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July 22, 2013

RECEIVED
By Alameda County Environmental Health at 10:56 am, Jul 23, 2013

Ms. Dilan Roe, P.E.
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Freedom Food and Gas (Formerly Freedom ARCO Mini-Mart)
Site Address: 15101 Freedom Avenue, San Leandro, California
STID 4473/RO0000473

Dear Ms. Roe:

SOMA's "Updated Site Conceptual Model and Data Gap Work Plan" 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. Please do not hesitate to call me at (925) 734-6400, if you have questions or comments.

Sincerely,

Mansour Sepehr, Ph.D.,PE
Principal Hydrogeologist

cc: Mr. Mohammad Pazdel w/report enclosure

Updated Site Conceptual Model and Data Gap Work Plan

Freedom Food and Gas
15101 Freedom Avenue
San Leandro, California

July 22, 2013

Project 2552

Prepared for:

Mr. Mohammad Pazdel
1770 Pistacia Court
Fairfield, California

SOMA ENVIRONMENTAL ENGINEERING, INC.
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PERJURY STATEMENT

Site Location: 15101 Freedom Avenue, San Leandro, California

"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".

Mohammad Pazdel
1770 Pistacia Court
Fairfield, California 94533
Responsible Party

CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this report on behalf of the responsible party, Mr. Mohammad Pazdel, for the property located at 15101 Freedom Avenue, San Leandro, California. It was prepared in response to Alameda County Health Care Services correspondence dated April 22, 2013.

Mansour Sepehr, PhD, PE
Principal Hydrogeologist

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of the responsible party, Mr. Mohammad Pazdel, for the property located at 15101 Freedom Avenue, San Leandro, California. This report was prepared in accordance with Alameda County Health Care Services (ACHCS) directive dated April 22, 2013.

1.1 Site Location and Description

The site is located at the foot of the San Leandro Hills, along the west side of San Leandro Valley (Figure 1). It is bounded on the north by Freedom Avenue, on the east by Fairmont Avenue, on the south by residential properties and on the west by 151st Avenue. It currently operates as a Texaco gasoline service station with mini-mart, and retails Texaco-branded gasoline and diesel fuel. No automotive repair facility is on the site. Three canopied product dispenser islands are on-site as well as three underground storage tanks (USTs): one 6,000-gallon diesel UST, one 8,000-gallon gasoline UST, and one 10,000-gallon gasoline UST. Figure 2 illustrates site features.

The site has operated as a gasoline service station since the 1960s. Mr. Pazdel, the responsible party, sold the property to Farrokh Hosseinyoun in 2010. Mr. Hosseinyoun subsequently sold the property to Mohammad Mashhoon in 2010. The station currently operates under the business name Freedom Gas and Food (formerly Freedom ARCO Mini-Mart). Previous site activities are summarized in Appendix A.

1.2 Regional Geology and Hydrology

The Site is located in the San Leandro Valley at an elevation of approximately 54 feet above mean sea level with a moderate topographic gradient toward the south. The San Leandro Valley is within the San Francisco Bay – Santa Clara Valley depression, a northwest-to-southeast trending basin bounded on the east and west by mountains. The basin is characterized by Quaternary alluvium, chiefly fan and terrace deposits that are generally several hundred feet thick and flat lying.

There is no water body within a half-mile radius of the Site. The nearest water body, Estudillo Canal, is located about 0.6 miles southwest of the Site. The next closest water body is San Leandro Creek, located approximately 1.5 miles south of the Site. The Site is approximately four miles north of San Francisco Bay. East of the Site are the northwest-trending Hayward Fault Zone, the San Leandro Hills, and an assemblage of ultramafic metamorphic and volcanic rocks (California Division of Mines and Geology, 1990).

The United States Geological Survey (USGS) mapped the Site on Late Pleistocene age (10,000 to 70,000 years old) alluvium consisting of irregularly interbedded clay, silt, sand and gravel. Due to the age of this alluvium, these stream-deposited sediments are typically more consolidated than alluvial deposits of Holocene age. In developed urban areas such as the Bay Area, earthwork construction often involves the emplacement of artificial fill derived from nearby cuts or quarries. Artificial fill is emplaced over native earth materials to provide level building pads and base rock for roadways.

The Site is located in the East Bay Groundwater Basin of the San Francisco Bay hydrologic study area. Water-bearing formations include the Santa Clara Formation of Plio-Pleistocene age and late Pleistocene, and recent sediments that have been grouped as Late Quaternary alluvium. Non–water-bearing units underlie the water-bearing formations and are exposed along the surface in the Diablo Range east of the Site and Coyote Hills, near Newark, which is south of the Site.

2. SCOPE OF WORK

Based on ACHCS directive dated April 22, 2013, The scope of work will include the following tasks:

Task 1: Conducting a 30-day multiphase extraction event;
Task 2: Hydrogeologic analysis of the current pump-and-treat system;
Task 3: Evaluation of free product status;
Task 4: Sensitive receptors evaluation;
Task 5: Updating site conceptual model;
Task 6: Data gaps and workplan for additional investigation.

The following is the description of the above tasks:

2.1 Conducting a 30-day Multiphase Extraction Event

The results of the previous MPE pilot test conducted in November 2007 at the site showed this technology is capable of removing the residual petroleum hydrocarbons from soil and groundwater. Since then a number of MPE events have been conducted at the site and as a result a total 806 pounds of petroleum hydrocarbons were removed from the subsurface until August 2011.

The results of the recent groundwater monitoring events have showed elevated levels of petroleum hydrocarbons in MPE-1 and MPE-2 at the site. As such, per ACHCS directive SOMA performed an extended 30-day multiphase extraction

(MPE) event from May 1 to May 31, 2013 (except weekends) utilizing MPE-1, MPE-2, and MW-5 as extraction wells individually and in combination.

MPE systems have two primary configurations; dual-phase extraction (DPE) and two-phase extraction (TPE). DPE utilizes two separate mechanical systems for pumping groundwater and extracting soil vapor from the subsurface. TPE utilizes a single vacuum pump to extract both groundwater and soil vapor through small-diameter drop tube (stinger) piping inserted in the well. The most cost-effective MPE configuration is determined by aquifer permeability and the corresponding yield of both air and water. The water production rate needed to dewater the smear zone, and the induced vacuum generated for soil vapor extraction, determines if DPE or TPE is appropriate. If the water production rate is high (>2 gpm/well), then DPE is the system of choice. If the water production rate is low (<2 gpm/well), then TPE is the system of choice. During this event, due to high groundwater production rate a DPE system was selected to dewater the smear zone and remove the source of residual petroleum from soil and groundwater.

The MPE operation was performed using a self-contained mobile treatment system (MTS), equipped with an electrical generator, propane tank, liquid ring vacuum pump rated at 25-horsepower and 428-standard cubic feet per minute (scfm), electrical submersible pumps, air/water separator vessel, discharge hoses and traffic-rated hose ramps, downhole stingers, and a thermal oxidizer for vapor abatement. The oxidizer operates under a valid various locations BAAQMD permit. Both soil vapor and groundwater were extracted from the subsurface. Extracted groundwater was discharged into an existing treatment system. Figure 3 displays a schematic of the MTS.

Physical and chemical parameters including applied vacuum, soil vapor extraction flow rates, oxidizer temperature, volume of groundwater extracted, VOC concentrations, and induced vacuum, were monitored, measured and recorded. VOC concentrations in the extracted soil vapor stream were continuously monitored using a photoionization detector (PID) calibrated to hexane. MPE operational data is presented in Table 1. Extraction data is presented in Tables 2, 2a, 2b, 2c, 2d, 2e, and 2f. Field data sheets are presented in Appendix B.

2.1.1 Smear Zone Dewatering

Steady-state dewatering of the smear zone at wells MPE-1, MPE-2, and MW-5 was achieved and maintained during the MPE event by vacuum. Dewatering was achieved by opening the dilution control valve at the extraction well to allow atmospheric air into the well casing, accelerating the removal of water from the well casing by vacuum. As the stinger was advanced into the well casing, water was removed 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 base of the well casing, and water ceased to be removed by vacuum, the stinger was elevated off the bottom of the well to maintain a steady-state groundwater flow into the well and to maximize mass removal rate out of the well, and then the dilution control valve was closed. During this event a total of 36,950 gallons of groundwater was extracted, treated and discharged into the sanitary sewer system. The estimated groundwater extraction rate for the MPE event based on gallons extracted and elapsed time (Table 1) was 2.55 gpm.

2.1.2 Soil Vapor Sampling and Analysis

Representative samples were analyzed from the stack of the thermal oxidizer to show compliance with the Bay Area Air Quality Management District permit. Influent soil vapor samples were collected through a sampling port located on the vacuum pump discharge manifold. Thermal oxidizer stack vapor samples were collected through a sampling port located at the top of the stack. The air samples were submitted under chain-of-custody documentation to Curtis and Tompkins Laboratories and analyzed for TPH-g using USEPA Analytical Method TO-3; and for BTEX and MtBE using USEPA Analytical Method TO-15. Soil vapor analytical results and abatement efficiencies are presented in Table 3. Certified laboratory analytical reports and chain-of-custody documentation are included in Appendix C.

Two soil vapor samples (one influent and one effluent) were taken from MPE-1 and MW-5 during extraction. These samples was collected during the first 24 hours of operation with the second sample collected half way through the event at MPE-1 and MPE-2 (Table 3). A vapor sample collected at the oxidizer stack was used to demonstrate compliance with BAAQMD various locations permit.

2.1.3 Summaries for Each Well/Well Combination

Extraction Well MPE-1 and MW-5

MPE event at MPE-1 and MW-5 ran from 8:00 on May 1, 2013 to 15:00 on May 8, 2013 and from 15:00 on May 9, 2013 to 17:00 on May 9, 2013. The total extraction time was 7,740 minutes, or 129 hours, excluding the weekend (May 4 and 5, 2013).

Applied vacuum ranged from 16.2 to 26.8 inches of mercury, and vapor extraction flow rate ranged from 41 to 212 scfm (Tables 1 and 2a). VOC concentrations in the extracted soil vapor stream ranged from 212 parts per million vapor (ppmv) as hexane to 700 ppmv (Tables 2 and 2a).

Extraction Well MPE-2

MPE event at MPE-2 began at 15:00 on May 8, 2013, ran overnight, and was terminated at 9:00 on May 9, 2013. Testing time at MW-3 was 1,080 minutes, or 18 hours.

Applied vacuum was measured at 24 inches of mercury, and vapor extraction flow rate at 85 scfm (Tables 1 and 2b). VOC concentrations in the extracted soil vapor stream ranged from 550 ppmv as hexane to 719 ppmv (Tables 2 and 2b).

Extraction Well MPE-1

MPE event at MPE-1 ran from 9:00 to 10:00 and 14:00 to 15:00 on May 9, 2013. Total time at MPE-1 was 120 minutes, or 2 hours.

Applied vacuum ranged from 19 to 24 inches of mercury, and vapor extraction flow rates ranged from 85 to 165 scfm (Tables 1 and 2c). VOC concentrations in the extracted soil vapor stream ranged from 186 ppmv as hexane to 410 ppmv (Tables 2 and 2c).

