Castro Valley Blvd, Castro Valle
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
OB-1	229044-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 06/29/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**229044**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2764**
Location:	**3519 Castro Valley Blvd, Castro Valle**
Request Date:	**06/28/11**
Samples Received:	**06/28/11**

This data package contains sample and QC results for one water sample, requested for the above referenced project on 06/28/11. The sample was received cold and intact.

Metals (EPA 200.7):
No analytical problems were encountered.

CHAIN OF CUSTODY

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 229044

Sampler: Elena Manzo

Project No: 2764

Report To: Joyce Bobek

Project Name: 3519 Castro Valley Blvd., Castro Valley

Company : SOMA Environmental

Turnaround Time: ~~Standard~~ 24 H

Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Analyses: Arsenic	Analyses: ~~Lead~~ 200.7
	OB-1	6/28/11 12:50		*		500-ml Poly			*	*	X	
	~~EFF-2 EQE-GR~~			*		~~500-ml Poly~~			*	*		X

Notes: EDF OUTPUT REQUIRED Yes

RELINQUISHED BY:	RECEIVED BY:
6/28 1:07 DATE/TIME	6/28/11 1307 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Water on ice cold RC

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 229044 Date Received 6/28/11 Number of coolers 1
Client SOMA Project 2519 Castro Valley Blvd

Date Opened 6/28/11 By (print) Vidia Amoli (sign) [signature]
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
   Shipping info _____
2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
   How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO ~~N/A~~
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☒ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C
   Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) 2.5
   ☐ Samples Received on ice & cold without a temperature blank
   ☐ Samples received on ice directly from the field. Cooling process had begun
8. Were Method 5035 sampling containers present? _____ YES (NO)
   If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
11. Are sample labels present, in good condition and complete? _____ (YES) NO
12. Do the sample labels agree with custody papers? _____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
14. Are the samples appropriately preserved? _____ (YES) NO N/A
15. Did you check preservatives for all bottles for each sample? _____ (YES) NO N/A
16. Did you document your preservative check? _____ (YES) NO N/A
17. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
18. Are bubbles > 6mm absent in VOA samples? _____ YES NO (N/A)
19. Was the client contacted concerning this sample delivery? _____ YES (NO)
   If YES, Who was called? _____ By _____ Date: _____

COMMENTS

_____
_____
_____
_____
_____
_____

Curtis & Tompkins Sample Preservation for 229044

Sample	pH: <2	>12	Other
-001a	[✓]	[ ]	_____

Analyst: VC

Date: 6/28/11

Page 1 of 1

Curtis & Tompkins, Ltd.

Metals Analytical Report

Lab #:	229044	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Analyte:	Arsenic	Batch#:	176306
Field ID:	OB-1	Sampled:	06/27/11
Matrix:	Water	Received:	06/28/11
Units:	ug/L	Prepared:	06/28/11
Diln Fac:	1.000	Analyzed:	06/29/11

Type	Lab ID	Result	RL
SAMPLE	229044-001	20	6.1
BLANK	QC598220	ND	6.1

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	229044	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Analyte:	Arsenic	Batch#:	176306
Field ID:	ZZZZZZZZZZ	Sampled:	06/28/11
MSS Lab ID:	229049-001	Received:	06/28/11
Matrix:	Water	Prepared:	06/28/11
Units:	ug/L	Analyzed:	06/29/11
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC598221		100.0	112.2	112	80-128		
BSD	QC598222		100.0	111.2	111	80-128	1	20
MS	QC598223	138.1	100.0	245.2	107	70-139		
MSD	QC598224		100.0	235.0	97	70-139	4	28

RPD= Relative Percent Difference

Soma Environmental
6620 Owens Dr. Suite A
Pleasanton, California 94588
Tel: 925-734-6400
Fax: 925-734-6401

RE: 3519 Castro Valley Blvd

Work Order No.: 1106159

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 sample(s) on June 22, 2011 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

N. S. Kabir

Nutan Kabir

June 29, 2011
Date

Torrent LABORATORY, INC.

Date: 6/29/2011

Client: Soma Environmental

Project: 3519 Castro Valley Blvd

Work Order: 1106159

CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Torrent LABORATORY, INC.

Sample Result Summary

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/22/11
Date Reported: 06/29/11

Eff SOMA-7 1106159-001A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
Acetone	ETO15	5	4.4	48	18.6

INF SOMA-7 1106159-002A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
TPH-Gasoline	ETO3	100	18000	35000	150000
Benzene	ETO15	50	34	80	755

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/22/11
Date Reported: 06/29/11

Client Sample ID:	Eff SOMA-7	**Lab Sample ID:**	1106159-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/21/11 / 11:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
Dichlorodifluoromethane	ETO15	NA	06/22/11	5	7.6	25	ND	ND		405611	NA
1,1-Difluoroethane	ETO15	NA	06/22/11	5	2.5	6.8	ND	ND		405611	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/22/11	5	25	70	ND	ND		405611	NA
Chloromethane	ETO15	NA	06/22/11	5	1.6	5.3	ND	ND		405611	NA
Vinyl Chloride	ETO15	NA	06/22/11	5	3.3	13	ND	ND		405611	NA
1,3-Butadiene	ETO15	NA	06/22/11	5	2.2	5.5	ND	ND		405611	NA
Bromomethane	ETO15	NA	06/22/11	5	3.6	9.8	ND	ND		405611	NA
Chloroethane	ETO15	NA	06/22/11	5	2.5	6.5	ND	ND		405611	NA
Trichlorofluoromethane	ETO15	NA	06/22/11	5	9.0	28	ND	ND		405611	NA
1,1-Dichloroethene	ETO15	NA	06/22/11	5	3.1	10	ND	ND		405611	NA
Freon 113	ETO15	NA	06/22/11	5	4.2	19	ND	ND		405611	NA
Carbon Disulfide	ETO15	NA	06/22/11	5	4.1	16	ND	ND		405611	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/22/11	5	4.9	50	ND	ND		405611	NA
Methylene Chloride	ETO15	NA	06/22/11	5	2.9	18	ND	ND		405611	NA
Acetone	ETO15	NA	06/22/11	5	4.4	48	18.6	7.75	J	405611	NA
trans-1,2-Dichloroethene	ETO15	NA	06/22/11	5	3.2	10	ND	ND		405611	NA
Hexane	ETO15	NA	06/22/11	5	2.6	8.8	ND	ND		405611	NA
MTBE	ETO15	NA	06/22/11	5	4.3	9.0	ND	ND		405611	NA
tert-Butanol	ETO15	NA	06/22/11	5	4.6	42	ND	ND		405611	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/22/11	5	4.4	11	ND	ND		405611	NA
1,1-Dichloroethane	ETO15	NA	06/22/11	5	3.8	10	ND	ND		405611	NA
ETBE	ETO15	NA	06/22/11	5	3.4	11	ND	ND		405611	NA
cis-1,2-Dichloroethene	ETO15	NA	06/22/11	5	2.7	10	ND	ND		405611	NA
Chloroform	ETO15	NA	06/22/11	5	6.2	25	ND	ND		405611	NA
Vinyl Acetate	ETO15	NA	06/22/11	5	2.8	8.8	ND	ND		405611	NA
Carbon Tetrachloride	ETO15	NA	06/22/11	5	4.3	16	ND	ND		405611	NA
1,1,1-trichloroethane	ETO15	NA	06/22/11	5	4.2	14	ND	ND		405611	NA
2-Butanone (MEK)	ETO15	NA	06/22/11	5	3.1	7.5	ND	ND		405611	NA
Ethyl Acetate	ETO15	NA	06/22/11	5	3.7	9.0	ND	ND		405611	NA
Tetrahydrofuran	ETO15	NA	06/22/11	5	1.5	7.5	ND	ND		405611	NA
Benzene	ETO15	NA	06/22/11	5	3.4	8.0	ND	ND		405611	NA
TAME	ETO15	NA	06/22/11	5	1.8	11	ND	ND		405611	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/22/11	5	4.9	10	ND	ND		405611	NA
Trichloroethylene	ETO15	NA	06/22/11	5	6.9	27	ND	ND		405611	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/22/11
Date Reported: 06/29/11

Client Sample ID:	Eff SOMA-7	**Lab Sample ID:**	1106159-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/21/11 / 11:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,2-Dichloropropane	ETO15	NA	06/22/11	5	6.6	23	ND	ND		405611	NA
Bromodichloromethane	ETO15	NA	06/22/11	5	4.4	17	ND	ND		405611	NA
1,4-Dioxane	ETO15	NA	06/22/11	5	6.2	18	ND	ND		405611	NA
trans-1,3-Dichloropropene	ETO15	NA	06/22/11	5	4.3	11	ND	ND		405611	NA
Toluene	ETO15	NA	06/22/11	5	4.8	9.5	ND	ND		405611	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/22/11	5	4.2	10	ND	ND		405611	NA
cis-1,3-Dichloropropene	ETO15	NA	06/22/11	5	5.6	11	ND	ND		405611	NA
Tetrachloroethylene	ETO15	NA	06/22/11	5	4.5	17	ND	ND		405611	NA
1,1,2-Trichloroethane	ETO15	NA	06/22/11	5	4.6	14	ND	ND		405611	NA
Dibromochloromethane	ETO15	NA	06/22/11	5	8.7	21	ND	ND		405611	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/22/11	5	10	39	ND	ND		405611	NA

NOTE: Reporting limits were raised due to limited sample volume received (tedlar).

2-Hexanone	ETO15	NA	06/22/11	5	5.6	21	ND	ND		405611	NA
Ethyl Benzene	ETO15	NA	06/22/11	5	5.0	11	ND	ND		405611	NA
Chlorobenzene	ETO15	NA	06/22/11	5	3.6	12	ND	ND		405611	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/22/11	5	5.2	17	ND	ND		405611	NA
m,p-Xylene	ETO15	NA	06/22/11	5	8.1	22	ND	ND		405611	NA
o-Xylene	ETO15	NA	06/22/11	5	4.0	11	ND	ND		405611	NA
Styrene	ETO15	NA	06/22/11	5	3.4	11	ND	ND		405611	NA
Bromoform	ETO15	NA	06/22/11	5	5.5	25	ND	ND		405611	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/22/11	5	3.5	17	ND	ND		405611	NA
4-Ethyl Toluene	ETO15	NA	06/22/11	5	4.1	12	ND	ND		405611	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/22/11	5	3.8	12	ND	ND		405611	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/22/11	5	3.4	12	ND	ND		405611	NA
1,4-Dichlorobenzene	ETO15	NA	06/22/11	5	3.2	15	ND	ND		405611	NA
1,3-Dichlorobenzene	ETO15	NA	06/22/11	5	4.2	15	ND	ND		405611	NA
Benzyl Chloride	ETO15	NA	06/22/11	5	3.1	13	ND	ND		405611	NA
1,2-Dichlorobenzene	ETO15	NA	06/22/11	5	4.5	15	ND	ND		405611	NA
Hexachlorobutadiene	ETO15	NA	06/22/11	5	12	28	ND	ND		405611	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/22/11	5	17	37	ND	ND		405611	NA
Naphthalene	ETO15	NA	06/22/11	5	7.3	26	ND	ND		405611	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/22/11	5	65	135	90.8 %			405611	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/22/11
Date Reported: 06/29/11

Client Sample ID:	Eff SOMA-7	**Lab Sample ID:**	1106159-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/21/11 / 11:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
TPH-Gasoline	ETO3	NA	06/22/11	10	1800	3500	ND	ND		405617	NA

NOTE: Raised reporting limit - see comment for TO-15 analysis.

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/22/11
Date Reported: 06/29/11

Client Sample ID:	INF SOMA-7	**Lab Sample ID:**	1106159-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/21/11 / 11:30	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
Dichlorodifluoromethane	ETO15	NA	06/22/11	50	76	250	ND	ND		405611	NA
1,1-Difluoroethane	ETO15	NA	06/22/11	50	25	68	ND	ND		405611	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/22/11	50	250	700	ND	ND		405611	NA
Chloromethane	ETO15	NA	06/22/11	50	16	53	ND	ND		405611	NA
Vinyl Chloride	ETO15	NA	06/22/11	50	33	130	ND	ND		405611	NA
1,3-Butadiene	ETO15	NA	06/22/11	50	22	55	ND	ND		405611	NA
Bromomethane	ETO15	NA	06/22/11	50	36	98	ND	ND		405611	NA
Chloroethane	ETO15	NA	06/22/11	50	25	65	ND	ND		405611	NA
Trichlorofluoromethane	ETO15	NA	06/22/11	50	90	280	ND	ND		405611	NA
1,1-Dichloroethene	ETO15	NA	06/22/11	50	31	100	ND	ND		405611	NA
Freon 113	ETO15	NA	06/22/11	50	42	190	ND	ND		405611	NA
Carbon Disulfide	ETO15	NA	06/22/11	50	41	160	ND	ND		405611	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/22/11	50	49	500	ND	ND		405611	NA
Methylene Chloride	ETO15	NA	06/22/11	50	29	180	ND	ND		405611	NA
Acetone	ETO15	NA	06/22/11	50	44	480	ND	ND		405611	NA
trans-1,2-Dichloroethene	ETO15	NA	06/22/11	50	32	100	ND	ND		405611	NA
Hexane	ETO15	NA	06/22/11	50	26	88	ND	ND		405611	NA
MTBE	ETO15	NA	06/22/11	50	43	90	ND	ND		405611	NA
tert-Butanol	ETO15	NA	06/22/11	50	46	420	ND	ND		405611	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/22/11	50	44	110	ND	ND		405611	NA
1,1-Dichloroethane	ETO15	NA	06/22/11	50	38	100	ND	ND		405611	NA
ETBE	ETO15	NA	06/22/11	50	34	110	ND	ND		405611	NA
cis-1,2-Dichloroethene	ETO15	NA	06/22/11	50	27	100	ND	ND		405611	NA
Chloroform	ETO15	NA	06/22/11	50	62	250	ND	ND		405611	NA
Vinyl Acetate	ETO15	NA	06/22/11	50	28	88	ND	ND		405611	NA
Carbon Tetrachloride	ETO15	NA	06/22/11	50	43	160	ND	ND		405611	NA
1,1,1-trichloroethane	ETO15	NA	06/22/11	50	42	140	ND	ND		405611	NA
2-Butanone (MEK)	ETO15	NA	06/22/11	50	31	75	ND	ND		405611	NA
Ethyl Acetate	ETO15	NA	06/22/11	50	37	90	ND	ND		405611	NA
Tetrahydrofuran	ETO15	NA	06/22/11	50	15	75	ND	ND		405611	NA
Benzene	ETO15	NA	06/22/11	50	34	80	755	235.94		405611	NA
TAME	ETO15	NA	06/22/11	50	18	110	ND	ND		405611	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/22/11	50	49	100	ND	ND		405611	NA
Trichloroethylene	ETO15	NA	06/22/11	50	69	270	ND	ND		405611	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/22/11
Date Reported: 06/29/11

Client Sample ID:	INF SOMA-7	**Lab Sample ID:**	1106159-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/21/11 / 11:30	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,2-Dichloropropane	ETO15	NA	06/22/11	50	66	230	ND	ND		405611	NA
Bromodichloromethane	ETO15	NA	06/22/11	50	44	170	ND	ND		405611	NA
1,4-Dioxane	ETO15	NA	06/22/11	50	62	180	ND	ND		405611	NA
trans-1,3-Dichloropropene	ETO15	NA	06/22/11	50	43	110	ND	ND		405611	NA
Toluene	ETO15	NA	06/22/11	50	48	95	ND	ND		405611	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/22/11	50	42	100	ND	ND		405611	NA
cis-1,3-Dichloropropene	ETO15	NA	06/22/11	50	56	110	ND	ND		405611	NA
Tetrachloroethylene	ETO15	NA	06/22/11	50	45	170	ND	ND		405611	NA
1,1,2-Trichloroethane	ETO15	NA	06/22/11	50	46	140	ND	ND		405611	NA
Dibromochloromethane	ETO15	NA	06/22/11	50	87	210	ND	ND		405611	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/22/11	50	100	390	ND	ND		405611	NA
2-Hexanone	ETO15	NA	06/22/11	50	56	210	ND	ND		405611	NA
Ethyl Benzene	ETO15	NA	06/22/11	50	50	110	ND	ND		405611	NA
Chlorobenzene	ETO15	NA	06/22/11	50	36	120	ND	ND		405611	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/22/11	50	52	170	ND	ND		405611	NA
m,p-Xylene	ETO15	NA	06/22/11	50	81	220	ND	ND		405611	NA
o-Xylene	ETO15	NA	06/22/11	50	40	110	ND	ND		405611	NA
Styrene	ETO15	NA	06/22/11	50	34	110	ND	ND		405611	NA
Bromoform	ETO15	NA	06/22/11	50	55	250	ND	ND		405611	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/22/11	50	35	170	ND	ND		405611	NA
4-Ethyl Toluene	ETO15	NA	06/22/11	50	41	120	ND	ND		405611	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/22/11	50	38	120	ND	ND		405611	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/22/11	50	34	120	ND	ND		405611	NA
1,4-Dichlorobenzene	ETO15	NA	06/22/11	50	32	150	ND	ND		405611	NA
1,3-Dichlorobenzene	ETO15	NA	06/22/11	50	42	150	ND	ND		405611	NA
Benzyl Chloride	ETO15	NA	06/22/11	50	31	130	ND	ND		405611	NA
1,2-Dichlorobenzene	ETO15	NA	06/22/11	50	45	150	ND	ND		405611	NA
Hexachlorobutadiene	ETO15	NA	06/22/11	50	120	280	ND	ND		405611	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/22/11	50	170	370	ND	ND		405611	NA
Naphthalene	ETO15	NA	06/22/11	50	73	260	ND	ND		405611	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/22/11	50	65	135	90.4 %			405611	NA

NOTE: The reporting limits were raised due to the high concentration of non-target light end compounds.

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/22/11
Date Reported: 06/29/11

Client Sample ID:	INF SOMA-7	**Lab Sample ID:**	1106159-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/21/11 / 11:30	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	06/22/11	100	18000	35000	150000	42,613.64	x	405617	NA

NOTE: x - Not typical of Gasoline standard pattern. Result due to light end, non-target compounds within C5 to C12 range quantified as gasoline.

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106159	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/22/11	**Analytical Batch:**	405611
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dichlorodifluoromethane	0.30	1.00	ND	
1,1-Difluoroethane	0.18	0.500	ND	
1,2-Dichlorotetrafluoroethane	0.70	2.00	ND	
Chloromethane	0.15	0.500	ND	
Vinyl Chloride	0.26	1.00	ND	
1,3-Butadiene	0.20	0.500	ND	
Bromomethane	0.18	0.500	ND	
Chloroethane	0.19	0.500	ND	
Trichlorofluoromethane	0.32	1.00	ND	
1,1-Dichloroethene	0.15	0.500	ND	
Freon 113	0.11	0.500	ND	
Carbon Disulfide	0.26	1.00	ND	
2-Propanol (Isopropyl Alcohol)	0.39	4.00	ND	
Methylene Chloride	0.17	0.500	ND	
Acetone	0.37	4.00	ND	
trans-1,2-Dichloroethene	0.16	0.500	ND	
Hexane	0.15	0.500	ND	
MTBE	0.24	0.500	ND	
tert-Butanol	0.22	2.00	ND	
Diisopropyl ether (DIPE)	0.21	0.500	ND	
1,1-Dichloroethane	0.18	0.500	ND	
ETBE	0.16	0.500	ND	
cis-1,2-Dichloroethene	0.13	0.500	ND	
Chloroform	0.25	1.00	ND	
Vinyl Acetate	0.16	0.500	ND	
Carbon Tetrachloride	0.14	0.500	ND	
1,1,1-Trichloroethane	0.15	0.500	ND	
2-Butanone (MEK)	0.21	0.500	ND	
Ethyl Acetate	0.21	0.500	ND	
Tetrahydrofuran	0.10	0.500	ND	
Benzene	0.21	0.500	ND	
TAME	0.086	0.500	ND	
1,2-Dichloroethane (EDC)	0.24	0.500	ND	
Trichloroethylene	0.26	1.00	ND	
1,2-Dichloropropane	0.29	1.00	ND	
Bromodichloromethane	0.13	0.500	ND	
1,4-Dioxane	0.35	1.00	ND	
trans-1,3-Dichloropropene	0.19	0.500	ND	
Toluene	0.25	0.500	ND	
4-Methyl-2-Pentanone (MIBK)	0.21	0.500	ND	
cis-1,3-Dichloropropene	0.25	0.500	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106159	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/22/11	**Analytical Batch:**	405611
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Tetrachloroethylene	0.13	0.500	ND	
1,1,2-Trichloroethane	0.17	0.500	ND	
Dibromochloromethane	0.20	0.500	ND	
1,2-Dibromoethane (EDB)	0.27	1.00	ND	
2-Hexanone	0.27	1.00	ND	
Ethyl Benzene	0.23	0.500	ND	
Chlorobenzene	0.15	0.500	ND	
1,1,1,2-Tetrachloroethane	0.15	0.500	ND	
m,p-Xylene	0.38	1.00	ND	
o-Xylene	0.19	0.500	ND	
Styrene	0.16	0.500	ND	
Bromoform	0.11	0.500	ND	
1,1,2,2-Tetrachloroethane	0.10	0.500	ND	
4-Ethyl Toluene	0.17	0.500	ND	
1,3,5-Trimethylbenzene	0.15	0.500	ND	
1,2,4-Trimethylbenzene	0.14	0.500	ND	
1,4-Dichlorobenzene	0.11	0.500	ND	
1,3-Dichlorobenzene	0.14	0.500	ND	
Benzyl Chloride	0.12	0.500	ND	
1,2-Dichlorobenzene	0.15	0.500	ND	
Hexachlorobutadiene	0.22	0.500	ND	
1,2,4-Trichlorobenzene	0.46	1.00	ND	
Naphthalene	0.28	1.00	ND	
(S) 4-Bromofluorobenzene			114	

Work Order:	1106159	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	06/22/11	**Analytical Batch:**	405617
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH-Gasoline	50	100	ND	

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1106159	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/22/11	**Analytical Batch:**	405611
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.15	0.500	ND	20	101	105	3.68	65 - 135	30	
Benzene	0.21	0.500	ND	20	119	116	2.12	65 - 135	30	
Trichloroethylene	0.26	1.00	ND	20	123	122	0.368	65 - 135	30	
Toluene	0.25	0.500	ND	20	114	119	3.60	65 - 135	30	
Chlorobenzene	0.15	0.500	ND	20	109	111	2.14	65 - 135	30	
(S) 4-Bromofluorobenzene			ND	20	85.0	85.0		65 - 135		

Work Order:	1106159	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	06/22/11	**Analytical Batch:**	405617
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH-Gasoline	50	100	ND	500	99.5	92.6	7.19	50 - 150	30	

Laboratory Qualifiers and Definitions

DEFINITIONS:

Accuracy/Bias (% Recovery) - The closeness of agreement between an observed value and an accepted reference value.
Blank (Method/Preparation Blank) -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
Duplicate - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
Laboratory Control Sample (LCS ad LCSD) - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
Matrix - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
Matrix Spike (MS/MSD) - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
Method Detection Limit (MDL) - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
Practical Quantitation Limit (PQL) - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
Precision (%RPD) - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
Surrogate (S) or (Surr) - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
Tentatively Identified Compound (TIC) - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
Units: the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** (equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** (concentration found on the surface of a single Wipe usually taken over a 100cm2 surface)

LABORATORY QUALIFIERS:

B - Indicates when the anlayte is found in the associated method or preparation blank
D - Surrogate is not recoverable due to the necessary dilution of the sample
E - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
H- Indicates that the recommended holding time for the analyte or compound has been exceeded
J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative
NA - Not Analyzed
N/A - Not Applicable
NR - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
S- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
X -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

Sample Receipt Checklist

Client Name: Soma Environmental

Project Name: 3519 Castro Valley Blvd

Work Order No.: 1106159

Date and Time Received: 6/22/2011 12:23

Received By: PS

Physically Logged By: PS

Checklist Completed By: PS

Carrier Name: Hi-Speed Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes
Chain of custody signed when relinquished and received?	Yes
Chain of custody agrees with sample labels?	
Custody seals intact on sample bottles?	Not Present

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Not Present
Shipping Container/Cooler In Good Condition?	Yes
Samples in proper container/bottle?	Yes
Samples containers intact?	Yes
Sufficient sample volume for indicated test?	Yes

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes			
Container/Temp Blank temperature in compliance?	Yes	Temperature:	25	°C
Water-VOA vials have zero headspace?	No VOA vials submitted			
Water-pH acceptable upon receipt?	N/A			

pH Checked by: pH Adjusted by:

Login Summary Report

Client ID:	TL5237 Soma Environmental	**QC Level:**	
Project Name:	3519 Castro Valley Blvd	**TAT Requested:**	5+ day:0
Project # :	2765	**Date Received:**	6/22/2011
Report Due Date:	6/29/2011	**Time Received:**	12:23

Comments: 5 Day TAT!! Two Tedlars received for full TO15 and TO3. Report to Joyce!

Work Order # : ***1106159***

WO Sample ID	Client Sample ID	Collection Date/Time	Matrix	Scheduled Disposal	Sample On Hold	Test On Hold	Requested Tests	Subbed
1106159-001A	Eff SOMA-7	06/21/11 11:20	Air				EDF A_TO-3GRO A_TO-15Full-B A_TO-15Full-A	
Sample Note:	Full TO15 and TO3!							
1106159-002A	INF SOMA-7	06/21/11 11:30	Air				A_TO-3GRO A_TO-15Full-B A_TO-15Full-A	

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.
483 Sinclair Frontage Road
Milpitas, CA 95035
Phone: 408.263.5258
FAX: 408.263.8293
www.torrentlab.com

RESET

CHAIN OF CUSTODY

NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY

LAB WORK ORDER NO: 1106159

Company Name: **SOMA Environmental Engineering, Inc.**			Location of Sampling: **(3519 Castro Valley Blvd Castro Valley)**
Address: **6620 Owens Drive, Suite A**			Purpose: **Soil Vapor Sampling**
City: **Pleasanton**	State: **CA**	Zip Code: **94588**	Special Instructions / Comments:
Telephone: **925-734-6400**	FAX: **925-734-6401**		**Methane**
REPORT TO: **Joyce Bobek**	SAMPLER: **Lizzie Hightower**		P.O. #: **2765** EMAIL: **jbobek@somaenv.com**

TURNAROUND TIME:
☐ 10 Work Days ☐ 3 Work Days ☐ Noon - Nxt Day
☐ 7 Work Days ☐ 2 Work Days ☐ 2 - 8 Hours
☑ 5 Work Days ☐ 1 Work Day ☐ Other

SAMPLE TYPE:
☐ Storm Water ☑ Air
☐ Waste Water ☐ Other
☐ Ground Water
☐ Soil

REPORT FORMAT:
☐ QC Level IV
☐ EDF
☐ Excel / EDD

ANALYSIS REQUESTED

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TO-15	TO-3							REMARKS
001	Eff SOMA-7	6/21/2011 11:20		1	Tedlar	✓	✓							
002	Inf SOMA-7	6/21/2011 11:30		1	Tedlar	✓	✓							

	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:
1	Erica Fisher	6/21/11	6/21/11	12:00		ELENA MANZO	6/21/11	12:04
2		ELENA MANZO	6/22/11	9:00 am		Robert Carpenter	6/22/11	10:05 am

Were Samples Received in Good Condition? ☐ Yes ☐ NO Samples on Ice? ☐ Yes ☐ NO Method of Shipment Hi-Speed Sample seals intact? ☐ Yes ☐ NO ☐ N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrangements are made.

Log In By: Date: Log In Reviewed By: Date:

Page 1 of 1

Soma Environmental
6620 Owens Dr. Suite A
Pleasanton, California 94588
Tel: 925-734-6400
Fax: 925-734-6401

RE: 3519 Castro Valley Blvd

Work Order No.: 1106167

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 sample(s) on June 23, 2011 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Patti Sandrock

June 29, 2011
Date

Date: 6/29/2011

Client: Soma Environmental

Project: 3519 Castro Valley Blvd

Work Order: 1106167

CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Torrent LABORATORY, INC.

Sample Result Summary

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/23/11
Date Reported: 06/29/11

Eff SOMA-5 1106167-001A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
Acetone	ETO15	5	4.4	48	17.3

INF SOMA-5 1106167-002A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
tert-Butanol	ETO15	20	18	170	399
Benzene	ETO15	20	14	32	1030
Ethyl Benzene	ETO15	20	20	43	285
m,p-Xylene	ETO15	20	32	86	568
o-Xylene	ETO15	20	16	43	139
TPH-Gasoline	ETO3	20	3500	7000	41000

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/23/11
Date Reported: 06/29/11

Client Sample ID:	Eff SOMA-5	**Lab Sample ID:**	1106167-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/23/11 / 8:30	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
Dichlorodifluoromethane	ETO15	NA	06/23/11	5	7.6	25	ND	ND		405622	NA
1,1-Difluoroethane	ETO15	NA	06/23/11	5	2.5	6.8	ND	ND		405622	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/23/11	5	25	70	ND	ND		405622	NA
Chloromethane	ETO15	NA	06/23/11	5	1.6	5.3	ND	ND		405622	NA
Vinyl Chloride	ETO15	NA	06/23/11	5	3.3	13	ND	ND		405622	NA
1,3-Butadiene	ETO15	NA	06/23/11	5	2.2	5.5	ND	ND		405622	NA
Bromomethane	ETO15	NA	06/23/11	5	3.6	9.8	ND	ND		405622	NA
Chloroethane	ETO15	NA	06/23/11	5	2.5	6.5	ND	ND		405622	NA
Trichlorofluoromethane	ETO15	NA	06/23/11	5	9.0	28	ND	ND		405622	NA
1,1-Dichloroethene	ETO15	NA	06/23/11	5	3.1	10	ND	ND		405622	NA
Freon 113	ETO15	NA	06/23/11	5	4.2	19	ND	ND		405622	NA
Carbon Disulfide	ETO15	NA	06/23/11	5	4.1	16	ND	ND		405622	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/23/11	5	4.9	50	ND	ND		405622	NA
Methylene Chloride	ETO15	NA	06/23/11	5	2.9	18	ND	ND		405622	NA
Acetone	ETO15	NA	06/23/11	5	4.4	48	17.3	7.21	J	405622	NA
trans-1,2-Dichloroethene	ETO15	NA	06/23/11	5	3.2	10	ND	ND		405622	NA
Hexane	ETO15	NA	06/23/11	5	2.6	8.8	ND	ND		405622	NA
MTBE	ETO15	NA	06/23/11	5	4.3	9.0	ND	ND		405622	NA
tert-Butanol	ETO15	NA	06/23/11	5	4.6	42	ND	ND		405622	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/23/11	5	4.4	11	ND	ND		405622	NA
1,1-Dichloroethane	ETO15	NA	06/23/11	5	3.8	10	ND	ND		405622	NA
ETBE	ETO15	NA	06/23/11	5	3.4	11	ND	ND		405622	NA
cis-1,2-Dichloroethene	ETO15	NA	06/23/11	5	2.7	10	ND	ND		405622	NA
Chloroform	ETO15	NA	06/23/11	5	6.2	25	ND	ND		405622	NA
Vinyl Acetate	ETO15	NA	06/23/11	5	2.8	8.8	ND	ND		405622	NA
Carbon Tetrachloride	ETO15	NA	06/23/11	5	4.3	16	ND	ND		405622	NA
1,1,1-trichloroethane	ETO15	NA	06/23/11	5	4.2	14	ND	ND		405622	NA
2-Butanone (MEK)	ETO15	NA	06/23/11	5	3.1	7.5	ND	ND		405622	NA
Ethyl Acetate	ETO15	NA	06/23/11	5	3.7	9.0	ND	ND		405622	NA
Tetrahydrofuran	ETO15	NA	06/23/11	5	1.5	7.5	ND	ND		405622	NA
Benzene	ETO15	NA	06/23/11	5	3.4	8.0	ND	ND		405622	NA
TAME	ETO15	NA	06/23/11	5	1.8	11	ND	ND		405622	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/23/11	5	4.9	10	ND	ND		405622	NA
Trichloroethylene	ETO15	NA	06/23/11	5	6.9	27	ND	ND		405622	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/23/11
Date Reported: 06/29/11

Client Sample ID:	Eff SOMA-5	**Lab Sample ID:**	1106167-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/23/11 / 8:30	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,2-Dichloropropane	ETO15	NA	06/23/11	5	6.6	23	ND	ND		405622	NA
Bromodichloromethane	ETO15	NA	06/23/11	5	4.4	17	ND	ND		405622	NA
1,4-Dioxane	ETO15	NA	06/23/11	5	6.2	18	ND	ND		405622	NA
trans-1,3-Dichloropropene	ETO15	NA	06/23/11	5	4.3	11	ND	ND		405622	NA
Toluene	ETO15	NA	06/23/11	5	4.8	9.5	ND	ND		405622	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/23/11	5	4.2	10	ND	ND		405622	NA
cis-1,3-Dichloropropene	ETO15	NA	06/23/11	5	5.6	11	ND	ND		405622	NA
Tetrachloroethylene	ETO15	NA	06/23/11	5	4.5	17	ND	ND		405622	NA
1,1,2-Trichloroethane	ETO15	NA	06/23/11	5	4.6	14	ND	ND		405622	NA
Dibromochloromethane	ETO15	NA	06/23/11	5	8.7	21	ND	ND		405622	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/23/11	5	10	39	ND	ND		405622	NA
2-Hexanone	ETO15	NA	06/23/11	5	5.6	21	ND	ND		405622	NA
Ethyl Benzene	ETO15	NA	06/23/11	5	5.0	11	ND	ND		405622	NA
Chlorobenzene	ETO15	NA	06/23/11	5	3.6	12	ND	ND		405622	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/23/11	5	5.2	17	ND	ND		405622	NA
m,p-Xylene	ETO15	NA	06/23/11	5	8.1	22	ND	ND		405622	NA
o-Xylene	ETO15	NA	06/23/11	5	4.0	11	ND	ND		405622	NA
Styrene	ETO15	NA	06/23/11	5	3.4	11	ND	ND		405622	NA
Bromoform	ETO15	NA	06/23/11	5	5.5	25	ND	ND		405622	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/23/11	5	3.5	17	ND	ND		405622	NA
4-Ethyl Toluene	ETO15	NA	06/23/11	5	4.1	12	ND	ND		405622	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/23/11	5	3.8	12	ND	ND		405622	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/23/11	5	3.4	12	ND	ND		405622	NA
1,4-Dichlorobenzene	ETO15	NA	06/23/11	5	3.2	15	ND	ND		405622	NA
1,3-Dichlorobenzene	ETO15	NA	06/23/11	5	4.2	15	ND	ND		405622	NA
Benzyl Chloride	ETO15	NA	06/23/11	5	3.1	13	ND	ND		405622	NA
1,2-Dichlorobenzene	ETO15	NA	06/23/11	5	4.5	15	ND	ND		405622	NA
Hexachlorobutadiene	ETO15	NA	06/23/11	5	12	28	ND	ND		405622	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/23/11	5	17	37	ND	ND		405622	NA
Naphthalene	ETO15	NA	06/23/11	5	7.3	26	ND	ND		405622	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/23/11	5	65	135	98.9 %			405622	NA

NOTE: Reporting limits were raised due to limited sample volume received (tedlar).