Extraction Well MPE-1 and MPE-2

MPE event at MPE-1 and MPE-2 ran from 10:00 to 11:00 on May 9, 2013 and 7:00 on May 10, 2013 to 13:00 on May 31, 2013. Total time at MPE-1 and MPE-2 was 18,120 minutes, or 302 hours.

Applied vacuum ranged from 18.8 inches of mercury to 22.7 inches of mercury, and vapor extraction flow rate ranged from 106 scfm to 168 scfm (Tables 1 and 2d). VOC concentrations in the extracted soil vapor stream ranged from 208 ppmv to 502 ppmv as hexane (Tables 2 and 2d).

Extraction Well MPE-2 and MW-5

MPE event at MPE-2 and MW-5 ran from 11:00 to 13:00 on May 9, 2013. Total time at MPE-1 was 120 minutes, or 2 hours.

Applied vacuum was measured at 19.6 inches of mercury, and vapor extraction flow rate was measured at 155 scfm (Tables 1 and 2e). VOC concentration in the extracted soil vapor stream was measured at 651 ppmv as hexane (Tables 2 and 2e).

Extraction Well MW-5

MPE event at MW-5 ran from 9:30 to 14:00 on May 9, 2013. Total time at MW-5 was 60 minutes, or 1 hour.

Applied vacuum was measured at 23.6 inches of mercury, and vapor extraction flow rate was measured at 92 scfm (Tables 1 and 2f). VOC concentration in the extracted soil vapor stream was measured at 491 ppmv as hexane (Tables 2 and 2f).

2.1.4 Evaluation of Mass Removal Rate

The total number of the MPE operational days was 23 days. During this period a total of 300 pounds of volatile organic compounds (VOCs) removed from the subsurface. The average mass removal rate was 13 pounds a day. This includes 67 lbs removed during the combined extraction from MPE-1 and MW-5 at the rate of 12 lbs/day, 12 lbs removed during extraction from MPE-2 at the rate of 16 lbs/day, 1.14 lbs removed during extraction from MPE-1 at the rate of 14 lbs/day, 217 lbs removed during the combined extraction from MPE-1 and MPE-2 at the rate of 17 lbs/day, 2.76 lbs removed during the combined extraction from MPE-2 and MW-5 at the rate of 33 lbs/day, and 0.61 lbs removed during extraction from MW-5 at the rate of 15 lbs/day.

Estimated VOC mass removal rates and VOC mass removed for this event are presented in Tables 2 through 2f.

2.2 Conclusions from MPE Event

Tables 4a and 4b list analytical results for groundwater samples collected during the monitoring events conducted before (March 2013) and after (June 2013) the May 2013 MPE event. Certified laboratory analytical reports and chain of custody documentation are included in Appendix C. Analytical results reveal that, in MW-5, TPH-g and BTEX increased while MtBE decreased; in MPE-1, TPH-g, BTEX, and MtBE decreased; in MPE-2, TPH-g, ethylbenzene, and total xylenes increased while benzene decreased and toluene and MtBE remained below laboratory-reporting limits after the MPE event.

Decreasing contaminant concentrations displays the effectiveness of MPE technology in removing contaminants from the subsurface. Currently, the overall estimated total mass of VOCs extracted by previous and current MPE events is 1,106 pounds. Figure 4 shows the cumulative mass of VOCs removed in pounds. As discussed above, based on the existing data in 2008, the estimated total mass of petroleum hydrocarbons in the subsurface was 1,338 pounds. As such, it is estimated that only 232 pounds of petroleum may still remain in the subsurface. SOMA is planning to update the estimated remaining mass in the subsurface based on the updated data once the data gap report is presented to the ACHCS.

2.3 Evaluation of the Current Groundwater Pump & Treat System

The current groundwater pump and treat system (GWETS) was installed at the site in December 2009. The GWETS system includes two extraction wells (EX-1 and EX-2), trenching containing influent and effluent lines and electrical conduits, and the treatment system compound. During system operation, the fuel-impacted groundwater is pumped from the two extraction wells and through an underground piping is delivered to a fenced treatment compound, adjacent to the existing service station building.

In the treatment compound, the extracted groundwater is treated using granular activated carbon (GAC) and subsequently discharged into the sanitary sewer under our discharge permit. Two GAC vessels are connected in series. The first unit (1,000 gallons) serves as the primary treatment unit, and the second (55 gallons) provides an additional safety buffer prior to discharge. Effectiveness of the GAC units is monitored by collection and analysis of samples from the system influent and effluent sampling ports as well as a sample collected between the two GAC vessels. When the analytical results indicate that the first GAC unit is no longer effectively treating groundwater, the vessel is removed from the treatment line and replaced with a new refurbished carbon vessel.

2.3.1 System Operation

Since the GWETS began discharging, approximately 2,316,430 gallons of groundwater have been treated and discharged at the site (as of July 11, 2013). Figure 5 shows the cumulative volume of treated groundwater.

The GWETS operates under discharge permit issued by Oro Loma Sanitary District (OLSD) in May 2009. This discharge permit was most recently renewed in May 2012. Treated groundwater has been discharging to the OLSD sewer since December 9, 2009. Figure 6 shows the schematic diagram of the groundwater treatment system. Treatment system effluent is sampled monthly to comply with OLSD discharge permit requirements. Table 5 includes analytical results and operational history of the treatment system. As shown in Table 6, as of July 5, 2013, cumulative masses of TPH-g and BTEX extracted from groundwater were approximately 23.43 pounds, 1.13 pounds, 0.24 pounds, 0.52 pounds, and 3.35 pounds, respectively.

2.3.2 System Maintenance

Based on ACHCS directive, SOMA conducted an evaluation of the GWETS effectiveness for hydraulic containment. The GWETS did not show an effective capture zone in the vicinity of EX-1 during Fourth Quarter 2012 groundwater monitoring event because the downhole pump in the extraction well was inoperative. Therefore, in May 2013, extensive maintenance activities were conducted at the treatment system. On May 2, 2013 and May 9, 2013, SOMA

oversaw a technician from Environmental Instruments perform maintenance and repair of the downhole pump. The technician reported that Warrick controls, which feed the power supply to the well pumps were missing. Upon installation of the controls, the well pump started up. The GWETS has been configured in such a way that when the holding tank is full, the well pumps shut off and transfer pump starts up automatically. When the tank is almost empty, the well pump restarts and the transfer pump turns off. Also, the pump was previously programmed to keep running even when the water level in the well was below the pump. This would heat up the pump and turn it off. The pump was reprogrammed to shut down for 10 minutes when the well runs dry. At this time, it takes four minutes for the well pump to fill up the tank and six minutes for the transfer pump to empty the tank. Post maintenance, the well pumps have shown an effective capture zone (Figure 7).

Operation of GWETS is important for containment of off-site contaminant plume in the vicinity of MW-6 from migrating downgradient beneath the residential neighborhood.

During its first year of operation, the GWETS removed over 15 pounds of contaminants. Subsequently the removal rate has dropped to a little over 4 pounds/year. However, with the recent maintenance performed on downhole pumps, SOMA expects to see an increased contaminant removal rate.

3. UPDATED SITE CONCEPTUAL MODEL

The SCM was updated for the Site based on the results of previous soil and groundwater investigations, conducted both on- and off-site, and quarterly groundwater monitoring and sampling events conducted at the Site since Second Quarter 2002.

This updated SCM integrates and interprets all data obtained to date to increase understanding of the extent and stability of the contamination and its impact on public health and the environment. The following sections summarize site characterization data (geology, hydrogeology, contaminant distribution, migration pathways, and potential human receptors), and evaluate current data gaps.

The primary source of chemical contamination is identified at the point of release of contaminants from the on-site USTs and product dispensers. Secondary sources of contamination include the dissolved groundwater plume and saturated sediments. Potential transport mechanisms from subsurface soils are by volatilization and atmospheric dispersion. Potential transport mechanisms from the dissolved groundwater plume are by volatilization and entering into closed spaces. The COCs, such as TPH-g, TPH-d, BTEX, MtBE, and TBA, detected in the groundwater within the First WBZ can volatilize and travel by diffusion toward

the land surface and possibly enter into nearby commercial buildings and residential properties. At these exposure points, they may cause adverse health effects to workers in the commercial buildings and residents living nearby. Current and future on-site workers, and down gradient residential properties, have been identified as the potential receptors of the Site's contaminants. Figure 18 shows the comprehensive SCM flowchart based on the *ASTM E-1689-55 Standard Guide for Developing SCM for Contaminated Sites*.

3.1 Site Hydrogeology

Results of the CPT/MIP study and borehole logs of the groundwater monitoring wells and earlier soil borings were used to construct three geologic cross-sections. Figure 8 shows the locations of geologic cross-section A-A', B-B' and C-C'. As shown in the diagrams, an unconsolidated sequence of permeable and relatively impermeable sediments underlies the Site and adjacent areas.
Two main water-bearing zones have been delineated based primarily upon CPT/MIP data collected during 2006, designated the First and Second WBZs. Based on the CPT data and borehole logs of the groundwater monitoring wells and soil borings, both WBZs appear to be laterally continuous across the Site and hydraulically downgradient of the Site, and are separated by a laterally continuous non–water-bearing unit. The following sections discuss each water-bearing zone beneath the site.

3.1.1 First WBZ

The groundwater monitoring well network in the on- and off-site areas is completed within the First WBZ. During well borehole drilling, groundwater in the First WBZ was encountered between approximately 20 and 30 feet bgs. Following well completion and development, groundwater elevations were measured. The data showed that the measured groundwater elevations are above the depth at which the groundwater was first encountered during drilling. Over the period of record for quarterly groundwater monitoring at the Site (Second Quarter 2002 to Second Quarter 2013), groundwater elevations in the monitoring wells have consistently been measured above the depth at which groundwater was first encountered in the well borings during drilling, and suggest groundwater elevations in the First WBZ reflect potentiometric pressure. Therefore, the First WBZ was considered a confined aquifer. Over the period of record for quarterly groundwater monitoring at the Site, depth to groundwater in the First WBZ has ranged from approximately 17 to 24 feet bgs (approximately 26 to 32 feet above mean sea level), with the groundwater flow gradient in the First WBZ predominantly toward the south/southwest.

From approximately 12 to 22 feet bgs the First WBZ occurs as an approximate 10- to 15-foot thick interbedded sequence of CPT-interpreted sand, silty sand to sandy silt, cemented sand, and silt to clayey silt. As illustrated on cross-section A-A' and B-B' (Figures 9 and 10, respectively), the top of the First WBZ is

inferred at greater than 15 feet bgs but less than 20 feet bgs beneath the Site. In addition, as illustrated on cross-section C-C' (Figure 11), the top of the First WBZ is inferred to be shallower (approximately 12 feet bgs) hydraulically downgradient of the Site from MW-5 to TWB-1, but increases with depth beyond TWB-1 to TWB-4 (approximately 20 feet bgs). Also, the thickness of the First WBZ is inferred to increase to approximately 30 feet beyond CPT/MIP-7 to CPT/MIP-6 and at TWB-1, and is inferred to decrease to approximately 5 feet to 2 feet beyond TWB-1 to TWB-6 and at TWB-4, respectively. The First WBZ is overlaid by CPT-interpreted clay and clayey silt with thin interbeds of sand and silty sand, approximately 1 to 2 feet thick in the upper portion of the sequence (< 10 feet bgs) beneath the Site, with massive clay and clayey silt to the top of the First WBZ (12 to 22 feet bgs). Based on the CPT and monitoring well and soil boring borehole log data, this layer seems to be an unsaturated layer.

3.1.2 Second WBZ

During the well borehole drilling of MW-1D, MW-3D, and MW-4D, groundwater in the Second WBZ was encountered during drilling between approximately 53 and 54 feet bgs. The soils at this depth were classified as silty clay (CL) with sand and gravel. Following well completion and development in early January 2008, groundwater elevations were measured above the depth at which groundwater was encountered during drilling and suggest groundwater elevations in the Second WBZ reflect potentiometric pressure. Therefore, the Second WBZ beneath the Site was considered a confined aquifer.

On June 10, 2013, the reported groundwater depths below top of casing and groundwater elevations relative to mean sea level in feet were as follows: 23.69/30.73 (MW-1D), 23.27/30.83 (MW-3D), 22.55/30.57 (MW-4D). Based on these groundwater elevations groundwater within the Second WBZ beneath the Site flows southwesterly at a gradient of approximately 0.003 ft/ft. However, direction of groundwater flow varies from northwesterly to southwesterly in the Second WBZ.

From approximately 32 to 50 feet bgs, the Second WBZ occurs as an approximately 5 to at least 35-foot thick interbedded sequence of the same CPT-interpreted lithologic type as seen in the First WBZ. The minimum thickness observed (10 feet) was determined at CPT/MIP-1 as illustrated on cross-section B-B' (Figure 11), and the maximum thickness observed (35 feet) was determined at CPT/MIP-3 as illustrated on cross-section A-A' (Figure 9). Thicknesses greater than 35 feet are inferred on all three cross-sections. Beneath the Site, the Second WBZ is inferred to be greater than 30 feet bgs but less than 65 feet bgs, as illustrated on cross-section A-A' and B-B' (Figures 9 and 10, respectively). Hydraulically downgradient of the Site, the top of the Second WBZ is inferred to occur at approximately 40 feet bgs, and is inferred to be shallower at TWB-4 (approximately 32 feet bgs), as illustrated on cross-section C-C' (Figure 11). Soil samples collected beneath the Site during construction of monitoring wells MW-

1D, 3D, and 4D in the Second WBZ exhibited silty clay with various amounts of sand and gravel from approximately 45 feet to 60 feet bgs. Groundwater was first reported in the Second WBZ during drilling at approximately 53 feet bgs.

3.1.3 Aquitard

A 5- to 25-foot thick laterally continuous CPT-interpreted unsaturated layer of clay, clayey silt, and silt separate the First and Second WBZs. This unit is referred to as an aquitard. Reduced thickness of the aquitard is inferred at the northeast (CPT/MIP-3) and southwest (CPT/MIP-4) portions of the Site, as illustrated on cross-section A-A' (Figure 9). At CPT/MIP-2 the thickness of the aquitard increases to approximately 10 feet. Hydraulically downgradient of the Site, as illustrated on cross-section C-C' (Figure11), the top of the aquitard is inferred to occur at approximately 20 feet bgs at CPT/MIP-7 and CPT/MIP–8, and increases with depth to approximately 25-30 feet bgs at CTP/MIP-6 and at the same depth farther downgradient at TWB-1, TWB-6 and TWB-4. The aquitard is thickest (approximately 25 feet) at CPT/MIP-7 and CPT/MIP–8, but thins to approximately 15 feet at CTP/MIP-6, and thins more (approximately 10 feet and 5 feet) farther downgradient at TWB-6 and TWB-4, respectively.

The lower limit of the Second WBZ is not defined at this time. Soil data from 60 feet bgs (MW-1D, 3D, 4D) and CPT data to 65 feet bgs (CPT-3) beneath the Site do not clearly define a transition to an aquitard. Similar conclusions are indicated for downgradient off-site CPT data from 55 feet to 65 feet bgs (CPTs 6, 7 and 8).

3.2 Nature and Extent of Chemicals in On-Site Vadose Zone

The vadose zone beneath the Site includes shallow subsurface native soils and backfill materials above the groundwater table and capillary fringe, approximately 15 feet bgs. Boring logs from monitoring wells, CPT, and soil borings describe native soils within the upper 15 feet of vadose zone beneath the Site as generally stiff to hard silty clay (CL), Silt (ML), and clayey silt (ML) with intervening layers of medium dense to very dense sand/gravel (SW/GW) sediments. Significant concentrations of COCs were not identified within the vadose zone beneath the Site or downgradient and off-site of the contaminant source area.

On the west side of the Site, the vadose zone is characterized by silt/clay sediments with an occasional discontinuous layer of sand/gravel sediments (MW-2 and MW-4). Below approximately 20 to 25 feet bgs, slight to moderate petroleum hydrocarbon odors were reported and decreased substantially with depth in the underlying silty clay aquitard.

On the east side of the Site, the vadose zone is characterized by a 2- to 9-foot thick sand/gravel layer below 13 to 16 feet bgs. Below approximately 20 feet bgs, strong petroleum hydrocarbon vapors were encountered in boreholes MW-3 and MW-5 that also decrease substantially in the subjacent clay aquitard.

Fuel USTs and associated piping and fuel dispensers were removed from the central portion of the Site in 1999 under regulatory oversight. Petroleum-impacted soils were removed during over-excavation and new UST systems were installed in the old UST pit during 1999. A 2001 subsurface investigation evaluated potential petroleum hydrocarbon contamination discovered during the removal and upgrade of USTs at the Site. Five hydropunches (SB-1 through SB-5) were advanced in proximity to the UST systems using the direct-push method (Figure 2). Results of that investigation indicated that petroleum-impacted soils are generally encountered below a 19-foot depth interval and are predominantly present within the capillary fringe, or below saturated zone. The maximum concentrations of TPH-g and BTEX in soil samples collected between 19 and 25.5 feet bgs were 470 mg/kg, 2.6 mg/kg, 16 mg/kg, 12 mg/kg, and 73 mg/kg, respectively. MtBE was not detected in any soil samples at the laboratory reporting limit of 0.005 mg/kg. Results of groundwater monitoring events indicate that depth to groundwater in on-site monitoring wells occurs between 17.2 and 23 feet bgs. Therefore, it can be concluded that the vadose zone beneath the Site is not significantly impacted by petroleum hydrocarbons. At greater depths below water table, saturated sediments have been impacted upon contact with fuel-impacted groundwater.

Similar findings were reported by SOMA in 2003, concerning the depth of petroleum-impacted soils/saturated sediments located south-southeast and downgradient of the Site at 19-25 feet bgs. As such, it appears that the thickness of smear zone (below water table) extends at least 6 feet below water table.

Areas of significant concentrations below water table in form of smear zone are located primarily around MW-3, MPE-1, and MW-5 at depths of 21-25 feet bgs in close proximity to the former UST pit, where historically no soil excavation has occurred.

During the off-site investigation of July 2011, TPH-g was detected above environmental screening levels (ESL) in DP-4 (located in the sidewalk area) at 24 feet bgs and was either below the laboratory-reporting limit or below ESL in all other samples. It was concluded that vertical extent of soil contamination is limited to explored depths as illustrated by low to non-detectable levels, below laboratory-reporting limits, of COCs in deeper samples collected at the terminal depth of each boring. Although the lateral extent of soil contamination south of DP-4 has not been delineated.

Table 7 summarizes historical analysis results for soil samples collected at the Site. Results of SOMA's contaminant mass calculations conducted in March 2008 indicated that over 1,338 pounds of petroleum hydrocarbons are present in the subsurface smear zone.

3.3 Nature and Extent of Chemicals in Groundwater

From 2002 to the Second Quarter 2013, groundwater samples have been collected and analyzed for COCs on-site and off-site during subsurface assessments and quarterly groundwater monitoring events. Quarterly groundwater monitoring/ sampling has been conducted since Second Quarter 2002. Groundwater collected from three on-site monitoring wells within the Second WBZ was first analyzed during January 2008. Additional analysis of limited grab groundwater sampling was conducted during 2006 to evaluate the presence of dissolved-phase hydrocarbons in the Second WBZ.

Results of groundwater analyses to date indicate that the First and Second WBZs beneath the Site and off-site to the south and southeast are impacted by dissolved-phase fuel hydrocarbons. The First WBZ contains significantly greater concentrations of dissolved-phase fuel hydrocarbons than those detected in the Second WBZ.

The existing groundwater monitoring well network on the Site includes MW-1 through MW-5, MPE-1 and MPE-2 (First WBZ) and MW-1D, 3D and 4D (Second WBZ). The off-site network includes MW-6, MW-7, extraction wells EX-1 and EX-2 completed only within the First WBZ.

Comparing the most recent groundwater elevation data collected during Second Quarter 2013 groundwater monitoring indicated a slight vertical downward gradient between the First and the Second WBZs at MW-1, MW-3, and MW-4.

3.3.1 First WBZ

Over the period of record for quarterly monitoring and sampling at the Site, the detected dissolved-phase hydrocarbons in the First WBZ, include TPH-g, BTEX, MtBE, TBA, ETBE and TAME. Concentrations of TPH-d have also been detected in the First WBZ, but analysis is limited to the grab groundwater samples collected from the First WBZ during the 2006 CPT/MIP investigation.

Analyses results for grab groundwater samples collected from soil borings completed in the First WBZ in September and October 2003 (TWB-1 through TWB-6) detected dissolved-phase hydrocarbons including TPH-g, BTEX and MtBE in proximity to groundwater monitoring well MW-6 (TWB-1), MW-7 (TWB-2), and east of MW-8 (TWB-3). Elevated concentrations were detected in TWB-1. Low concentrations were detected in TWB-3.

Analyses results for grab groundwater samples collected from soil borings completed in the First WBZ during the 2006 CPT/MIP investigation (DPW-4 through DPW-6 and DPW-8) detected dissolved-phase hydrocarbons including TPH-g, BTEX, MtBE, TBA, DIPE and ETBE in the southern portion of the Site (DPW-4 and DPW-5), and south of the Site in DPW-6 and DPW-8. Elevated

concentrations were detected in DPW-5 and DPW-6. Lower concentrations were detected in DPW-4 and DPW-8.

Analyses results for grab groundwater samples collected from soil borings completed in the First WBZ in July 2011 (DP-1 through DP-5) detected dissolved-phase hydrocarbons including TPH-g, BTEX and MtBE. TPH-g in grab groundwater samples from advanced soil borings ranged from 1,500 µg/L (DP-3) to 84,000 µg/L (DP-1). Maximum benzene concentration was detected in DP-5 at 290 µg/L. Maximum MtBE and TBA were detected in DP-3 at 150 µg/L and 40 µg/L, respectively. 1,2-DCA was above the laboratory-reporting limit, at 0.65 µg/L, in DP-4.