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/23/11
Date Reported: 06/29/11

Client Sample ID:	Eff SOMA-5	**Lab Sample ID:**	1106167-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/23/11 / 8:30	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
TPH-Gasoline	ETO3	NA	06/23/11	10	1800	3500	ND	ND		405623	NA

NOTE: Raised reporting limit - see comment for TO-15 analysis.

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/23/11
Date Reported: 06/29/11

Client Sample ID:	INF SOMA-5	**Lab Sample ID:**	1106167-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/23/11 / 8:45	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Dichlorodifluoromethane	ETO15	NA	06/23/11	20	30	100	ND	ND		405622	NA
1,1-Difluoroethane	ETO15	NA	06/23/11	20	10	27	ND	ND		405622	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/23/11	20	99	280	ND	ND		405622	NA
Chloromethane	ETO15	NA	06/23/11	20	6.4	21	ND	ND		405622	NA
Vinyl Chloride	ETO15	NA	06/23/11	20	13	52	ND	ND		405622	NA
1,3-Butadiene	ETO15	NA	06/23/11	20	8.9	22	ND	ND		405622	NA
Bromomethane	ETO15	NA	06/23/11	20	14	39	ND	ND		405622	NA
Chloroethane	ETO15	NA	06/23/11	20	10	26	ND	ND		405622	NA
Trichlorofluoromethane	ETO15	NA	06/23/11	20	36	110	ND	ND		405622	NA
1,1-Dichloroethene	ETO15	NA	06/23/11	20	12	40	ND	ND		405622	NA
Freon 113	ETO15	NA	06/23/11	20	17	77	ND	ND		405622	NA
Carbon Disulfide	ETO15	NA	06/23/11	20	16	62	ND	ND		405622	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/23/11	20	19	200	ND	ND		405622	NA
Methylene Chloride	ETO15	NA	06/23/11	20	12	70	ND	ND		405622	NA
Acetone	ETO15	NA	06/23/11	20	18	190	ND	ND		405622	NA
trans-1,2-Dichloroethene	ETO15	NA	06/23/11	20	13	40	ND	ND		405622	NA
Hexane	ETO15	NA	06/23/11	20	11	35	ND	ND		405622	NA
MTBE	ETO15	NA	06/23/11	20	17	36	ND	ND		405622	NA
tert-Butanol	ETO15	NA	06/23/11	20	18	170	399	95.00		405622	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/23/11	20	18	42	ND	ND		405622	NA
1,1-Dichloroethane	ETO15	NA	06/23/11	20	15	41	ND	ND		405622	NA
ETBE	ETO15	NA	06/23/11	20	14	42	ND	ND		405622	NA
cis-1,2-Dichloroethene	ETO15	NA	06/23/11	20	11	40	ND	ND		405622	NA
Chloroform	ETO15	NA	06/23/11	20	25	98	ND	ND		405622	NA
Vinyl Acetate	ETO15	NA	06/23/11	20	11	35	ND	ND		405622	NA
Carbon Tetrachloride	ETO15	NA	06/23/11	20	17	63	ND	ND		405622	NA
1,1,1-trichloroethane	ETO15	NA	06/23/11	20	17	55	ND	ND		405622	NA
2-Butanone (MEK)	ETO15	NA	06/23/11	20	13	30	ND	ND		405622	NA
Ethyl Acetate	ETO15	NA	06/23/11	20	15	36	ND	ND		405622	NA
Tetrahydrofuran	ETO15	NA	06/23/11	20	6.0	30	ND	ND		405622	NA
Benzene	ETO15	NA	06/23/11	20	14	32	1030	321.88		405622	NA
TAME	ETO15	NA	06/23/11	20	7.2	42	ND	ND		405622	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/23/11	20	20	41	ND	ND		405622	NA
Trichloroethylene	ETO15	NA	06/23/11	20	28	110	ND	ND		405622	NA
1,2-Dichloropropane	ETO15	NA	06/23/11	20	26	92	ND	ND		405622	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/23/11
Date Reported: 06/29/11

Client Sample ID:	INF SOMA-5	**Lab Sample ID:**	1106167-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/23/11 / 8:45	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Bromodichloromethane	ETO15	NA	06/23/11	20	18	67	ND	ND		405622	NA
1,4-Dioxane	ETO15	NA	06/23/11	20	25	72	ND	ND		405622	NA
trans-1,3-Dichloropropene	ETO15	NA	06/23/11	20	17	45	ND	ND		405622	NA
Toluene	ETO15	NA	06/23/11	20	19	38	ND	ND		405622	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/23/11	20	17	41	ND	ND		405622	NA
cis-1,3-Dichloropropene	ETO15	NA	06/23/11	20	23	45	ND	ND		405622	NA
Tetrachloroethylene	ETO15	NA	06/23/11	20	18	68	ND	ND		405622	NA
1,1,2-Trichloroethane	ETO15	NA	06/23/11	20	19	55	ND	ND		405622	NA
Dibromochloromethane	ETO15	NA	06/23/11	20	35	85	ND	ND		405622	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/23/11	20	41	150	ND	ND		405622	NA
2-Hexanone	ETO15	NA	06/23/11	20	22	82	ND	ND		405622	NA
Ethyl Benzene	ETO15	NA	06/23/11	20	20	43	285	66.28		405622	NA
Chlorobenzene	ETO15	NA	06/23/11	20	14	46	ND	ND		405622	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/23/11	20	21	69	ND	ND		405622	NA
m,p-Xylene	ETO15	NA	06/23/11	20	32	86	568	132.09		405622	NA
o-Xylene	ETO15	NA	06/23/11	20	16	43	139	32.33		405622	NA
Styrene	ETO15	NA	06/23/11	20	14	44	ND	ND		405622	NA
Bromoform	ETO15	NA	06/23/11	20	22	100	ND	ND		405622	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/23/11	20	14	69	ND	ND		405622	NA
4-Ethyl Toluene	ETO15	NA	06/23/11	20	16	49	ND	ND		405622	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/23/11	20	15	49	ND	ND		405622	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/23/11	20	14	49	ND	ND		405622	NA
1,4-Dichlorobenzene	ETO15	NA	06/23/11	20	13	60	ND	ND		405622	NA
1,3-Dichlorobenzene	ETO15	NA	06/23/11	20	17	60	ND	ND		405622	NA
Benzyl Chloride	ETO15	NA	06/23/11	20	12	52	ND	ND		405622	NA
1,2-Dichlorobenzene	ETO15	NA	06/23/11	20	18	60	ND	ND		405622	NA
Hexachlorobutadiene	ETO15	NA	06/23/11	20	48	110	ND	ND		405622	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/23/11	20	68	150	ND	ND		405622	NA
Naphthalene	ETO15	NA	06/23/11	20	29	100	ND	ND		405622	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/23/11	20	65	135	108 %			405622	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/23/11
Date Reported: 06/29/11

Client Sample ID:	INF SOMA-5	**Lab Sample ID:**	1106167-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/23/11 / 8:45	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley Blvd		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	06/23/11	20	3500	7000	41000	11,647.73	x	405623	NA

NOTE: x - Although TPH as gasoline compounds are present, sample chromatogram does not resemble gasoline standard pattern. Reported TPH includes a significant portion of light end, non-target compounds within range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106167	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/23/11	**Analytical Batch:**	405622
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dichlorodifluoromethane	0.30	1.00	ND	
1,1-Difluoroethane	0.18	0.500	ND	
1,2-Dichlorotetrafluoroethane	0.70	2.00	ND	
Chloromethane	0.15	0.500	ND	
Vinyl Chloride	0.26	1.00	ND	
1,3-Butadiene	0.20	0.500	ND	
Bromomethane	0.18	0.500	ND	
Chloroethane	0.19	0.500	ND	
Trichlorofluoromethane	0.32	1.00	ND	
1,1-Dichloroethene	0.15	0.500	ND	
Freon 113	0.11	0.500	ND	
Carbon Disulfide	0.26	1.00	ND	
2-Propanol (Isopropyl Alcohol)	0.39	4.00	ND	
Methylene Chloride	0.17	0.500	ND	
Acetone	0.37	4.00	ND	
trans-1,2-Dichloroethene	0.16	0.500	ND	
Hexane	0.15	0.500	ND	
MTBE	0.24	0.500	ND	
tert-Butanol	0.22	2.00	ND	
Diisopropyl ether (DIPE)	0.21	0.500	ND	
1,1-Dichloroethane	0.18	0.500	ND	
ETBE	0.16	0.500	ND	
cis-1,2-Dichloroethene	0.13	0.500	ND	
Chloroform	0.25	1.00	ND	
Vinyl Acetate	0.16	0.500	ND	
Carbon Tetrachloride	0.14	0.500	ND	
1,1,1-Trichloroethane	0.15	0.500	ND	
2-Butanone (MEK)	0.21	0.500	ND	
Ethyl Acetate	0.21	0.500	ND	
Tetrahydrofuran	0.10	0.500	ND	
Benzene	0.21	0.500	ND	
TAME	0.086	0.500	ND	
1,2-Dichloroethane (EDC)	0.24	0.500	ND	
Trichloroethylene	0.26	1.00	ND	
1,2-Dichloropropane	0.29	1.00	ND	
Bromodichloromethane	0.13	0.500	ND	
1,4-Dioxane	0.35	1.00	ND	
trans-1,3-Dichloropropene	0.19	0.500	ND	
Toluene	0.25	0.500	ND	
4-Methyl-2-Pentanone (MIBK)	0.21	0.500	ND	
cis-1,3-Dichloropropene	0.25	0.500	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106167	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/23/11	**Analytical Batch:**	405622
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Tetrachloroethylene	0.13	0.500	ND	
1,1,2-Trichloroethane	0.17	0.500	ND	
Dibromochloromethane	0.20	0.500	ND	
1,2-Dibromoethane (EDB)	0.27	1.00	ND	
2-Hexanone	0.27	1.00	ND	
Ethyl Benzene	0.23	0.500	ND	
Chlorobenzene	0.15	0.500	ND	
1,1,1,2-Tetrachloroethane	0.15	0.500	ND	
m,p-Xylene	0.38	1.00	ND	
o-Xylene	0.19	0.500	ND	
Styrene	0.16	0.500	ND	
Bromoform	0.11	0.500	ND	
1,1,2,2-Tetrachloroethane	0.10	0.500	ND	
4-Ethyl Toluene	0.17	0.500	ND	
1,3,5-Trimethylbenzene	0.15	0.500	ND	
1,2,4-Trimethylbenzene	0.14	0.500	ND	
1,4-Dichlorobenzene	0.11	0.500	ND	
1,3-Dichlorobenzene	0.14	0.500	ND	
Benzyl Chloride	0.12	0.500	ND	
1,2-Dichlorobenzene	0.15	0.500	ND	
Hexachlorobutadiene	0.22	0.500	ND	
1,2,4-Trichlorobenzene	0.46	1.00	ND	
Naphthalene	0.28	1.00	ND	
(S) 4-Bromofluorobenzene			95.2	

Work Order:	1106167	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	06/23/11	**Analytical Batch:**	405623
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH-Gasoline	50	100	ND	

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1106167	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/23/11	**Analytical Batch:**	405622
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.15	0.500	ND	20	85.2	88.2	3.46	65 - 135	30	
Benzene	0.21	0.500	ND	20	91.2	90.1	1.27	65 - 135	30	
Trichloroethylene	0.26	1.00	ND	20	107	110	2.90	65 - 135	30	
Toluene	0.25	0.500	ND	20	92.2	97.1	5.23	65 - 135	30	
Chlorobenzene	0.15	0.500	ND	20	90.0	91.1	1.27	65 - 135	30	
(S) 4-Bromofluorobenzene			ND	20	80.0	80.0		65 - 135		

Work Order:	1106167	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	06/23/11	**Analytical Batch:**	405623
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH-Gasoline	50	100	ND	500	95.8	97.2	1.47	50 - 150	30	

Laboratory Qualifiers and Definitions

DEFINITIONS:

Accuracy/Bias (% Recovery) - The closeness of agreement between an observed value and an accepted reference value.
Blank (Method/Preparation Blank) -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
Duplicate - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
Laboratory Control Sample (LCS ad LCSD) - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
Matrix - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
Matrix Spike (MS/MSD) - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
Method Detection Limit (MDL) - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
Practical Quantitation Limit (PQL) - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
Precision (%RPD) - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
Surrogate (S) or (Surr) - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
Tentatively Identified Compound (TIC) - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
Units: the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** (equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** (concentration found on the surface of a single Wipe usually taken over a 100cm2 surface)

LABORATORY QUALIFIERS:

B - Indicates when the anlayte is found in the associated method or preparation blank
D - Surrogate is not recoverable due to the necessary dilution of the sample
E - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.
H- Indicates that the recommended holding time for the analyte or compound has been exceeded
J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative
NA - Not Analyzed
N/A - Not Applicable
NR - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added
R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts
S- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative
X -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

Sample Receipt Checklist

Client Name: Soma Environmental

Project Name: 3519 Castro Valley Blvd

Work Order No.: 1106167

Date and Time Received: 6/23/2011 10:45

Received By: PS

Physically Logged By: PS

Checklist Completed By: PS

Carrier Name: Hi-Speed Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes
Chain of custody signed when relinquished and received?	Yes
Chain of custody agrees with sample labels?	Yes
Custody seals intact on sample bottles?	Not Present

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Not Present
Shipping Container/Cooler In Good Condition?	Yes
Samples in proper container/bottle?	Yes
Samples containers intact?	Yes
Sufficient sample volume for indicated test?	Yes

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes			
Container/Temp Blank temperature in compliance?	Yes	Temperature:	25	°C
Water-VOA vials have zero headspace?	No VOA vials submitted			
Water-pH acceptable upon receipt?	N/A			

pH Checked by: pH Adjusted by:

Tedlars

Login Summary Report

Client ID:	TL5237 Soma Environmental	**QC Level:**	
Project Name:	3519 Castro Valley Blvd	**TAT Requested:**	5+ day:0
Project # :	2765	**Date Received:**	6/23/2011
Report Due Date:	6/30/2011	**Time Received:**	10:45

Comments: 5 Day TAT!! 2 Tedlars for full TO-15 and TO-3. Needs EDF! Report to Joyce

Work Order # : ***1106167***

WO Sample ID	Client Sample ID	Collection Date/Time	Matrix	Scheduled Disposal	Sample On Hold	Test On Hold	Requested Tests	Subbed
1106167-001A	Eff SOMA-5	06/23/11 8:30	Air				EDF A_TO-3GRO A_TO-15Full-B A_TO-15Full-A	
1106167-002A	INF SOMA-5	06/23/11 8:45	Air				A_TO-3GRO A_TO-15Full-B A_TO-15Full-A	

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.
483 Sinclair Frontage Road
Milpitas, CA 95035
Phone: 408.263.5258 RESET
FAX: 408.263.8293
www.torrentlab.com

CHAIN OF CUSTODY

NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY

LAB WORK ORDER NO: 1106167

Company Name: **SOMA Environmental Engineering, Inc.**	Location of Sampling: **(3519 Castro Valley Blvd Castro Valley)**
Address: **6620 Owens Drive, Suite A**	Purpose: **Soil Vapor Sampling**
City: **Pleasanton** State: **CA** Zip Code: **94588**	Special Instructions / Comments:
Telephone: **925-734-6400** FAX: **925-734-6401**	**Methane**
REPORT TO: **Joyce Bobek** SAMPLER: **Erica Fisker**	P.O. #: **2765** EMAIL: **jbobek@somaenv.com**

TURNAROUND TIME:
☐ 10 Work Days ☐ 3 Work Days ☐ Noon - Nxt Day
☐ 7 Work Days ☐ 2 Work Days ☐ 2 - 8 Hours
☑ 5 Work Days ☐ 1 Work Day ☐ Other

SAMPLE TYPE:
☐ Storm Water ☑ Air
☐ Waste Water ☐ Other
☐ Ground Water
☐ Soil

REPORT FORMAT:
☐ QC Level IV
☑ EDF
☐ Excel / EDD

ANALYSIS REQUESTED

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TO-15	TO-3	REMARKS
001	Eff SOMA-5	6/23/2011 8:30		1	Tedlar	✓	✓	
002	Inf SOMA-5	6/23/2011 8:45		1	Tedlar	✓	✓	

	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:
1	[signature]	Erica Fisker	6-23-11	8:45	[signature]	Robert Carpenter	6/23/11	10:15am
2	[signature]	Robert Carpenter	6/23/11	10:45am	[signature]	[redacted]	[redacted]	[redacted]

Were Samples Received in Good Condition? ☐ Yes ☐ NO Samples on Ice? ☐ Yes ☐ NO Method of Shipment _____ Sample seals intact? ☐ Yes ☐ NO ☐ N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrange -ments are made.

Page ____ of ____

Log In By: [redacted] Date: [redacted] Log In Reviewed By: [redacted] Date: [redacted]

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 229069
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2764
6620 Owens Dr.	Location : 3519 Castro Valley Blvd, Castro Valle
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
SOMA-5 EFF	229069-001
SOMA-5 EFF	229069-002

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____ Date: 07/01/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**229069**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2764**
Location:	**3519 Castro Valley Blvd, Castro Valle**
Request Date:	**06/29/11**
Samples Received:	**06/29/11**

This data package contains sample and QC results for two water samples, requested for the above referenced project on 06/29/11. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 624):
No analytical problems were encountered.

Metals (EPA 200.7 and EPA 245.1):
No analytical problems were encountered.

Total Cyanide (SM4500CN-E):
No analytical problems were encountered.

Total Oil & Grease (HEM) (EPA 1664A):
Matrix spikes were not performed for this analysis due to insufficient sample volume. No analytical problems were encountered.

Phenolic Compounds (EPA 420.1):
No analytical problems were encountered.

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

C & T LOGIN #: 229069

Project No.: 2464
Project Name: 3519 Castro Valley Blvd Castro Valley CA
Project P.O.: 2464
Turnaround Time: Rush

Sampler: Elena Mauzo
Report To: Joyce Bobek
Company: SOMA Environmental
Telephone: 925-734-6400
Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	NONE NaOH	Analysis: EPA 624	EPA 200.7/245	Oil and Grease 1664A	SM5310C-E	EPA 420.1 Phenolics
1	SOMA-5 EFF	6.29.11 2:45p		X		16	9		1		6	X	X	X		X
2	SOMA-5 EFF	6.29.11 2:55p		X		1					1				X	

Notes: EDF
As, Pb, Cr, Ag, Zn
Hg, Ni, Se, Cu, Co
Same list as 228880 for metals

SAMPLE RECEIPT
Intact Cold
On Ice Ambient
Preservative Correct?
Yes No N/A

RELINQUISHED BY:
Elena Mauzo
6.29.11 3:30pm DATE / TIME
DATE / TIME
DATE / TIME
SIGNATURE

RECEIVED BY:
6.29.11
1530 DATE / TIME
DATE / TIME
DATE / TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 229069 Date Received 6/29/11 Number of coolers 1
Client SOMA Project 3519 Castro Valley

Date Opened 6/29/11 By (print) Vidia Doshi (sign) Vee Doshi
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES (NO)
Shipping info _____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples ☒ NO
How many _____ Name _____ Date _____
2B. Were custody seals intact upon arrival? _____ YES NO N/A
3. Were custody papers dry and intact when received? _____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form) ___ (YES) NO
6. Indicate the packing in cooler: (if other, describe) _____

☐ Bubble Wrap ☐ Foam blocks ☐ Bags ☒ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: ☒ Wet ☐ Blue/Gel ☐ None Temp(°C) _____

☐ Samples Received on ice & cold without a temperature blank

☒ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES (NO)
If YES, what time were they transferred to freezer? _____
9. Did all bottles arrive unbroken/unopened? _____ (YES) NO
10. Are samples in the appropriate containers for indicated tests? _____ YES (NO)
11. Are sample labels present, in good condition and complete? _____ (YES) NO
12. Do the sample labels agree with custody papers? _____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
14. Are the samples appropriately preserved? _____ YES (NO) N/A
15. Did you check preservatives for all bottles for each sample? _____ (YES) NO N/A
16. Did you document your preservative check? _____ (YES) NO N/A
17. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES (NO) N/A VOA
18. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
19. Was the client contacted concerning this sample delivery? _____ YES (NO)
If YES, Who was called? _____ By _____ Date: _____

COMMENTS
10. Rec'd two 500 mL amber each for 1664T and phenolic compounds
14. Bottles for 1664T and phenolic were unpreserved. Added HCL (50267) and H_2SO_4 (J54 2030) at 16:45 on 6/29/11

Rev 8, 6/11

Curtis & Tompkins Sample Preservation for 229069

Sample	pH: <2	>12	Other
-001a	[ ]	[ ]	_____
b	[ ]	[ ]	_____
c	[ ]	[ ]	_____
d	[ ]	[ ]	_____
e	[ ]	[ ]	_____
f	[ ]	[ ]	_____
g	[ ]	[ ]	_____
h	[ ]	[ ]	_____
i	[ ]	[ ]	_____
j	[X]	[ ]	_____
k	[ ]	[ ]	_____
l	[ ]	[ ]	_____
m	[ ]	[ ]	_____
n	[ ]	[ ]	_____
o	[X]	[ ]	_____
p	[X]	[ ]	_____
-002a	[ ]	[X]	_____

Analyst: VO
Date: 6/29/11

Curtis & Tompkins, Ltd.

Curtis & Tompkins Laboratories Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Field ID:	SOMA-5 EFF	Batch#:	176319
Lab ID:	229069-001	Sampled:	06/29/11
Matrix:	Water	Received:	06/29/11
Units:	ug/L	Analyzed:	06/29/11
Diln Fac:	1.000		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	25	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	11	0.5
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	73-145
Toluene-d8	93	80-120
Bromofluorobenzene	82	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Matrix:	Water	Batch#:	176319
Units:	ug/L	Analyzed:	06/29/11
Diln Fac:	1.000		

Type: BS Lab ID: QC598271

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	23.50	94	64-133
Benzene	25.00	24.20	97	80-122
Trichloroethene	25.00	25.21	101	78-120
Toluene	25.00	23.73	95	80-120
Chlorobenzene	25.00	23.99	96	80-120

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	73-145
Toluene-d8	93	80-120
Bromofluorobenzene	82	80-120

Type: BSD Lab ID: QC598272

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	25.07	100	64-133	6	20
Benzene	25.00	25.07	100	80-122	4	20
Trichloroethene	25.00	26.30	105	78-120	4	20
Toluene	25.00	23.74	95	80-120	0	20
Chlorobenzene	25.00	24.33	97	80-120	1	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	103	73-145
Toluene-d8	92	80-120
Bromofluorobenzene	81	80-120

RPD= Relative Percent Difference

Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 624
Project#:	2764	Analysis:	EPA 624
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC598273	Batch#:	176319
Matrix:	Water	Analyzed:	06/29/11
Units:	ug/L		

Analyte	Result	RL
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Ethylbenzene	ND	0.5
Bromoform	ND	1.0
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	108	73-145
Toluene-d8	93	80-120
Bromofluorobenzene	85	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Metals Analytical Report

Lab #:	229069	Project#:	2764
Client:	SOMA Environmental Engineering Inc.	Location:	3519 Castro Valley Blvd, Castro Valle
Field ID:	SOMA-5 EFF	Diln Fac:	1.000
Lab ID:	229069-001	Sampled:	06/29/11
Matrix:	Water	Received:	06/29/11
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Arsenic	13	6.1	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Chromium	ND	5.0	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Cobalt	ND	5.0	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Copper	ND	5.0	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Lead	ND	5.0	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Mercury	ND	0.20	176377	06/30/11	06/30/11	METHOD	EPA 245.1
Nickel	8.1	5.0	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Selenium	ND	10	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Silver	ND	5.0	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7
Zinc	100	20	176397	07/01/11	07/01/11	EPA 200.7	EPA 200.7

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 245.1
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	176377
Lab ID:	QC598486	Prepared:	06/30/11
Matrix:	Filtrate	Analyzed:	06/30/11
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 245.1
Analyte:	Mercury	Batch#:	176377
Matrix:	Filtrate	Prepared:	06/30/11
Units:	ug/L	Analyzed:	06/30/11
Diln Fac:	1.000		

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC598487	2.500	2.350	94	80-120		
BSD	QC598488	2.500	2.400	96	80-120	2	27

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 245.1
Analyte:	Mercury	Batch#:	176377
Field ID:	ZZZZZZZZZZ	Sampled:	06/28/11
MSS Lab ID:	229062-001	Received:	06/29/11
Matrix:	Filtrate	Prepared:	06/30/11
Units:	ug/L	Analyzed:	06/30/11
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC598489	<0.03605	2.500	2.580	103	67-120		
MSD	QC598490		2.500	2.670	107	67-120	3	39

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC598574	Batch#:	176397
Matrix:	Water	Prepared:	07/01/11
Units:	ug/L	Analyzed:	07/01/11

Analyte	Result	RL
Arsenic	ND	6.1
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Zinc	ND	20

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Matrix:	Water	Batch#:	176397
Units:	ug/L	Prepared:	07/01/11
Diln Fac:	1.000	Analyzed:	07/01/11

Type: BS Lab ID: QC598575

Analyte	Spiked	Result	%REC	Limits
Arsenic	100.0	117.8	118	80-128
Chromium	200.0	209.1	105	80-120
Cobalt	500.0	514.3	103	80-120
Copper	250.0	251.6	101	77-120
Lead	100.0	99.93	100	77-120
Nickel	500.0	521.2	104	80-120
Selenium	100.0	107.8	108	80-123
Silver	50.00	52.86	106	79-120
Zinc	500.0	550.2	110	80-120

Type: BSD Lab ID: QC598576

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	100.0	122.7	123	80-128	4	20
Chromium	200.0	218.6	109	80-120	4	20
Cobalt	500.0	529.4	106	80-120	3	20
Copper	250.0	259.6	104	77-120	3	20
Lead	100.0	98.80	99	77-120	1	20
Nickel	500.0	541.3	108	80-120	4	20
Selenium	100.0	111.5	112	80-123	3	24
Silver	50.00	54.74	109	79-120	4	20
Zinc	500.0	566.9	113	80-120	3	20

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Metals Analytical Report

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 200.7
Project#:	2764	Analysis:	EPA 200.7
Field ID:	SOMA-5 EFF	Batch#:	176397
MSS Lab ID:	229069-001	Sampled:	06/29/11
Matrix:	Water	Received:	06/29/11
Units:	ug/L	Prepared:	07/01/11
Diln Fac:	1.000	Analyzed:	07/01/11

Type: MS Lab ID: QC598577

Analyte	MSS Result	Spiked	Result	%REC	Limits
Arsenic	13.25	100.0	140.4	127	70-139
Chromium	1.880	200.0	216.6	107	70-120
Cobalt	2.480	500.0	522.7	104	72-120
Copper	3.627	250.0	278.6	110	66-124
Lead	<1.425	100.0	96.72	97	58-120
Nickel	8.134	500.0	529.8	104	66-120
Selenium	<3.189	100.0	108.7	109	64-132
Silver	<0.6196	50.00	55.25	111	50-127
Zinc	99.60	500.0	641.2	108	69-126

Type: MSD Lab ID: QC598578

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Arsenic	100.0	133.2	120	70-139	5	28
Chromium	200.0	212.7	105	70-120	2	22
Cobalt	500.0	509.0	101	72-120	3	22
Copper	250.0	268.2	106	66-124	4	30
Lead	100.0	92.59	93	58-120	4	29
Nickel	500.0	522.4	103	66-120	1	22
Selenium	100.0	106.5	107	64-132	2	31
Silver	50.00	54.17	108	50-127	2	27
Zinc	500.0	641.4	108	69-126	0	23

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Oil & Grease (HEM)

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 1664A
Analyte:	Oil & Grease (HEM)	Batch#:	176405
Field ID:	SOMA-5 EFF	Sampled:	06/29/11
Matrix:	Water	Received:	06/29/11
Units:	mg/L	Analyzed:	07/01/11

Type	Lab ID	Result	RL	Diln Fac
SAMPLE	229069-001	ND	4.95	0.9900
BLANK	QC598602	ND	5.00	1.000

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Oil & Grease (HEM)

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 1664A
Analyte:	Oil & Grease (HEM)	Diln Fac:	1.000
Matrix:	Water	Batch#:	176405
Units:	mg/L	Analyzed:	07/01/11

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC598603	40.00	37.60	94	78-114		
BSD	QC598604	40.00	35.00	88	78-114	7	18

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Cyanide

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	SM4500CN-E
Analyte:	Cyanide	Batch#:	176404
Field ID:	SOMA-5 EFF	Sampled:	06/29/11
Matrix:	Water	Received:	06/29/11
Units:	mg/L	Analyzed:	07/01/11
Diln Fac:	1.000		

Type	Lab ID	Result	RL
SAMPLE	229069-002	ND	0.01
BLANK	QC598598	ND	0.01

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Total Cyanide

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	SM4500CN-E
Analyte:	Cyanide	Diln Fac:	1.000
Field ID:	SOMA-5 EFF	Batch#:	176404
MSS Lab ID:	229069-002	Sampled:	06/29/11
Matrix:	Water	Received:	06/29/11
Units:	mg/L	Analyzed:	07/01/11

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC598599	<0.01000	0.2000	0.1832	92	78-120		
MSD	QC598600		0.2000	0.1858	93	78-120	1	20
LCS	QC598601		0.2000	0.1867	93	80-120		

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Phenolic Compounds

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 420.1
Analyte:	Phenolic Compounds	Batch#:	176372
Field ID:	SOMA-5 EFF	Sampled:	06/29/11
Matrix:	Water	Received:	06/29/11
Units:	mg/L	Prepared:	06/30/11
Diln Fac:	1.000	Analyzed:	07/01/11

Type	Lab ID	Result	RL
SAMPLE	229069-001	ND	0.050
BLANK	QC598467	ND	0.050

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Phenolic Compounds

Lab #:	229069	Location:	3519 Castro Valley Blvd, Castro Valle
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2764	Analysis:	EPA 420.1
Analyte:	Phenolic Compounds	Batch#:	176372
Field ID:	SOMA-5 EFF	Sampled:	06/29/11
MSS Lab ID:	229069-001	Received:	06/29/11
Matrix:	Water	Prepared:	06/30/11
Units:	mg/L	Analyzed:	07/01/11
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
LCS	QC598468		1.000	0.9684	97	80-120		
MS	QC598469	<0.05000	1.000	0.8642	86	40-135		
MSD	QC598470		1.000	0.8647	86	40-135	0	31

RPD= Relative Percent Difference

Soma Environmental
6620 Owens Dr. Suite A
Pleasanton, California 94588
Tel: 925-734-6400
Fax: 925-734-6401

RE: 3519 Castro Valley Blvd

Work Order No.: 1106201

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 sample(s) on June 28, 2011 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Patti Sandrock

July 06, 2011
Date

Date: 7/6/2011

Client: Soma Environmental

Project: 3519 Castro Valley Blvd

Work Order: 1106201

CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Torrent LABORATORY, INC.