Tables 4a and 4b list concentrations of dissolved-phase hydrocarbons detected in groundwater samples collected from the First WBZ during quarterly monitoring events. The ESLs for dissolved phase constituents, listed in Tables 4a and 4b, indicate concentrations for TPH-g, TPH-d, BTEX, MtBE and TBA significantly exceed the ESLs for these constituents, with elevated concentrations in groundwater monitoring well MPE-1 and MPE-2 relative to remaining wells where dissolved-phase hydrocarbons have been detected. In general, dissolved-phase hydrocarbon concentrations are elevated in on-site groundwater monitoring wells MPE-1, MPE-2, MW-3 and off-site well MW-6 relative to other groundwater monitoring wells

The lateral extent of impact of TPH-g plume in the First WBZ is illustrated in Figure 12. This figure is based on the most recent groundwater monitoring and sampling of the First WBZ and analysis results for grab groundwater samples collected from recent soil borings completed in the First WBZ in July 2011. The lateral extent indicates that impact to the First WBZ occurs beneath the greater part of the footprint of the Site, including the area of the UST cluster and product dispensers, and is inferred to continue south/southeast beneath the northeast corner of the residential area south of the Site, continuing farther southeast and east beneath the intersection of Fairmont Avenue, 152nd Avenue and Liberty Street, and beyond to the southeast corner of the commercial area at the intersection of Fairmont Drive and Liberty Street.

Contaminant impact to the south of DP-5 remains unknown at this time and has been identified as a data gap in defining lateral extent of contamination in First WBZ.

3.3.2 Free-Product Evaluation

Based on ACHCS directive dated April 22, 2013, SOMA has revised the groundwater monitoring tables (Tables 4a and 4b) and has updated the standard field procedures to detail SOMA's method of measuring product thickness in field (Appendix E). FP has been observed in MW-6 twice, once at 0.02 feet thickness in December 2011 and second time at 0.04 feet thickness in September 2012.

Since then, sheen has been observed in this well. However, there has been no measurable FP since September 2012. Other site wells that have had sheen during the last few monitoring events are MW-3 and MPE-1. Measurable FP has not been observed in MW-3 or MPE-1.

Since there has been no measureable FP in any of the site wells during the recent groundwater monitoring events, therefore FP removal is not practicable at this time.

3.3.3 Second WBZ

Groundwater in the Second WBZ was first sampled during the 2006 CPT/MIP investigation, with the data set consisting of three grab groundwater samples:

- DPW-1 (55-59)
- DPW-3 (56-60), and
- DPW-8 (52.5-56.5).

Analysis results are listed in Table 2. The dissolved-phase hydrocarbon concentrations detected in grab groundwater samples beneath the Site were elevated relative to those collected off the Site to the southeast (DPW-8).

Concentrations of TPH-d, TPH-g, BTEX, MtBE, TBA and TAME for the grab groundwater samples collected from the Second WBZ are listed in Table 2. The limited available data indicates that all dissolved-phase hydrocarbons detected exceed their respective ESL values for residential land use for shallow soils (greater than 3 meters or 9 feet) where groundwater is a potential drinking water source, as set forth by the CRWQCB. However, concentrations detected here are significantly less than those detected in the First WBZ.

On-site wells MW-1D, MW-3D and MW-4D were installed in December 2007 in order to monitor impact to groundwater within the Second WBZ from petroleum hydrocarbons in proximity to the on-site contaminant source.

Most recent groundwater monitoring conducted during June 2013 indicates that TPH-g was below the laboratory-reporting limit in MW-3D and MW-4D and was detected in MW-1D at 110 µg/L. BTEX concentrations were below laboratory-reporting limits in all second WBZ wells. MtBE was below the laboratory-reporting limit in MW-1D and was detected in MW-3D and MW-4D at 3.5 µg/L and 1.7 µg/L, respectively. All gasoline oxygenate, lead scavenger, and ethanol concentrations were below laboratory-reporting limits in Second WBZ wells.

The regulatory action level ESL for TPH-d is 100 µg/L and for MtBE 5.0 µg/L. The TPH-g concentration in sample MW-1D (18.7 µg/L) exceeded its ESLs. Groundwater analytical data is presented in Tables 4a and 4b.

The lateral extent of impact in the Second WBZ indicates that impact to the Second WBZ occurs beneath the northern portion of the Site, including the area of the north product dispensers, with an isolated area (CPT/MIP-8) in proximity to the intersection of 152nd Avenue and Fairmont Drive.

3.4 Sensitive Receptor Survey

SOMA conducted a sensitive receptor survey in September and October 2003 that included locating water supply wells within a 2,000-foot radius of the Site. Well location information was obtained from the California Department of Water Resources (DWR).

Based on DWR records, 10 wells were located within 2,000 feet of the Site. Three are located hydraulically downgradient of the Site, including two wells of unknown use and one irrigation well. Sensitive receptor survey results indicated that the off-site groundwater plume could impact two private wells, one of which is reportedly located at 1575 153rd Street, and the other at an unidentified address along Oriole Avenue.

3.4.1 Area Well Survey

In September 2004, an attempt was made to collect groundwater samples from these two wells. No residence for 1575 153rd Street was found at that time. This well is located approximately 840 feet downgradient from the site. However, the owner of the residence at 1573 153rd Street indicated that there is a non-operational well on his property. The owner stated that water from this well was previously used only for irrigation since potable water for the residence is provided by the local utilities. An attempt was made to collect a water sample from the well by running the well pump for several hours. However, no groundwater was produced. An attempt was then made to unbolt the well cap. However, it was noted that preexisting cracks in the casing were exhibiting signs of stress resulting from this procedure. Removal of the cap was terminated to avoid damaging the well casing and no groundwater sample was collected from the well.

On January 4, 2008, SOMA obtained permission from the resident at 1573 153rd Avenue to evaluate the condition of said well and collect a groundwater sample. At the time of the survey, SOMA was informed that the well has been non-operational for some time. The existing pump was not operational, and a disposable bailer was used to collect a grab groundwater sample. Samples were decanted into 40-mL VOA vials, pre-preserved with hydrochloric acid. The samples were then immediately stored in a cooler with ice, and submitted to Pacific Analytical Laboratory (PAL) a California state-certified laboratory, under COC protocol. The sample was analyzed using EPA Method 8260B for TPH-g, BTEX, MtBE and gasoline oxygenates. As shown in Table 1, all analytes except

TBA were detected below the laboratory-reporting limit. TBA was detected at 21 µg/L.

Based on ACHCS directive dated April 22, 2013, SOMA mailed out request forms to the residential well owners at 1573 153rd street and 1575 153rd street for a groundwater sample collection from these residential wells. However, the request form for 1575 153rd street was returned by the USPS because no such address exists. The owner of the well located at 1573 153rd street informed SOMA that the pump in his well is broken and that there is no way to extract water from the well. A copy of the well sampling request form mailed out by SOMA is attached in Appendix E.

Because well survey findings of 2004 did not indicate a specific address for the private well located in the area of Oriole Avenue (around the area of the reported well location), written notifications were distributed to all residents on the potentially affected avenue. However, none responded to the notification. In attempts to locate the historical irrigation well reportedly present in the area, SOMA performed a door-to-door survey of Oriole Avenue residents on January 4, 2008. However, of the 23 residences visited, none could provide evidence of existing wells in the vicinity. SOMA acquired 13 responses to its inquiry. Of the 13 respondents, 12 reported no wells or no knowledge of wells in the area. One respondent, residing at 1612 Oriole Avenue, disclosed knowledge of a 4-inch metal casing on the parcel, set in existing pavement with no visible equipment attached. No further survey or sampling has been performed to date. Further investigation of this possible irrigation well location is recommended concurrent with the next groundwater monitoring event.

3.4.2 Water Bodies

Based on USGS topographic maps, and maps obtained from the Alameda County Public Works Department, it was determined that no water body exists within a half-mile radius of the Site. There is record of a former buried or drained creek (CIRCA 1950), that ran parallel to the Site, approximately 200 feet east between Fairmont Drive and Oriole Avenue. It appears that during the urbanization of the area the historical creek was filled, and to reduce the risk of flood damage an engineered Canal ("Estudillo Canal") was constructed. Estudillo Canal is a series of storm drains and canals draining the southern San Leandro Area. It runs below ground as a storm drain conduit along Freedom Avenue adjacent to the Site, then parallel to Oriole Avenue (between Oriole Avenue and Fairmont Drive). Approximately 800 feet southeast of the Site it becomes an above-ground concrete culvert that runs through the city of San Leandro and drains into the ocean. The next closest water body is San Leandro Creek, located approximately 1.5 miles south of the Site. These water bodies are located considerably more than 2,000 feet from the Site, and are not considered probable sensitive receptors.

3.5 Preferential Flow Path Analysis

To evaluate the potential preferential flow pathways at the Site and in the vicinity, recent revised records documenting locations and relative depths of utility line trenches were obtained from ORO Loma Sanitary District (OLSD). OLSD provided a utility map showing a sewer line at a depth of approximately 5.0 feet bgs located approximately 20 feet southeast of the Site along 152nd Avenue with a gradient to the southwest. The OLSD map also illustrated a sewer main at a depth of approximately 10.8 feet bgs located approximately 60 feet east of the Site along Fairmont Avenue, with a gradient to the south.

Groundwater in the on-site First WBZ wells occurs at depths ranging from 17 to 24 feet bgs. Thus, the sewer line along 152nd Avenue and the sewer main along Fairmont Drive are situated above the minimum depth of groundwater in the First WBZ and hence, trenches carrying these sewer utilities are not submerged, and are not considered a preferential pathway for the migration of dissolved-phase hydrocarbons south and southeast of the Site. Figure 8 shows locations and depths of utility lines on the site map. Appendix D shows the utility maps obtained from OLSD.

3.6 Site Zoning

The Site is located in the unincorporated area in the City of San Leandro. According to the Alameda County Planning Department, the Site is zoned “C1,” a retail business district with the service station as a conditional use. The surrounding area downgradient of the Site consists of single- and multi-family residential properties as far as East 14th Street.

3.7 Stability of Chemical Plume and Comparison with ESLs

Beneficial use of the groundwater has been impacted by past petroleum hydrocarbon release. As discussed in Section 4.6, there is a potential for the groundwater to be used in a downgradient residential neighborhood for irrigation purposes.

Due to the process of natural attenuation, the COC concentrations in general follow a downward trend. It was assumed that the Site will remain a commercial facility, and its zoning will not change. The most recent contaminant concentrations from Second Quarter 2013 groundwater monitoring event were compared with those of published screening level values (as Tier I) presented by the CRWQCB, San Francisco Bay Region.

As Table 4a shows, the most recent contaminant levels such as TPH-g and benzene reported in on-site wells MPE-1, MPE-2, MW-3 are at least two orders of magnitude higher than the screening groundwater concentration values set forth by CRWQCB. TPH-g concentrations reported in off-site well MW-6 are also

significantly higher than the screening groundwater concentration values (ESLs) set forth by CRWQCB. Table 4a also shows historical results for off-site irrigation well, where groundwater is considered a potential drinking water source.