Sample Result Summary

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/28/11
Date Reported: 07/06/11

OB-2 Post As 1106201-001A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
TPH-Gasoline	ETO3	1000	180000	350000	510000
Carbon Dioxide	D1946	1	0.025	0.025	1.21
Oxygen	D1946	1	0.0250	0.0250	17.5
Nitrogen	D1946	1	0.0250	0.0250	72.9
Benzene	ETO15	50	34	80	96.0
Ethyl Benzene	ETO15	50	50	110	705
m,p-Xylene	ETO15	50	81	220	2700
o-Xylene	ETO15	50	40	110	312
4-Ethyl Toluene	ETO15	50	41	120	1720
1,3,5-Trimethylbenzene	ETO15	50	38	120	1320
1,2,4-Trimethylbenzene	ETO15	50	34	120	3760

OB-2 Pre As 1106201-002A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
TPH-Gasoline	ETO3	100	18000	35000	560000
Carbon Dioxide	D1946	1	0.025	0.025	1.54
Oxygen	D1946	1	0.0250	0.0250	16.1
Nitrogen	D1946	1	0.0250	0.0250	73.3

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/28/11
Date Reported: 07/06/11

Client Sample ID:	OB-2 Post As	**Lab Sample ID:**	1106201-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/27/11 / 18:18	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Dichlorodifluoromethane	ETO15	NA	06/28/11	50	76	250	ND	ND		405686	NA
1,1-Difluoroethane	ETO15	NA	06/28/11	50	25	68	ND	ND		405686	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/28/11	50	250	700	ND	ND		405686	NA
Chloromethane	ETO15	NA	06/28/11	50	16	53	ND	ND		405686	NA
Vinyl Chloride	ETO15	NA	06/28/11	50	33	130	ND	ND		405686	NA
1,3-Butadiene	ETO15	NA	06/28/11	50	22	55	ND	ND		405686	NA
Bromomethane	ETO15	NA	06/28/11	50	36	98	ND	ND		405686	NA
Chloroethane	ETO15	NA	06/28/11	50	25	65	ND	ND		405686	NA
Trichlorofluoromethane	ETO15	NA	06/28/11	50	90	280	ND	ND		405686	NA
1,1-Dichloroethene	ETO15	NA	06/28/11	50	31	100	ND	ND		405686	NA
Freon 113	ETO15	NA	06/28/11	50	42	190	ND	ND		405686	NA
Carbon Disulfide	ETO15	NA	06/28/11	50	41	160	ND	ND		405686	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/28/11	50	49	500	ND	ND		405686	NA
Methylene Chloride	ETO15	NA	06/28/11	50	29	180	ND	ND		405686	NA
Acetone	ETO15	NA	06/28/11	50	44	480	ND	ND		405686	NA
trans-1,2-Dichloroethene	ETO15	NA	06/28/11	50	32	100	ND	ND		405686	NA
Hexane	ETO15	NA	06/28/11	50	26	88	ND	ND		405686	NA
MTBE	ETO15	NA	06/28/11	50	43	90	ND	ND		405686	NA
tert-Butanol	ETO15	NA	06/28/11	50	46	420	ND	ND		405686	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/28/11	50	44	110	ND	ND		405686	NA
1,1-Dichloroethane	ETO15	NA	06/28/11	50	38	100	ND	ND		405686	NA
ETBE	ETO15	NA	06/28/11	50	34	110	ND	ND		405686	NA
cis-1,2-Dichloroethene	ETO15	NA	06/28/11	50	27	100	ND	ND		405686	NA
Chloroform	ETO15	NA	06/28/11	50	62	250	ND	ND		405686	NA
Vinyl Acetate	ETO15	NA	06/28/11	50	28	88	ND	ND		405686	NA
Carbon Tetrachloride	ETO15	NA	06/28/11	50	43	160	ND	ND		405686	NA
1,1,1-trichloroethane	ETO15	NA	06/28/11	50	42	140	ND	ND		405686	NA
2-Butanone (MEK)	ETO15	NA	06/28/11	50	31	75	ND	ND		405686	NA
Ethyl Acetate	ETO15	NA	06/28/11	50	37	90	ND	ND		405686	NA
Tetrahydrofuran	ETO15	NA	06/28/11	50	15	75	ND	ND		405686	NA
Benzene	ETO15	NA	06/28/11	50	34	80	96.0	30.00		405686	NA
TAME	ETO15	NA	06/28/11	50	18	110	ND	ND		405686	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/28/11	50	49	100	ND	ND		405686	NA
Trichloroethylene	ETO15	NA	06/28/11	50	69	270	ND	ND		405686	NA
1,2-Dichloropropane	ETO15	NA	06/28/11	50	66	230	ND	ND		405686	NA
Bromodichloromethane	ETO15	NA	06/28/11	50	44	170	ND	ND		405686	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/28/11
Date Reported: 07/06/11

Client Sample ID:	OB-2 Post As	**Lab Sample ID:**	1106201-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/27/11 / 18:18	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,4-Dioxane	ETO15	NA	06/28/11	50	62	180	ND	ND		405686	NA
trans-1,3-Dichloropropene	ETO15	NA	06/28/11	50	43	110	ND	ND		405686	NA
Toluene	ETO15	NA	06/28/11	50	48	95	ND	ND		405686	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/28/11	50	42	100	ND	ND		405686	NA
cis-1,3-Dichloropropene	ETO15	NA	06/28/11	50	56	110	ND	ND		405686	NA
Tetrachloroethylene	ETO15	NA	06/28/11	50	45	170	ND	ND		405686	NA
1,1,2-Trichloroethane	ETO15	NA	06/28/11	50	46	140	ND	ND		405686	NA
Dibromochloromethane	ETO15	NA	06/28/11	50	87	210	ND	ND		405686	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/28/11	50	100	390	ND	ND		405686	NA
2-Hexanone	ETO15	NA	06/28/11	50	56	210	ND	ND		405686	NA
Ethyl Benzene	ETO15	NA	06/28/11	50	50	110	705	163.95		405686	NA
Chlorobenzene	ETO15	NA	06/28/11	50	36	120	ND	ND		405686	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/28/11	50	52	170	ND	ND		405686	NA
m,p-Xylene	ETO15	NA	06/28/11	50	81	220	2700	627.91		405686	NA
o-Xylene	ETO15	NA	06/28/11	50	40	110	312	72.56		405686	NA
Styrene	ETO15	NA	06/28/11	50	34	110	ND	ND		405686	NA
Bromoform	ETO15	NA	06/28/11	50	55	250	ND	ND		405686	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/28/11	50	35	170	ND	ND		405686	NA
4-Ethyl Toluene	ETO15	NA	06/28/11	50	41	120	1720	351.02		405686	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/28/11	50	38	120	1320	269.39		405686	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/28/11	50	34	120	3760	767.35		405686	NA
1,4-Dichlorobenzene	ETO15	NA	06/28/11	50	32	150	ND	ND		405686	NA
1,3-Dichlorobenzene	ETO15	NA	06/28/11	50	42	150	ND	ND		405686	NA
Benzyl Chloride	ETO15	NA	06/28/11	50	31	130	ND	ND		405686	NA
1,2-Dichlorobenzene	ETO15	NA	06/28/11	50	45	150	ND	ND		405686	NA
Hexachlorobutadiene	ETO15	NA	06/28/11	50	120	280	ND	ND		405686	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/28/11	50	170	370	ND	ND		405686	NA
Naphthalene	ETO15	NA	06/28/11	50	73	260	ND	ND		405686	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/28/11	50	65	135	98.5 %			405686	NA

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	06/28/11	1000	180000	350000	510000	144,886.36	x	405687	NA

NOTE: x - Does not match pattern of reference Gasoline standard. Reported TPH value includes significant contribution from non-fuel light hydrocarbons in the C5-C12 range quantified as Gasoline.

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/28/11
Date Reported: 07/06/11

Client Sample ID:	OB-2 Post As	**Lab Sample ID:**	1106201-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/27/11 / 18:18	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL %	Results %	Results ppmv	Lab Qualifier	Analytical Batch	Prep Batch
Carbon Dioxide	D1946	NA	06/29/11	1	0.025	0.025	1.21			405688	NA
Oxygen	D1946	NA	06/29/11	1	0.0250	0.0250	17.5			405688	NA
Nitrogen	D1946	NA	06/29/11	1	0.0250	0.0250	72.9			405688	NA
Methane	D1946	NA	06/29/11	1	0.0005	0.0005	ND	ND		405688	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/28/11
Date Reported: 07/06/11

Client Sample ID:	OB-2 Pre As	**Lab Sample ID:**	1106201-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/27/11 / 18:18	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
Dichlorodifluoromethane	ETO15	NA	06/28/11	50	76	250	ND	ND		405686	NA
1,1-Difluoroethane	ETO15	NA	06/28/11	50	25	68	ND	ND		405686	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/28/11	50	250	700	ND	ND		405686	NA
Chloromethane	ETO15	NA	06/28/11	50	16	53	ND	ND		405686	NA
Vinyl Chloride	ETO15	NA	06/28/11	50	33	130	ND	ND		405686	NA
1,3-Butadiene	ETO15	NA	06/28/11	50	22	55	ND	ND		405686	NA
Bromomethane	ETO15	NA	06/28/11	50	36	98	ND	ND		405686	NA
Chloroethane	ETO15	NA	06/28/11	50	25	65	ND	ND		405686	NA
Trichlorofluoromethane	ETO15	NA	06/28/11	50	90	280	ND	ND		405686	NA
1,1-Dichloroethene	ETO15	NA	06/28/11	50	31	100	ND	ND		405686	NA
Freon 113	ETO15	NA	06/28/11	50	42	190	ND	ND		405686	NA
Carbon Disulfide	ETO15	NA	06/28/11	50	41	160	ND	ND		405686	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/28/11	50	49	500	ND	ND		405686	NA
Methylene Chloride	ETO15	NA	06/28/11	50	29	180	ND	ND		405686	NA
Acetone	ETO15	NA	06/28/11	50	44	480	ND	ND		405686	NA
trans-1,2-Dichloroethene	ETO15	NA	06/28/11	50	32	100	ND	ND		405686	NA
Hexane	ETO15	NA	06/28/11	50	26	88	ND	ND		405686	NA
MTBE	ETO15	NA	06/28/11	50	43	90	ND	ND		405686	NA
tert-Butanol	ETO15	NA	06/28/11	50	46	420	ND	ND		405686	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/28/11	50	44	110	ND	ND		405686	NA
1,1-Dichloroethane	ETO15	NA	06/28/11	50	38	100	ND	ND		405686	NA
ETBE	ETO15	NA	06/28/11	50	34	110	ND	ND		405686	NA
cis-1,2-Dichloroethene	ETO15	NA	06/28/11	50	27	100	ND	ND		405686	NA
Chloroform	ETO15	NA	06/28/11	50	62	250	ND	ND		405686	NA
Vinyl Acetate	ETO15	NA	06/28/11	50	28	88	ND	ND		405686	NA
Carbon Tetrachloride	ETO15	NA	06/28/11	50	43	160	ND	ND		405686	NA
1,1,1-trichloroethane	ETO15	NA	06/28/11	50	42	140	ND	ND		405686	NA
2-Butanone (MEK)	ETO15	NA	06/28/11	50	31	75	ND	ND		405686	NA
Ethyl Acetate	ETO15	NA	06/28/11	50	37	90	ND	ND		405686	NA
Tetrahydrofuran	ETO15	NA	06/28/11	50	15	75	ND	ND		405686	NA
Benzene	ETO15	NA	06/28/11	50	34	80	ND	ND		405686	NA
TAME	ETO15	NA	06/28/11	50	18	110	ND	ND		405686	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/28/11	50	49	100	ND	ND		405686	NA
Trichloroethylene	ETO15	NA	06/28/11	50	69	270	ND	ND		405686	NA
1,2-Dichloropropane	ETO15	NA	06/28/11	50	66	230	ND	ND		405686	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/28/11
Date Reported: 07/06/11

Client Sample ID:	OB-2 Pre As	**Lab Sample ID:**	1106201-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/27/11 / 18:18	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Bromodichloromethane	ETO15	NA	06/28/11	50	44	170	ND	ND		405686	NA
1,4-Dioxane	ETO15	NA	06/28/11	50	62	180	ND	ND		405686	NA
trans-1,3-Dichloropropene	ETO15	NA	06/28/11	50	43	110	ND	ND		405686	NA
Toluene	ETO15	NA	06/28/11	50	48	95	ND	ND		405686	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/28/11	50	42	100	ND	ND		405686	NA
cis-1,3-Dichloropropene	ETO15	NA	06/28/11	50	56	110	ND	ND		405686	NA
Tetrachloroethylene	ETO15	NA	06/28/11	50	45	170	ND	ND		405686	NA
1,1,2-Trichloroethane	ETO15	NA	06/28/11	50	46	140	ND	ND		405686	NA
Dibromochloromethane	ETO15	NA	06/28/11	50	87	210	ND	ND		405686	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/28/11	50	100	390	ND	ND		405686	NA

NOTE: The reporting limits were raised due to suppression of the internal standards used for peak quantification. Supression due to the high concentration of light end non-target compounds.

2-Hexanone	ETO15	NA	06/28/11	50	56	210	ND	ND		405686	NA
Ethyl Benzene	ETO15	NA	06/28/11	50	50	110	ND	ND		405686	NA
Chlorobenzene	ETO15	NA	06/28/11	50	36	120	ND	ND		405686	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/28/11	50	52	170	ND	ND		405686	NA
m,p-Xylene	ETO15	NA	06/28/11	50	81	220	ND	ND		405686	NA
o-Xylene	ETO15	NA	06/28/11	50	40	110	ND	ND		405686	NA
Styrene	ETO15	NA	06/28/11	50	34	110	ND	ND		405686	NA
Bromoform	ETO15	NA	06/28/11	50	55	250	ND	ND		405686	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/28/11	50	35	170	ND	ND		405686	NA
4-Ethyl Toluene	ETO15	NA	06/28/11	50	41	120	ND	ND		405686	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/28/11	50	38	120	ND	ND		405686	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/28/11	50	34	120	ND	ND		405686	NA
1,4-Dichlorobenzene	ETO15	NA	06/28/11	50	32	150	ND	ND		405686	NA
1,3-Dichlorobenzene	ETO15	NA	06/28/11	50	42	150	ND	ND		405686	NA
Benzyl Chloride	ETO15	NA	06/28/11	50	31	130	ND	ND		405686	NA
1,2-Dichlorobenzene	ETO15	NA	06/28/11	50	45	150	ND	ND		405686	NA
Hexachlorobutadiene	ETO15	NA	06/28/11	50	120	280	ND	ND		405686	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/28/11	50	170	370	ND	ND		405686	NA
Naphthalene	ETO15	NA	06/28/11	50	73	260	ND	ND		405686	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/28/11	50	65	135	97.8 %			405686	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/28/11
Date Reported: 07/06/11

Client Sample ID:	OB-2 Pre As	**Lab Sample ID:**	1106201-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Air
Project Number:	2765		
Date/Time Sampled:	06/27/11 / 18:18	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	06/28/11	100	18000	35000	560000	159,090.91	x	405687	NA

NOTE: x - Does not match pattern of reference Gasoline standard. Result due to significant contribution from non-fuel light hydrocarbons in the C5-C12 range quantified as Gasoline.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL %	Results %	Results ppmv	Lab Qualifier	Analytical Batch	Prep Batch
Carbon Dioxide	D1946	NA	06/29/11	1	0.025	0.025	1.54			405688	NA
Oxygen	D1946	NA	06/29/11	1	0.0250	0.0250	16.1			405688	NA
Nitrogen	D1946	NA	06/29/11	1	0.0250	0.0250	73.3			405688	NA
Methane	D1946	NA	06/29/11	1	0.0005	0.0005	ND	ND		405688	NA

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106201	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/28/11	**Analytical Batch:**	405686
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dichlorodifluoromethane	0.30	1.00	ND	
1,1-Difluoroethane	0.18	0.500	ND	
1,2-Dichlorotetrafluoroethane	0.70	2.00	ND	
Chloromethane	0.15	0.500	ND	
Vinyl Chloride	0.26	1.00	ND	
1,3-Butadiene	0.20	0.500	ND	
Bromomethane	0.18	0.500	ND	
Chloroethane	0.19	0.500	ND	
Trichlorofluoromethane	0.32	1.00	ND	
1,1-Dichloroethene	0.15	0.500	ND	
Freon 113	0.11	0.500	ND	
Carbon Disulfide	0.26	1.00	ND	
2-Propanol (Isopropyl Alcohol)	0.39	4.00	ND	
Methylene Chloride	0.17	0.500	ND	
Acetone	0.37	4.00	ND	
trans-1,2-Dichloroethene	0.16	0.500	ND	
Hexane	0.15	0.500	ND	
MTBE	0.24	0.500	ND	
tert-Butanol	0.22	2.00	ND	
Diisopropyl ether (DIPE)	0.21	0.500	ND	
1,1-Dichloroethane	0.18	0.500	ND	
ETBE	0.16	0.500	ND	
cis-1,2-Dichloroethene	0.13	0.500	ND	
Chloroform	0.25	1.00	ND	
Vinyl Acetate	0.16	0.500	ND	
Carbon Tetrachloride	0.14	0.500	ND	
1,1,1-Trichloroethane	0.15	0.500	ND	
2-Butanone (MEK)	0.21	0.500	ND	
Ethyl Acetate	0.21	0.500	ND	
Tetrahydrofuran	0.10	0.500	ND	
Benzene	0.21	0.500	ND	
TAME	0.086	0.500	ND	
1,2-Dichloroethane (EDC)	0.24	0.500	ND	
Trichloroethylene	0.26	1.00	ND	
1,2-Dichloropropane	0.29	1.00	ND	
Bromodichloromethane	0.13	0.500	ND	
1,4-Dioxane	0.35	1.00	ND	
trans-1,3-Dichloropropene	0.19	0.500	ND	
Toluene	0.25	0.500	ND	
4-Methyl-2-Pentanone (MIBK)	0.21	0.500	ND	
cis-1,3-Dichloropropene	0.25	0.500	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106201	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/28/11	**Analytical Batch:**	405686
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Tetrachloroethylene	0.13	0.500	ND	
1,1,2-Trichloroethane	0.17	0.500	ND	
Dibromochloromethane	0.20	0.500	ND	
1,2-Dibromoethane (EDB)	0.27	1.00	ND	
2-Hexanone	0.27	1.00	ND	
Ethyl Benzene	0.23	0.500	ND	
Chlorobenzene	0.15	0.500	ND	
1,1,1,2-Tetrachloroethane	0.15	0.500	ND	
m,p-Xylene	0.38	1.00	ND	
o-Xylene	0.19	0.500	ND	
Styrene	0.16	0.500	ND	
Bromoform	0.11	0.500	ND	
1,1,2,2-Tetrachloroethane	0.10	0.500	ND	
4-Ethyl Toluene	0.17	0.500	ND	
1,3,5-Trimethylbenzene	0.15	0.500	ND	
1,2,4-Trimethylbenzene	0.14	0.500	ND	
1,4-Dichlorobenzene	0.11	0.500	ND	
1,3-Dichlorobenzene	0.14	0.500	ND	
Benzyl Chloride	0.12	0.500	ND	
1,2-Dichlorobenzene	0.15	0.500	ND	
Hexachlorobutadiene	0.22	0.500	ND	
1,2,4-Trichlorobenzene	0.46	1.00	ND	
Naphthalene	0.28	1.00	ND	
(S) 4-Bromofluorobenzene			102	

Work Order:	1106201	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	06/28/11	**Analytical Batch:**	405687
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH-Gasoline	50	100	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106201	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	D1946	**Analyzed Date:**	06/29/11	**Analytical Batch:**	405688
Units:	%						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Carbon Dioxide	0.025	0.025	ND		
Ethene	0.025	0.025	ND		
Ethane	0.025	0.025	ND		
Helium	0.0050	0.0050	ND		
Hydrogen	0.025	0.025	ND		
Oxygen	0.025	0.025	ND		
Nitrogen	0.025	0.025	ND		
Methane	0.0005	0.0005	ND		
Carbon Monoxide	0.025	0.025	ND		

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1106201	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/28/11	**Analytical Batch:**	405686
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.15	0.500	ND	20	86.9	90.7	4.28	65 - 135	30	
Benzene	0.21	0.500	ND	20	94.9	94.3	0.582	65 - 135	30	
Trichloroethylene	0.26	1.00	ND	20	117	113	3.91	65 - 135	30	
Toluene	0.25	0.500	ND	20	94.8	98.7	4.03	65 - 135	30	
Chlorobenzene	0.15	0.500	ND	20	91.4	98.8	7.73	65 - 135	30	
(S) 4-Bromofluorobenzene			ND	20	80.0	80.0		65 - 135		

Work Order:	1106201	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	06/28/11	**Analytical Batch:**	405687
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH-Gasoline	50	100	ND	500	91.5	95.9	4.70	50 - 150	30	

Work Order:	1106201	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	D1946	**Analyzed Date:**	06/29/11	**Analytical Batch:**	405688
Units:	%						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
Carbon Dioxide	0.0250	0.0250	ND	2500	104	105	1.04	65 - 135	30	
Ethene	0.0250	0.0250	ND	2500	102	101	0.759	65 - 135	30	
Ethane	0.0250	0.0250	ND	2500	104	101	2.72	65 - 135	30	
Hydrogen	0.0250	0.0250	ND	2500	111	106	3.77	65 - 135	30	
Oxygen	0.0250	0.0250	ND	2500	98.4	103	4.62	65 - 135	30	
Nitrogen	0.0250	0.0250	ND	2500	101	104	3.55	65 - 135	30	
Methane	0.0005	0.0005	ND	2500	102	91.8	10.9	65 - 135	30	
Carbon Monoxide	0.0250	0.0250	ND	2500	99.9	96.5	3.41	65 - 135	30	

Laboratory Qualifiers and Definitions

DEFINITIONS:

Accuracy/Bias (% Recovery) - The closeness of agreement between an observed value and an accepted reference value.
Blank (Method/Preparation Blank) -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
Duplicate - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
Laboratory Control Sample (LCS ad LCSD) - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
Matrix - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
Matrix Spike (MS/MSD) - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
Method Detection Limit (MDL) - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
Practical Quantitation Limit (PQL) - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
Precision (%RPD) - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
Surrogate (S) or (Surr) - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
Tentatively Identified Compound (TIC) - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
Units: the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** (equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** (concentration found on the surface of a single Wipe usually taken over a 100cm2 surface)

LABORATORY QUALIFIERS:

B - Indicates when the anlayte is found in the associated method or preparation blank

D - Surrogate is not recoverable due to the necessary dilution of the sample

E - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.

H- Indicates that the recommended holding time for the analyte or compound has been exceeded

J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative

NA - Not Analyzed

N/A - Not Applicable

NR - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added

R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts

S- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative

X -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

Sample Receipt Checklist

Client Name: Soma Environmental

Project Name: 3519 Castro Valley Blvd

Work Order No.: 1106201

Date and Time Received: 6/28/2011 13:49

Received By: NG

Physically Logged By: PS

Checklist Completed By: PS

Carrier Name: Torrent Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes
Chain of custody signed when relinquished and received?	Yes
Chain of custody agrees with sample labels?	Yes
Custody seals intact on sample bottles?	Not Present

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Not Present
Shipping Container/Cooler In Good Condition?	Yes
Samples in proper container/bottle?	Yes
Samples containers intact?	Yes
Sufficient sample volume for indicated test?	Yes

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes			
Container/Temp Blank temperature in compliance?	Yes	Temperature:	19	°C
Water-VOA vials have zero headspace?	No VOA vials submitted			
Water-pH acceptable upon receipt?	N/A			

pH Checked by:

pH Adjusted by:

Login Summary Report

Client ID:	TL5237 Soma Environmental	**QC Level:**	
Project Name:	3519 Castro Valley Blvd	**TAT Requested:**	5+ day:0
Project # :	2765	**Date Received:**	6/28/2011
Report Due Date:	7/6/2011	**Time Received:**	13:49

Comments: 5 Day TAT!! Two Tedlars for TO15, TO3 and Methane, Nitrogen Carbon Dioxide and Oxygen! Report to Joyce! Needs EDF!

Work Order # : ***1106201***

WO Sample ID	Client Sample ID	Collection Date/Time	Matrix	Scheduled Disposal	Sample On Hold	Test On Hold	Requested Tests	Subbed
1106201-001A	OB-2 Post As	06/27/11 18:18	Air				EDD A_TO-3GRO A_TO-15Full-B A_YD-1946FG A_TO-15Full-A	
Sample Note:	Full TO15, TO3 and Fixed gases for CH4, CO2, N2 and O2 on both!							
1106201-002A	OB-2 Pre As	06/27/11 18:18	Air				A_TO-3GRO A_TO-15Full-B A_TO-15Full-A A_YD-1946FG	

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.
483 Sinclair Frontage Road
Milpitas, CA 95035
Phone: 408.263.5258 RESET
FAX: 408.263.8293
www.torrentlab.com

CHAIN OF CUSTODY

• NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY •

LAB WORK ORDER NO: 1106201

Company Name: **SOMA Environmental Engineering, Inc.**	Location of Sampling: **(3519 Castro Valley Blvd Castro Valley)**
Address: **6620 Owens Drive, Suite A**	Purpose: **Soil Vapor Sampling at wells**
City: **Pleasanton** State: **CA** Zip Code: **94588**	Special Instructions / Comments:
Telephone: **925-734-6400** FAX: **925-734-6401**	
REPORT TO: **Joyce Bobek** SAMPLER: **Elena Manzo**	P.O. #: **2765** EMAIL: **jbobek@somaenv.com**

TURNAROUND TIME:
☐ 10 Work Days ☐ 3 Work Days ☐ Noon - Nxt Day
☐ 7 Work Days ☐ 2 Work Days ☐ 2 - 8 Hours
☑ 5 Work Days ☐ 1 Work Day ☐ Other

SAMPLE TYPE:
☐ Storm Water ☑ Air
☐ Waste Water ☐ Other
☐ Ground Water
☐ Soil

REPORT FORMAT:
☐ QC Level IV
☑ EDF
☐ Excel / EDD

ANALYSIS REQUESTED

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TO-15	TO-3	O2, CO2, N2, CH4						REMARKS
001	OB-2 Post AS	6/27/11 6:18p	air	1	Tedlar	✓	✓	✓						
002	OB-2 Pre AS	6/27/11 1:37p	air	1	Tedlar	✓	✓	✓						

	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:
1		Elena Manzo	6/28/11	8:30 am.		NAVIN G	6-28-11	1:49 P.m
2	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:

Were Samples Received in Good Condition? ☑ Yes ☐ NO Samples on Ice? ☐ Yes ☑ NO Method of Shipment Torrent p/u Sample seals intact? ☐ Yes ☐ NO ☑ N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrange -ments are made.

Page 1 of 1

Log In By: Date: Log In Reviewed By: Date:

Soma Environmental
6620 Owens Dr. Suite A
Pleasanton, California 94588
Tel: 925-734-6400
Fax: 925-734-6401

RE: 3519 Castro Valley Blvd

Work Order No.: 1106222

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 sample(s) on June 30, 2011 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Patti Sandrock

July 08, 2011
Date

Date: 7/8/2011

Client: Soma Environmental

Project: 3519 Castro Valley Blvd

Work Order: 1106222

CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Torrent LABORATORY, INC.

Sample Result Summary

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/30/11
Date Reported: 07/08/11

SOMA-7Pre AS 1106222-001A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
Acetone	ETO15	10	8.8	96	87.8
Benzene	ETO15	10	6.9	16	310
4-Ethyl Toluene	ETO15	10	8.2	25	35.8
1,2,4-Trimethylbenzene	ETO15	10	6.9	25	50.5
TPH-Gasoline	ETO3	20	3500	7000	31000
Carbon Dioxide	D1946	1	0.025	0.025	1.08
Oxygen	D1946	1	0.0250	0.0250	16.2
Nitrogen	D1946	1	0.0250	0.0250	72.6

SOMA-7Post AS 1106222-002A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
TPH-Gasoline	ETO3	200	35000	70000	700000
Benzene	ETO15	50	34	80	909
Carbon Dioxide	D1946	1	0.025	0.025	1.43
Oxygen	D1946	1	0.0250	0.0250	15.7
Nitrogen	D1946	1	0.0250	0.0250	73.5

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/30/11
Date Reported: 07/08/11

Client Sample ID:	SOMA-7Pre AS	**Lab Sample ID:**	1106222-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Soil Vapor
Project Number:			
Date/Time Sampled:	06/28/11 / 10:11	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
Dichlorodifluoromethane	ETO15	NA	06/30/11	10	15	50	ND	ND		405729	NA
1,1-Difluoroethane	ETO15	NA	06/30/11	10	5.0	14	ND	ND		405729	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/30/11	10	49	140	ND	ND		405729	NA
Chloromethane	ETO15	NA	06/30/11	10	3.2	11	ND	ND		405729	NA
Vinyl Chloride	ETO15	NA	06/30/11	10	6.7	26	ND	ND		405729	NA
1,3-Butadiene	ETO15	NA	06/30/11	10	4.5	11	ND	ND		405729	NA
Bromomethane	ETO15	NA	06/30/11	10	7.2	20	ND	ND		405729	NA
Chloroethane	ETO15	NA	06/30/11	10	5.0	13	ND	ND		405729	NA
Trichlorofluoromethane	ETO15	NA	06/30/11	10	18	56	ND	ND		405729	NA
1,1-Dichloroethene	ETO15	NA	06/30/11	10	6.1	20	ND	ND		405729	NA
Freon 113	ETO15	NA	06/30/11	10	8.5	39	ND	ND		405729	NA
Carbon Disulfide	ETO15	NA	06/30/11	10	8.1	31	ND	ND		405729	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/30/11	10	9.7	100	ND	ND		405729	NA
Methylene Chloride	ETO15	NA	06/30/11	10	5.8	35	ND	ND		405729	NA
Acetone	ETO15	NA	06/30/11	10	8.8	96	87.8	36.58	J	405729	NA
trans-1,2-Dichloroethene	ETO15	NA	06/30/11	10	6.4	20	ND	ND		405729	NA
Hexane	ETO15	NA	06/30/11	10	5.3	18	ND	ND		405729	NA
MTBE	ETO15	NA	06/30/11	10	8.7	18	ND	ND		405729	NA
tert-Butanol	ETO15	NA	06/30/11	10	9.1	84	ND	ND		405729	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/30/11	10	8.8	21	ND	ND		405729	NA
1,1-Dichloroethane	ETO15	NA	06/30/11	10	7.5	21	ND	ND		405729	NA
ETBE	ETO15	NA	06/30/11	10	6.8	21	ND	ND		405729	NA
cis-1,2-Dichloroethene	ETO15	NA	06/30/11	10	5.4	20	ND	ND		405729	NA
Chloroform	ETO15	NA	06/30/11	10	12	49	ND	ND		405729	NA
Vinyl Acetate	ETO15	NA	06/30/11	10	5.7	18	ND	ND		405729	NA
Carbon Tetrachloride	ETO15	NA	06/30/11	10	8.6	32	ND	ND		405729	NA
1,1,1-trichloroethane	ETO15	NA	06/30/11	10	8.5	28	ND	ND		405729	NA
2-Butanone (MEK)	ETO15	NA	06/30/11	10	6.3	15	ND	ND		405729	NA
Ethyl Acetate	ETO15	NA	06/30/11	10	7.4	18	ND	ND		405729	NA
Tetrahydrofuran	ETO15	NA	06/30/11	10	3.0	15	ND	ND		405729	NA
Benzene	ETO15	NA	06/30/11	10	6.9	16	310	96.88		405729	NA
TAME	ETO15	NA	06/30/11	10	3.6	21	ND	ND		405729	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/30/11	10	9.9	21	ND	ND		405729	NA
Trichloroethylene	ETO15	NA	06/30/11	10	14	54	ND	ND		405729	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/30/11
Date Reported: 07/08/11

Client Sample ID:	SOMA-7Pre AS	**Lab Sample ID:**	1106222-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Soil Vapor
Project Number:			
Date/Time Sampled:	06/28/11 / 10:11	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,2-Dichloropropane	ETO15	NA	06/30/11	10	13	46	ND	ND		405729	NA
Bromodichloromethane	ETO15	NA	06/30/11	10	8.9	34	ND	ND		405729	NA
1,4-Dioxane	ETO15	NA	06/30/11	10	12	36	ND	ND		405729	NA
trans-1,3-Dichloropropene	ETO15	NA	06/30/11	10	8.7	23	ND	ND		405729	NA
Toluene	ETO15	NA	06/30/11	10	9.5	19	ND	ND		405729	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/30/11	10	8.5	21	ND	ND		405729	NA
cis-1,3-Dichloropropene	ETO15	NA	06/30/11	10	11	23	ND	ND		405729	NA
Tetrachloroethylene	ETO15	NA	06/30/11	10	9.1	34	ND	ND		405729	NA
1,1,2-Trichloroethane	ETO15	NA	06/30/11	10	9.3	28	ND	ND		405729	NA
Dibromochloromethane	ETO15	NA	06/30/11	10	17	43	ND	ND		405729	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/30/11	10	20	77	ND	ND		405729	NA

NOTE: The reporting limits were raised due to the high concentration of non-target compounds.

The results shown below are reported using their MDL.

2-Hexanone	ETO15	NA	06/30/11	10	11	41	ND	ND		405729	NA
Ethyl Benzene	ETO15	NA	06/30/11	10	9.9	22	ND	ND		405729	NA
Chlorobenzene	ETO15	NA	06/30/11	10	7.1	23	ND	ND		405729	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/30/11	10	10	35	ND	ND		405729	NA
m,p-Xylene	ETO15	NA	06/30/11	10	16	43	ND	ND		405729	NA
o-Xylene	ETO15	NA	06/30/11	10	8.1	22	ND	ND		405729	NA
Styrene	ETO15	NA	06/30/11	10	6.9	22	ND	ND		405729	NA
Bromoform	ETO15	NA	06/30/11	10	11	50	ND	ND		405729	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/30/11	10	7.0	35	ND	ND		405729	NA
4-Ethyl Toluene	ETO15	NA	06/30/11	10	8.2	25	35.8	7.31		405729	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/30/11	10	7.6	25	ND	ND		405729	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/30/11	10	6.9	25	50.5	10.31		405729	NA
1,4-Dichlorobenzene	ETO15	NA	06/30/11	10	6.5	30	ND	ND		405729	NA
1,3-Dichlorobenzene	ETO15	NA	06/30/11	10	8.4	30	ND	ND		405729	NA
Benzyl Chloride	ETO15	NA	06/30/11	10	6.2	26	ND	ND		405729	NA
1,2-Dichlorobenzene	ETO15	NA	06/30/11	10	9.1	30	ND	ND		405729	NA
Hexachlorobutadiene	ETO15	NA	06/30/11	10	24	55	ND	ND		405729	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/30/11	10	34	74	ND	ND		405729	NA
Naphthalene	ETO15	NA	06/30/11	10	15	52	ND	ND		405729	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/30/11	10	65	135	124 %			405729	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/30/11
Date Reported: 07/08/11

Client Sample ID:	SOMA-7Pre AS	**Lab Sample ID:**	1106222-001A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Soil Vapor
Project Number:			
Date/Time Sampled:	06/28/11 / 10:11	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	07/01/11	20	3500	7000	31000	8,806.82	x	405730	NA

NOTE: x - Does not match pattern of reference Gasoline standard. Reported TPH value includes significant contribution from non-fuel light hydrocarbons in the C5-C12 range quantified as Gasoline.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL %	Results %	Results ppmv	Lab Qualifier	Analytical Batch	Prep Batch
Carbon Dioxide	D1946	NA	07/01/11	1	0.025	0.025	1.08			405739	NA
Oxygen	D1946	NA	07/01/11	1	0.0250	0.0250	16.2			405739	NA
Nitrogen	D1946	NA	07/01/11	1	0.0250	0.0250	72.6			405739	NA
Methane	D1946	NA	07/01/11	1	0.0005	0.0005	ND	ND		405739	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/30/11
Date Reported: 07/08/11

Client Sample ID:	SOMA-7Post AS	**Lab Sample ID:**	1106222-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Soil Vapor
Project Number:			
Date/Time Sampled:	06/28/11 / 15:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

The results shown below are reported using their MDL.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Dichlorodifluoromethane	ETO15	NA	06/30/11	50	76	250	ND	ND		405729	NA
1,1-Difluoroethane	ETO15	NA	06/30/11	50	25	68	ND	ND		405729	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	06/30/11	50	250	700	ND	ND		405729	NA
Chloromethane	ETO15	NA	06/30/11	50	16	53	ND	ND		405729	NA
Vinyl Chloride	ETO15	NA	06/30/11	50	33	130	ND	ND		405729	NA
1,3-Butadiene	ETO15	NA	06/30/11	50	22	55	ND	ND		405729	NA
Bromomethane	ETO15	NA	06/30/11	50	36	98	ND	ND		405729	NA
Chloroethane	ETO15	NA	06/30/11	50	25	65	ND	ND		405729	NA
Trichlorofluoromethane	ETO15	NA	06/30/11	50	90	280	ND	ND		405729	NA
1,1-Dichloroethene	ETO15	NA	06/30/11	50	31	100	ND	ND		405729	NA
Freon 113	ETO15	NA	06/30/11	50	42	190	ND	ND		405729	NA
Carbon Disulfide	ETO15	NA	06/30/11	50	41	160	ND	ND		405729	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	06/30/11	50	49	500	ND	ND		405729	NA
Methylene Chloride	ETO15	NA	06/30/11	50	29	180	ND	ND		405729	NA
Acetone	ETO15	NA	06/30/11	50	44	480	ND	ND		405729	NA
trans-1,2-Dichloroethene	ETO15	NA	06/30/11	50	32	100	ND	ND		405729	NA
Hexane	ETO15	NA	06/30/11	50	26	88	ND	ND		405729	NA
MTBE	ETO15	NA	06/30/11	50	43	90	ND	ND		405729	NA
tert-Butanol	ETO15	NA	06/30/11	50	46	420	ND	ND		405729	NA
Diisopropyl ether (DIPE)	ETO15	NA	06/30/11	50	44	110	ND	ND		405729	NA
1,1-Dichloroethane	ETO15	NA	06/30/11	50	38	100	ND	ND		405729	NA
ETBE	ETO15	NA	06/30/11	50	34	110	ND	ND		405729	NA
cis-1,2-Dichloroethene	ETO15	NA	06/30/11	50	27	100	ND	ND		405729	NA
Chloroform	ETO15	NA	06/30/11	50	62	250	ND	ND		405729	NA
Vinyl Acetate	ETO15	NA	06/30/11	50	28	88	ND	ND		405729	NA
Carbon Tetrachloride	ETO15	NA	06/30/11	50	43	160	ND	ND		405729	NA
1,1,1-trichloroethane	ETO15	NA	06/30/11	50	42	140	ND	ND		405729	NA
2-Butanone (MEK)	ETO15	NA	06/30/11	50	31	75	ND	ND		405729	NA
Ethyl Acetate	ETO15	NA	06/30/11	50	37	90	ND	ND		405729	NA
Tetrahydrofuran	ETO15	NA	06/30/11	50	15	75	ND	ND		405729	NA
Benzene	ETO15	NA	06/30/11	50	34	80	909	284.06		405729	NA
TAME	ETO15	NA	06/30/11	50	18	110	ND	ND		405729	NA
1,2-Dichloroethane (EDC)	ETO15	NA	06/30/11	50	49	100	ND	ND		405729	NA
Trichloroethylene	ETO15	NA	06/30/11	50	69	270	ND	ND		405729	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/30/11
Date Reported: 07/08/11

Client Sample ID:	SOMA-7Post AS	**Lab Sample ID:**	1106222-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Soil Vapor
Project Number:			
Date/Time Sampled:	06/28/11 / 15:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,2-Dichloropropane	ETO15	NA	06/30/11	50	66	230	ND	ND		405729	NA
Bromodichloromethane	ETO15	NA	06/30/11	50	44	170	ND	ND		405729	NA
1,4-Dioxane	ETO15	NA	06/30/11	50	62	180	ND	ND		405729	NA
trans-1,3-Dichloropropene	ETO15	NA	06/30/11	50	43	110	ND	ND		405729	NA
Toluene	ETO15	NA	06/30/11	50	48	95	ND	ND		405729	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	06/30/11	50	42	100	ND	ND		405729	NA
cis-1,3-Dichloropropene	ETO15	NA	06/30/11	50	56	110	ND	ND		405729	NA
Tetrachloroethylene	ETO15	NA	06/30/11	50	45	170	ND	ND		405729	NA
1,1,2-Trichloroethane	ETO15	NA	06/30/11	50	46	140	ND	ND		405729	NA
Dibromochloromethane	ETO15	NA	06/30/11	50	87	210	ND	ND		405729	NA
1,2-Dibromoethane (EDB)	ETO15	NA	06/30/11	50	100	390	ND	ND		405729	NA

NOTE: The reporting limits were raised due to the high concentration of non-target compounds.