To evaluate stability of the groundwater chemical plumes, results of the groundwater monitoring data at the on- and off-site areas were reviewed. The purpose of this study was to evaluate the historical upward or downward trend in chemical concentrations in the groundwater at the on- and off-site areas.

Figure 14 shows the TPH-g, benzene, MtBE, and TBA concentrations in groundwater, related to distances from the source area. Three “snap shot” data sets, since the installation and sampling of more contaminated wells MPE-1 and MPE-2 August 2011), were used in this assessment, and represent recent concentration trends for the COCs. Furthermore, since off-site groundwater monitoring wells MW-8 and MW-9 were decommissioned in 2009, these wells were not used in his assessment. Chemical concentrations detected in monitoring wells MW-1, MW-3 through MW-6, MPE-1, and MPE-2, located approximately within the center of the chemical plume in the on and off-site areas, were used.

As Figure 15 shows, the highest TPH-g concentrations located off-site to the southeast of the site. Over the study period, TPH-g concentrations have decreased significantly in the vicinity of UST cavity and slightly along the site boundary (MPE-1) and in off-site well MW-6.

As Figure 16 shows, the main bulk of the benzene plume is also located in the on-site area towards the southern property boundary. Over the study period, benzene showed downward concentration trends in the vicinity of UST cavity. However, benzene has increased around southern property boundary (MPE-1).

As Figure 17 shows, the main bulk of the MtBE plume is also located in the on-site area with lower concentrations detected off-site to the southeast of the site. Similar to benzene, MtBE decreased in the vicinity of UST cavity and increased around southern property boundary.

Over the study period, TBA has shown increasing trend in the vicinity of southeastern pump islands (MW-4). However, decreasing TBA concentrations have been observed in the vicinity of MW-5 along eastern property boundary. Low to non-detectable concentrations of TBA have been observed in off-site well MW-6.

During the residential well sampling of 2008 (July and October), at 1573 153rd Street, 840 feet away from the site, none of the contaminants of concern were detected in the groundwater samples obtained from this well.

3.8 Identification of Exposure Pathways and Potential Receptors

The Site is located in an area of primarily residential properties, with a commercial property located east of the Site, across Fairmont Drive. Currently, the on-site single-story building houses the station's offices and food mini-mart. Residential properties abut the Site on the south and west and are located beyond to the southeast, south, southwest and west. Therefore, the exposed population/receptors to the on- and off-site contaminants are:

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

For current and future workers on the Sit
e, and receptors off the Site, particularly the residences that abut the Site to the southwest, the source of chemicals is fuel hydrocarbons dissolved in the First WBZ. Due to the presence of low levels of hydrocarbons in the groundwater in off-site areas, the inhalation pathway is not a complete exposure route. In the off-site areas the incidental ingestion of groundwater of the First WBZ may be the only exposure pathway.

3.9 Data Gaps Evaluation

The SCM flow chart and the tabular SCM (Figure 18 and Table 8) show current areas of contamination and illustrate areas where further investigation is recommended. For the purpose of this SCM evaluation, the hypothetical site construction worker was assumed to be exposed to COC detected in soil and groundwater by direct dermal contact, incidental ingestion, and inhalation of airborne particulates and residential irrigation wells was assumed to be exposed to incidental ingestion of groundwater. No other complete exposure pathways were identified at this time, further site investigation data will be used to update all potential exposure pathways. Incomplete exposure pathways are illustrated on Figure 18.

Based on the initial SCM, SOMA proposes activities outlined in Section 5 to address the following existing data gap:

- Possibility of contaminant plume migration to the south of DP-5 based on the most recent contaminant concentrations in groundwater at this location.
- Possibility of vapor intrusion into the residential neighborhood due to high contaminant concentrations in groundwater.

4. PROPOSED ADDITIONAL INVESTIGATION

In July 2011 SOMA oversaw installation of five soil borings (DP-1 through DP-5) in the First WBZ around MW-6. Boring and well locations are shown in Figure 2. Table 7 shows historical soil analytical results. Results of this investigation indicated that significant groundwater contamination still exists downgradient of the site. Based on elevated COCs in DP-2, off-site extent of dissolved contaminant plume west of DP-2 has not been delineated. Based on COC levels detected in downgradient boring DP-5, it can be concluded that lateral extent of TPH-g plume extended beyond this location. Figure 8 shows the location of geologic cross-section and Figures 9, 10, and 11 show geologic cross-sections AA', BB', and CC'. Cross-section CC' has been updated to show the location of utility lines.

4.1 Pre-Fieldwork Activities

Prior to initiating all field assessment activities, SOMA will obtain required drilling permits from Alameda County Public Works Department. Furthermore, a site-specific HASP according to 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) will be prepared and implemented prior to initiating field activities.

SOMA will mark boring locations and notify Underground Service Alert (USA) to verify that drilling areas are clear of underground utilities. Following USA clearance, SOMA will retain a private utility locator to survey proposed drilling areas and locate any additional subsurface conduits.

4.2 Proposed Soil Borings

To evaluate the site hydrogeologic conditions, SOMA proposes using combined CPT and direct push technology (DPT) to continuously log subsurface lithology and stratigraphy up to 50-60 feet bgs to the south of DP-4 and DP-5 (installed in July 2011) and collect pertinent soil and groundwater samples. Drilling to this target depth will help generate a comprehensive representation of WBZs, subsurface lithology and stratigraphy, and contaminant distribution. The target depth may be increased if MIP data and/or field observations indicate presence of elevated concentrations of fuel hydrocarbons in the Second WBZ.

CPT is a process for determining subsurface soil characteristics employing a cone penetrometer attached to a data acquisition system, which is pushed into the subsurface using a hydraulic ram. Generally, the soundings are conducted using a 20-ton capacity cone with a tip area of 15 cm^2 and a friction sleeve area

of 225 cm^2. The cone takes measurements of cone bearing (q_c), sleeve friction (f_s) and dynamic pore water pressure (u_2) at 5-centimeter intervals during penetration to provide a nearly continuous hydrogeological log. In addition, the cone also contains a porous filter element located directly behind the cone tip (u_2). The filter element is used to obtain dynamic pore pressure as the cone is advanced. By qualitatively integrating these parameters, CPT provides a rapid means of determining relative soil lithology and hydrogeologic information. CPT data reduction and interpretation is performed in real time, facilitating on-site decision making by a field geologist. The hydrogeologic information gathered is used to identify different WBZs using pore pressure data, as well as any confining layers beneath the site.

Concurrent with the CPT study, SOMA proposes utilizing MIP to evaluate presence and vertical extent of petroleum hydrocarbons. The MIP is a high-resolution, direct-sensing downhole screening tool capable of providing information regarding residual levels of petroleum hydrocarbons that may exist at different depth intervals. The MIP uses a thin film fluorocarbon polymer membrane, which stays in direct contact with the soil during MIP logging. The downhole membrane serves as an interface to a detector at the surface. Volatiles in the subsurface are transferred across the membrane and partition into a stream of carrier gas where they are swept to the detector. Most commonly used detectors include photoionization detector (PID), electron capture detector (ECD) and the flame ionization detector (FID). Each detector is designed for sensitivity to a group or type of contaminant. The ECD is used for chlorinated contaminant (trichloroethylene [TCE], perchloroethylene [PCE]) detection; the PID is best used for the detection of aromatic hydrocarbons (benzene, toluene, ethylbenzene, total xylenes [BTEX] compounds); the FID is best used for straight-chained hydrocarbons (methane, butane). As the MIP module collects information on contaminant characteristics, the CPT characterizes sediment types (e.g., clay, silt, silty clay) in the subsurface. Therefore, at each CPT location an integrated vertical profile of approximate soil/sediments stratigraphy, contaminant location, and relative contaminant concentration is generated.

Boreholes for sampling groundwater and soil (GS boreholes) will be drilled adjacent to the CPT/MIP boreholes using DPT rig. Soil samples for chemical analysis will be collected from GS borings, at MIP-identified depths indicative of gross contamination. Boring GS-1 will be continuously logged and used to correlate CPT-obtained data with existing subsurface lithology and MIP data with existing contaminant distribution. The proposed depth of all GS boreholes will be identical to the depth of the CPT/MIP boreholes (approximately 50-60 feet bgs).

Soil samples will be collected at MIP-identified depths from each GS boring by advancing a 2-inch-diameter DP sampler lined with 4-foot-long clear polybutryate sleeves into the undisturbed soil profile at the base of the boring. Since CPT will be implemented prior to GS borings advancement, no continuous logging via GS borings (except for GS-1) is proposed at this time. SOMA will use a handsaw to

cut the retrieved plastic liner into small sections for laboratory submittal. The collected sleeves will be covered at both ends with Teflon sheeting, sealed at both ends with polyethylene end caps, labeled, logged on a chain-of-custody form, placed in an ice-filled cooler, and kept at 4^0C for transport to a state-certified laboratory for analysis.

Depth-discrete groundwater sampling will be conducted for the two WBZs during drilling. In addition, SOMA will utilize a dual tube sampler to isolate the First WBZ and prevent cross contaminating samples collected at lower depths. Depth-discrete groundwater samples will be collected by driving a 4-foot-long Hydropunch tip attached to the end of the inner drive DP rod to the desired depth-discrete interval. The outer drive casing will be retracted, exposing the 4-foot-long screen interval of the Hydropunch tip. Groundwater samples will be collected with a stainless steel bailer lowered through and beneath the drive casing into the Hydropunch screen. Prior to downhole collection events and between borings, the Hydropunch and stainless steel bailer will be field decontaminated to avoid cross-contaminating groundwater samples.

Each sample will be labeled with a unique sample identifier and preserved on ice pending delivery to a certified analytical laboratory. All samples will be delivered to the laboratory for chemical analysis under appropriate chain-of-custody protocol.

In order to fill the existing data gaps, SOMA proposes to install nine off-site CPT borings south of DP-2, DP-4, and DP-5. CPT-8 through CPT-11 and CPT-12 through CPT-15 will be advanced along separate transects. CPT-8 and CPT-9 are spaced at approximately 30 feet. However, CPT-9 through CPT-11 are spaced farther apart due to accessibility issues. Similarly, CPT-12 and CPT-13 will be approximately 30 feet apart, and CPT-13 through CPT-15 will be farther apart. CPT-16 is proposed farther south of previously decommissioned well MW-8 in order to verify the farther end of contaminant plume. Proposed locations of these eleven borings are shown in Figure 13. SOMA will record field observations regarding location and thickness of free product, if any.

Upon completion, all advanced boreholes will be grouted to surface grade in accordance with ACHCS requirements, with a neat cement grout mixture, tremmied into place, and completed at the surface with materials to match existing grade.

4.3 Soil Vapor Intrusion

4.3.1 Summary of Historical Soil Gas Survey

In November 2007, SOMA conducted a soil gas survey along the southwest perimeter of the Site to evaluate potential soil gas intrusion pathways for the adjacent residents. SOMA advanced four soil gas-sampling probes to implement the soil gas survey. The probes were designated SGS-1 through SGS-4 and

advanced to a depth of approximately 5 feet bgs. Soil vapor samples were collected and analyzed for TPH-g (TO-3), BTEX, MtBE, gasoline oxygenates (TO-15).