The results shown below are reported using their MDL.

2-Hexanone	ETO15	NA	06/30/11	50	56	210	ND	ND		405729	NA
Ethyl Benzene	ETO15	NA	06/30/11	50	50	110	ND	ND		405729	NA
Chlorobenzene	ETO15	NA	06/30/11	50	36	120	ND	ND		405729	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	06/30/11	50	52	170	ND	ND		405729	NA
m,p-Xylene	ETO15	NA	06/30/11	50	81	220	ND	ND		405729	NA
o-Xylene	ETO15	NA	06/30/11	50	40	110	ND	ND		405729	NA
Styrene	ETO15	NA	06/30/11	50	34	110	ND	ND		405729	NA
Bromoform	ETO15	NA	06/30/11	50	55	250	ND	ND		405729	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	06/30/11	50	35	170	ND	ND		405729	NA
4-Ethyl Toluene	ETO15	NA	06/30/11	50	41	120	ND	ND		405729	NA
1,3,5-Trimethylbenzene	ETO15	NA	06/30/11	50	38	120	ND	ND		405729	NA
1,2,4-Trimethylbenzene	ETO15	NA	06/30/11	50	34	120	ND	ND		405729	NA
1,4-Dichlorobenzene	ETO15	NA	06/30/11	50	32	150	ND	ND		405729	NA
1,3-Dichlorobenzene	ETO15	NA	06/30/11	50	42	150	ND	ND		405729	NA
Benzyl Chloride	ETO15	NA	06/30/11	50	31	130	ND	ND		405729	NA
1,2-Dichlorobenzene	ETO15	NA	06/30/11	50	45	150	ND	ND		405729	NA
Hexachlorobutadiene	ETO15	NA	06/30/11	50	120	280	ND	ND		405729	NA
1,2,4-Trichlorobenzene	ETO15	NA	06/30/11	50	170	370	ND	ND		405729	NA
Naphthalene	ETO15	NA	06/30/11	50	73	260	ND	ND		405729	NA
(S) 4-Bromofluorobenzene	ETO15	NA	06/30/11	50	65	135	112 %			405729	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 06/30/11
Date Reported: 07/08/11

Client Sample ID:	SOMA-7Post AS	**Lab Sample ID:**	1106222-002A
Project Name/Location:	3519 Castro Valley Blvd	**Sample Matrix:**	Soil Vapor
Project Number:			
Date/Time Sampled:	06/28/11 / 15:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	07/01/11	200	35000	70000	700000	198,863.64	x	405730	NA

NOTE: x - Does not match pattern of reference Gasoline standard. Reported TPH value includes significant contribution from non-fuel light hydrocarbons in the C5-C12 range quantified as Gasoline.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL %	Results %	Results ppmv	Lab Qualifier	Analytical Batch	Prep Batch
Carbon Dioxide	D1946	NA	07/01/11	1	0.025	0.025	1.43			405739	NA
Oxygen	D1946	NA	07/01/11	1	0.0250	0.0250	15.7			405739	NA
Nitrogen	D1946	NA	07/01/11	1	0.0250	0.0250	73.5			405739	NA
Methane	D1946	NA	07/01/11	1	0.0005	0.0005	ND	ND		405739	NA

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106222	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/30/11	**Analytical Batch:**	405729
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dichlorodifluoromethane	0.30	1.00	ND	
1,1-Difluoroethane	0.18	0.500	ND	
1,2-Dichlorotetrafluoroethane	0.70	2.00	ND	
Chloromethane	0.15	0.500	ND	
Vinyl Chloride	0.26	1.00	ND	
1,3-Butadiene	0.20	0.500	ND	
Bromomethane	0.18	0.500	ND	
Chloroethane	0.19	0.500	ND	
Trichlorofluoromethane	0.32	1.00	ND	
1,1-Dichloroethene	0.15	0.500	ND	
Freon 113	0.11	0.500	ND	
Carbon Disulfide	0.26	1.00	ND	
2-Propanol (Isopropyl Alcohol)	0.39	4.00	ND	
Methylene Chloride	0.17	0.500	ND	
Acetone	0.37	4.00	ND	
trans-1,2-Dichloroethene	0.16	0.500	ND	
Hexane	0.15	0.500	ND	
MTBE	0.24	0.500	ND	
tert-Butanol	0.22	2.00	ND	
Diisopropyl ether (DIPE)	0.21	0.500	ND	
1,1-Dichloroethane	0.18	0.500	ND	
ETBE	0.16	0.500	ND	
cis-1,2-Dichloroethene	0.13	0.500	ND	
Chloroform	0.25	1.00	ND	
Vinyl Acetate	0.16	0.500	ND	
Carbon Tetrachloride	0.14	0.500	ND	
1,1,1-Trichloroethane	0.15	0.500	ND	
2-Butanone (MEK)	0.21	0.500	ND	
Ethyl Acetate	0.21	0.500	ND	
Tetrahydrofuran	0.10	0.500	ND	
Benzene	0.21	0.500	ND	
TAME	0.086	0.500	ND	
1,2-Dichloroethane (EDC)	0.24	0.500	ND	
Trichloroethylene	0.26	1.00	ND	
1,2-Dichloropropane	0.29	1.00	ND	
Bromodichloromethane	0.13	0.500	ND	
1,4-Dioxane	0.35	1.00	ND	
trans-1,3-Dichloropropene	0.19	0.500	ND	
Toluene	0.25	0.500	ND	
4-Methyl-2-Pentanone (MIBK)	0.21	0.500	ND	
cis-1,3-Dichloropropene	0.25	0.500	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106222	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/30/11	**Analytical Batch:**	405729
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Tetrachloroethylene	0.13	0.500	ND	
1,1,2-Trichloroethane	0.17	0.500	ND	
Dibromochloromethane	0.20	0.500	ND	
1,2-Dibromoethane (EDB)	0.27	1.00	ND	
2-Hexanone	0.27	1.00	ND	
Ethyl Benzene	0.23	0.500	ND	
Chlorobenzene	0.15	0.500	ND	
1,1,1,2-Tetrachloroethane	0.15	0.500	ND	
m,p-Xylene	0.38	1.00	ND	
o-Xylene	0.19	0.500	ND	
Styrene	0.16	0.500	ND	
Bromoform	0.11	0.500	ND	
1,1,2,2-Tetrachloroethane	0.10	0.500	ND	
4-Ethyl Toluene	0.17	0.500	ND	
1,3,5-Trimethylbenzene	0.15	0.500	ND	
1,2,4-Trimethylbenzene	0.14	0.500	ND	
1,4-Dichlorobenzene	0.11	0.500	ND	
1,3-Dichlorobenzene	0.14	0.500	ND	
Benzyl Chloride	0.12	0.500	ND	
1,2-Dichlorobenzene	0.15	0.500	ND	
Hexachlorobutadiene	0.22	0.500	0.250	
1,2,4-Trichlorobenzene	0.46	1.00	ND	
Naphthalene	0.28	1.00	ND	
(S) 4-Bromofluorobenzene			108	

Work Order:	1106222	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	07/01/11	**Analytical Batch:**	405730
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH-Gasoline	50	100	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1106222	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	D1946	**Analyzed Date:**	07/01/11	**Analytical Batch:**	405739
Units:	%						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier	
Carbon Dioxide	0.025	0.025	ND		
Ethene	0.025	0.025	ND		
Ethane	0.025	0.025	ND		
Hydrogen	0.025	0.025	ND		
Oxygen	0.025	0.025	ND		
Nitrogen	0.025	0.025	ND		
Methane	0.0005	0.0005	ND		
Carbon Monoxide	0.025	0.025	ND		

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1106222	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	06/30/11	**Analytical Batch:**	405729
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.15	0.500	ND	20	93.8	94.4	0.691	65 - 135	30	
Benzene	0.21	0.500	ND	20	100	104	3.38	65 - 135	30	
Trichloroethylene	0.26	1.00	ND	20	126	126	0.000	65 - 135	30	
Toluene	0.25	0.500	ND	20	106	104	1.38	65 - 135	30	
Chlorobenzene	0.15	0.500	ND	20	109	105	3.45	65 - 135	30	
(S) 4-Bromofluorobenzene			ND	20	85.0	90.0		65 - 135		

Work Order:	1106222	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	07/01/11	**Analytical Batch:**	405730
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH-Gasoline	50	100	ND	500	95.5	116	19.2	50 - 150	30	

Work Order:	1106222	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	D1946	**Analyzed Date:**	07/01/11	**Analytical Batch:**	405739
Units:	%						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
Carbon Dioxide	0.0250	0.0250	ND	2500	102	106	4.20	65 - 135	30	
Ethene	0.0250	0.0250	ND	2500	99.8	100	0.523	65 - 135	30	
Ethane	0.0250	0.0250	ND	2500	99.6	99.5	0.133	65 - 135	30	
Hydrogen	0.0250	0.0250	ND	2500	116	112	3.47	65 - 135	30	
Oxygen	0.0250	0.0250	ND	2500	99.3	106	6.31	65 - 135	30	
Nitrogen	0.0250	0.0250	ND	2500	100	96.8	3.28	65 - 135	30	
Methane	0.0005	0.0005	ND	2500	97.1	96.5	0.665	65 - 135	30	
Carbon Monoxide	0.0250	0.0250	ND	2500	91.0	84.9	6.97	65 - 135	30	

Laboratory Qualifiers and Definitions

DEFINITIONS:

Accuracy/Bias (% Recovery) - The closeness of agreement between an observed value and an accepted reference value.
Blank (Method/Preparation Blank) -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
Duplicate - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
Laboratory Control Sample (LCS ad LCSD) - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
Matrix - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
Matrix Spike (MS/MSD) - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
Method Detection Limit (MDL) - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
Practical Quantitation Limit (PQL) - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
Precision (%RPD) - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
Surrogate (S) or (Surr) - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
Tentatively Identified Compound (TIC) - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
Units: the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** (equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** (concentration found on the surface of a single Wipe usually taken over a 100cm2 surface)

LABORATORY QUALIFIERS:

B - Indicates when the anlayte is found in the associated method or preparation blank

D - Surrogate is not recoverable due to the necessary dilution of the sample

E - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.

H- Indicates that the recommended holding time for the analyte or compound has been exceeded

J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative

NA - Not Analyzed

N/A - Not Applicable

NR - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added

R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts

S- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative

X -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

Sample Receipt Checklist

Client Name: Soma Environmental

Project Name: 3519 Castro Valley Blvd

Work Order No.: 1106222

Date and Time Received: 6/30/2011 16:00

Received By: NG

Physically Logged By: NG

Checklist Completed By: NG

Carrier Name: First Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes
Chain of custody signed when relinquished and received?	Yes
Chain of custody agrees with sample labels?	Yes
Custody seals intact on sample bottles?	Not Present

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Not Present
Shipping Container/Cooler In Good Condition?	Yes
Samples in proper container/bottle?	Yes
Samples containers intact?	Yes
Sufficient sample volume for indicated test?	Yes

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes
Container/Temp Blank temperature in compliance?	Temperature: °C
Water-VOA vials have zero headspace?	No VOA vials submitted
Water-pH acceptable upon receipt?	
pH Checked by:	pH Adjusted by:

Login Summary Report

Client ID: TL5237 Soma Environmental

Project Name: 3519 Castro Valley Blvd

Project # :

Report Due Date: 7/8/2011

QC Level:

TAT Requested: 5+ day:0

Date Received: 6/30/2011

Time Received: 16:00

Comments: 5 day TAT! Received 2 tedlars for TO-15,TO-3,O2,CO2,N2,CH4.

Work Order # : ***1106222***

WO Sample ID	Client Sample ID	Collection Date/Time	Matrix	Scheduled Disposal	Sample On Hold	Test On Hold	Requested Tests	Subbed
1106222-001A	SOMA-7Pre AS	06/28/11 10:11	Air				A_TO-3GRO A_TO-15Full-B A_TO-15Full-A A_YD-1946FG	
Sample Note:	TO-15,TO-3,O2,CO2,N2,CH4 for both samples.							
1106222-002A	SOMA-7Post AS	06/28/11 15:20	Air				A_TO-3GRO A_TO-15Full-A A_TO-15Full-B A_YD-1946FG	

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.
483 Sinclair Frontage Road
Milpitas, CA 95035
Phone: 408.263.5258 RESET
FAX: 408.263.8293
www.torrentlab.com

CHAIN OF CUSTODY

• NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY •

LAB WORK ORDER NO: 1106222

Company Name: SOMA Environmental Engineering, Inc.	Location of Sampling: (3519 Castro Valley Blvd Castro Valley)
Address: 6620 Owens Drive, Suite A	Purpose: Soil Vapor Sampling
City: Pleasanton State: CA Zip Code: 94588	Special Instructions / Comments: EDF required
Telephone: 925-734-6400 FAX: 925-734-6401	
REPORT TO: Joyce Bobek SAMPLER: Elena Manzo	P.O. #: ~~2765~~ 2764 EMAIL: jbobek@somaenv.com

TURNAROUND TIME:
- ☐ 10 Work Days ☐ 3 Work Days ☐ Noon - Nxt Day
- ☐ 7 Work Days ☐ 2 Work Days ☐ 2 - 8 Hours
- ☑ 5 Work Days ☐ 1 Work Day ☐ Other

SAMPLE TYPE:
- ☐ Storm Water ☑ Air
- ☐ Waste Water ☐ Other
- ☐ Ground Water
- ☐ Soil

REPORT FORMAT:
- ☐ QC Level IV
- ☑ EDF
- ☐ Excel / EDD

ANALYSIS REQUESTED

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TO-15	TO-3	O_2, CO_2, N_2, CH_4						REMARKS
001A	SOMA-7 Pre AS	6/28/2011 10:11am	Air	1	Tedlar	✓	✓	✓						
002A	SOMA-7 Post AS	6/28/2011 3:20pm	Air	1	Tedlar	✓	✓	✓						

	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:
1	Elena Manzo		6-29-11	8:00pm		Joseph Tony	6/30	1235
2		Joseph Tony	6/30	11:00		NAVIN G	6-30-11	4:00 PM

Were Samples Received in Good Condition? ☑ Yes ☐ NO Samples on Ice? ☐ Yes ☑ NO Method of Shipment First Courier Sample seals intact? ☐ Yes ☐ NO ☑ N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrange -ments are made.

Page 1 of 1

Log In By: _____ Date: _____ Log In Reviewed By: _____ Date: _____

Soma Environmental
6620 Owens Dr. Suite A
Pleasanton, California 94588
Tel: 925-734-6400
Fax: 925-734-6401

RE: 3519 Castro Valley

Work Order No.: 1107009

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 sample(s) on July 01, 2011 for the analyses presented in the following Report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Torrent Laboratory, Inc. is certified by the State of California, ELAP #1991. If you have any questions regarding these test results, please feel free to contact the Project Management Team at (408)263-5258; ext 204.

Patti Sandrock

July 11, 2011
Date

Date: 7/11/2011

Client: Soma Environmental

Project: 3519 Castro Valley

Work Order: 1107009

CASE NARRATIVE

No issues encountered with the receiving, preparation, analysis or reporting of the results associated with this work order.

Torrent LABORATORY, INC.

Sample Result Summary

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 07/01/11
Date Reported: 07/11/11

EFF OB-2 1107009-001A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
Acetone	ETO15	5	4.4	48	22.4

INF OB-2 1107009-002A

Parameters:	Analysis Method	DF	MDL	PQL	Results ug/m3
TPH-Gasoline	ETO3	10	1800	3500	16000
tert-Butanol	ETO15	5	4.6	42	14.7
Benzene	ETO15	5	3.4	8.0	127
Toluene	ETO15	5	4.8	9.5	7.79
Ethyl Benzene	ETO15	5	5.0	11	149
m,p-Xylene	ETO15	5	8.1	22	340
o-Xylene	ETO15	5	4.0	11	44.1
4-Ethyl Toluene	ETO15	5	4.1	12	111
1,3,5-Trimethylbenzene	ETO15	5	3.8	12	70.3
1,2,4-Trimethylbenzene	ETO15	5	3.4	12	235

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 07/01/11
Date Reported: 07/11/11

Client Sample ID:	EFF OB-2	**Lab Sample ID:**	1107009-001A
Project Name/Location:	3519 Castro Valley	**Sample Matrix:**	Air
Project Number:			
Date/Time Sampled:	07/01/11 / 8:16	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

The results shown below are reported using their MDL.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Dichlorodifluoromethane	ETO15	NA	07/02/11	5	7.6	25	ND	ND		405735	NA
1,1-Difluoroethane	ETO15	NA	07/02/11	5	2.5	6.8	ND	ND		405735	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	07/02/11	5	25	70	ND	ND		405735	NA
Chloromethane	ETO15	NA	07/02/11	5	1.6	5.3	ND	ND		405735	NA
Vinyl Chloride	ETO15	NA	07/02/11	5	3.3	13	ND	ND		405735	NA
1,3-Butadiene	ETO15	NA	07/02/11	5	2.2	5.5	ND	ND		405735	NA
Bromomethane	ETO15	NA	07/02/11	5	3.6	9.8	ND	ND		405735	NA
Chloroethane	ETO15	NA	07/02/11	5	2.5	6.5	ND	ND		405735	NA
Trichlorofluoromethane	ETO15	NA	07/02/11	5	9.0	28	ND	ND		405735	NA
1,1-Dichloroethene	ETO15	NA	07/02/11	5	3.1	10	ND	ND		405735	NA
Freon 113	ETO15	NA	07/02/11	5	4.2	19	ND	ND		405735	NA
Carbon Disulfide	ETO15	NA	07/02/11	5	4.1	16	ND	ND		405735	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	07/02/11	5	4.9	50	ND	ND		405735	NA
Methylene Chloride	ETO15	NA	07/02/11	5	2.9	18	ND	ND		405735	NA
Acetone	ETO15	NA	07/02/11	5	4.4	48	22.4	9.33	J	405735	NA
trans-1,2-Dichloroethene	ETO15	NA	07/02/11	5	3.2	10	ND	ND		405735	NA
Hexane	ETO15	NA	07/02/11	5	2.6	8.8	ND	ND		405735	NA
MTBE	ETO15	NA	07/02/11	5	4.3	9.0	ND	ND		405735	NA
tert-Butanol	ETO15	NA	07/02/11	5	4.6	42	ND	ND		405735	NA
Diisopropyl ether (DIPE)	ETO15	NA	07/02/11	5	4.4	11	ND	ND		405735	NA
1,1-Dichloroethane	ETO15	NA	07/02/11	5	3.8	10	ND	ND		405735	NA
ETBE	ETO15	NA	07/02/11	5	3.4	11	ND	ND		405735	NA
cis-1,2-Dichloroethene	ETO15	NA	07/02/11	5	2.7	10	ND	ND		405735	NA
Chloroform	ETO15	NA	07/02/11	5	6.2	25	ND	ND		405735	NA
Vinyl Acetate	ETO15	NA	07/02/11	5	2.8	8.8	ND	ND		405735	NA
Carbon Tetrachloride	ETO15	NA	07/02/11	5	4.3	16	ND	ND		405735	NA
1,1,1-trichloroethane	ETO15	NA	07/02/11	5	4.2	14	ND	ND		405735	NA
2-Butanone (MEK)	ETO15	NA	07/02/11	5	3.1	7.5	ND	ND		405735	NA
Ethyl Acetate	ETO15	NA	07/02/11	5	3.7	9.0	ND	ND		405735	NA
Tetrahydrofuran	ETO15	NA	07/02/11	5	1.5	7.5	ND	ND		405735	NA
Benzene	ETO15	NA	07/02/11	5	3.4	8.0	ND	ND		405735	NA
TAME	ETO15	NA	07/02/11	5	1.8	11	ND	ND		405735	NA
1,2-Dichloroethane (EDC)	ETO15	NA	07/02/11	5	4.9	10	ND	ND		405735	NA
Trichloroethylene	ETO15	NA	07/02/11	5	6.9	27	ND	ND		405735	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 07/01/11
Date Reported: 07/11/11

Client Sample ID:	EFF OB-2	**Lab Sample ID:**	1107009-001A
Project Name/Location:	3519 Castro Valley	**Sample Matrix:**	Air
Project Number:			
Date/Time Sampled:	07/01/11 / 8:16	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,2-Dichloropropane	ETO15	NA	07/02/11	5	6.6	23	ND	ND		405735	NA
Bromodichloromethane	ETO15	NA	07/02/11	5	4.4	17	ND	ND		405735	NA
1,4-Dioxane	ETO15	NA	07/02/11	5	6.2	18	ND	ND		405735	NA
trans-1,3-Dichloropropene	ETO15	NA	07/02/11	5	4.3	11	ND	ND		405735	NA
Toluene	ETO15	NA	07/02/11	5	4.8	9.5	ND	ND		405735	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	07/02/11	5	4.2	10	ND	ND		405735	NA
cis-1,3-Dichloropropene	ETO15	NA	07/02/11	5	5.6	11	ND	ND		405735	NA
Tetrachloroethylene	ETO15	NA	07/02/11	5	4.5	17	ND	ND		405735	NA
1,1,2-Trichloroethane	ETO15	NA	07/02/11	5	4.6	14	ND	ND		405735	NA
Dibromochloromethane	ETO15	NA	07/02/11	5	8.7	21	ND	ND		405735	NA
1,2-Dibromoethane (EDB)	ETO15	NA	07/02/11	5	10	39	ND	ND		405735	NA

NOTE: Reporting limits were raised due to limited sample volume received (tedlar).

The results shown below are reported using their MDL.

2-Hexanone	ETO15	NA	07/02/11	5	5.6	21	ND	ND		405735	NA
Ethyl Benzene	ETO15	NA	07/02/11	5	5.0	11	ND	ND		405735	NA
Chlorobenzene	ETO15	NA	07/02/11	5	3.6	12	ND	ND		405735	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	07/02/11	5	5.2	17	ND	ND		405735	NA
m,p-Xylene	ETO15	NA	07/02/11	5	8.1	22	ND	ND		405735	NA
o-Xylene	ETO15	NA	07/02/11	5	4.0	11	ND	ND		405735	NA
Styrene	ETO15	NA	07/02/11	5	3.4	11	ND	ND		405735	NA
Bromoform	ETO15	NA	07/02/11	5	5.5	25	ND	ND		405735	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	07/02/11	5	3.5	17	ND	ND		405735	NA
4-Ethyl Toluene	ETO15	NA	07/02/11	5	4.1	12	ND	ND		405735	NA
1,3,5-Trimethylbenzene	ETO15	NA	07/02/11	5	3.8	12	ND	ND		405735	NA
1,2,4-Trimethylbenzene	ETO15	NA	07/02/11	5	3.4	12	ND	ND		405735	NA
1,4-Dichlorobenzene	ETO15	NA	07/02/11	5	3.2	15	ND	ND		405735	NA
1,3-Dichlorobenzene	ETO15	NA	07/02/11	5	4.2	15	ND	ND		405735	NA
Benzyl Chloride	ETO15	NA	07/02/11	5	3.1	13	ND	ND		405735	NA
1,2-Dichlorobenzene	ETO15	NA	07/02/11	5	4.5	15	ND	ND		405735	NA
Hexachlorobutadiene	ETO15	NA	07/02/11	5	12	28	ND	ND		405735	NA
1,2,4-Trichlorobenzene	ETO15	NA	07/02/11	5	17	37	ND	ND		405735	NA
Naphthalene	ETO15	NA	07/02/11	5	7.3	26	ND	ND		405735	NA
(S) 4-Bromofluorobenzene	ETO15	NA	07/02/11	5	65	135	99.6 %			405735	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 07/01/11
Date Reported: 07/11/11

Client Sample ID:	EFF OB-2	**Lab Sample ID:**	1107009-001A
Project Name/Location:	3519 Castro Valley	**Sample Matrix:**	Air
Project Number:			
Date/Time Sampled:	07/01/11 / 8:16	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
The results shown below are reported using their MDL.											
TPH-Gasoline	ETO3	NA	07/01/11	10	1800	3500	ND	ND		405730	NA

NOTE: Raised reporting limit - see comment for TO-15 analysis.

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 07/01/11
Date Reported: 07/11/11

Client Sample ID:	INF OB-2	**Lab Sample ID:**	1107009-002A
Project Name/Location:	3519 Castro Valley	**Sample Matrix:**	Air
Project Number:			
Date/Time Sampled:	07/01/11 / 8:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

The results shown below are reported using their MDL.

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
Dichlorodifluoromethane	ETO15	NA	07/05/11	5	7.6	25	ND	ND		405751	NA
1,1-Difluoroethane	ETO15	NA	07/05/11	5	2.5	6.8	ND	ND		405751	NA
1,2-Dichlorotetrafluoroethane	ETO15	NA	07/05/11	5	25	70	ND	ND		405751	NA
Chloromethane	ETO15	NA	07/05/11	5	1.6	5.3	ND	ND		405751	NA
Vinyl Chloride	ETO15	NA	07/05/11	5	3.3	13	ND	ND		405751	NA
1,3-Butadiene	ETO15	NA	07/05/11	5	2.2	5.5	ND	ND		405751	NA
Bromomethane	ETO15	NA	07/05/11	5	3.6	9.8	ND	ND		405751	NA
Chloroethane	ETO15	NA	07/05/11	5	2.5	6.5	ND	ND		405751	NA
Trichlorofluoromethane	ETO15	NA	07/05/11	5	9.0	28	ND	ND		405751	NA
1,1-Dichloroethene	ETO15	NA	07/05/11	5	3.1	10	ND	ND		405751	NA
Freon 113	ETO15	NA	07/05/11	5	4.2	19	ND	ND		405751	NA
Carbon Disulfide	ETO15	NA	07/05/11	5	4.1	16	ND	ND		405751	NA
2-Propanol (Isopropyl Alcohol)	ETO15	NA	07/05/11	5	4.9	50	ND	ND		405751	NA
Methylene Chloride	ETO15	NA	07/05/11	5	2.9	18	ND	ND		405751	NA
Acetone	ETO15	NA	07/05/11	5	4.4	48	ND	ND		405751	NA
trans-1,2-Dichloroethene	ETO15	NA	07/05/11	5	3.2	10	ND	ND		405751	NA
Hexane	ETO15	NA	07/05/11	5	2.6	8.8	ND	ND		405751	NA
MTBE	ETO15	NA	07/05/11	5	4.3	9.0	ND	ND		405751	NA
tert-Butanol	ETO15	NA	07/05/11	5	4.6	42	14.7	3.50	J	405751	NA
Diisopropyl ether (DIPE)	ETO15	NA	07/05/11	5	4.4	11	ND	ND		405751	NA
1,1-Dichloroethane	ETO15	NA	07/05/11	5	3.8	10	ND	ND		405751	NA
ETBE	ETO15	NA	07/05/11	5	3.4	11	ND	ND		405751	NA
cis-1,2-Dichloroethene	ETO15	NA	07/05/11	5	2.7	10	ND	ND		405751	NA
Chloroform	ETO15	NA	07/05/11	5	6.2	25	ND	ND		405751	NA
Vinyl Acetate	ETO15	NA	07/05/11	5	2.8	8.8	ND	ND		405751	NA
Carbon Tetrachloride	ETO15	NA	07/05/11	5	4.3	16	ND	ND		405751	NA
1,1,1-trichloroethane	ETO15	NA	07/05/11	5	4.2	14	ND	ND		405751	NA
2-Butanone (MEK)	ETO15	NA	07/05/11	5	3.1	7.5	ND	ND		405751	NA
Ethyl Acetate	ETO15	NA	07/05/11	5	3.7	9.0	ND	ND		405751	NA
Tetrahydrofuran	ETO15	NA	07/05/11	5	1.5	7.5	ND	ND		405751	NA
Benzene	ETO15	NA	07/05/11	5	3.4	8.0	127	39.69		405751	NA
TAME	ETO15	NA	07/05/11	5	1.8	11	ND	ND		405751	NA
1,2-Dichloroethane (EDC)	ETO15	NA	07/05/11	5	4.9	10	ND	ND		405751	NA
Trichloroethylene	ETO15	NA	07/05/11	5	6.9	27	ND	ND		405751	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 07/01/11
Date Reported: 07/11/11

Client Sample ID:	INF OB-2	**Lab Sample ID:**	1107009-002A
Project Name/Location:	3519 Castro Valley	**Sample Matrix:**	Air
Project Number:			
Date/Time Sampled:	07/01/11 / 8:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
1,2-Dichloropropane	ETO15	NA	07/05/11	5	6.6	23	ND	ND		405751	NA
Bromodichloromethane	ETO15	NA	07/05/11	5	4.4	17	ND	ND		405751	NA
1,4-Dioxane	ETO15	NA	07/05/11	5	6.2	18	ND	ND		405751	NA
trans-1,3-Dichloropropene	ETO15	NA	07/05/11	5	4.3	11	ND	ND		405751	NA
Toluene	ETO15	NA	07/05/11	5	4.8	9.5	7.79	2.05	J	405751	NA
4-Methyl-2-Pentanone (MIBK)	ETO15	NA	07/05/11	5	4.2	10	ND	ND		405751	NA
cis-1,3-Dichloropropene	ETO15	NA	07/05/11	5	5.6	11	ND	ND		405751	NA
Tetrachloroethylene	ETO15	NA	07/05/11	5	4.5	17	ND	ND		405751	NA
1,1,2-Trichloroethane	ETO15	NA	07/05/11	5	4.6	14	ND	ND		405751	NA
Dibromochloromethane	ETO15	NA	07/05/11	5	8.7	21	ND	ND		405751	NA
1,2-Dibromoethane (EDB)	ETO15	NA	07/05/11	5	10	39	ND	ND		405751	NA
2-Hexanone	ETO15	NA	07/05/11	5	5.6	21	ND	ND		405751	NA
Ethyl Benzene	ETO15	NA	07/05/11	5	5.0	11	149	34.65		405751	NA
Chlorobenzene	ETO15	NA	07/05/11	5	3.6	12	ND	ND		405751	NA
1,1,1,2-Tetrachloroethane	ETO15	NA	07/05/11	5	5.2	17	ND	ND		405751	NA
m,p-Xylene	ETO15	NA	07/05/11	5	8.1	22	340	79.07		405751	NA
o-Xylene	ETO15	NA	07/05/11	5	4.0	11	44.1	10.26		405751	NA
Styrene	ETO15	NA	07/05/11	5	3.4	11	ND	ND		405751	NA
Bromoform	ETO15	NA	07/05/11	5	5.5	25	ND	ND		405751	NA
1,1,2,2-Tetrachloroethane	ETO15	NA	07/05/11	5	3.5	17	ND	ND		405751	NA
4-Ethyl Toluene	ETO15	NA	07/05/11	5	4.1	12	111	22.65		405751	NA
1,3,5-Trimethylbenzene	ETO15	NA	07/05/11	5	3.8	12	70.3	14.35		405751	NA
1,2,4-Trimethylbenzene	ETO15	NA	07/05/11	5	3.4	12	235	47.96		405751	NA
1,4-Dichlorobenzene	ETO15	NA	07/05/11	5	3.2	15	ND	ND		405751	NA
1,3-Dichlorobenzene	ETO15	NA	07/05/11	5	4.2	15	ND	ND		405751	NA
Benzyl Chloride	ETO15	NA	07/05/11	5	3.1	13	ND	ND		405751	NA
1,2-Dichlorobenzene	ETO15	NA	07/05/11	5	4.5	15	ND	ND		405751	NA
Hexachlorobutadiene	ETO15	NA	07/05/11	5	12	28	ND	ND		405751	NA
1,2,4-Trichlorobenzene	ETO15	NA	07/05/11	5	17	37	ND	ND		405751	NA
Naphthalene	ETO15	NA	07/05/11	5	7.3	26	ND	ND		405751	NA
(S) 4-Bromofluorobenzene	ETO15	NA	07/05/11	5	65	135	97.6 %			405751	NA

Torrent LABORATORY, INC.

SAMPLE RESULTS

Report prepared for: Joyce Bobek
Soma Environmental

Date Received: 07/01/11
Date Reported: 07/11/11

Client Sample ID:	INF OB-2	**Lab Sample ID:**	1107009-002A
Project Name/Location:	3519 Castro Valley	**Sample Matrix:**	Air
Project Number:			
Date/Time Sampled:	07/01/11 / 8:20	**Certified Clean WO # :**	
Canister/Tube ID:		**Received PSI :**	0.0
Collection Volume (L):	0.00	**Corrected PSI :**	0.0
Tag Number:	3519 Castro Valley		

Parameters:	Analysis Method	Prep Date	Date Analyzed	DF	MDL ug/m3	PQL ug/m3	Results ug/m3	Results ppbv	Lab Qualifier	Analytical Batch	Prep Batch
TPH-Gasoline	ETO3	NA	07/05/11	10	1800	3500	16000	4,545.45	x	405752	NA

NOTE: x - Does not match pattern of reference Gasoline standard. Hydrocarbons in the range of C5-C12 quantified as Gasoline.

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	07/01/11	**Analytical Batch:**	405730
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH-Gasoline	50	100	ND	

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	07/02/11	**Analytical Batch:**	405735
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dichlorodifluoromethane	0.30	1.00	ND	
1,1-Difluoroethane	0.18	0.500	ND	
1,2-Dichlorotetrafluoroethane	0.70	2.00	ND	
Chloromethane	0.15	0.500	ND	
Vinyl Chloride	0.26	1.00	ND	
1,3-Butadiene	0.20	0.500	ND	
Bromomethane	0.18	0.500	ND	
Chloroethane	0.19	0.500	ND	
Trichlorofluoromethane	0.32	1.00	ND	
1,1-Dichloroethene	0.15	0.500	ND	
Freon 113	0.11	0.500	ND	
Carbon Disulfide	0.26	1.00	ND	
2-Propanol (Isopropyl Alcohol)	0.39	4.00	ND	
Methylene Chloride	0.17	0.500	ND	
Acetone	0.37	4.00	ND	
trans-1,2-Dichloroethene	0.16	0.500	ND	
Hexane	0.15	0.500	ND	
MTBE	0.24	0.500	ND	
tert-Butanol	0.22	2.00	ND	
Diisopropyl ether (DIPE)	0.21	0.500	ND	
1,1-Dichloroethane	0.18	0.500	ND	
ETBE	0.16	0.500	ND	
cis-1,2-Dichloroethene	0.13	0.500	ND	
Chloroform	0.25	1.00	ND	
Vinyl Acetate	0.16	0.500	ND	
Carbon Tetrachloride	0.14	0.500	ND	
1,1,1-Trichloroethane	0.15	0.500	ND	
2-Butanone (MEK)	0.21	0.500	ND	
Ethyl Acetate	0.21	0.500	ND	
Tetrahydrofuran	0.10	0.500	ND	
Benzene	0.21	0.500	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	07/02/11	**Analytical Batch:**	405735
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TAME	0.086	0.500	ND	
1,2-Dichloroethane (EDC)	0.24	0.500	ND	
Trichloroethylene	0.26	1.00	ND	
1,2-Dichloropropane	0.29	1.00	ND	
Bromodichloromethane	0.13	0.500	ND	
1,4-Dioxane	0.35	1.00	ND	
trans-1,3-Dichloropropene	0.19	0.500	ND	
Toluene	0.25	0.500	ND	
4-Methyl-2-Pentanone (MIBK)	0.21	0.500	ND	
cis-1,3-Dichloropropene	0.25	0.500	ND	
Tetrachloroethylene	0.13	0.500	ND	
1,1,2-Trichloroethane	0.17	0.500	ND	
Dibromochloromethane	0.20	0.500	ND	
1,2-Dibromoethane (EDB)	0.27	1.00	ND	
2-Hexanone	0.27	1.00	ND	
Ethyl Benzene	0.23	0.500	ND	
Chlorobenzene	0.15	0.500	ND	
1,1,1,2-Tetrachloroethane	0.15	0.500	ND	
m,p-Xylene	0.38	1.00	ND	
o-Xylene	0.19	0.500	ND	
Styrene	0.16	0.500	ND	
Bromoform	0.11	0.500	ND	
1,1,2,2-Tetrachloroethane	0.10	0.500	ND	
4-Ethyl Toluene	0.17	0.500	ND	
1,3,5-Trimethylbenzene	0.15	0.500	ND	
1,2,4-Trimethylbenzene	0.14	0.500	ND	
1,4-Dichlorobenzene	0.11	0.500	ND	
1,3-Dichlorobenzene	0.14	0.500	ND	
Benzyl Chloride	0.12	0.500	ND	
1,2-Dichlorobenzene	0.15	0.500	ND	
Hexachlorobutadiene	0.22	0.500	ND	
1,2,4-Trichlorobenzene	0.46	1.00	ND	
Naphthalene	0.28	1.00	ND	
(S) 4-Bromofluorobenzene			105	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	07/05/11	**Analytical Batch:**	405751
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Dichlorodifluoromethane	0.30	1.00	ND	
1,1-Difluoroethane	0.18	0.500	ND	
1,2-Dichlorotetrafluoroethane	0.70	2.00	ND	
Chloromethane	0.15	0.500	ND	
Vinyl Chloride	0.26	1.00	ND	
1,3-Butadiene	0.20	0.500	ND	
Bromomethane	0.18	0.500	ND	
Chloroethane	0.19	0.500	ND	
Trichlorofluoromethane	0.32	1.00	ND	
1,1-Dichloroethene	0.15	0.500	ND	
Freon 113	0.11	0.500	ND	
Carbon Disulfide	0.26	1.00	ND	
2-Propanol (Isopropyl Alcohol)	0.39	4.00	ND	
Methylene Chloride	0.17	0.500	ND	
Acetone	0.37	4.00	ND	
trans-1,2-Dichloroethene	0.16	0.500	ND	
Hexane	0.15	0.500	ND	
MTBE	0.24	0.500	ND	
tert-Butanol	0.22	2.00	ND	
Diisopropyl ether (DIPE)	0.21	0.500	ND	
1,1-Dichloroethane	0.18	0.500	ND	
ETBE	0.16	0.500	ND	
cis-1,2-Dichloroethene	0.13	0.500	ND	
Chloroform	0.25	1.00	ND	
Vinyl Acetate	0.16	0.500	ND	
Carbon Tetrachloride	0.14	0.500	ND	
1,1,1-Trichloroethane	0.15	0.500	ND	
2-Butanone (MEK)	0.21	0.500	ND	
Ethyl Acetate	0.21	0.500	ND	
Tetrahydrofuran	0.10	0.500	ND	
Benzene	0.21	0.500	ND	
TAME	0.086	0.500	ND	
1,2-Dichloroethane (EDC)	0.24	0.500	ND	
Trichloroethylene	0.26	1.00	ND	
1,2-Dichloropropane	0.29	1.00	ND	
Bromodichloromethane	0.13	0.500	ND	
1,4-Dioxane	0.35	1.00	ND	
trans-1,3-Dichloropropene	0.19	0.500	ND	
Toluene	0.25	0.500	ND	
4-Methyl-2-Pentanone (MIBK)	0.21	0.500	ND	
cis-1,3-Dichloropropene	0.25	0.500	ND	

Torrent LABORATORY, INC.

MB Summary Report

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	07/05/11	**Analytical Batch:**	405751
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
Tetrachloroethylene	0.13	0.500	ND	
1,1,2-Trichloroethane	0.17	0.500	ND	
Dibromochloromethane	0.20	0.500	ND	
1,2-Dibromoethane (EDB)	0.27	1.00	ND	
2-Hexanone	0.27	1.00	ND	
Ethyl Benzene	0.23	0.500	ND	
Chlorobenzene	0.15	0.500	ND	
1,1,1,2-Tetrachloroethane	0.15	0.500	ND	
m,p-Xylene	0.38	1.00	ND	
o-Xylene	0.19	0.500	ND	
Styrene	0.16	0.500	ND	
Bromoform	0.11	0.500	ND	
1,1,2,2-Tetrachloroethane	0.10	0.500	ND	
4-Ethyl Toluene	0.17	0.500	ND	
1,3,5-Trimethylbenzene	0.15	0.500	ND	
1,2,4-Trimethylbenzene	0.14	0.500	ND	
1,4-Dichlorobenzene	0.11	0.500	ND	
1,3-Dichlorobenzene	0.14	0.500	ND	
Benzyl Chloride	0.12	0.500	ND	
1,2-Dichlorobenzene	0.15	0.500	ND	
Hexachlorobutadiene	0.22	0.500	ND	
1,2,4-Trichlorobenzene	0.46	1.00	ND	
Naphthalene	0.28	1.00	ND	
(S) 4-Bromofluorobenzene			102	

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	07/05/11	**Analytical Batch:**	405752
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Lab Qualifier
TPH-Gasoline	50	100	ND	

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	07/01/11	**Analytical Batch:**	405730
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH-Gasoline	50	100	ND	500	95.5	116	19.2	50 - 150	30	

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	07/02/11	**Analytical Batch:**	405735
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.15	0.500	ND	20	93.8	84.4	10.6	65 - 135	30	
Benzene	0.21	0.500	ND	20	100	96.7	3.60	65 - 135	30	
Trichloroethylene	0.26	1.00	ND	20	126	107	16.1	65 - 135	30	
Toluene	0.25	0.500	ND	20	106	102	3.28	65 - 135	30	
Chlorobenzene	0.15	0.500	ND	20	109	93.9	14.9	65 - 135	30	
(S) 4-Bromofluorobenzene			ND	20	85.0	80.0		65 - 135		

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO15	**Analyzed Date:**	07/05/11	**Analytical Batch:**	405751
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
1,1-Dichloroethene	0.15	0.500	ND	20	81.1	88.5	8.79	65 - 135	30	
Benzene	0.21	0.500	ND	20	102	102	0.000	65 - 135	30	
Trichloroethylene	0.26	1.00	ND	20	97.9	104	5.76	65 - 135	30	
Toluene	0.25	0.500	ND	20	88.6	92.9	4.74	65 - 135	30	
Chlorobenzene	0.15	0.500	ND	20	82.2	88.0	6.88	65 - 135	30	
(S) 4-Bromofluorobenzene			ND	20	75.0	80.0		65 - 135		

Torrent LABORATORY, INC.

LCS/LCSD Summary Report

Raw values are used in quality control assessment.

Work Order:	1107009	**Prep Method:**	NA	**Prep Date:**	NA	**Prep Batch:**	NA
Matrix:	Air	**Analytical Method:**	ETO3	**Analyzed Date:**	07/05/11	**Analytical Batch:**	405752
Units:	ppbv						

Parameters	MDL	PQL	Method Blank Conc.	Spike Conc.	LCS % Recovery	LCSD % Recovery	LCS/LCSD % RPD	% Recovery Limits	% RPD Limits	Lab Qualifier
TPH-Gasoline	50	100	ND	500	106	105	1.13	50 - 150	30	

Laboratory Qualifiers and Definitions

DEFINITIONS:

Accuracy/Bias (% Recovery) - The closeness of agreement between an observed value and an accepted reference value.
Blank (Method/Preparation Blank) -MB/PB - An analyte-free matrix to which all reagents are added in the same volumes/proportions as used in sample processing. The method blank is used to document contamination resulting from the analytical process.
Duplicate - a field sample and/or laboratory QC sample prepared in duplicate following all of the same processes and procedures used on the original sample (sample duplicate, LCSD, MSD)
Laboratory Control Sample (LCS ad LCSD) - A known matrix spiked with compounds representative of the target analyte(s). This is used to document laboratory performance.
Matrix - the component or substrate that contains the analyte of interest (e.g., - groundwater, sediment, soil, waste water, etc)
Matrix Spike (MS/MSD) - Client sample spiked with identical concentrations of target analyte (s). The spiking occurs prior to the sample preparation and analysis. They are used to document the precision and bias of a method in a given sample matrix.
Method Detection Limit (MDL) - the minimum concentration of a substance that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero
Practical Quantitation Limit (PQL) - a laboratory determined value at 2 to 5 times above the MDL that can be reproduced in a manner that results in a 99% confidence level that the result is both accurate and precise. PQLs reflect all preparation factors and/or dilution factors that have been applied to the sample during the preparation and/or analytical processes.
Precision (%RPD) - The agreement among a set of replicate/duplicate measurements without regard to known value of the replicates
Surrogate (S) or (Surr) - An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. Surrogates are used in most organic analysis to demonstrate matrix compatibility with the chosen method of analysis
Tentatively Identified Compound (TIC) - A compound not contained within the analytical calibration standards but present in the GCMS library of defined compounds. When the library is searched for an unknown compound, it can frequently give a tentative identification to the compound based on retention time and primary and secondary ion match. TICs are reported as estimates and are candidates for further investigation.
Units: the unit of measure used to express the reported result - **mg/L** and ***mg/Kg*** (equivalent to PPM - parts per million in **liquid** and ***solid***), **ug/L** and ***ug/Kg*** (equivalent to PPB - parts per billion in **liquid** and ***solid***), **ug/m3**, ***mg.m3***, **ppbv** and ***ppmv*** (all units of measure for reporting concentrations in air), **%** (equivalent to 10000 ppm or 1,000,000 ppb), **ug/Wipe** (concentration found on the surface of a single Wipe usually taken over a 100cm2 surface)

LABORATORY QUALIFIERS:

B - Indicates when the anlayte is found in the associated method or preparation blank

D - Surrogate is not recoverable due to the necessary dilution of the sample

E - Indicates the reportable value is outside of the calibration range of the instrument but within the linear range of the instrument (unless otherwise noted) Values reported with an E qualifier should be considered as estimated.

H- Indicates that the recommended holding time for the analyte or compound has been exceeded

J- Indicates a value between the method MDL and PQL and that the reported concentration should be considered as estimated rather the quantitative

NA - Not Analyzed

N/A - Not Applicable

NR - Not recoverable - a matrix spike concentration is not recoverable due to a concentration within the original sample that is greater than four times the spike concentration added

R- The % RPD between a duplicate set of samples is outside of the absolute values established by laboratory control charts

S- Spike recovery is outside of established method and/or laboratory control limits. Further explanation of the use of this qualifier should be included within a case narrative

X -Used to indicate that a value based on pattern identification is within the pattern range but not typical of the pattern found in standards. Further explanation may or may not be provided within the sample footnote and/or the case narrative.

Sample Receipt Checklist

Client Name: Soma Environmental

Project Name: 3519 Castro Valley

Work Order No.: 1107009

Date and Time Received: 7/1/2011 15:23

Received By: ER

Physically Logged By: NK

Checklist Completed By: NK

Carrier Name: First Courier

Chain of Custody (COC) Information

Chain of custody present?	Yes
Chain of custody signed when relinquished and received?	Yes
Chain of custody agrees with sample labels?	Yes
Custody seals intact on sample bottles?	Yes

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes
Shipping Container/Cooler In Good Condition?	Yes
Samples in proper container/bottle?	Yes
Samples containers intact?	Yes
Sufficient sample volume for indicated test?	Yes

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes		
Container/Temp Blank temperature in compliance?		Temperature:	°C
Water-VOA vials have zero headspace?			
Water-pH acceptable upon receipt?			
pH Checked by:		pH Adjusted by:	

Login Summary Report

Client ID: TL5237 Soma Environmental

Project Name: 3519 Castro Valley

Project # :

Report Due Date: 7/11/2011

QC Level:

TAT Requested: 5+ day:0

Date Received: 7/1/2011

Time Received: 15:23

Comments: 5 day TAT! Received 2 tedlars for TO-3,TO-15. Needs EDF! Report to Joyce!

Work Order # : ***1107009***

WO Sample ID	Client Sample ID	Collection Date/Time	Matrix	Scheduled Disposal	Sample On Hold	Test On Hold	Requested Tests	Subbed
1107009-001A	EFF OB-2	07/01/11 8:16	Air				EDF A_TO-15Full-B A_TO-15Full-A A_TO-3GRO	
1107009-002A	INF OB-2	07/01/11 8:20	Air				A_TO-15Full-B A_TO-3GRO A_TO-15Full-A	

Torrent LABORATORY, INC.

Torrent LABORATORY, INC.
483 Sinclair Frontage Road
Milpitas, CA 95035
Phone: 408.263.5258
FAX: 408.263.8293
www.torrentlab.com
RESET

CHAIN OF CUSTODY

• NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY •

LAB WORK ORDER NO: 1107009

Company Name: SOMA Environmental Engineering, Inc.	Location of Sampling: (3519 Castro Valley Blvd Castro Valley)
Address: 6620 Owens Drive, Suite A	Purpose: Soil Vapor Sampling
City: Pleasanton State: CA Zip Code: 94588	Special Instructions / Comments:
Telephone: 925-734-6400 FAX: 925-734-6401	Methane
REPORT TO: Joyce Bobek SAMPLER: Elena Manzo	P.O. #: ~~2765~~ 2764 EMAIL: jbobek@somaenv.com

TURNAROUND TIME:
☐ 10 Work Days ☐ 3 Work Days ☐ Noon - Nxt Day
☐ 7 Work Days ☐ 2 Work Days ☐ 2 - 8 Hours
☑ 5 Work Days ☐ 1 Work Day ☐ Other

SAMPLE TYPE:
☐ Storm Water ☑ Air
☐ Waste Water ☐ Other
☐ Ground Water
☐ Soil

REPORT FORMAT:
☐ QC Level IV
☐ ~~EDF~~
☐ Excel / EDD

ANALYSIS REQUESTED

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	TO-15	TO-3	REMARKS
001A	EFF OB-2	7/1/2011 8:~~16~~ am	air	1	Tedlar	✓	✓	
002A	INF OB-2	7/1/2011 8:20 am	air	1	Tedlar	✓	✓	

	Relinquished By:	Print:	Date:	Time:	Received By:	Print:	Date:	Time:
1		Elena Manzo	7/1/2011	1:21 pm	Joyce Bobek	Joyce Bobek	7/1/11	1:21 pm
2			7/1/11	200		EMILY ROSEN	7/1/11	1523 PM

Were Samples Received in Good Condition? ☐ Yes ☐ NO Samples on Ice? ☐ Yes ☐ NO Method of Shipment Fed-Ex Courier Sample seals intact? ☐ Yes ☐ NO ☐ N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrange -ments are made. Page ____ of ____

Log In By: _____ Date: _____ Log In Reviewed By: _____ Date: _____

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 229566
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2761
6620 Owens Dr.	Location : 3519 Castro Valley Blvd.
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
ESE-1R	229566-001
ESE-2R	229566-002
ESE-5R	229566-003
MW-6R	229566-004
MW-7R	229566-005
SOMA-1	229566-006
SOMA-2	229566-007
SOMA-3	229566-008
SOMA-4	229566-009
SOMA-5	229566-010
SOMA-7	229566-011
SOMA-8	229566-012
OB-1	229566-013
OB-2	229566-014

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: Trig Bolton Date: 07/29/2011
Project Manager

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**229566**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2761**
Location:	**3519 Castro Valley Blvd.**
Request Date:	**07/20/11**
Samples Received:	**07/20/11**

This data package contains sample and QC results for fourteen water samples, requested for the above referenced project on 07/20/11. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):
No analytical problems were encountered.

CHAIN OF CUSTODY

Curtis & Tompkins, Ltd.
Analytical Laboratory Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510)486-0900 Phone
(510)486-0532 Fax

C&T LOGIN # 229566

Project No: 2761

Project Name: 3519 Castro Valley Blvd., Castro Valley

Turnaround Time: Standard

Sampler: Lizzie Hightower

Report To: Joyce Bobek

Company : SOMA Environmental

Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date	Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Analyses: TPHg, BTEX, MtBE 8260B	Analyses: Gasoline Oxygenates & Lead Scavengers	Analyses: Ethanol
1	ESE-1R	7/19/11	16:00		*		4-VOAs	*			*	*	*	*
2	ESE-2R		15:02		*		4-VOAs	*			*	*	*	*
3	ESE-5R		17:41		*		4-VOAs	*			*	*	*	*
4	MW-6R		14:35		*		4-VOAs	*			*	*	*	*
5	MW-7R		11:48		*		4-VOAs	*			*	*	*	*
6	SOMA-1		15:28		*		4-VOAs	*			*	*	*	*
7	SOMA-2		12:22		*		4-VOAs	*			*	*	*	*
8	SOMA-3		13:00		*		4-VOAs	*			*	*	*	*
9	SOMA-4		13:18		*		4-VOAs	*			*	*	*	*
10	SOMA-5		16:26		*		4-VOAs	*			*	*	*	*
11	SOMA-7		18:06		*		4-VOAs	*			*	*	*	*
12	SOMA-8		13:56		*		4-VOAs	*			*	*	*	*
13	OB-1		17:20		*		4-VOAs	*			*	*	*	*
14	OB-2	↓	16:57		*		4-VOAs	*			*	*	*	*

Notes: **EDF OUTPUT REQUIRED**
GASOLINE OXYGENATES: TBA, DIPE, ETBE, TAME

LEAD SCAVENGERS: 1,2-DCA, EDB

RELINQUISHED BY:		RECEIVED BY:	
E. Hightower	7/20/11 7:04 DATE/TIME	Rubi Mathes	7/20/11 8:30 DATE/TIME
Rubi Mathes	11:00 DATE/TIME		7/20/11 1100 DATE/TIME
	DATE/TIME		DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 229506 Date Received 7/20/11 Number of coolers 1
Client SOMA Project Castro Valley Blvd

Date Opened 7/20/11 By (print) R. Pamer (sign)
Date Logged in ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc)_____ YES (NO)
Shipping info_____

2A. Were custody seals present? .... ☐ YES (circle) on cooler on samples (NO)
How many _____ Name_____ Date_____
2B. Were custody seals intact upon arrival? _____ YES NO (N/A)
3. Were custody papers dry and intact when received?_____ (YES) NO
4. Were custody papers filled out properly (ink, signed, etc)? _____ (YES) NO
5. Is the project identifiable from custody papers? (If so fill out top of form)___ (YES) NO
6. Indicate the packing in cooler: (if other, describe)_____

☐ Bubble Wrap ☒ Foam blocks ☐ Bags ☐ None
☐ Cloth material ☐ Cardboard ☐ Styrofoam ☐ Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: (☒) Wet ☐ Blue/Gel ☐ None Temp(°C)_____

(☒) Samples Received on ice & cold without a temperature blank

☐ Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present?_____ YES (NO)
If YES, what time were they transferred to freezer?_____
9. Did all bottles arrive unbroken/unopened?_____ (YES) NO
10. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
11. Are sample labels present, in good condition and complete? _____ (YES) NO
12. Do the sample labels agree with custody papers? _____ (YES) NO
13. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
14. Are the samples appropriately preserved? _____ (YES) NO N/A
15. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
16. Did you document your preservative check? _____ YES NO (N/A)
17. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
18. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
19. Was the client contacted concerning this sample delivery? _____ YES (NO)
If YES, Who was called?_____ By_____ Date:_____

COMMENTS

_____
_____
_____
_____
_____
_____

Rev 8, 6/11

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	ESE-1R	Batch#:	177155
Lab ID:	229566-001	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/26/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	620	50
tert-Butyl Alcohol (TBA)	82	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	21	0.50
1,2-Dichloroethane	ND	0.50
Benzene	30	0.50
Toluene	0.76	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	4.4	0.50
m,p-Xylenes	0.96	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-127
1,2-Dichloroethane-d4	124	73-145
Toluene-d8	101	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	ESE-2R	Batch#:	177155
Lab ID:	229566-002	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/26/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	8.3	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	133	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	ESE-5R	Batch#:	177155
Lab ID:	229566-003	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/26/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	140	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	6.7	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-127
1,2-Dichloroethane-d4	124	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	106	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	MW-6R	Batch#:	177194
Lab ID:	229566-004	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-127
1,2-Dichloroethane-d4	122	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	MW-7R	Batch#:	177194
Lab ID:	229566-005	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	2.8	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-127
1,2-Dichloroethane-d4	123	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	177194
Lab ID:	229566-006	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	130	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	5.2	0.50
1,2-Dichloroethane	ND	0.50
Benzene	2.3	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	128	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	SOMA-2	Batch#:	177194
Lab ID:	229566-007	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127
1,2-Dichloroethane-d4	126	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	SOMA-3	Batch#:	177194
Lab ID:	229566-008	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	17	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	128	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	SOMA-4	Batch#:	177194
Lab ID:	229566-009	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	57	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	0.97	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127
1,2-Dichloroethane-d4	134	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	103	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	SOMA-5	Batch#:	177234
Lab ID:	229566-010	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/28/11
Diln Fac:	7.143		

Analyte	Result	RL
Gasoline C7-C12	1,300	360
tert-Butyl Alcohol (TBA)	ND	71
Isopropyl Ether (DIPE)	ND	3.6
Ethyl tert-Butyl Ether (ETBE)	ND	3.6
Methyl tert-Amyl Ether (TAME)	ND	3.6
Ethanol	ND	7,100
MTBE	8.8	3.6
1,2-Dichloroethane	ND	3.6
Benzene	470	3.6
Toluene	ND	3.6
1,2-Dibromoethane	ND	3.6
Ethylbenzene	ND	3.6
m,p-Xylenes	22	3.6
o-Xylene	190	3.6

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-127
1,2-Dichloroethane-d4	109	73-145
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	SOMA-7	Units:	ug/L
Lab ID:	229566-011	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	7,600	710	14.29	177234	07/28/11
tert-Butyl Alcohol (TBA)	ND	25	2.500	177194	07/27/11
Isopropyl Ether (DIPE)	ND	1.3	2.500	177194	07/27/11
Ethyl tert-Butyl Ether (ETBE)	ND	1.3	2.500	177194	07/27/11
Methyl tert-Amyl Ether (TAME)	ND	1.3	2.500	177194	07/27/11
Ethanol	ND	2,500	2.500	177194	07/27/11
MTBE	12	1.3	2.500	177194	07/27/11
1,2-Dichloroethane	ND	1.3	2.500	177194	07/27/11
Benzene	1,100	7.1	14.29	177234	07/28/11
Toluene	15	1.3	2.500	177194	07/27/11
1,2-Dibromoethane	ND	1.3	2.500	177194	07/27/11
Ethylbenzene	200	7.1	14.29	177234	07/28/11
m,p-Xylenes	61	7.1	14.29	177234	07/28/11
o-Xylene	ND	7.1	14.29	177234	07/28/11

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	87	80-127	2.500	177194	07/27/11
1,2-Dichloroethane-d4	98	73-145	2.500	177194	07/27/11
Toluene-d8	98	80-120	2.500	177194	07/27/11
Bromofluorobenzene	100	80-120	2.500	177194	07/27/11

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	SOMA-8	Batch#:	177194
Lab ID:	229566-012	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-127
1,2-Dichloroethane-d4	131	73-145
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	OB-1	Batch#:	177194
Lab ID:	229566-013	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Analyte	Result	RL
Gasoline C7-C12	250	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	4.1	0.50
1,2-Dichloroethane	ND	0.50
Benzene	1.9	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	0.63	0.50
m,p-Xylenes	0.78	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-127
1,2-Dichloroethane-d4	138	73-145
Toluene-d8	101	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Field ID:	OB-2	Batch#:	177234
Lab ID:	229566-014	Sampled:	07/19/11
Matrix:	Water	Received:	07/20/11
Units:	ug/L	Analyzed:	07/28/11
Diln Fac:	20.00		

Analyte	Result	RL
Gasoline C7-C12	30,000	1,000
tert-Butyl Alcohol (TBA)	260	200
Isopropyl Ether (DIPE)	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	10
Methyl tert-Amyl Ether (TAME)	ND	10
Ethanol	ND	20,000
MTBE	310	10
1,2-Dichloroethane	ND	10
Benzene	1,000	10
Toluene	31	10
1,2-Dibromoethane	ND	10
Ethylbenzene	1,300	10
m,p-Xylenes	2,600	10
o-Xylene	420	10

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	112	73-145
Toluene-d8	94	80-120
Bromofluorobenzene	102	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	177155
Units:	ug/L	Analyzed:	07/26/11
Diln Fac:	1.000		

Type: BS Lab ID: QC601605

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	71.94	115	46-141
Isopropyl Ether (DIPE)	12.50	9.803	78	52-139
Ethyl tert-Butyl Ether (ETBE)	12.50	10.43	83	56-131
Methyl tert-Amyl Ether (TAME)	12.50	9.672	77	65-120
MTBE	12.50	11.52	92	59-123
1,2-Dichloroethane	12.50	14.37	115	71-135
Benzene	12.50	12.38	99	80-122
Toluene	12.50	12.48	100	80-120
1,2-Dibromoethane	12.50	12.67	101	79-120
Ethylbenzene	12.50	13.15	105	80-120
m,p-Xylenes	25.00	25.83	103	80-120
o-Xylene	12.50	12.88	103	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-127
1,2-Dichloroethane-d4	121	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	102	80-120

Type: BSD Lab ID: QC601606

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	72.13	115	46-141	0	31
Isopropyl Ether (DIPE)	12.50	9.918	79	52-139	1	20
Ethyl tert-Butyl Ether (ETBE)	12.50	10.54	84	56-131	1	20
Methyl tert-Amyl Ether (TAME)	12.50	10.02	80	65-120	4	20
MTBE	12.50	10.91	87	59-123	5	20
1,2-Dichloroethane	12.50	14.89	119	71-135	4	20
Benzene	12.50	12.38	99	80-122	0	20
Toluene	12.50	12.66	101	80-120	1	20
1,2-Dibromoethane	12.50	13.49	108	79-120	6	20
Ethylbenzene	12.50	13.32	107	80-120	1	20
m,p-Xylenes	25.00	27.39	110	80-120	6	20
o-Xylene	12.50	12.45	100	80-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-127
1,2-Dichloroethane-d4	122	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	177155
Units:	ug/L	Analyzed:	07/26/11
Diln Fac:	1.000		

Type: BS Lab ID: QC601607

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,014	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127
1,2-Dichloroethane-d4	119	73-145
Toluene-d8	96	80-120
Bromofluorobenzene	103	80-120

Type: BSD Lab ID: QC601608

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	970.9	97	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-127
1,2-Dichloroethane-d4	123	73-145
Toluene-d8	98	80-120
Bromofluorobenzene	104	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC601609	Batch#:	177155
Matrix:	Water	Analyzed:	07/26/11
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-127
1,2-Dichloroethane-d4	126	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	104	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	177194
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Type: BS Lab ID: QC601773

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	70.92	113	46-141
Isopropyl Ether (DIPE)	12.50	9.377	75	52-139
Ethyl tert-Butyl Ether (ETBE)	12.50	10.13	81	56-131
Methyl tert-Amyl Ether (TAME)	12.50	9.890	79	65-120
MTBE	12.50	11.34	91	59-123
1,2-Dichloroethane	12.50	14.84	119	71-135
Benzene	12.50	12.52	100	80-122
Toluene	12.50	11.96	96	80-120
1,2-Dibromoethane	12.50	12.68	101	79-120
Ethylbenzene	12.50	13.44	107	80-120
m,p-Xylenes	25.00	24.94	100	80-120
o-Xylene	12.50	12.27	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-127
1,2-Dichloroethane-d4	124	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	108	80-120

Type: BSD Lab ID: QC601774

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	76.45	122	46-141	8	31
Isopropyl Ether (DIPE)	12.50	10.92	87	52-139	15	20
Ethyl tert-Butyl Ether (ETBE)	12.50	11.23	90	56-131	10	20
Methyl tert-Amyl Ether (TAME)	12.50	10.34	83	65-120	4	20
MTBE	12.50	11.87	95	59-123	5	20
1,2-Dichloroethane	12.50	15.05	120	71-135	1	20
Benzene	12.50	12.16	97	80-122	3	20
Toluene	12.50	12.10	97	80-120	1	20
1,2-Dibromoethane	12.50	13.23	106	79-120	4	20
Ethylbenzene	12.50	12.93	103	80-120	4	20
m,p-Xylenes	25.00	25.68	103	80-120	3	20
o-Xylene	12.50	12.12	97	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-127
1,2-Dichloroethane-d4	121	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	98	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	177194
Units:	ug/L	Analyzed:	07/27/11
Diln Fac:	1.000		

Type: BS Lab ID: QC601775

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	979.4	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-127
1,2-Dichloroethane-d4	118	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC601776

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,054	105	80-120	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-127
1,2-Dichloroethane-d4	120	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC601777	Batch#:	177194
Matrix:	Water	Analyzed:	07/27/11
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-127
1,2-Dichloroethane-d4	121	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	101	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	177234
Units:	ug/L	Analyzed:	07/28/11
Diln Fac:	1.000		

Type: BS Lab ID: QC601930

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	61.64	99	46-141
Isopropyl Ether (DIPE)	12.50	9.417	75	52-139
Ethyl tert-Butyl Ether (ETBE)	12.50	10.08	81	56-131
Methyl tert-Amyl Ether (TAME)	12.50	9.885	79	65-120
MTBE	12.50	11.27	90	59-123
1,2-Dichloroethane	12.50	12.80	102	71-135
Benzene	12.50	12.25	98	80-122
Toluene	12.50	12.24	98	80-120
1,2-Dibromoethane	12.50	12.41	99	79-120
Ethylbenzene	12.50	13.30	106	80-120
m,p-Xylenes	25.00	26.03	104	80-120
o-Xylene	12.50	12.66	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-127
1,2-Dichloroethane-d4	111	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC601931

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	78.00	125	46-141	23	31
Isopropyl Ether (DIPE)	12.50	10.10	81	52-139	7	20
Ethyl tert-Butyl Ether (ETBE)	12.50	10.67	85	56-131	6	20
Methyl tert-Amyl Ether (TAME)	12.50	10.42	83	65-120	5	20
MTBE	12.50	12.02	96	59-123	6	20
1,2-Dichloroethane	12.50	13.48	108	71-135	5	20
Benzene	12.50	12.40	99	80-122	1	20
Toluene	12.50	12.51	100	80-120	2	20
1,2-Dibromoethane	12.50	13.06	104	79-120	5	20
Ethylbenzene	12.50	13.26	106	80-120	0	20
m,p-Xylenes	25.00	26.44	106	80-120	2	20
o-Xylene	12.50	13.12	105	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-127
1,2-Dichloroethane-d4	111	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	105	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	177234
Units:	ug/L	Analyzed:	07/28/11
Diln Fac:	1.000		

Type: BS Lab ID: QC601932

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,093	109	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-127
1,2-Dichloroethane-d4	113	73-145
Toluene-d8	97	80-120
Bromofluorobenzene	100	80-120

Type: BSD Lab ID: QC601933

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	1,055	105	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	97	80-127
1,2-Dichloroethane-d4	115	73-145
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Gasoline by GC/MS