Trace concentrations of TPH-g and BTEX were reported. Fuel oxygenates were not detected in the four soil gas samples. TPH-g concentrations ranged from a minimum of 0.42 µg/m^3 at SGS-4, located northwest of the service station building, to a maximum 2.3 µg/m^3 at SGS-2, located at the southern perimeter of the Site and south of the active fuel dispenser island. The shallow soil gas screening level for TPH-g is 150,000 µg/m^3 for residential property. Benzene was not detected in the soil gas collected at SGS-4. Benzene concentrations ranged from a minimum of 5.7 µg/m^3 at SGS-2 to a maximum 9.6 µg/m^3 at SGS-1. The shallow soil gas screening level for benzene is 42 µg/m^3 for residential property. The remaining BTEX compounds in soil gas samples were reported at low concentrations, several orders of magnitude less than the shallow soil gas screening levels for residential property (Table 9).

Based on these results, concentrations of the COCs in soil gas at the Site was not considered a significant risk to human health. In particular, potential soil gas intrusion into offsite residential properties was not considered a significant risk to human health.

On July 10, 2013 SOMA staff visited the surrounding residential neighborhood and interviewed with some of the residents at immediate vicinity of the site along 152nd Avenue. Based on our observations and interview with these residents almost every house in that neighborhood has been built on a crawl space. A photograph taken from the next house to the site is presented in Appendix F. As such, due to the fact these houses are built on a crawl space not on concrete slabs, therefore taking a sub-slab soil gas sample in the residential neighborhood is not feasible and there is not complete exposure pathway for site related contaminants to impact the residents through inhalation processes.

4.4 Laboratory Analysis of Soil and Groundwater Samples

Groundwater samples will be submitted to a California state-certified environmental laboratory for chemical analysis of the following:

- Total petroleum hydrocarbons as gasoline (TPH-g)
- Benzene, toluene, ethylbenzene, total xylenes (collectively termed BTEX)
- Fuel oxygenates, additives and lead scavengers including methyl tertiary-butyl ether (MtBE), 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-dibromomethane (EDB), and ethanol.
- Naphthalene (Based on LTCP criteria)

All analyses will be conducted using USEPA Method 8260B.

4.5 Waste Collection, Storage and Disposal

Soil cuttings and waste water generated will be temporarily stored on-site in a secure area in DOT-rated 55-gallon steel drums pending characterization, profiling, and transport to an approved disposal-recycling facility. Each drum will be labeled with site address, contents, date of accumulation, and contact phone number.

4.6 Reporting

The report will document boring advancement and all related activities, discuss results of soil and groundwater sample analyses and lateral extent of plume. The report will also include the following:

- field conditions observed during boring advancement activities, including boring logs describing soil types encountered, sample intervals, and PID vapor readings;
- laboratory analytical results of soil and groundwater samples collected during boring advancement.
- evaluation of contaminant distribution, conclusions, and if required, recommendations for groundwater monitoring well installation.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

1. The overall estimated total mass of VOCs extracted by previous and current MPE events is 1,106 pounds. This includes 300 pounds removed during the May 2013 event. The estimated total VOC mass removal rate for the May 2013 event was determined to be 16 lbs/day over 464 hours. Analytical results reveal that, in MW-5, TPH-g and BTEX increased while MtBE decreased; in MPE-1, TPH-g, BTEX, and MtBE decreased; in MPE-2, TPH-g, ethylbenzene, and total xylenes increased while benzene decreased and toluene and MtBE remained below laboratory-reporting limits after the MPE event.
2. The GWETS was installed and began operation at the site in December 2009. Based on most recent groundwater elevation data, it is creating a good capture zone. Operation of GWETS is essential for containment of off-site contaminant plume in the vicinity of MW-6 from migrating downgradient beneath the residential neighborhood.
3. Vertical extent of soil contamination is limited to explored depths as illustrated by low to non-detectable levels, below laboratory-reporting limits, of COCs in deeper samples collected at the terminal depth of each

boring during the investigation of July 2011. Although the lateral extent of soil contamination south of DP-4 has not been delineated.

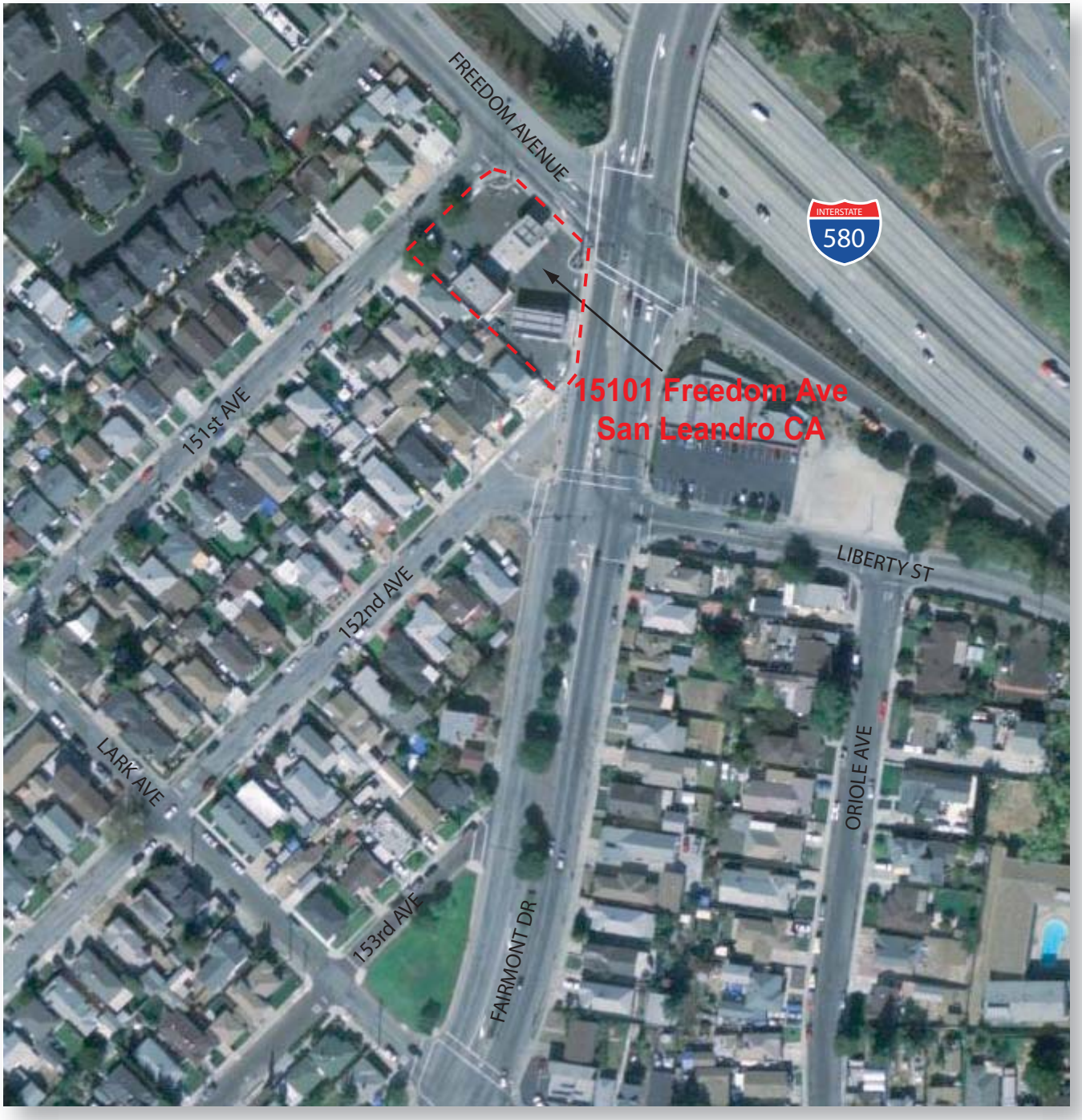
4. The lateral extent of TPH-g plume indicates that impact to the First WBZ occurs beneath the greater part of the footprint of the Site, including the area of the UST cluster and product dispensers, and is inferred to continue south/southeast beneath the northeast corner of the residential area south of the Site, continuing farther southeast and east beneath the intersection of Fairmont Avenue, 152nd Avenue and Liberty Street, and beyond to the southeast corner of the commercial area at the intersection of Fairmont Drive and Liberty Street.
5. FP has been observed in MW-6 twice during the groundwater monitoring events of December 2011 and September 2012. Since then no measurable FP has been observed in any site well.
6. Contaminant impact to the south of DP-4 and DP-5, along Fairmont Drive remains unknown at this time and has been identified as a data gap in defining lateral extent of contamination in First WBZ.
7. The effect of soil vapor on residential receptors in the site vicinity does seem to be a complete exposure pathway. This is largely due to the fact that the majority of residences in immediate vicinity of the site have been built on crawl spaces, as such no soil gas survey next to the residences was performed.

5.2 Recommendations

In order to fill the identified data gaps and to move the site closer to closure according the LTCP criteria, SOMA recommends the following:

1. SOMA recommends conducting a CPT/MIP investigation along Fairmont Avenue in order to define the lateral extent of groundwater contamination down-gradient from the site.
2. Conduct another extended MPE event in August 2013 as approved by ACHCS in directive dated April 22, 2013.
3. Further investigation of this possible irrigation well at 1612 Oriole Avenue is recommended.