Lab #:	229566	Location:	3519 Castro Valley Blvd.
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2761	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC601934	Batch#:	177234
Matrix:	Water	Analyzed:	07/28/11
Units:	ug/L		

Analyte	Result	RL
Gasoline C7-C12	ND	50
tert-Butyl Alcohol (TBA)	ND	10
Isopropyl Ether (DIPE)	ND	0.50
Ethyl tert-Butyl Ether (ETBE)	ND	0.50
Methyl tert-Amyl Ether (TAME)	ND	0.50
Ethanol	ND	1,000
MTBE	ND	0.50
1,2-Dichloroethane	ND	0.50
Benzene	ND	0.50
Toluene	ND	0.50
1,2-Dibromoethane	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-127
1,2-Dichloroethane-d4	118	73-145
Toluene-d8	99	80-120
Bromofluorobenzene	100	80-120

ND= Not Detected
RL= Reporting Limit

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Date : 26-JUL-2011 15:30

Client ID: DYNA P&T

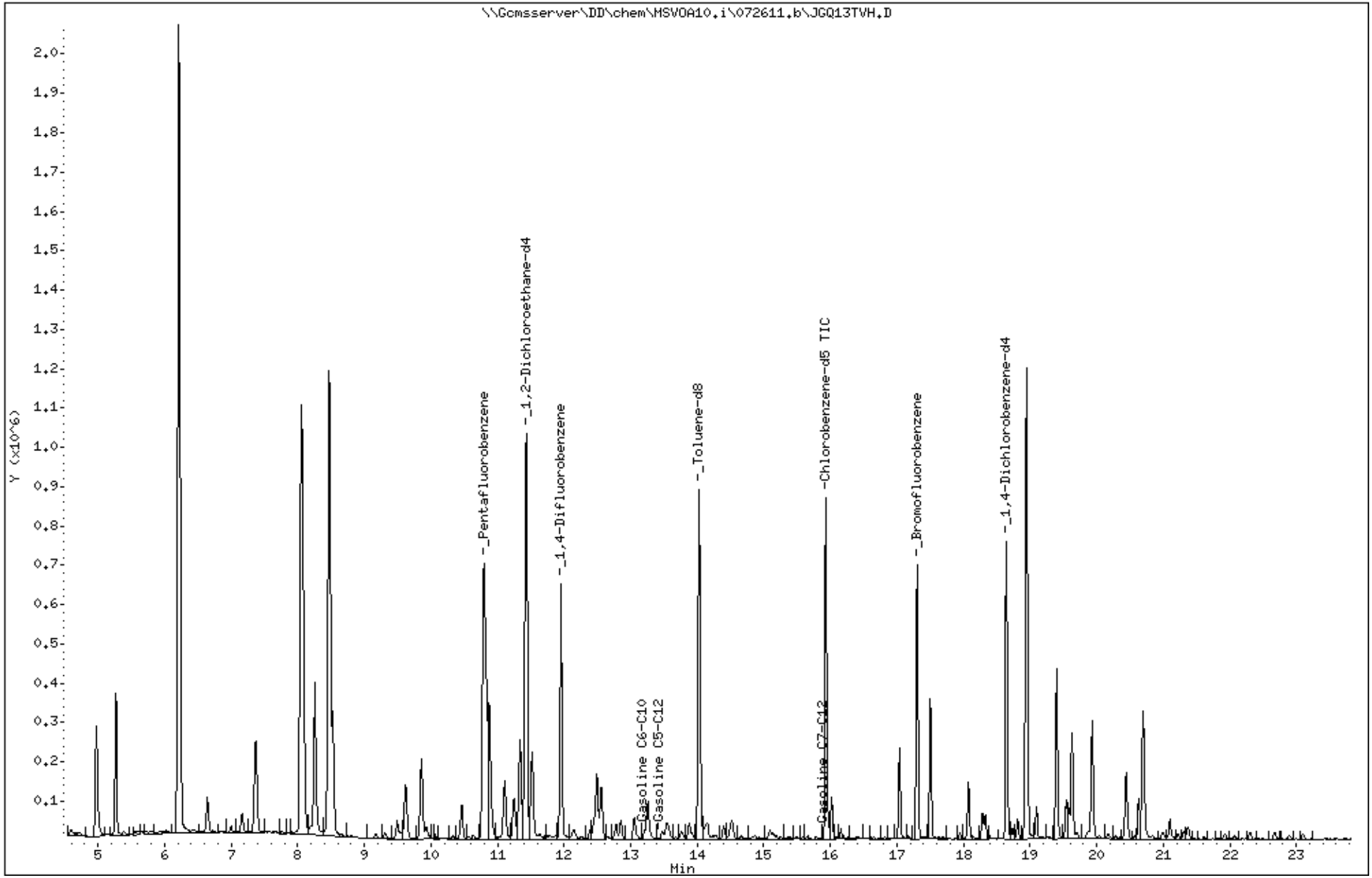
Instrument: MSVOA10.i

Sample Info: S,229566-001

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 26-JUL-2011 16:44

Client ID: DYNA P&T

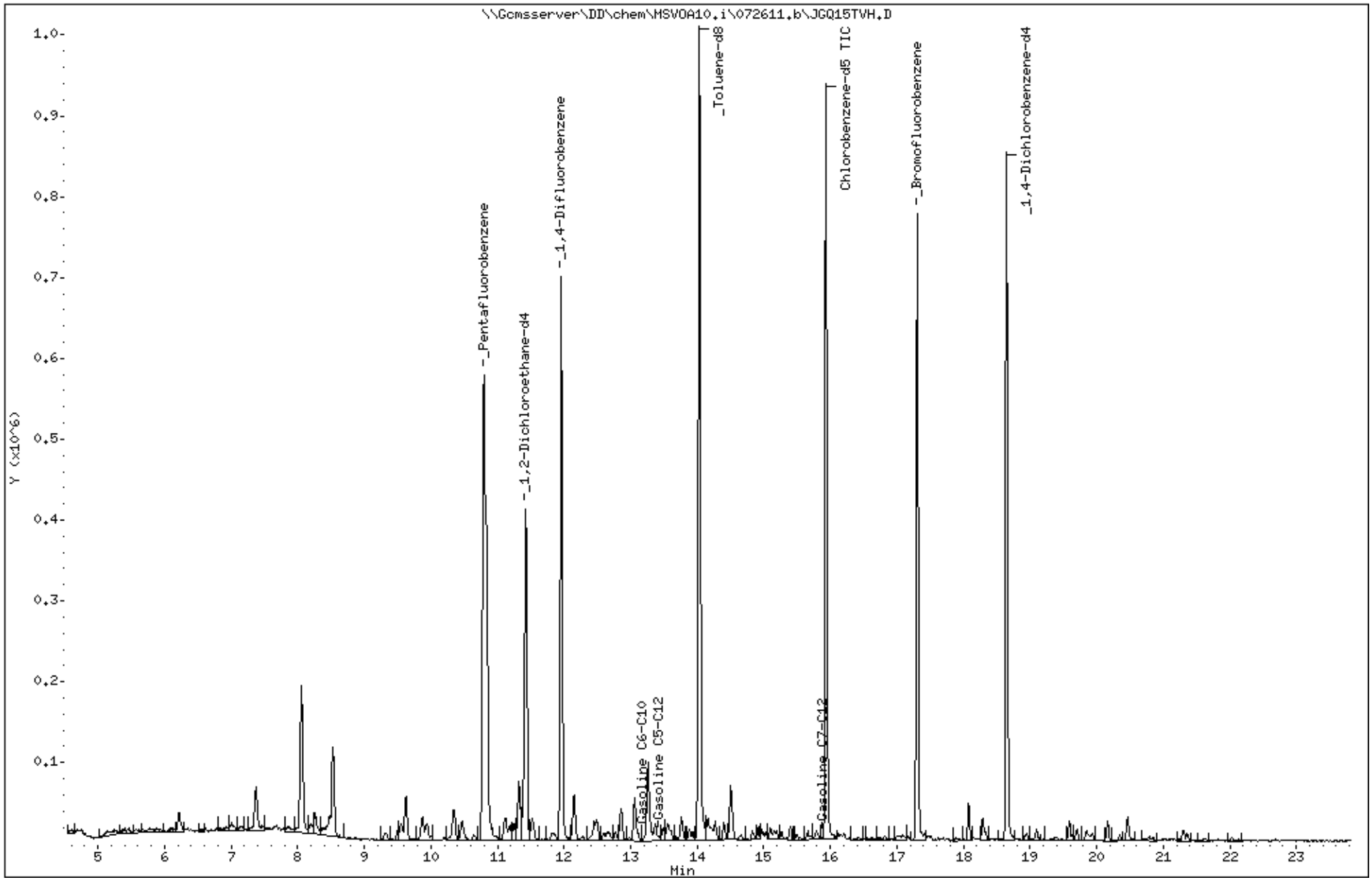
Instrument: MSVOA10.i

Sample Info: S,229566-003

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\072711.b\JGR20TVH.D

Date : 27-JUL-2011 19:38

Client ID: DYNA P&T

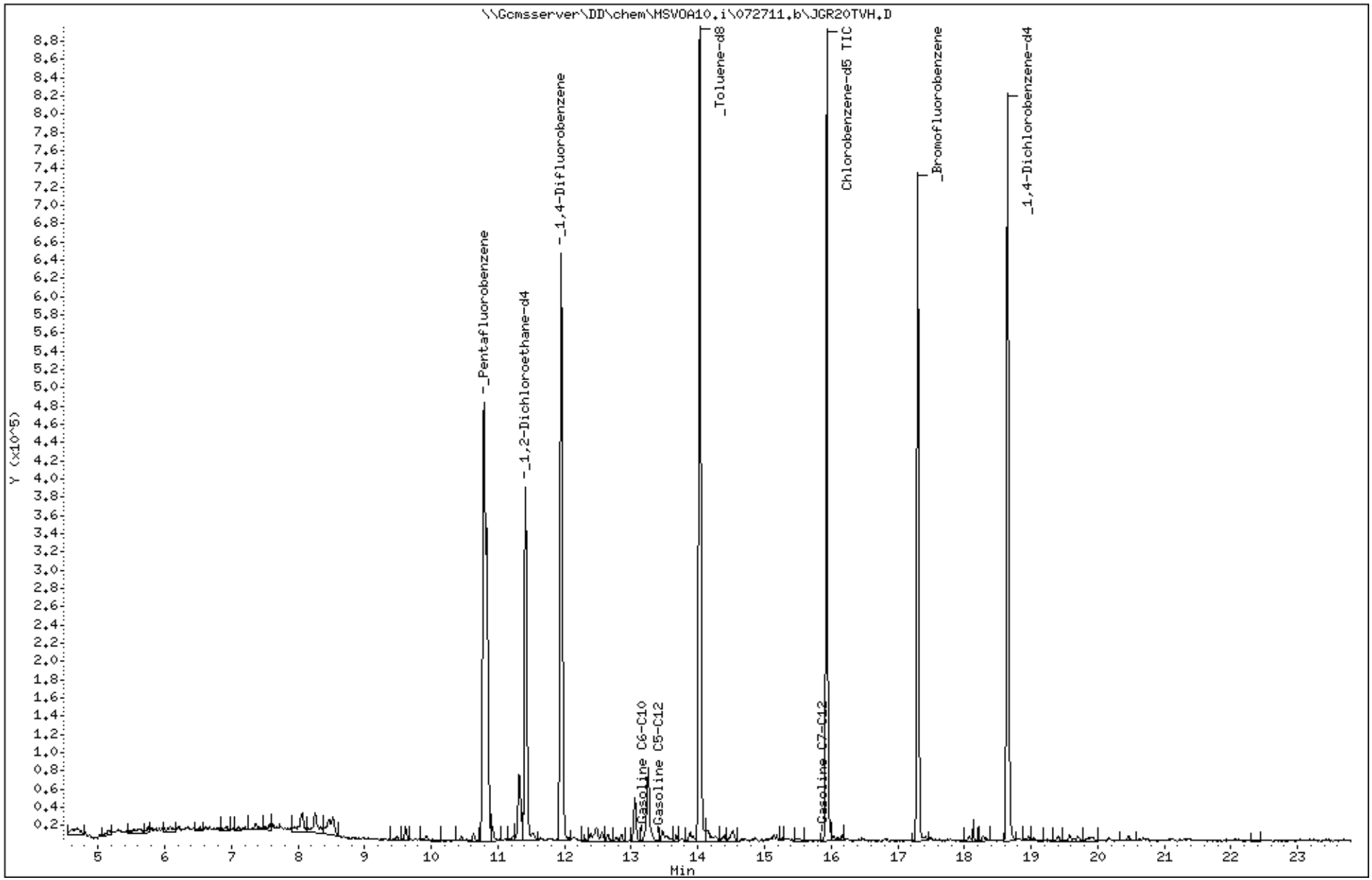
Instrument: MSVOA10.i

Sample Info: S,229566-009

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 28-JUL-2011 17:27

Client ID: DYNA P&T

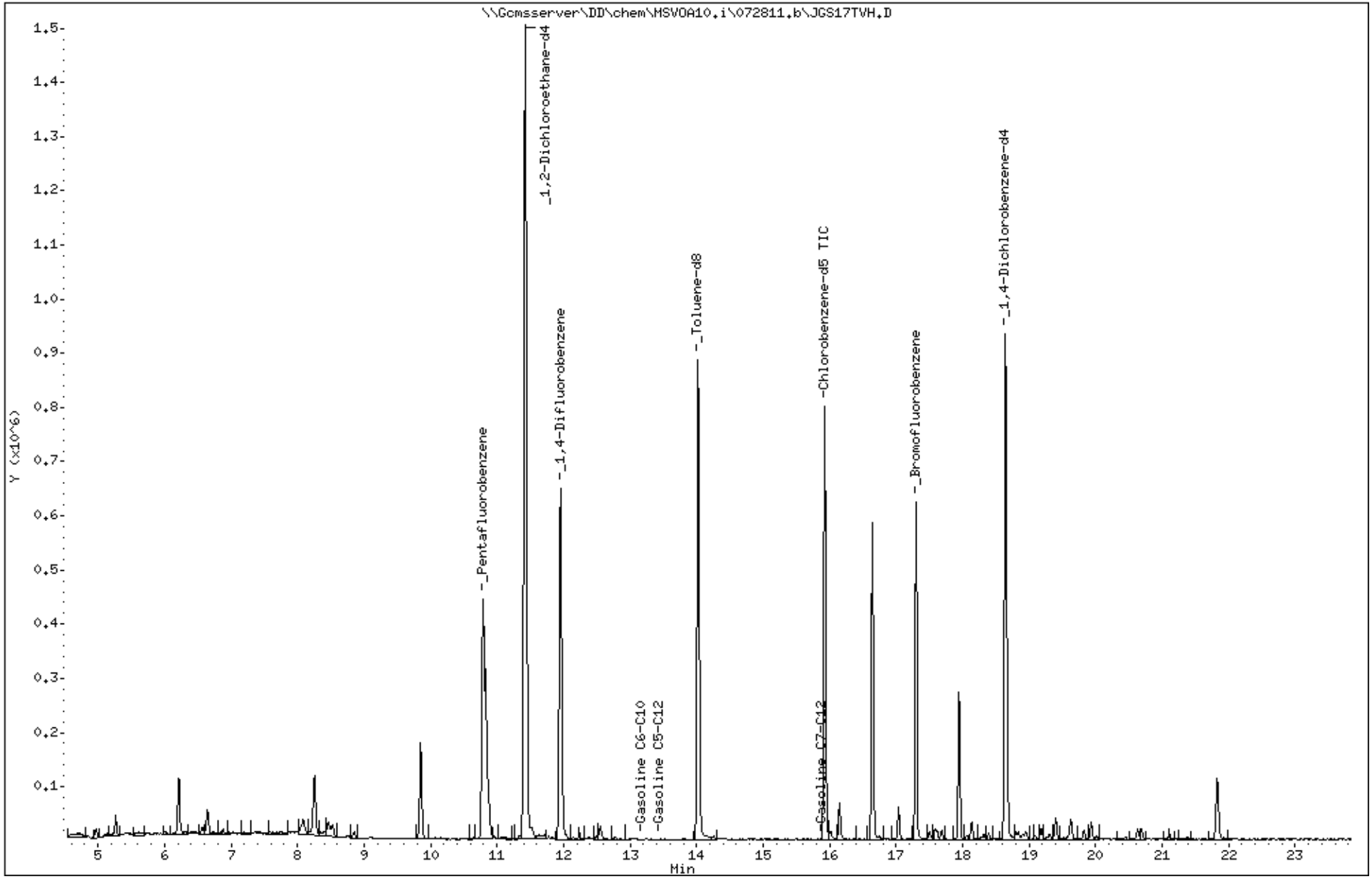
Instrument: MSVOA10.i

Sample Info: S,229566-010

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 28-JUL-2011 18:40

Client ID: DYNA P&T

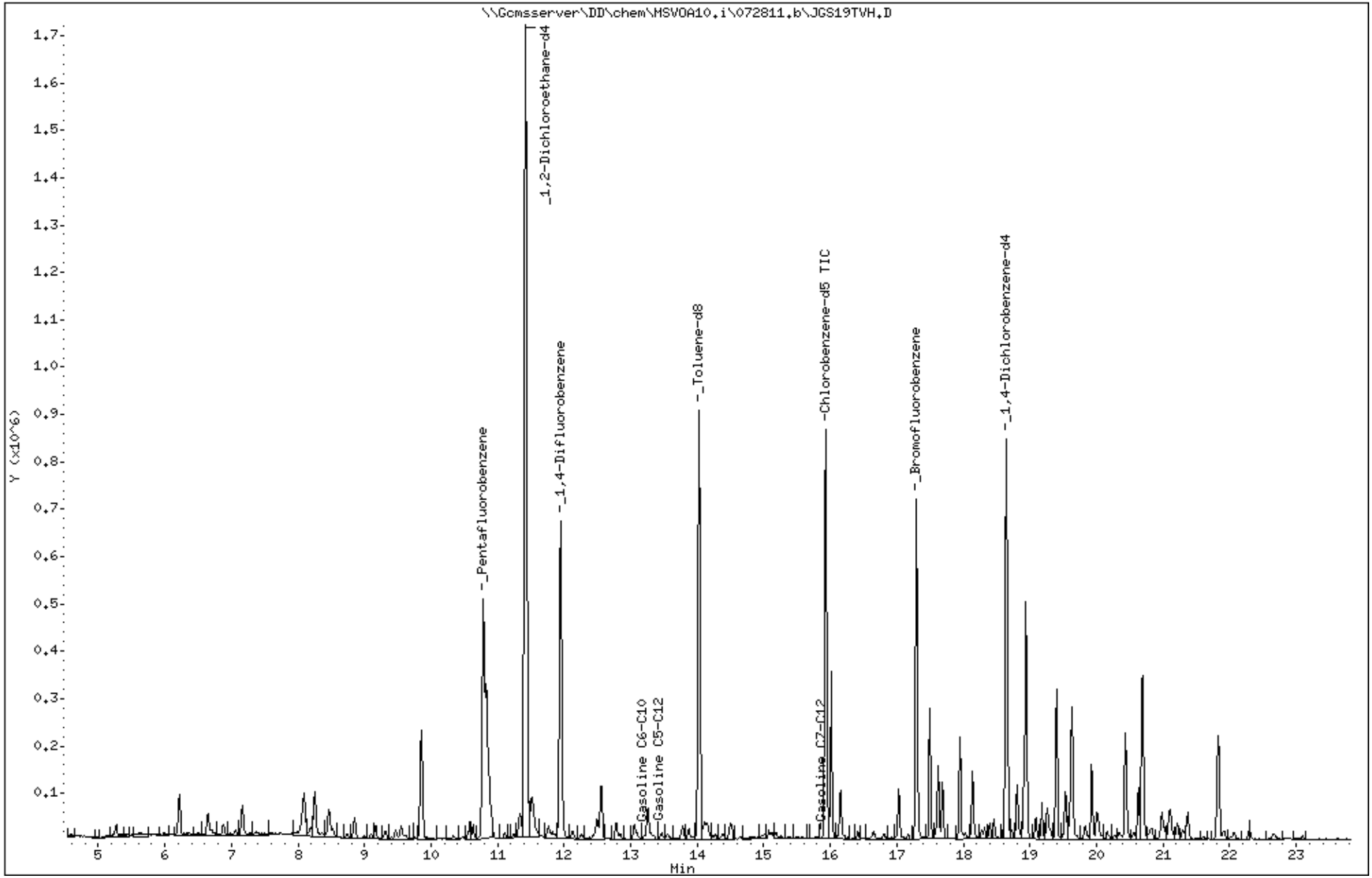
Instrument: MSVOA10.i

Sample Info: S,229566-011

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 27-JUL-2011 20:53

Client ID: DYNA P&T

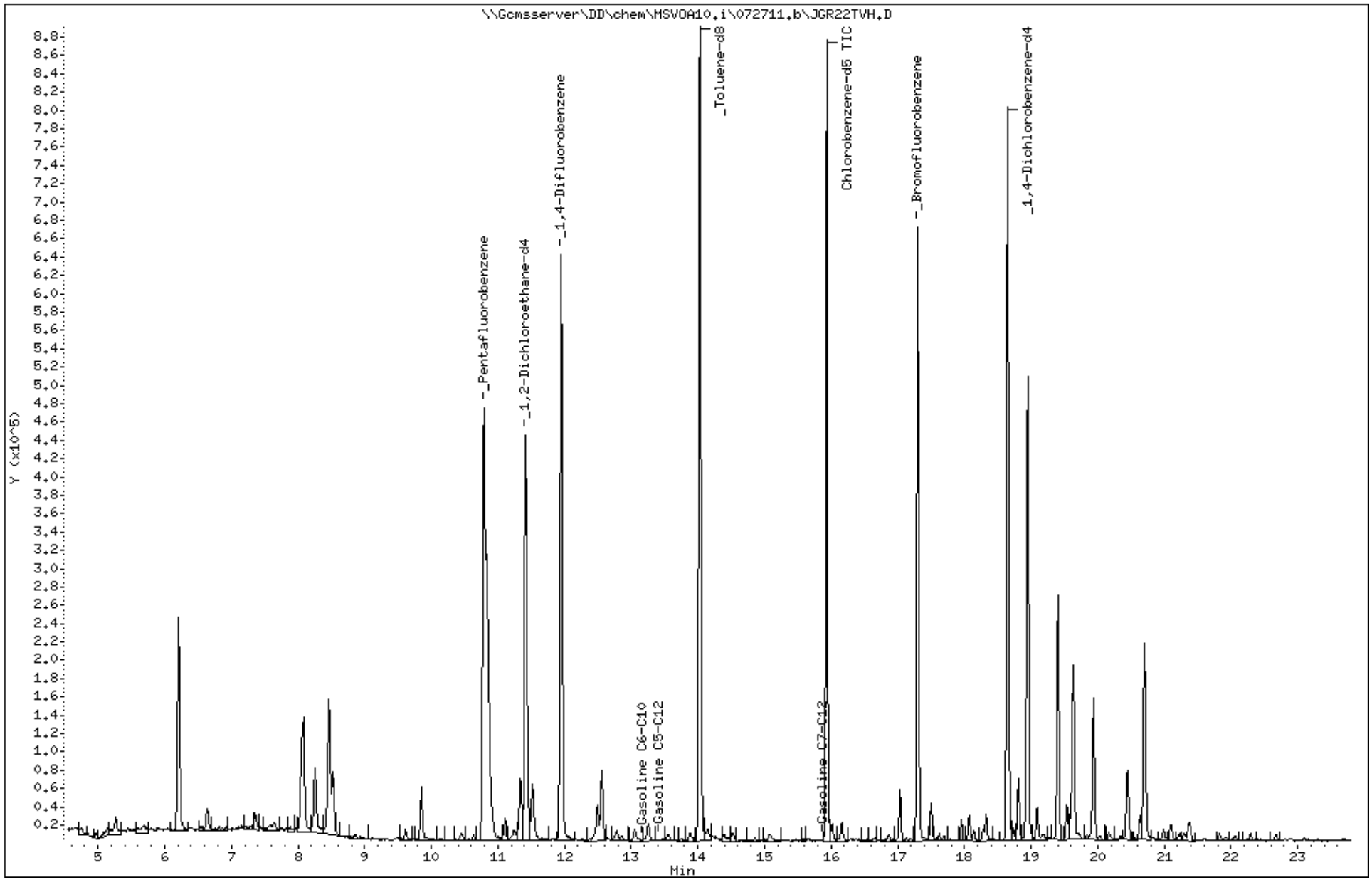
Instrument: MSVOA10.i

Sample Info: S,229566-013

Operator: VOA

Column phase:

Column diameter: 2.00



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Date : 28-JUL-2011 19:18

Client ID: DYNA P&T

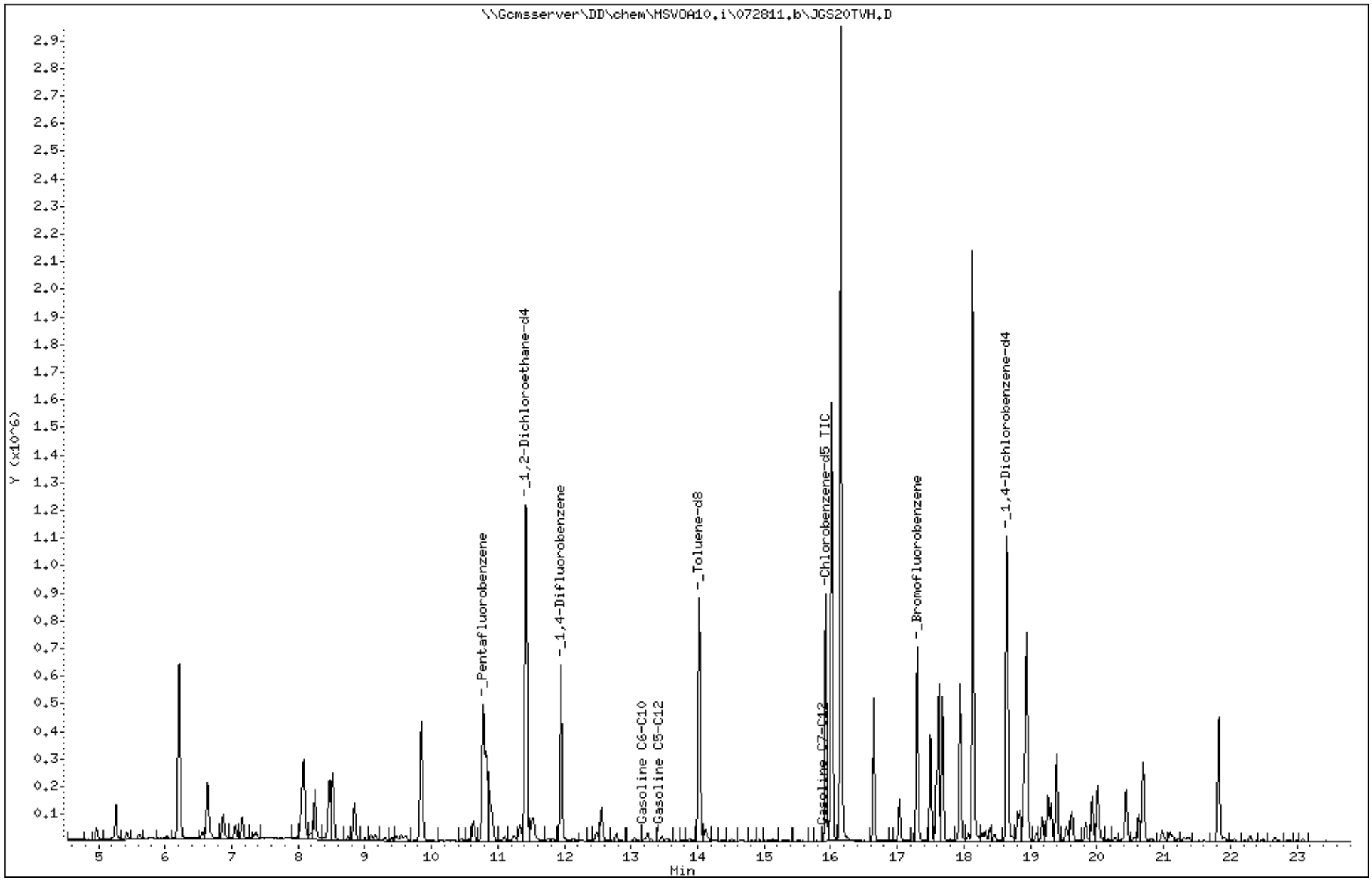
Instrument: MSVOA10.i

Sample Info: S,229566-014

Operator: VOA

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA10.i\072611.b\JGQ07TVH.D

Date : 26-JUL-2011 11:48

Client ID: DYNA P&T

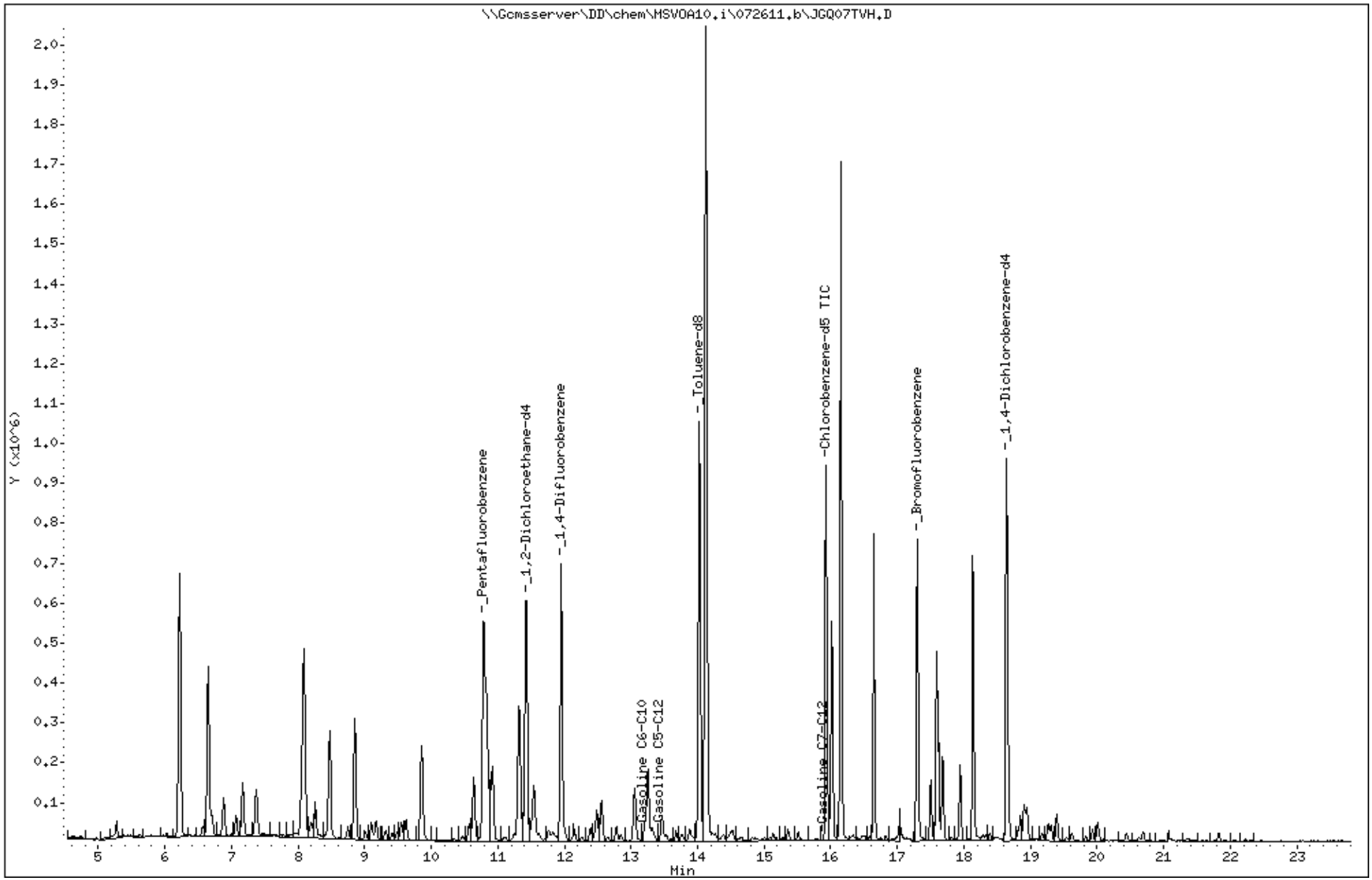
Instrument: MSVOA10.i

Sample Info: CCV/BS,QC601607,177155,S17254

Operator: VOA

Column phase:

Column diameter: 2.00



APPENDIX G
BAAQMD Various Locations and Groundwater Discharge Permit

B8119

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000

PERMIT TO OPERATE

Plant# 19396 Page: 1 Expires: NOV 1, 2011

This document does not permit the holder to violate any District regulation or other law.

Erica Fisker
SOMA Environmental Engineering, Inc
6620 Owens Dr, Suite A
Pleasanton, CA 94588

Location: 335 So Norfolk Street ; 3519 Castro Valley Boulevard
San Mateo, CA 94403 Castro Valley, California

S#	DESCRIPTION	[Schedule]	PAID
1	CHEM> Contaminated soil remediation, Contaminated soil vapor Portable Soil Vapor Extraction System Abated by: A1 SVE Abatement System	[G1]	1164

1 Permit Source, 0 Exempt Sources

*** See attached Permit Conditions ***

The operating parameters described above are based on information supplied by permit holder and may differ from the limits set forth in the attached conditions of the Permit to Operate. The limits of operation in the permit conditions are not to be exceeded. Exceeding these limits is considered a violation of District regulations subject to enforcement action.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000

PERMIT TO OPERATE

This document does not permit the holder to violate any District regulation or other law.

*** PERMIT CONDITIONS ***

==========

COND# 23387 *applies to S# 1*

1. The operator of this source shall notify the District at least 3 days prior to start-up of operation at any new location. The notification shall include:

   a. Application Number (19214, 15435) and Plant Number (19396, 18119)
   b. Street address, including zip code, for the location where the equipment will be operated.
   c. The name and telephone number of a contact person where the equipment will be operated.
   d. The date of initial start-up and estimated duration of operations at that location.
   e. The distance from the source to the outer boundary of the nearest K-12 school, or indication that the distance is greater than 1500 feet.

   In the event that the start-up is delayed less than 5 days, the operator may provide telephone notice of said change to the assigned Plant Engineer in the Permit Services Division. If the start-up is delayed more than 5 days, written notification must be resubmitted.

2. This equipment shall not remain at any single location for a period in excess of 12 consecutive months, following the date of initial operation except as allowed under Section 2-1-220.10. If this portable equipment remains at any fixed location for more than 12 months, the portable permit will automatically revert to a conventional permanent location permit and will lose its portability. [Basis: Regulation 2-1-220.2]

3. This portable equipment, S-1, shall operate at all times in conformance with the eligibility requirements set forth in Regulation 2-1-220 for portable equipment.

4. This equipment is not to be operated within 1000 feet of the outer boundary of any K-12 school. Such operation will require the submittal of an application for a revised permit to operate so that the applicable requirements of the California Health and Safety Code Section 42301.6 may be met. These notification

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*** PERMIT CONDITIONS ***

requirements have been satisfied for operation at the 640 Broadway Street in Vallejo, California 94590. [Basis: Regulation 2-1-220.4]

5. This equipment shall be used exclusively for the removal of non-chlorinated volatile organic compounds associated with petroleum products from extracted soil vapor. This shall be demonstrated by onsite sampling required in condition 10 below.

6. Precursor Organic Compound (POC) emissions from Source S-1 shall be abated by Abatement device A-1, Thermal Oxidizer, Catalytic Oxidizer or Carbon adsorption, during all periods of operation. Soil vapor flow rate shall not exceed 250 scfm. [Basis: Regulation 8-47-301.1,2]

7. The POC abatement efficiency of abatement device A-1 shall be maintained at a minimum of 98.5% by weight for inlet POC concentrations greater than or equal to 2000 ppmv (measured as hexane). For inlet concentrations below 2000 ppmv and greater than or equal to 200 ppmv, a minimum abatement efficiency of 97% shall be maintained. For inlet concentrations below 200 ppmv, a minimum abatement efficiency of 90% shall be maintained. The minimum abatement efficiency shall be waived if outlet POC concentrations are shown to be less than 10 ppmv (measured as hexane). In no event shall benzene emissions to the atmosphere exceed 0.250 pounds per day. Annual emissions of benzene shall not exceed 6.40 pounds per year.

8. While operating as a thermal oxidizer, the minimum operating temperature of A-1 shall not be less than 1400 degrees Fahrenheit. While operating as a catalytic oxidizer, the minimum operating temperature of A-1 shall not be less than 600 degrees Fahrenheit.

9. To determine compliance with Condition Number 8, the dual-mode oxidizer shall be equipped with continuous measuring and temperature recording instrumentation. The temperature data collected from the temperature recorder shall be maintained in a file which shall be available for District inspection for a period of at least 2 years following the date on which such data are recorded.

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*** PERMIT CONDITIONS ***

10. To determine compliance with Condition 7, within 24 hours after start-up of the thermal/catalytic oxidizer at any new location, and within 24 hours of conversion from thermal to catalytic mode at an existing location, the operator of this source shall:
    a. Analyze the inlet gas to determine the vapor flow rate and concentration of POC present.
    b. Analyze exhaust gas to determine the flow rate, and the concentration of benzene and POC present.
    c. Calculate the benzene emission rate in pounds per day based on the exhaust gas analysis and the operating exhaust flow rate. The soil vapor flow rate shall be decreased, if necessary, to demonstrate compliance with Condition 7.
    d. Calculate the POC abatement efficiency based on the inlet and outlet gas sampling analysis. For the purpose of determining compliance with condition 7, the POC concentration shall be reported as hexane.
    e. Submit to the District's Permit Services Division the test results and emission calculations within one month from the testing date. Samples shall be analyzed according to modified EPA test methods 8015 and 8021 or their equivalent to determine the concentrations of POC and benzene.

11. Within 30 days from the completion of each treatment operation at a given location, the operator of this source shall provide the assigned Plant Engineer in the Permit Services Division with a summary showing the following information:
    a. The dates and total number of days that the equipment was at that location and the dates, and total number of days that the equipment was operated at that location.
    b. A summary of the abatement efficiency and benzene emission rate as determined and reported in the start-up sampling report required by condition 10e above.
    c. The results of any additionally performed emission test, analysis, or monitoring result logged in for the day of operation they were taken.
    d. The total throughput of contaminated soil vapor processed by S-1 at that location (indicated

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*** PERMIT CONDITIONS ***

in cubic feet).

e. The total emissions of benzene at that location based on the sampling results required by conditions 10 above (indicated in pounds).

12. During operation of the Activated Carbon Vessels, the operator of this source shall monitor with a photo-ionization detector (PID), flame-ionization detector (FID), or other method approved in writing by the District's Source Test Manager at the following locations:
    a. At the inlet to the second to last Carbon vessel in series.
    b. At the inlet to the last Carbon vessel in series.
    c. At the outlet of the Carbon vessel that is last in series prior to venting to the atmosphere.
    When using an FID to monitor breakthrough, readings may be taken with and without a Carbon filter tip fitted on the FID probe. Concentrations measured with the Carbon filter tip in place shall be considered methane for the purposes of these permit conditions.

13. These monitor readings shall be recorded in a monitoring log at the time they are taken. The monitoring results shall be used to estimate the frequency of Carbon change-out necessary to maintain compliance with conditions number 14 and 15, and shall be conducted on a daily basis. The operator of this source may propose for District review, based on actual measurements taken at the site during operation of the source, that the monitoring schedule be changed based on the decline in organic emissions and/or the demonstrated breakthrough rates of the carbon vessels. Written approval by the District's Engineering Division must be received by the operator prior to a change to the monitoring schedule.

14. The second to last Carbon vessel shall be immediately changed out with unspent carbon upon breakthrough, defined as the detection at its outlet in excess of the higher of the following limits:
    a. 10 % of the inlet stream concentration to the carbon bed.
    b. 10 ppmv (measured as hexane).

15. The last Carbon vessel shall be immediately changed out

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*** PERMIT CONDITIONS ***

with unspent Carbon upon detection at its outlet of 10 ppmv or greater (measured as hexane).

16. The operator of this source shall maintain the following information for each month of operation of the Activated Carbon Vessels:
    a. Hours and time of operation.
    b. Each emission test, analysis or monitoring results logged in for the day of operation they were taken.
    c. The number of Carbon vessels removed from service.

    Such records shall be retained and made available for inspection by the District for two years following the date the data is recorded. [basis: Reg.523]

17. Within 30 days after the end of every calendar year, the operator of this source shall provide the assigned Plant Engineer in the Permit Services Division a year end summary showing the following information:
    a. The location(s) at which the equipment was operated including the dates operated at each location.
    b. The total throughput of contaminated soil vapor for the previous four quarters (indicated in cubic feet).
    c. The total benzene emissions for the previous four quarters (indicated in pounds).

    [Basis: Regulation 1-523]

18. The operator shall maintain a file containing all measurements, records and other data that are required to be collected pursuant to the various provisions of this conditional Permit to Operate. All measurements, records and data required to be maintained by the operator shall be retained for at least two years following the date the data is recorded. [Basis: Regulation 1-523]

19. Any non-compliance with these conditions shall be reported to the Compliance and Enforcement Division at the time that it is first discovered. The submittal shall detail the corrective action taken and shall include the data showing the exceedance as well as the time of occurrence.

END OF CONDITIONS

S#	Source Description	Annual Average lbs/day PART	ORG	NOx	SO2	CO
1	Portable Soil Vapor Extraction System	-	1.48	-	-	-
	T O T A L S		1.48			

** PLANT TOTALS FOR EACH EMITTED TOXIC POLLUTANT **

Pollutant Name	Emissions lbs/day
Benzene	.02

Erica Fisker

From: Erica Fisker [efisker@somaenv.com]
Sent: Monday, June 13, 2011 7:12 PM
To: Flora Chan
Cc: efisker@somaenv.com
Subject: Application 15435, plant 19396: Notification of Start up

Good Afternoon Flora,

This email is to notify you of the start of an MPE Pilot Test at 3519 Castro Valley Blvd, Castro Valley on Monday, June 20, 2011 between 9 and 10 am. I will be the foreman on-site (925-989-8250). The event is scheduled for 10 days. The source is greater then 1000 feet from the nearest K-12 school.

If you have any questions or comments, please let me know.

Thank you,

Erica Fisker

Erica Fisker, Ph.D.
Senior Staff Geologist
SOMA Environmental Engineering, Inc.
6620 Owens Drive, Suite A
Pleasanton, CA 94588
PH: 925-734-6400
Fax: 925-734-6401
Web: www.somaenv.com

Erica Fisker

From: Erica Fisker [efisker@somaenv.com]
Sent: Thursday, July 28, 2011 4:24 PM
To: Flora Chan
Cc: efisker@somaenv.com
Subject: Event Summary for 3519 Castro Valley Blvd., Castro Valley


1106159_6-21-11.pdf


1106167 6-23-11.pdf


1107009 7-1-11.pdf


Castro Valley 2011 final Mass ...

Good Afternoon Flora,

The portable MPE system with thermal oxidizer was operated at 3519 Castro Valley Blvd., Castro Valley from June 20 to July 1, 2011 for a total of 6,760 hours/ 4.69 days. As seen in the attached table, the abatement efficiency was 99.99% and the total through-put of contaminated soil vapor was 400,338 cu-ft. Emission of Benzene during this event was 1.16 X 10^-5 lbs/day and a total of 4.97 X 10^-4 lbs. If you have any questions or comments, please let me know.

Thanks,

Erica Fisker, Ph.D.
Senior Staff Geologist
SOMA Environmental Engineering, Inc.
6620 Owens Drive, Suite A
Pleasanton, CA 94588
PH: 925-734-6400
Fax: 925-734-6401
Web: www.somaenv.com

June 15, 2011

Erica Fisker,
Soma Environmental Engineering
6620 Owens Dr # A
Pleasanton, CA 94588-3334

Subject: Authorization of Special Discharge

Dear Ms. Fisker:

This letter shall serve notice of authorization granted, and issuance of Special Discharge Permit No. 10387, to Soma Environmental Engineering, for discharge of pre-treated groundwater from 3519 Castro Valley Blvd., (a.k.a. 20835 Redwood Rd.) Castro Valley in un-incorporated Alameda County, into the Castro Valley Sanitary District sewer system, under the following terms and conditions:

1. FEE:

   The annual permit fee for a special discharge permit for application review and inspections is $420.00. The annual monitoring and service fee is $0.05 per gallon. If the estimated amount of water pulled from the well is 15,000 gallons, the annual monitoring and service fee would be $750.00. Hence, the total fee would be $1170.00.

   Payment of fees must be made to Castro Valley Sanitary District prior to commencement of discharge.

2. POINT OF DISCHARGE:

   The point of discharge to the District's sanitary sewer shall be established prior to commencement of discharge. The point of discharge may not be changed without prior authorization from the District.

3. PRE-DISCHARGE NOTIFICATION:

   Soma Environmental Engineering shall notify the District no less than 24 hours prior to any discharge activity. Contact the Engineering Department at (510) 537-0757.

4. DISCHARGE LIMITATIONS:

   If the discharge is directly into a sanitary sewer manhole, the rate of discharge shall at no time exceed 125 gal/min during non-peak hours and 60 gal/min during peak hours (Mon – Fri between 8:00 a.m. and 10:00 a.m.).

   Soma Environmental Engineering agrees to comply with all limits, prohibitions and requirements set forth in this letter and in the District's Pretreatment Regulations..

5. GENERAL:
   Soma Environmental Engineering shall perform any discharge activity in compliance with all applicable health and safety; OSHA; and traffic control regulations.

   Soma Environmental Engineering assumes full responsibility for any damages to District property or equipment including, but not limited to, the District collection system and treatment plant.

In addition, Soma Environmental Engineering agrees to indemnify Castro Valley Sanitary District from any claims for damages or injuries to personal and/or private property, incurred by individuals not employed by the District, arising out of or in connection with the activity authorized by this letter.

Please indicate your acceptance of the above conditions by your signature below, and return a signed copy to our offices. **The terms of this Agreement are valid through June 15, 2012.**

Should you have any questions, or need further assistance, please contact me via email at melody@cvsan.org, or by phone (510) 537-0757.

Best regards,

Melody Knapp

Melody Knapp
Engineering Technician

Erica Fisher PH.D.
Name (Please Print)

Signature

6/16/11
Date

Senior Staff Geologist
Title

SOMA Environmental Engineering
Company

(Added, §1, Ord. 88, 07-03-90)
(Amended, §6, Ord. 100, 05-04-93)

Section 6206. **Specific Pollutant Limitations.** No person shall discharge wastewater containing in excess of:

0.8	mg/L	arsenic
0.2	mg/L	cadmium
0.5	mg/L	copper
1.0	mg/L	cyanide
1.0	mg/L	lead
0.01	mg/L	mercury
1.0	mg/L	nickel
1.0	mg/L	selenium
0.8	mg/L	silver
2.0	mg/L	total chromium
3.0	mg/L	zinc
0.02	mg/L	total identifiable chlorinated hydrocarbons
70	mg/L	phenolic compounds
100	mg/L	oil and grease of mineral origin
300	mg/L	oil and grease of animal or vegetable origin

Wastewater strength limits for constituents not listed above may be established in a wastewater discharge permit based upon available treatment technology, existing wastewater conditions in the District's facilities or other factors as determined by the District.

(Added, §1, Ord. 88, 07-03-90)
(Amended, §7, Ord. 100, 05-04-93)

Section 6207. **State Requirements.** State requirements and limitations on discharges shall apply in any case where they are more stringent than federal requirements and limitations or those in these regulations.

(Added, §1, Ord. 88, 07-03-90)

Section 6208. **District's Right of Revision.** The District reserves the right to establish by ordinance more stringent limitations or requirements on discharges to the District wastewater system if deemed necessary to comply with the objectives presented in Section 6100 of these regulations.

(Added, §1, Ord. 88, 07-03-90)

Section 6209. **Dilution or Bypassing.** No user shall ever increase the use of process water or in any way attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve compliance with the limitations contained in the National Categorical Pretreatment Standards, or in any other pollutant-specific limitation developed by the District or State. User shall not divert any regulated wastestream from the pretreatment system.

(Added, §1, Ord. 88, 07-03-90)
(Amended, §8, Ord. 100, 05-04-93)

Section 6210. **Sample Collection and Analysis.** Sample collection and analysis shall be performed in accordance with procedures established by the EPA and contained in 40 CFR, Part 136, as amended.

(Added, §1, Ord. 88, 07-03-90)

Section 6211. **Accidental Discharges.** Each user shall provide protection from accidental discharge of

Elena Manzo

Subject: FW: Special Discharge Permit

From: Mary Jeyaprakash [mailto:mary@cvsan.org]
Sent: Monday, August 01, 2011 8:52 AM
To: Elena Manzo
Subject: RE: Special Discharge Permit

Thanks Elena.
Got it.
Have a good day!
Mary

From: Elena Manzo [mailto:emanzo@somaenv.com]
Sent: Thursday, July 28, 2011 2:55 PM
To: Mary Jeyaprakash
Cc: Melody Knapp
Subject: RE: Special Discharge Permit

Dear Mary,

Erica had forwarded me your email where you inquired about our project at 3519 Castro Valley Blvd. Our project went well and Melody was very kind helpful. Attached to this email please find our discharge summary log. Please do not hesitate to call me at (925)734-6400, if you have any questions or concerns.

Sincerely,

Elena K. Manzo
Principal Scientist
SOMA Environmental Engineering, Inc.
925-734-6400 (Phone)
925-734-6401 (Fax)
www.somaenv.com

APPENDIX H
Pilot Testing Related Documentation

PWS weather Personal Weather Stations

Have a PWS account? OR

Station Archive

AGUALINDA Castro Valley, Castro Valley, CA 94546

View data in metric units

Today | Daily | Weekly | Monthly | Yearly | Custom Date

< prev **Summary for June 2011** next >

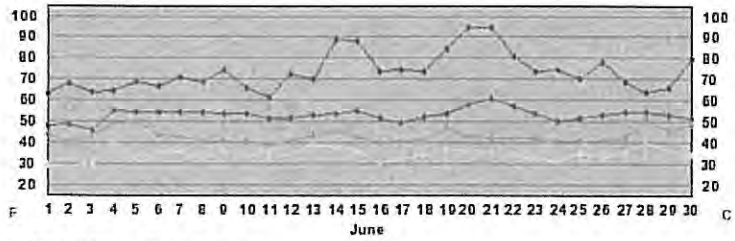
	High	Low	Average
Temperature	94.6°F	45.5°F	61.4°F
Dew Point	50.8°F	28.2°F	38.5°F
Winds	10.0 mph	Calm	2.0 mph SSW
Wind Gusts	13.0 mph	-	2.0 mph
Humidity	73%	14%	46%
Pressure	30.15 in	29.68 in	-
Precipitation	1.66 in	-	-

Castro Valley Castro Valley, CA 94546

Lat: 37.77671, Lon: -122.077482
Elevation: 278
Station Type: Oregon Scienctific WMR968

Temp/Dew Point | Winds | Pressure | Precipitation

AGUALINDA: Summary for June 2011



View the detailed graph.

Today | Daily | Weekly | Monthly | Yearly

View data in metric units

< prev **Detailed Summary for June 2011** next >

Date	Temperature			Dew Point			Winds		Humidity			Pressure		Precip
	Max	Min	Avg	Max	Min	Avg	Max	Avg	Max	Min	Avg	Max	Min	
Wed, Jun 01	62.7°F	47.8°F	55.3°F	43.5°F	28.6°F	36.2°F	8.0 mph	4.0 mph	70%	28%	49%	30.09 in	30.01 in	0.16 in
Thu, Jun 02	67.6°F	48.3°F	58.0°F	39.8°F	28.2°F	34.0°F	8.0 mph	4.0 mph	64%	26%	45%	30.15 in	30.09 in	0.00 in
Fri, Jun 03	63.6°F	45.5°F	54.6°F	42.6°F	30.3°F	36.5°F	6.0 mph	3.0 mph	68%	29%	49%	30.01 in	29.82 in	0.00 in
Sat, Jun 04	64.4°F	54.6°F	59.5°F	49.0°F	39.7°F	44.4°F	9.0 mph	4.5 mph	70%	42%	56%	29.85 in	29.68 in	0.71 in
Sun, Jun 05	68.7°F	54.1°F	61.4°F	49.8°F	32.4°F	41.1°F	8.0 mph	4.0 mph	72%	29%	51%	29.97 in	29.91 in	0.00 in
Mon, Jun 06	66.3°F	54.1°F	60.2°F	43.3°F	35.5°F	39.4°F	10.0 mph	5.0 mph	66%	34%	50%	30.06 in	29.91 in	0.00 in
Tue, Jun 07	71.0°F	54.5°F	62.8°F	42.7°F	35.6°F	39.2°F	7.0 mph	3.5 mph	61%	28%	45%	30.00 in	29.94 in	0.00 in
Wed, Jun 08	68.7°F	54.1°F	61.4°F	40.2°F	32.7°F	36.5°F	7.0 mph	3.5 mph	59%	27%	43%	29.97 in	29.92 in	0.00 in
Thu, Jun 09	74.4°F	53.7°F	64.1°F	40.7°F	35.3°F	38.0°F	8.0 mph	4.0 mph	59%	25%	42%	30.00 in	29.95 in	0.00 in
Fri, Jun 10	66.0°F	53.2°F	59.6°F	40.5°F	34.3°F	37.4°F	9.0 mph	4.5 mph	61%	34%	48%	29.98 in	29.92 in	0.00 in
Sat, Jun 11	61.3°F	51.0°F	56.2°F	38.9°F	35.1°F	37.0°F	8.0 mph	4.0 mph	62%	39%	51%	29.89 in	29.85 in	0.00 in
Sun, Jun 12	71.9°F	51.6°F	61.8°F	40.5°F	34.2°F	37.4°F	6.0 mph	3.0 mph	63%	26%	45%	29.88 in	29.80 in	0.00 in
Mon, Jun 13	70.1°F	52.8°F	61.5°F	43.4°F	38.9°F	41.2°F	7.0 mph	3.5 mph	65%	33%	49%	30.00 in	29.89 in	0.00 in
Tue, Jun 14	89.0°F	53.2°F	71.1°F	45.8°F	37.9°F	41.9°F	7.0 mph	3.5 mph	68%	18%	43%	30.03 in	29.96 in	0.00 in
Wed, Jun 15	88.3°F	55.2°F	71.8°F	43.0°F	36.0°F	39.5°F	7.0 mph	3.5 mph	59%	18%	39%	29.88 in	29.81 in	0.00 in
Thu, Jun 16	73.4°F	51.6°F	62.5°F	40.1°F	30.1°F	35.1°F	7.0 mph	3.5 mph	59%	22%	41%	29.76 in	29.74 in	0.00 in
Fri, Jun 17	74.6°F	49.4°F	62.0°F	40.3°F	31.9°F	36.1°F	7.0 mph	3.5 mph	64%	23%	44%	29.82 in	29.74 in	0.00 in
Sat, Jun 18	73.4°F	52.1°F	62.8°F	41.5°F	33.9°F	37.7°F	7.0 mph	3.5 mph	62%	25%	44%	29.89 in	29.83 in	0.00 in

Sun, Jun 19	84.7°F	53.6°F	69.2°F	46.7°F	35.9°F	41.3°F	7.0 mph	3.5 mph	69%	18%	44%	29.83 in	29.78 in	0.00 in
Mon, Jun 20	94.4°F	57.5°F	76.0°F	42.9°F	36.1°F	39.5°F	8.0 mph	4.0 mph	54%	14%	34%	29.79 in	29.73 in	0.00 in
Tue, Jun 21	94.6°F	60.9°F	77.8°F	41.7°F	35.4°F	38.6°F	7.0 mph	3.5 mph	45%	14%	30%	29.81 in	29.73 in	0.00 in
Wed, Jun 22	80.7°F	56.8°F	68.8°F	41.8°F	33.9°F	37.9°F	8.0 mph	4.0 mph	54%	21%	38%	29.84 in	29.79 in	0.00 in
Thu, Jun 23	73.7°F	53.7°F	63.7°F	41.9°F	31.8°F	36.9°F	7.0 mph	3.5 mph	63%	23%	43%	29.91 in	29.86 in	0.00 in
Fri, Jun 24	74.3°F	49.8°F	62.1°F	40.8°F	31.1°F	36.0°F	6.0 mph	3.0 mph	64%	22%	43%	29.89 in	29.83 in	0.00 in
Sat, Jun 25	69.8°F	51.2°F	60.5°F	40.8°F	34.7°F	37.8°F	8.0 mph	4.0 mph	62%	28%	45%	29.88 in	29.80 in	0.00 in
Sun, Jun 26	78.2°F	52.5°F	65.4°F	40.2°F	32.8°F	36.5°F	7.0 mph	3.5 mph	61%	21%	41%	29.89 in	29.84 in	0.00 in
Mon, Jun 27	68.9°F	53.9°F	61.4°F	41.9°F	35.6°F	38.8°F	7.0 mph	3.5 mph	62%	31%	47%	29.86 in	29.83 in	0.00 in
Tue, Jun 28	63.3°F	54.5°F	58.9°F	50.8°F	39.8°F	45.3°F	4.0 mph	2.0 mph	72%	43%	58%	29.83 in	29.76 in	0.79 in
Wed, Jun 29	65.8°F	52.5°F	59.2°F	45.6°F	36.4°F	41.0°F	6.0 mph	3.0 mph	73%	36%	55%	30.00 in	29.80 in	0.00 in
Thu, Jun 30	79.1°F	51.6°F	65.4°F	48.7°F	34.4°F	41.6°F	7.0 mph	3.5 mph	71%	21%	46%	30.00 in	29.94 in	0.00 in

PWS weather Personal Weather Stations

Have a PWS account? OR

Station Archive

AGUALINDA Castro Valley, Castro Valley, CA 94546

View data in metric units

Today | Daily | Weekly | Monthly | Yearly | Custom Date

< prev **Summary for July 2011** next >

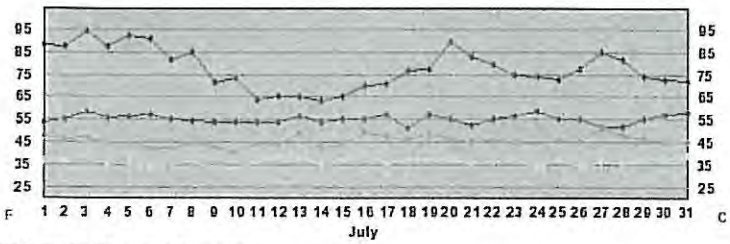
	High	Low	Average
Temperature	94.1°F	50.7°F	64.1°F
Dew Point	50.7°F	32.6°F	40.8°F
Winds	9.0 mph	Calm	2.0 mph SSW
Wind Gusts	13.0 mph	-	2.0 mph
Humidity	74%	14%	46%
Pressure	30.05 in	29.73 in	-
Precipitation	0.00 in	-	-

Castro Valley Castro Valley, CA 94546

Lat: 37.77671, Lon: -122.077482
Elevation: 278
Station Type: Oregon Scienctific WMR968

Temp/Dew Point | Winds | Pressure | Precipitation

AGUALINDA: Summary for July 2011



View the detailed graph.

Today | Daily | Weekly | Monthly | Yearly

View data in metric units

< prev **Detailed Summary for July 2011** next >

Date	Temperature			Dew Point			Winds		Humidity			Pressure		Precip
	Max	Min	Avg	Max	Min	Avg	Max	Avg	Max	Min	Avg	Max	Min	
Fri, Jul 01	87.9°F	53.6°F	70.8°F	47.9°F	36.6°F	42.4°F	8.0 mph	4.0 mph	68%	18%	43%	29.91 in	29.84 in	0.00 in
Sat, Jul 02	87.2°F	55.2°F	71.2°F	46.6°F	37.1°F	41.9°F	7.0 mph	3.5 mph	64%	18%	41%	29.79 in	29.73 in	0.00 in
Sun, Jul 03	94.1°F	58.2°F	76.2°F	46.8°F	39.4°F	43.1°F	7.0 mph	3.5 mph	61%	16%	39%	29.81 in	29.73 in	0.00 in
Mon, Jul 04	87.2°F	55.7°F	71.5°F	44.5°F	35.3°F	39.9°F	6.0 mph	3.0 mph	59%	18%	39%	29.85 in	29.79 in	0.00 in
Tue, Jul 05	92.4°F	56.4°F	74.4°F	45.2°F	35.5°F	40.4°F	7.0 mph	3.5 mph	58%	14%	36%	29.88 in	29.82 in	0.00 in
Wed, Jul 06	90.6°F	57.3°F	74.0°F	42.3°F	34.3°F	38.3°F	6.0 mph	3.0 mph	54%	15%	35%	29.93 in	29.85 in	0.00 in
Thu, Jul 07	81.5°F	55.4°F	68.5°F	41.9°F	35.5°F	38.7°F	6.0 mph	3.0 mph	57%	20%	39%	29.94 in	29.87 in	0.00 in
Fri, Jul 08	84.9°F	54.3°F	69.6°F	44.0°F	36.4°F	40.2°F	7.0 mph	3.5 mph	62%	19%	41%	29.85 in	29.78 in	0.00 in
Sat, Jul 09	71.4°F	53.7°F	62.6°F	43.1°F	33.2°F	38.2°F	7.0 mph	3.5 mph	62%	26%	44%	29.88 in	29.80 in	0.00 in
Sun, Jul 10	73.2°F	53.6°F	63.4°F	40.1°F	32.6°F	36.4°F	7.0 mph	3.5 mph	59%	24%	42%	29.85 in	29.80 in	0.00 in
Mon, Jul 11	64.0°F	53.6°F	58.8°F	44.1°F	36.2°F	40.2°F	7.0 mph	3.5 mph	65%	37%	51%	29.97 in	29.85 in	0.00 in
Tue, Jul 12	65.1°F	53.9°F	59.5°F	43.7°F	38.0°F	40.9°F	7.0 mph	3.5 mph	67%	37%	52%	29.95 in	29.91 in	0.00 in
Wed, Jul 13	65.1°F	56.3°F	60.7°F	49.3°F	38.2°F	43.8°F	7.0 mph	3.5 mph	74%	39%	57%	29.94 in	29.88 in	0.00 in
Thu, Jul 14	63.5°F	53.7°F	58.6°F	42.0°F	35.7°F	38.9°F	8.0 mph	4.0 mph	63%	36%	50%	29.92 in	29.89 in	0.00 in
Fri, Jul 15	65.4°F	54.8°F	60.1°F	43.5°F	36.8°F	40.2°F	7.0 mph	3.5 mph	63%	36%	50%	29.88 in	29.83 in	0.00 in
Sat, Jul 16	69.8°F	55.2°F	62.5°F	49.0°F	40.5°F	44.8°F	7.0 mph	3.5 mph	71%	35%	53%	29.91 in	29.83 in	0.00 in
Sun, Jul 17	70.7°F	56.8°F	63.8°F	47.3°F	35.2°F	41.3°F	7.0 mph	3.5 mph	70%	28%	49%	29.91 in	29.85 in	0.00 in
Mon, Jul 18	76.4°F	50.7°F	63.6°F	45.3°F	36.5°F	40.9°F	7.0 mph	3.5 mph	67%	26%	47%	29.94 in	29.86 in	0.00 in

Tue, Jul 19	77.7°F	57.2°F	67.5°F	49.0°F	37.5°F	43.3°F	8.0 mph	4.0 mph	71%	24%	48%	30.03 in	29.94 in	0.00 in
Wed, Jul 20	89.4°F	55.0°F	72.2°F	46.4°F	36.8°F	41.6°F	8.0 mph	4.0 mph	64%	18%	41%	29.94 in	29.88 in	0.00 in
Thu, Jul 21	83.1°F	52.7°F	67.9°F	44.7°F	35.6°F	40.2°F	7.0 mph	3.5 mph	67%	19%	43%	29.88 in	29.81 in	0.00 in
Fri, Jul 22	79.5°F	54.8°F	67.2°F	45.4°F	36.0°F	40.7°F	8.0 mph	4.0 mph	64%	22%	43%	29.85 in	29.79 in	0.00 in
Sat, Jul 23	75.0°F	56.6°F	65.8°F	44.7°F	36.8°F	40.8°F	8.0 mph	4.0 mph	63%	26%	45%	29.91 in	29.82 in	0.00 in
Sun, Jul 24	73.9°F	58.4°F	66.2°F	44.4°F	34.3°F	39.4°F	8.0 mph	4.0 mph	58%	25%	42%	30.05 in	29.94 in	0.00 in
Mon, Jul 25	72.3°F	54.8°F	63.6°F	45.9°F	36.9°F	41.4°F	7.0 mph	3.5 mph	70%	28%	49%	30.03 in	29.96 in	0.00 in
Tue, Jul 26	77.7°F	55.2°F	66.5°F	44.9°F	34.4°F	39.7°F	6.0 mph	3.0 mph	66%	22%	44%	29.91 in	29.81 in	0.00 in
Wed, Jul 27	85.1°F	51.9°F	68.5°F	50.7°F	36.1°F	43.4°F	5.0 mph	2.5 mph	70%	19%	45%	29.87 in	29.80 in	0.00 in
Thu, Jul 28	81.6°F	51.6°F	66.6°F	47.3°F	35.5°F	41.4°F	6.0 mph	3.0 mph	70%	20%	45%	29.91 in	29.83 in	0.00 in
Fri, Jul 29	73.7°F	55.0°F	64.4°F	46.6°F	36.5°F	41.6°F	8.0 mph	4.0 mph	69%	26%	48%	29.94 in	29.85 in	0.00 in
Sat, Jul 30	72.8°F	57.2°F	65.0°F	44.6°F	38.0°F	41.3°F	8.0 mph	4.0 mph	62%	29%	46%	29.97 in	29.88 in	0.00 in
Sun, Jul 31	72.1°F	57.5°F	64.8°F	44.6°F	38.9°F	41.8°F	9.0 mph	4.5 mph	62%	31%	47%	29.94 in	29.88 in	0.00 in

EILCO

Environmental Instruments Leasing Company 1-800-648-9355

Calibration &Components Checklist
YSI Model 556

Instrument ID # 551 **pH, conductivity, D.O., ORP, Temperature**

Components

Date Out: 6/26 **Date In:** _____

Meter: _____	_____ **Meter**
Probe: _____	_____ **Probe**
Batteries: _____	_____ **Batteries**
Carrying strap: _____	_____ **Carrying strap**
Manual: _____	_____ **Manual**
Case: _____	_____ **Case**
Calibration beaker: ___	_____ **Calibration beaker**
Flow thru cell: _____	_____ **Flow thru cell**
Terms & Conditions: ___	_____ **Terms & Conditions**

Calibration Solution Used

4.01 Buffer pH: _____	4.02 **Meter Response**
7.01 Buffer pH: _____	7.01 **Meter Response**
10.01 Buffer pH: _____	10.01 **Meter Response**
1413 mS/cm cond. _____	1413 **Meter Response**
Temp. _____	26.25 **Meter Response**
D.O. _____	100 % **Meter Response**
ORP _____	240 **Meter Response**
Barometer pressure _____	760. **Meter Response**

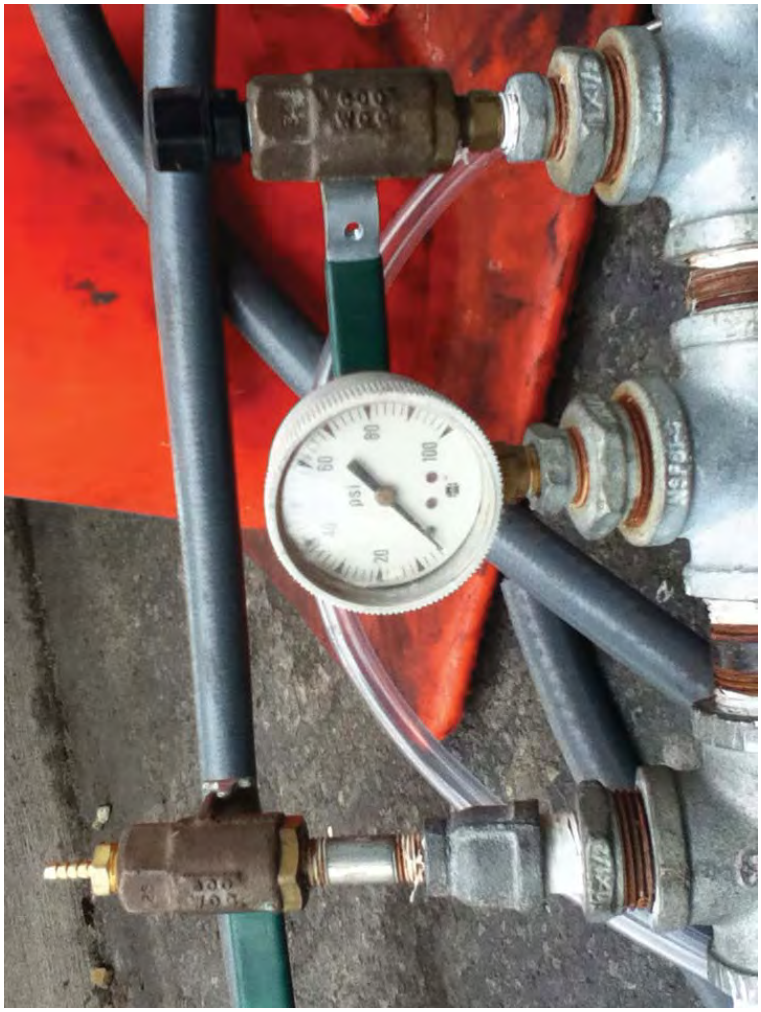
Inspected & Tested By: _____ **Date:** 6/26

Note: This unit has been tested and is in proper working condition. This unit has been cleaned and should be returned in the same condition. Any components missing upon return of this instrument shall be billed at the current price. If the unit is returned overly dirty or damaged a service order will be issued and your account will be billed. Should the unit malfunction you must notify EILCO within 24 hours or you will be billed for the time the unit was in your possession.