FIGURES



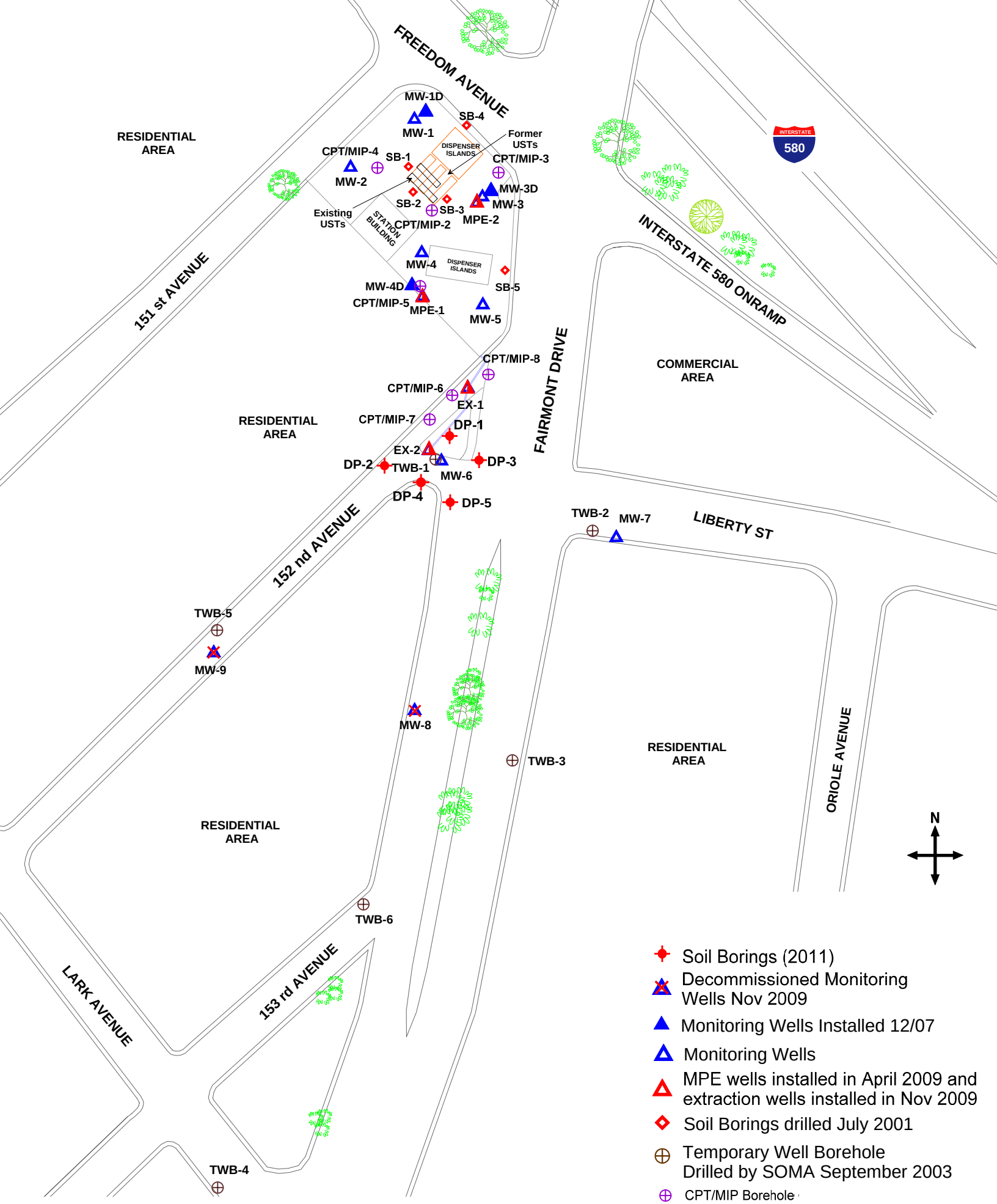
N

approximate scale in feet

0 150 300

Figure 1: Site vicinity map.

SOMA ENVIRONMENTAL ENGINEERING, INC.

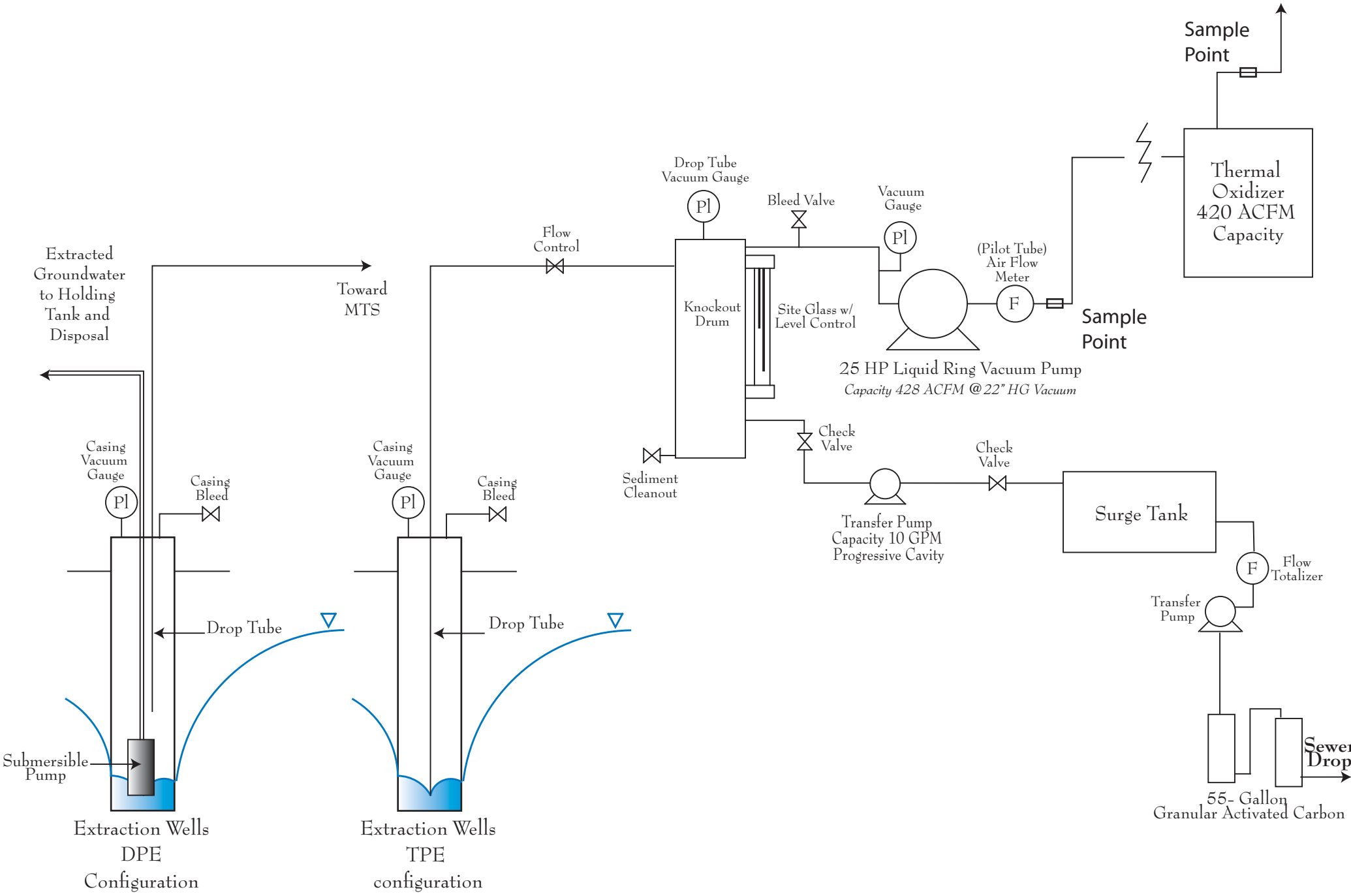


approximate scale in feet

0 50 100

Figure 2: Map Showing Site Features and Monitoring Wells

SOMA ENVIRONMENTAL ENGINEERING, INC.



Not to Scale

Figure 3: MTS Schematic

ENVIRONMENTAL ENGINEERING, INC.

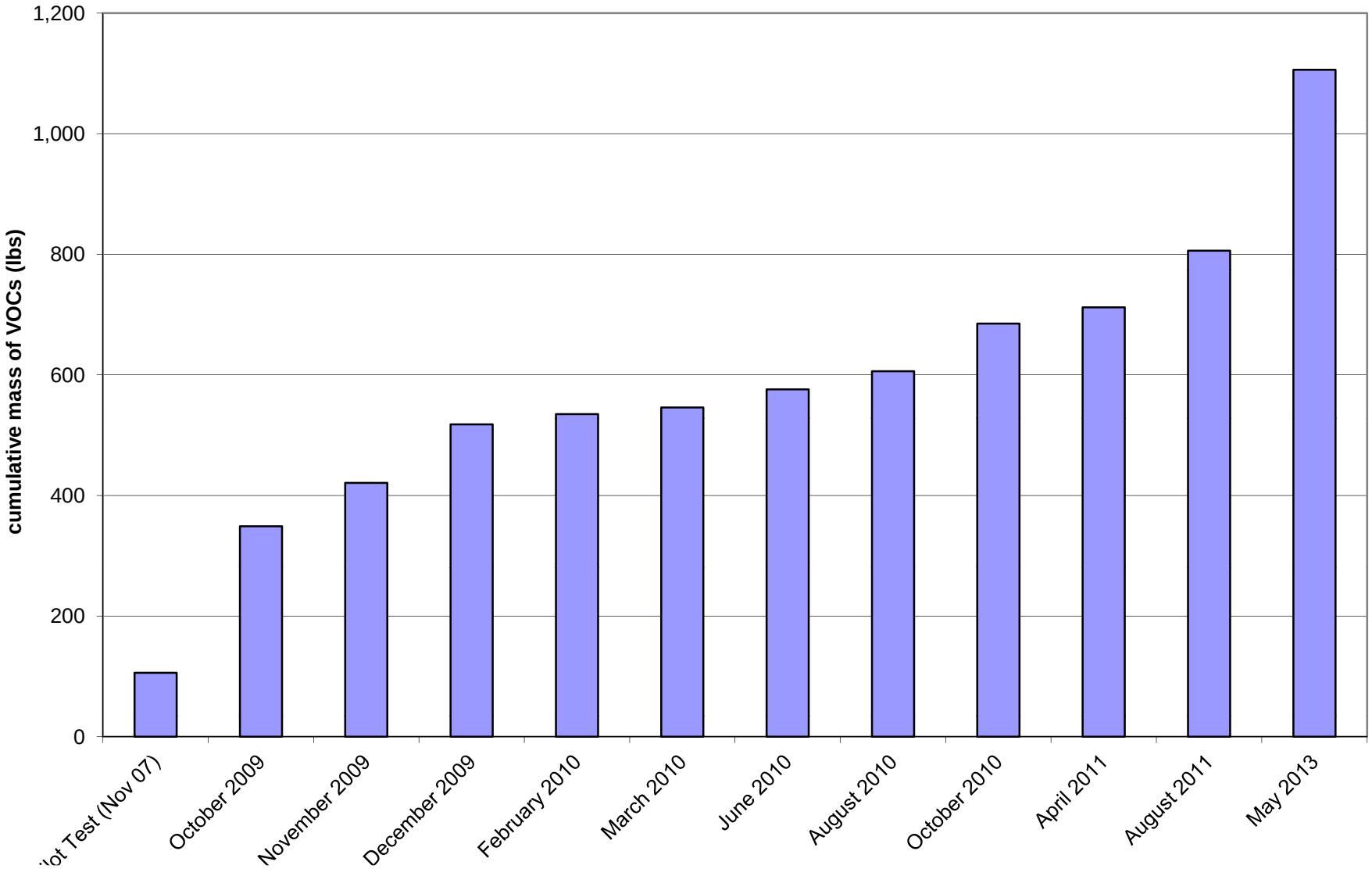
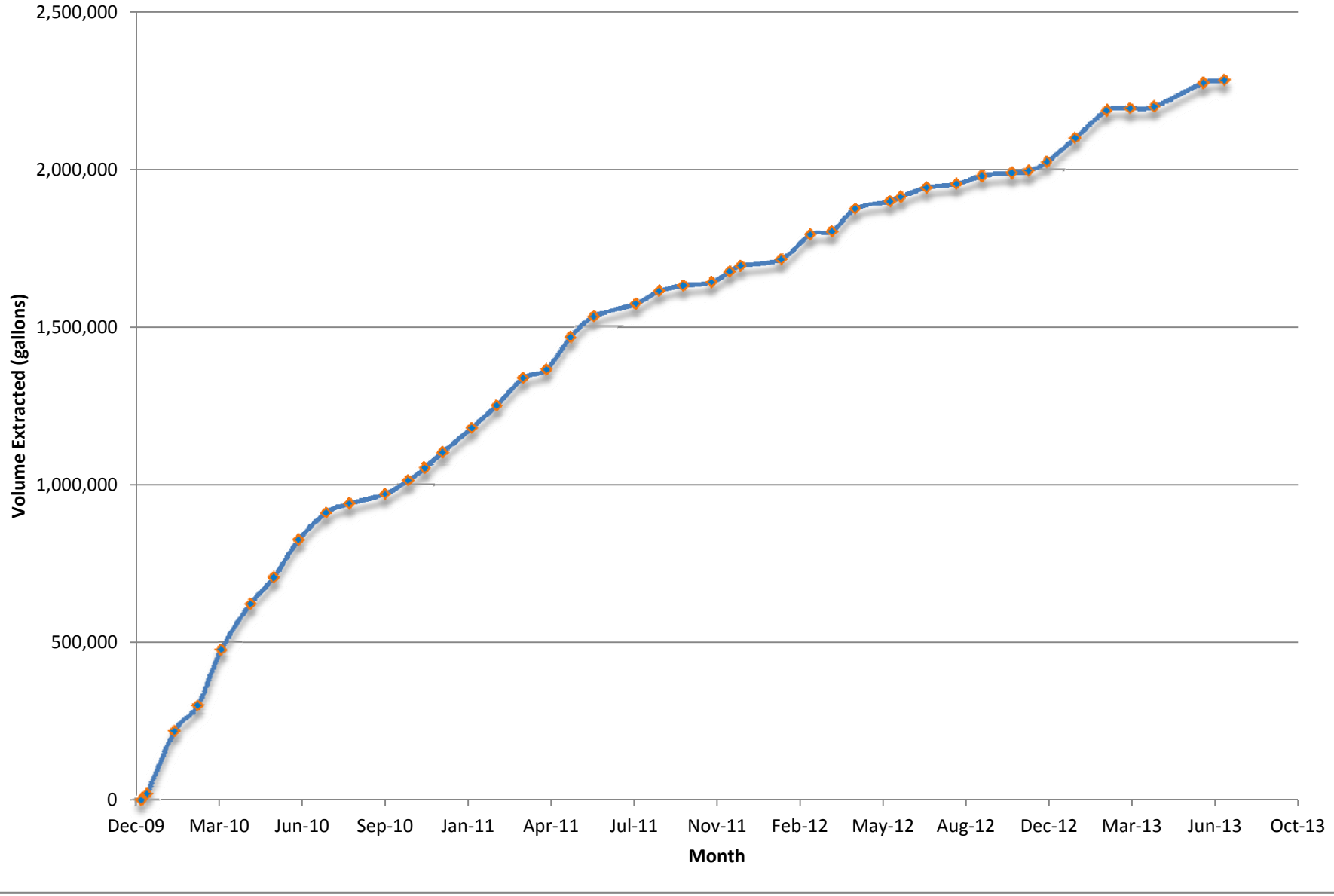