5650 Imhoff Drive, Suite A, Concord, CA. 94520 **Phone 800/648-9355**
Fax 925/686-4608


Environmental Instruments
Leasing Co.
TSI
Model 8345
Air Velocity Meter
#679
1-800-648-9355
TSI
Model 8345
S/N 011205542
Made in USA


TSI Incorporated
556 MPS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DISTRIBUTED AND SERVICED BY
FISHER SCIENTIFIC
DO NOT RETURN THIS
UNIT FOR REPAIR IF
IT CONTAINS ANIMAL
BY-PRODUCTS, TOXIC OR
RADIOACTIVE MATL'S
TO DO SO MAY RESULT
IN LITIGATION

Golden Gate Remediation Technology

SITE ADDRESS: 3519 CASTRO VALLEY BLVD, CASTRO VALLEY
PROJECT #: 2764

MTS OPERATIONAL DATA

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
6/20/2011	854	DTW @ SOMA-7: 8.52 Ft., OB-1: 6.93 Ft.								
	1615	Start MPE @ SOMA-7, stinger 1 Ft. from bottom								0
	1625	1503	206	19.4	22.4	111	40	71	49	0
	1645	1517	198	23.2	26.6	44	25	19	101	0
	1700	1527	187	23.4	26.4	47	24	23	104	0
	1730	1533	197	22.8	26.6	44	25	19	100	0
		Shut off overnight								
6/21/2011	915	Restart system								
	930	1499	184	21.6	25.4	63	40	23	45	0
	945	1499	187	21.8	26.2	50	22	28	61	0
	1045	1529	194	24	26.8	41	0	41	inf:116, eff:1	0
	1141	1571	195	24	27	38	0	38	102	40
	1241	1586	197	24.5	27	38	0	38	106	40
	1341	1593	197	24	27	38	0	38	122	81
	1441	1603	197	24.3	27	38	0	38	71	120
	1545	1601	195	24	27	38	0	38	53	120
	1645	1599	196	24	27	38	0	38	126	157
	1745	1596	195	24	27	38	0	38	134	157
6/22/2011	600	System shut down @ 5:30 AM, high water limit								
	645	Restart system								
	655	1504	174	23.8	26.6	44	0	44	132	423
	730	1535	173	23.8	26.6	44	0	44	160	423
	800	1556	174	24	26.6	44	0	44	161	423
	830	1549	175	23.8	26.6	44	0	44	144	460
	900	1554	176	23.8	26.6	44	0	44	145	460

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Golden Gate Remediation Technology

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PROJECT #: 2764

MTS OPERATIONAL DATA

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	1000	1559	181	24	26.6	44	0	44	176	460
	1100	1553	181	24	26.6	44	0	44	142	497
	1130	1560	183	24	26.7	43	0	43	168	497
	1200	1563	183	24	26.7	43	0	43	178	534
	1330	1575	192	24	26.8	41	0	41	178	534
	1430	1571	182	24	26.8	41	0	41	177	569
	1530	1577	178	24	26.8	41	0	41	170	569
	1550	Shut down system								
	1715	restart @ SOMA-5								
	1725	1499	179	23.2	26.4	47	0	47	360	605
	1755	1506	180	22.6	26.6	44	0	44	270	605
	1815	1502	180	22.6	26.6	44	0	44	146	642
6/23/2011	900	1500	180	22	26.1	52	0	52	27	1,191
	1000	1499	181	21.8	26.1	52	0	52	26	1,191
		Switched extraction to OB-2								
	1100	1537	176	24	26.8	41	0	41	750	1,227
	1105	1537	176	24	26.8	41	0	41	750	1,227
	1120	1537	176	24	26.8	41	0	41	750	1,227
	1145	1530	176	24	26.8	41	0	41	680	1,227
	1200	1510	181	22	26.5	46	0	46	412	1,264
	1300	1502	185	21.8	26.4	47	0	47	192	1,300
	1400	1503	185	21.8	26.2	50	0	50	147	1,336
	1500	1501	188	21.6	26.1	52	0	52	110	1,371
	1600	1501	188	21.6	26	54	0	54	86	1,372
	1700	1498	188	21.2	25.7	58	0	58	65	1,407

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MTS OPERATIONAL DATA

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
6/24/2011	800	1503	184	19.2	24.4	79	0	79	17	1,692

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MTS OPERATIONAL DATA

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	830	Switched extraction to SOMA-5								
	840	restart extraction, stinger @ 13.85 Ft.								
	850	1508	179	22.4	26	54	0	54	68	1,726
	930	1503	181	21.8	26	54	0	54	30	1,760
	1030	1498	183	21.8	26	54	0	54	29	1,799
	1130	1503	184	22.2	26	54	0	54	33	1,835
	1230	1504	180	21.6	25.8	57	0	57	30	1,872
	1330	1503	189	21.8	25.6	60	0	60	33	1,907
	1415	1497	191	21.6	25.6	60	0	60	26	1,907
		raise stinger to 10.85 Ft.								
	1425	1504	190	22	25.6	60	0	60	19	1,944
		Stinger lowered to 1 Ft above bottom								
	1530	1504	191	21.6	25.6	60	0	60	41	1,944
	1630	1498	190	21.6	25.6	60	0	60	26	1,980
		Shut down for weekend, equalize for air sparging								
6/29/2011		Extraction at SOMA-7 w/ AS								
	1056	1499	172	23.4	26.8	41	26	15	483	2,018
	1100	1532	172	24	27	38	10	28	175	2,018
	1115	1524	173	22.8	27	38	19	19	97	2,019
	1130	1505	173	23.4	27	38	19	19	103	2,019
	1145	1501	172	22.6	27	38	19	19	104	2,019
	1200	1502	173	23.1	27	38	19	19	108	2,019
	1230	1504	174	23.9	26.9	39	19	20	118	2,019
	1300	1513	173	24	26.9	39	16	23	129	2,054
	1330	1534	172	23.6	26.9	39	12	27	162	2,054

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PROJECT #: 2764

MTS OPERATIONAL DATA

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	1430	1532	174	24	26.9	39	12	27	184	2,090
	1500	Air sparging off								
	1530	1532	174	23.9	26.9	39	12	27	165	2,090
	1615	1534	175	23.6	26.9	39	12	27	166	2,090
	1722	1534	175	23.5	27	38	12	26	205	2,135
	1815	1537	173	23.6	26.9	39	12	27	165	2,135
	1835	1537	173	23.6	26.9	39	12	27	155	2,161
	1850	Shut down								
6/30/2011	1030	Air sparging started, moved truck over to OB-2, MTS down for maintenance								
	1350	MPE started								
	1355	1497	178	21.5	24.5	77	0	77	166	2,192
	1400	1496	178	21.6	24.4	79	0	79	87	2,192
	1405	1501	179	21.6	24.5	77	0	77	83	2,192
	1410	1502	179	21.5	24.4	79	0	79	123	2,192
	1415	1503	181	21.6	24.4	79	0	79	149	2,192
	1420	1497	181	21.6	24.4	79	0	79	165	2,192
	1430	1498	181	21.8	24.3	81	0	81	215	2,192
	1450	1500	184	21.8	24.5	77	0	77	192	2,227
	1520	1501	186	21.5	24.5	77	0	77	178	2,227
	1620	1500	185	21.1	24.4	79	0	79	106	2,275
	1700	1498	188	20.6	24.4	79	0	79	106	2,302
	1730	1501	190	20.5	24.5	77	0	77	105	2,312
7/1/2011	815	1501	186	19.4	24.2	82	0	82	31	2,733
	915	1503	189	19.1	24.2	82	0	82	23	2,733

P. O. Box 12072, Pleasanton, CA 94588 (925) 847-0684

Golden Gate Remediation Technology

SITE ADDRESS: 3519 CASTRO VALLEY BLVD, CASTRO VALLEY
PROJECT #: 2764

MTS OPERATIONAL DATA

DATE	TIME	OXIDIZER TEMPERATURE (F)	PUMP/AIR TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	TOTAL FLOW (SCFM)	DILUTION FLOW (SCFM)	WELL FLOW (SCFM)	INFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER
	930	Air sparging started								
	950	1499	191	19.5	24.2	82	0	82	28	2,770
	1050	1493	192	19.4	24.6	76	0	76	93	2,805
	1150	1504	194	19.2	24.5	77	0	77	130	2,806
	1230	1497	196	20	24.5	77	0	77	126	2,842
		Stinger moved to 1.5 Ft above bottom								
	1240	1600	186	24	26.9	39	22	17	151	2,842
	1255	1521	190	21.1	25	70	0	70	204	2,842
	1355	1503	198	21	24.8	73	0	73	143	2,879
	1430	1497	199	20	24.7	74	0	74	107	2,924
	1500	1503	200	19.8	24.6	76	0	76	86	2,925
	1505	Air sparging on								
	1530	1504	200	20.6	24.7	74	0	74	83	2,952
	1550	1502	201	20	24.6	76	0	76	81	2,952
	1635	1499	200	19.5	24.6	76	0	76	71	2,952
	1640	1499	198	21	24.7	74	0	74	129	2,987
	1735	1505	198	20	24.6	76	0	76	78	2,987
	1740	Air sparging off @ 1735. Extraction stopped to take post Air sparging readings @ well								
	1750	Resume extraction								
	1755	1510	191	21	24.9	71	0	71	120	3,017
	1800	1508	191	21.05	24.95	70	0	70	126	3,017
	1805	1506	191	21	24.9	71	0	71	125	3,017
	1810	1504	192	21.05	24.9	71	0	71	127	3,017
	1845	End Extraction								3,083

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Golden Gate Remediation Technology

SITE ADDRESS: 3519 CASTRO VALLEY BLVD. CASTRO VALLEY
PROJECT #: 2764

MTS MONITORING POINT DATA

DATE	TIME	WELL ID OB-1		WELL ID ESE-5		WELL ID OB-2		WELL ID SOMA-5		WELL ID SOMA-8		WELL ID SOMA-7	
		VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)
6/20/2011	1625	0.12	7.23									EXTRACTION WELL	
	1645	0.45	7.95										
	1700	1.3	8.2										
	1715	0.07	8.46										
6/21/2011	945	0.24	7.83										
	1045	0.14	8.4										
	1145	0.13	8.95										
	1245	0.15	9.18										
	1345	0.06	9.4										
	1445	0.07	9.57										
	1545	0.03	9.6										
	1645	0.03	9.6										
	1745	0.02	9.6										
6/22/2011	655	0.28	8.72										
	730	0.7	9.08										
	800	0.5	9.43										
	1000	0.01	9.6	0.3	8.45								
	1100	0.01	9.56	0.2	9								
	1130	0.015	9.55	0.05	9.1								
	1200	0.01	9.56	0.05	9.1								
	1330	0.02	9.6	0.02	9.15								
	1430	0	9.6	0	9.15								
	1725					0	9.1	EXTRACTION WELL					
	1755					0	9.31						
	1815					0	9.45						

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Golden Gate Remediation Technology

SITE ADDRESS: 3519 CASTRO VALLEY BLVD. CASTRO VALLEY
PROJECT #: 2764

MTS MONITORING POINT DATA

DATE	TIME	WELL ID OB-1		WELL ID ESE-5		WELL ID OB-2		WELL ID SOMA-5		WELL ID SOMA-8		WELL ID SOMA-7	
		VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)
6/23/2011	900					0.05	9.8						
	1000					0.08	9.85						
	1100					EXTRACTION WELL		0.07	11.4				
	1105							0.07	11.4				
	1120							0.07	11.4				
	1145							0.11	11.6				
	1200							0.11	11.6				
	1300							0.13	10.7				
	1330	0.4	7							0.2	8.3		
	1400	0.3	6.95					0.15	10.55	0	7.9		
	1500	0.09	6.8					0.15	10.45	0.1	8		
	1600	0.1	6.85					0.18	10.4	0.15	8.1	0	6.7
	1700	0.05	6.85					0.2	10.7	0.1	8.4	0.05	6.7
6/24/2011	800	0	6.87					0.18	10.28	0	9.17	0.01	6.82
	850					0.06	12	EXTRACTION WELL					
	930	0	6.98			0.09	11.09			0	9.18	0.015	6.85
	1130	0	6.94			0.1	10			0.005	9.28	0.005	6.9
	1330	0	6.98			0.1	10			0.02	9.33	0.01	6.94
	1530	0	7.03			0.13	9.96			0.01	9.37	0	6.98
	1630	Shut down for weekend											
6/29/2011	1036	Start the system. Air sparging was operating since 9:14 AM 10 psi											
6/30/2011	1540					EXTRACTION WELL				0	9.4		
	1620									0	9.4		
7/1/2011	955									0.05	9.45		
	1045									0.01	9.48		
	1235									0.02	9.5		
	1530									0.02	9.55		

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Golden Gate Remediation Technology

SITE ADDRESS: 3519 CASTRO VALLEY BLVD. CASTRO VALLEY
PROJECT #: 2764

MTS MONITORING POINT DATA

DATE	TIME	WELL ID OB-1		WELL ID ESE-5		WELL ID OB-2		WELL ID SOMA-5		WELL ID SOMA-8		WELL ID SOMA-7	
		VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)	VACCUM (IN WATER)	Depth to water (FEET BELOW TOC)
	1640									0.03	9.55		

P. O. Box 12072, Pleasanton, CA 94588 (925) 847-0684

REGENESIS

September 19, 2011 **Proposal No. BRG39121 (revision)**

Elena Manzo
SOMA Environmental
6620 Owens Drive, Suite A
Pleasanton, CA 94588

RE: Proposal for Remediation using ORC *Advanced*® at the Castro Valley site

Dear Ms. Manzo,

Thank you for the opportunity to technically evaluate this project. Below we have provided information related to the design and application of ORC *Advanced*® to treat dissolved-phase residual petroleum hydrocarbons within the defined target treatment area at the above-referenced site.

Product Quantities and Cost

ORC *Advanced*

Quantity – 6,650 lbs

ORC *Advanced* Product Cost - $54,197.50 ($8.15/lb)*

*The above cost does not include freight or applicable taxes. Please contact Regenesis customer service at (949) 366.8000 or me at (916) 409.9331 for a shipping quote.

Product Description

ORC *Advanced* is a patented formulation of phosphate-intercalated calcium oxyhydroxide which incorporates a Controlled-Release Technology (CRT™) proven to release oxygen for a period of up to 12 months with one application. ORC *Advanced* has an available oxygen content of 17% by weight and provides terminal electron acceptors to support the oxidative biodegradation of many types of aerobically degradable compounds, including but not limited to petroleum-based hydrocarbons (e.g. Toluene) and chlorinated hydrocarbons (e.g. Vinyl Chloride). Further details of ORC *Advanced*, including a more in-depth product description, case studies, and technical bulletins can be found at the following website link: ORC Advanced.

Proposed Application Design

Area 1 – 2,075 lbs of ORC-Advanced

Our proposed treatment plan includes the application of ORC *Advanced* to provide an oxygen source for aerobic biodegradation of hydrocarbon mass in the 800 square foot treatment area. Twenty eight injection points spaced 6 feet on center should be used for the application (offset rows by 3 feet). The ORC-*Advanced* should be injected into the 28 points at a rate of 6.7 lbs/ft throughout the 11 foot contaminated

saturated zone (7 to 18 feet bgs). The attached ORC *Advanced* Design Summary Output Page specifies input parameters used to determine product quantity estimates and design assumptions.

Area 1a – 2,500 lbs of ORC-Advanced

Area 1a has a 400 square foot treatment area. Sixteen injection points spaced 5 feet on center should be used for the application (offset rows by 2.5 feet). The ORC-*Advanced* should be injected into the 16 points at a rate of 14.2 lbs/ft throughout the 11 foot contaminated saturated zone (7 to 18 feet bgs). The attached ORC *Advanced* Design Summary Output Page specifies input parameters used to determine product quantity estimates and design assumptions.

Area 2 – 1,550 lbs of ORC-Advanced

Area 2 has a 600 square foot treatment area. Twenty injection points spaced 6 feet on center should be used for the application (offset rows by 3 feet). The ORC-*Advanced* should be injected into the 20 points at a rate of 7 lbs/ft throughout the 11 foot contaminated saturated zone (7 to 18 feet bgs). The attached ORC *Advanced* Design Summary Output Page specifies input parameters used to determine product quantity estimates and design assumptions.

Area 3 – 525 lbs of ORC-Advanced

Area 3 has a 450 square foot treatment area. Nine injection points spaced 8 feet on center should be used for the application (offset rows by 4 feet). The ORC-*Advanced* should be injected into the 9 points at a rate of 4.9 lbs/ft throughout the 12 foot contaminated saturated zone (18 to 30 feet bgs). The attached ORC *Advanced* Design Summary Output Page specifies input parameters used to determine product quantity estimates and design assumptions.

Application Guidance

We propose the use of direct push technology injection techniques to apply ORC *Advanced*. Guidance for the mixing and application of ORC Advanced can be found at the following website link: ORC *Advanced* Application Instructions.

Recommended Groundwater Monitoring Program for ORC *Advanced*™ Projects

In order to validate the effectiveness of bioremediation/natural attenuation processes (ORC *Advanced*-enhanced treatment), we recommend conducting groundwater monitoring at selected wells, prior to and following the ORC Advanced *application.* A baseline round of sampling should be performed to identify the aquifer conditions prior to the installation of this material. After ORC *Advanced* has been injected, groundwater samples can be collected on a bi-monthly or quarterly basis. Once the initial biodegradation and geochemical trends have been identified, the monitoring frequency can be changed to a semi-annual or annual program. The groundwater monitoring program should employ low flow groundwater sampling techniques and include the measurement of the following field/chemical parameters:

- All chemicals of concern (COCs)
- Field redox parameters: oxidation-reduction potential (ORP), pH, dissolved oxygen (DO), methane, and dissolved (ferrous) iron
- Chemical Oxygen Demand (COD) at selected groundwater monitoring wells within treatment area

Groundwater Monitoring Locations

The following table outlines the suggested locations and significance of monitoring wells used to monitor the progress of an ORC *Advanced* -based project.

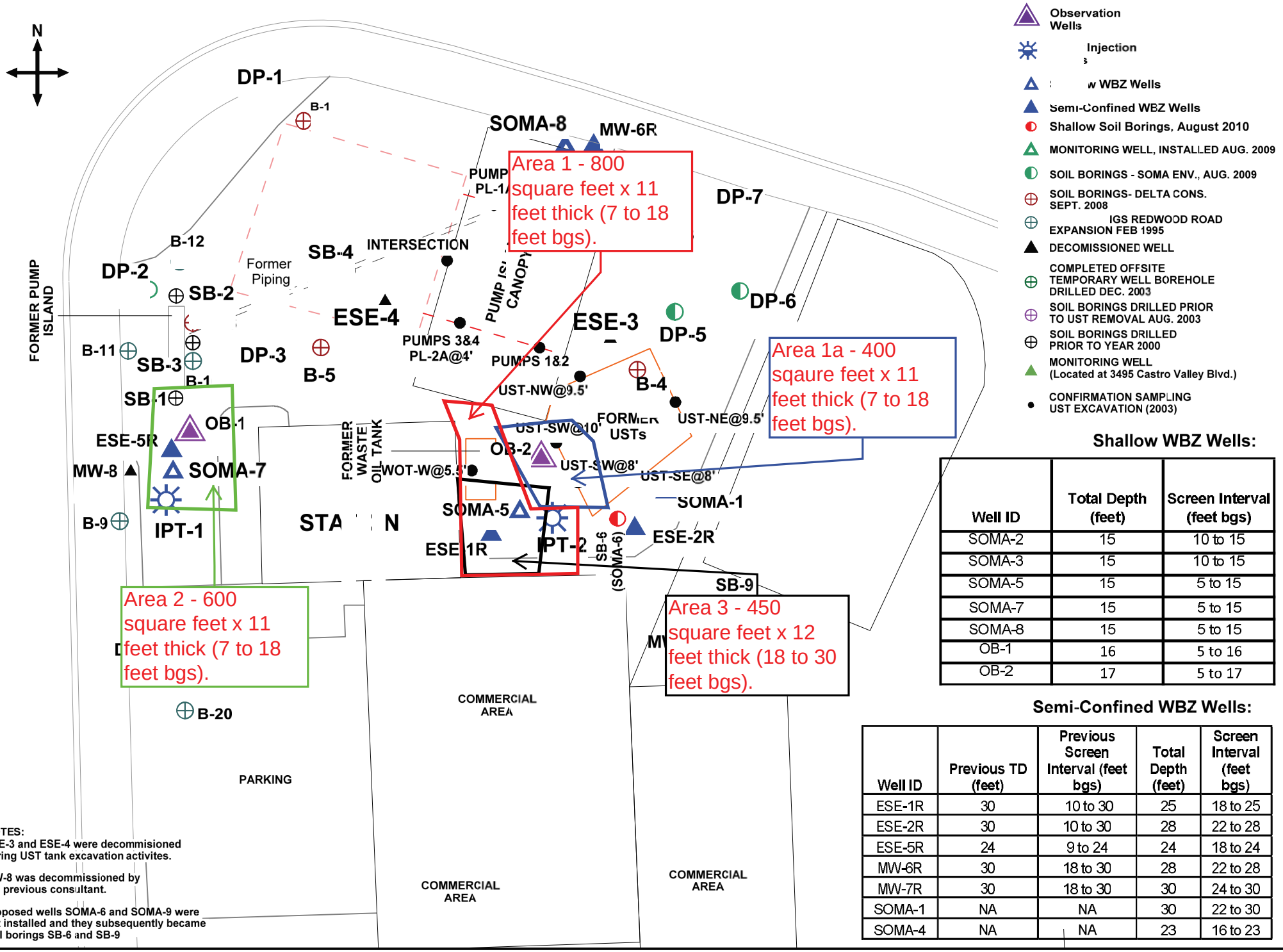
Location	Significance
Background (Outside the groundwater plume)	Allows for the changes in natural attenuation conditions induced by addition of ORC *Advanced* to be compared to background levels
Upgradient of treatment zone	Provides a measure of contaminant and competing electron acceptor flux entering treatment zone
Inside treatment zone	Provides information on how ORC *Advanced* is affecting the aquifer conditions and contaminant concentrations
Downgradient of treatment zone	Provides information on the effect ORC *Advanced* is having on the biodegradation rates of contaminants and on aquifer conditions and confirms the mitigation migration

Regenesis appreciates the opportunity to present you with this proposal. If you need any additional information please feel free to contact Jack Peabody at 925.944.5566 (jpeabody@regenesis.com) or me at 916.409.9331 (bgriffiths@regenesis.com).

Sincerely,

J. Brittain Grifiths
Regenesis Technical Services Manager – Western Region

Attachments



Shallow WBZ Wells:

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

Semi-Confined WBZ Wells:

Well ID	Previous TD (feet)	Previous Screen Interval (feet bgs)	Total Depth (feet)	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

NOTES:
ESE-3 and ESE-4 were decommisioned during UST tank excavation activites.

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

approximate scale in feet
0 30 60

Figure 2A: Site map showing locations of newly installed observation wells and water injection borings.

SOMA ENVIRONMENTAL ENGINEERING, INC.

ORC Advanced Design Summary Output Page - Grid Application

Regenesis Technical Support: USA (949) 366-8000

www.regenesis.com

Regensis Proposal:	**BRG39121 - Revised**
Date:	9/16/2011
Site Name:	Castro Valley Revision
Treatment Area Location:	Area 1 - Soma 5
Consultant (Contact):	Elena Manza w/ SOMA Environmental

ORC Advanced Grid-Based Design Specifications

Castro Valley Revision

Area 1 - Soma 5

Design Specification Summary		**Units**
Treatment Area Location	Area 1 - Soma 5	
Treatment Areal Extent (20'x50')	800	ft^2
Vertical Treatment Thickness	11	ft
Top Treatment Interval	7	ft
Bottom Treatment Interval	18	ft
Treatment Volume	8,800	ft^3
Method of Application (Direct Push/Inj. Wells)	Direct Push	---
Soil Type (sand, silt, gravel, clay, etc.)	clay	---
Porosity	0.45	cm^3/cm^3
Effective Porosity	0.1	cm^3/cm^3
Hydraulic Conductivity	0.001	ft/day
Hydraulic Gradient	0.005	ft/ft
Seepage Velocity	0.0	ft/yr
Application Design		**Units**
Number of Injection Points	28	---
Injection Point Spacing (within rows)	6	ft on center
Injection Point Spacing (between rows)	6	ft on center
Application Rate	7	lb/ft
Total ORC Advanced Requirement	**2,075**	**lbs**
Field Mixing/Injection Ratios		**Units**
ORC Advanced Slurry %	30%	%
ORC Advanced per Point	74	lbs
Mixing Water per Point	21	gallons
Total Water to be Injected	581	gallons
Volume ORC-A Slurry (ORC-A + water) to be injected per point (can vary +/-20%)*	23	gallons
Total Linear Footage to be Drilled	504	ft

*Water can be increased up to a 20% solution (up to 30 gallons per point) to make ORC-A slurry volume that is easily injectable across desired injection lifts.

ORC Advanced Grid-Based Design Assumptions

Castro Valley Revision

Area 1 - Soma 5

Dissolved Phase Contaminants	Concentration	Units
Benzene	2.50	mg/L
Toluene	0.0	mg/L
Ethylbenzene	0.7	mg/L
Xylenes	0.2	mg/L
MTBE	0.2	mg/L
cis-1,2-DCE	0.0	mg/L
Vinyl Chloride	0.0	mg/L
TPHg	6.40	mg/L
User added, add stoich. demand and Koc (see pull-down)	0.0	mg/L
Reduced metals: Fe+2 and Mn+2	10.0	mg/L
TPH	0.0	mg/L
Chemical Oxygen Demand (COD)	0.0	mg/L
Dissolved Phase Contaminant Mass	***4.91***	***lbs***

ORC Advanced Design Summary Output Page - Grid Application

Regenesis Technical Support: USA (949) 366-8000

www.regenesis.com

Regensis Proposal:	**BRG39121 - Revised**
Date:	9/16/2011
Site Name:	Castro Valley Revision
Treatment Area Location:	Area 1a - OB2
Consultant (Contact):	Elena Manza w/ SOMA Environmental

ORC Advanced Grid-Based Design Specifications

Castro Valley Revision

Area 1a - OB2

Design Specification Summary		**Units**
Treatment Area Location	Area 1a - OB2	
Treatment Areal Extent (20'x50')	400	ft^2
Vertical Treatment Thickness	11	ft
Top Treatment Interval	7	ft
Bottom Treatment Interval	18	ft
Treatment Volume	4,400	ft^3
Method of Application (Direct Push/Inj. Wells)	Direct Push	---
Soil Type (sand, silt, gravel, clay, etc.)	clay	---
Porosity	0.45	cm^3/cm^3
Effective Porosity	0.1	cm^3/cm^3
Hydraulic Conductivity	0.001	ft/day
Hydraulic Gradient	0.005	ft/ft
Seepage Velocity	0.0	ft/yr
Application Design		**Units**
Number of Injection Points	16	---
Injection Point Spacing (within rows)	5	ft on center
Injection Point Spacing (between rows)	5	ft on center
Application Rate	14	lb/ft
Total ORC Advanced Requirement	**2,500**	**lbs**
Field Mixing/Injection Ratios		**Units**
ORC Advanced Slurry %	30%	%
ORC Advanced per Point	156	lbs
Mixing Water per Point	44	gallons
Total Water to be Injected	699	gallons
Volume ORC-A Slurry (ORC-A + water) to be injected per point (can vary +/-20%)*	49	gallons
Total Linear Footage to be Drilled	288	ft

*Water can be increased up to a 20% solution (up to 30 gallons per point) to make ORC-A slurry volume that is easily injectable across desired injection lifts.

ORC Advanced Grid-Based Design Assumptions Castro Valley Revision Area 1a - OB2		
Dissolved Phase Contaminants	**Concentration**	**Units**
Benzene	1.00	mg/L
Toluene	0.0	mg/L
Ethylbenzene	1.3	mg/L
Xylenes	3.0	mg/L
MTBE	0.3	mg/L
cis-1,2-DCE	0.0	mg/L
Vinyl Chloride	0.0	mg/L
TPHg	30.00	mg/L
User added, add stoich. demand and Koc (see pull-down)	0.0	mg/L
Reduced metals: Fe+2 and Mn+2	10.0	mg/L
TPH	0.0	mg/L
Chemical Oxygen Demand (COD)	0.0	mg/L
Dissolved Phase Contaminant Mass	***5.64***	***lbs***

ORC Advanced Design Summary Output Page - Grid Application

Regenesis Technical Support: USA (949) 366-8000

www.regenesis.com

Regensis Proposal:	**BRG39121 - Revised**
Date:	9/16/2011
Site Name:	Castro Valley Revision
Treatment Area Location:	Area 2 - Soma 7/OB1
Consultant (Contact):	Elena Manza w/ SOMA Environmental

ORC Advanced Grid-Based Design Specifications

Castro Valley Revision

Area 2 - Soma 7/OB1

Design Specification Summary		**Units**
Treatment Area Location	Area 2 - Soma 7/OB1	
Treatment Areal Extent (20'x50')	600	ft^2
Vertical Treatment Thickness	11	ft
Top Treatment Interval	7	ft
Bottom Treatment Interval	18	ft
Treatment Volume	6,600	ft^3
Method of Application (Direct Push/Inj. Wells)	Direct Push	---
Soil Type (sand, silt, gravel, clay, etc.)	clay	---
Porosity	0.45	cm^3/cm^3
Effective Porosity	0.1	cm^3/cm^3
Hydraulic Conductivity	0.001	ft/day
Hydraulic Gradient	0.005	ft/ft
Seepage Velocity	0.0	ft/yr
Application Design		**Units**
Number of Injection Points	20	---
Injection Point Spacing (within rows)	6	ft on center
Injection Point Spacing (between rows)	6	ft on center
Application Rate	7	lb/ft
Total ORC Advanced Requirement	**1,550**	**lbs**
Field Mixing/Injection Ratios		**Units**
ORC Advanced Slurry %	30%	%
ORC Advanced per Point	78	lbs
Mixing Water per Point	22	gallons
Total Water to be Injected	434	gallons
Volume ORC-A Slurry (ORC-A + water) to be injected per point (can vary +/-20%)*	24	gallons
Total Linear Footage to be Drilled	360	ft

*Water can be increased up to a 20% solution (up to 30 gallons per point) to make ORC-A slurry volume that is easily injectable across desired injection lifts.

ORC Advanced Grid-Based Design Assumptions

Castro Valley Revision

Area 2 - Soma 7/OB1

Dissolved Phase Contaminants	Concentration	Units
Benzene	1.10	mg/L
Toluene	0.0	mg/L
Ethylbenzene	0.2	mg/L
Xylenes	0.1	mg/L
MTBE	0.0	mg/L
cis-1,2-DCE	0.0	mg/L
Vinyl Chloride	0.0	mg/L
TPHg	7.60	mg/L
User added, add stoich. demand and Koc (see pull-down)	0.0	mg/L
Reduced metals: Fe+2 and Mn+2	10.0	mg/L
TPH	0.0	mg/L
Chemical Oxygen Demand (COD)	0.0	mg/L
Dissolved Phase Contaminant Mass	***3.52***	***lbs***

ORC Advanced Design Summary Output Page - Grid Application

Regenesis Technical Support: USA (949) 366-8000

www.regenesis.com

Regensis Proposal:	**BRG39121 - Revised**
Date:	9/19/2011
Site Name:	Castro Valley Revision
Treatment Area Location:	Area 3 - ES1R
Consultant (Contact):	Elena Manza w/ SOMA Environmental

ORC Advanced Grid-Based Design Specifications

Castro Valley Revision

Area 3 - ES1R

Design Specification Summary		**Units**
Treatment Area Location	Area 3 - ES1R	
Treatment Areal Extent (20'x50')	450	ft^2
Vertical Treatment Thickness	12	ft
Top Treatment Interval	18	ft
Bottom Treatment Interval	30	ft
Treatment Volume	5,400	ft^3
Method of Application (Direct Push/Inj. Wells)	Direct Push	---
Soil Type (sand, silt, gravel, clay, etc.)	silt	---
Porosity	0.4	cm^3/cm^3
Effective Porosity	0.15	cm^3/cm^3
Hydraulic Conductivity	1	ft/day
Hydraulic Gradient	0.005	ft/ft
Seepage Velocity	12.2	ft/yr
Application Design		**Units**
Number of Injection Points	9	---
Injection Point Spacing (within rows)	8	ft on center
Injection Point Spacing (between rows)	8	ft on center
Application Rate	5	lb/ft
Total ORC Advanced Requirement	**525**	**lbs**
Field Mixing/Injection Ratios		**Units**
ORC Advanced Slurry %	30%	%
ORC Advanced per Point	58	lbs
Mixing Water per Point	16	gallons
Total Water to be Injected	147	gallons
Volume ORC-A Slurry (ORC-A + water) to be injected per point (can vary +/-20%)*	18	gallons
Total Linear Footage to be Drilled	270	ft

*Water can be increased up to a 20% solution (up to 30 gallons per point) to make ORC-A slurry volume that is easily injectable across desired injection lifts.

ORC Advanced Grid-Based Design Assumptions

Castro Valley Revision

Area 3 - ES1R

Dissolved Phase Contaminants	Concentration	Units
Benzene	0.10	mg/L
Toluene	0.1	mg/L
Ethylbenzene	0.0	mg/L
Xylenes	0.1	mg/L
MTBE	0.0	mg/L
cis-1,2-DCE	0.0	mg/L
Vinyl Chloride	0.0	mg/L
TPHg	1.40	mg/L
TPHd &mo	2.1	mg/L
Reduced metals: Fe+2 and Mn+2	10.0	mg/L
TPH	0.0	mg/L
Chemical Oxygen Demand (COD)	0.0	mg/L
Dissolved Phase Contaminant Mass	***1.87***	***lbs***