Figure 4: Cumulative Mass of VOCs removed

Figure 5: Cumulative Volume Treated by GWETS
15101 Freedom Ave, San Leandro, CA



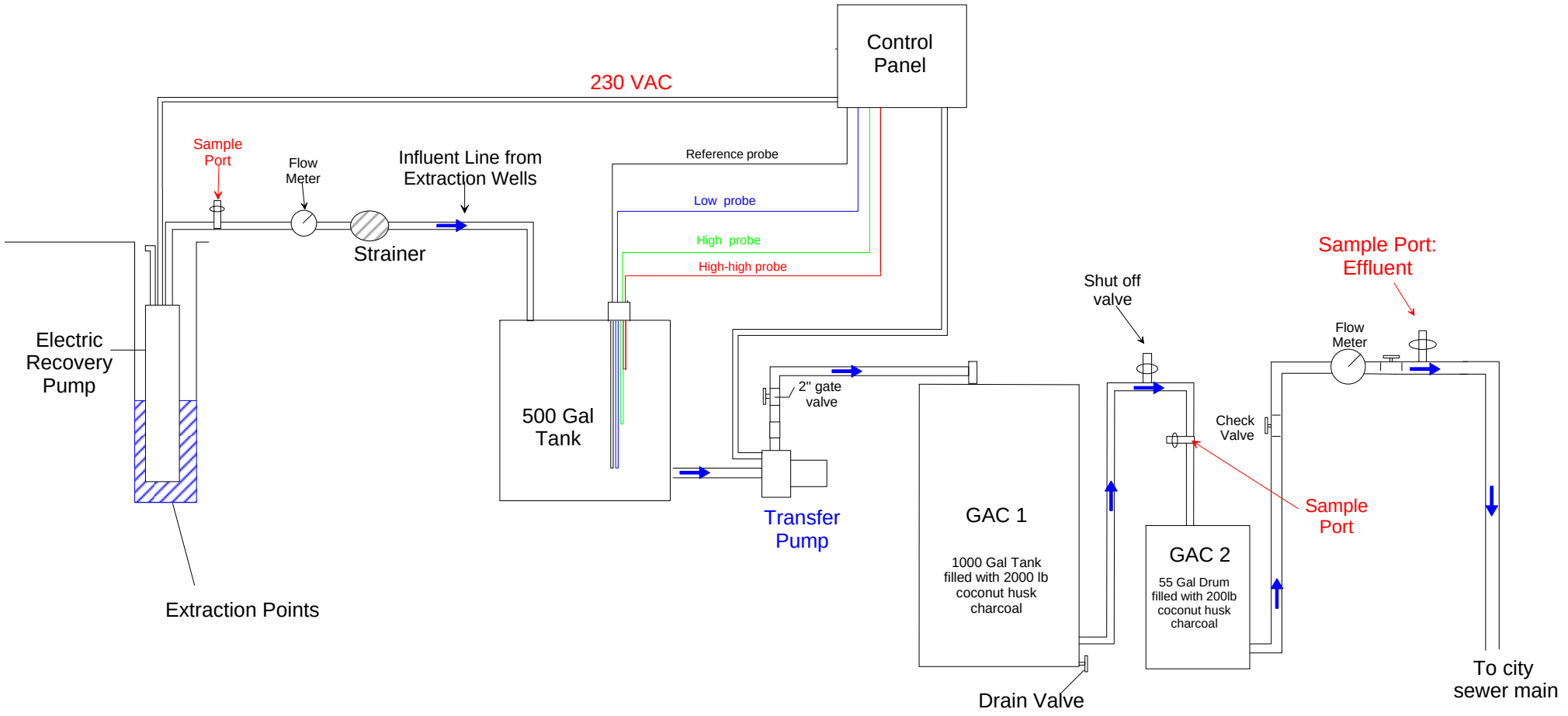


Figure 6: Groundwater Treatment System Schematic

ENVIRONMENTAL ENGINEERING, INC.

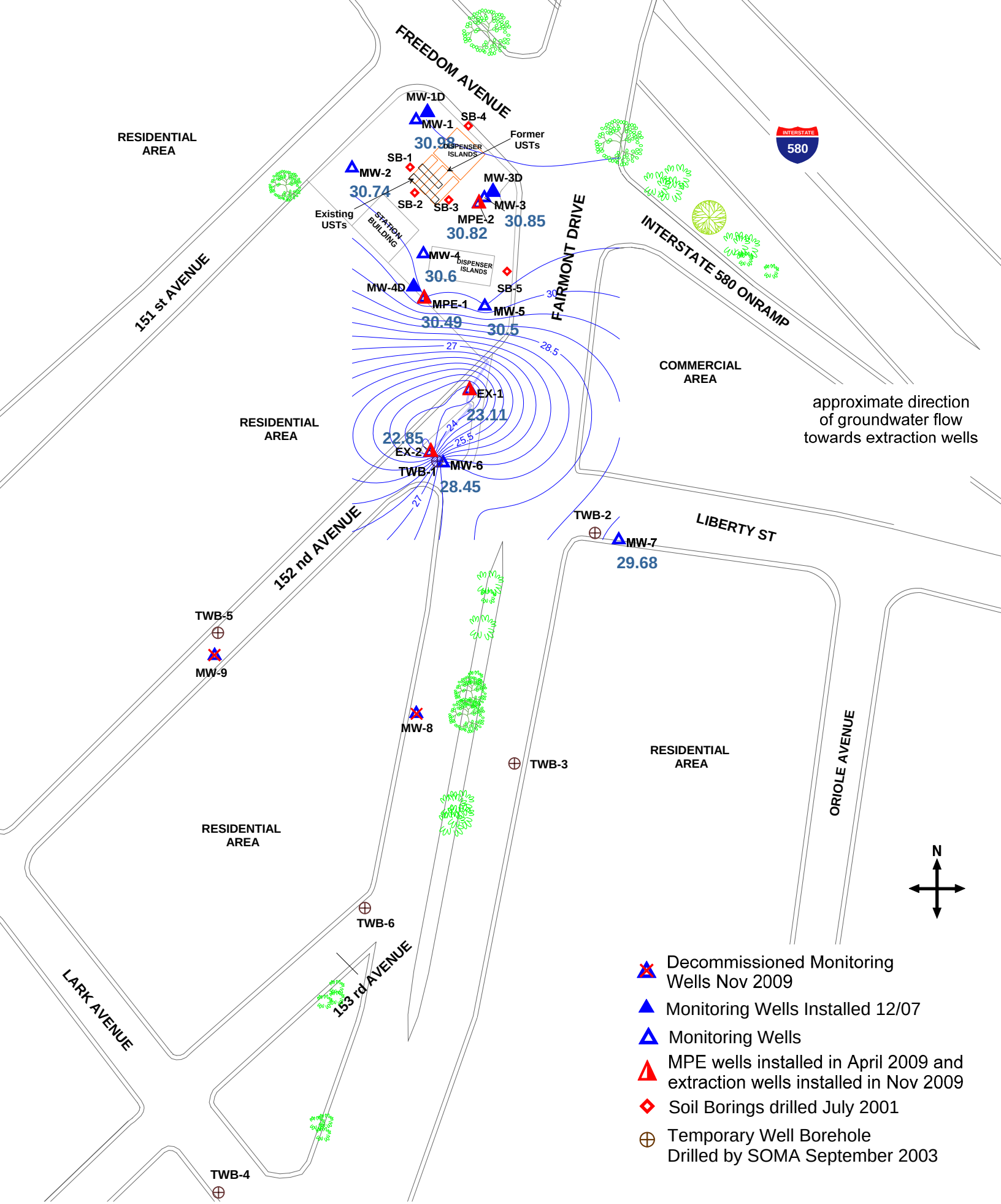


Figure 7: Groundwater Elevation Contour Map in Feet, First WBZ, June 10, 2013

SOMA ENVIRONMENTAL ENGINEERING, INC.

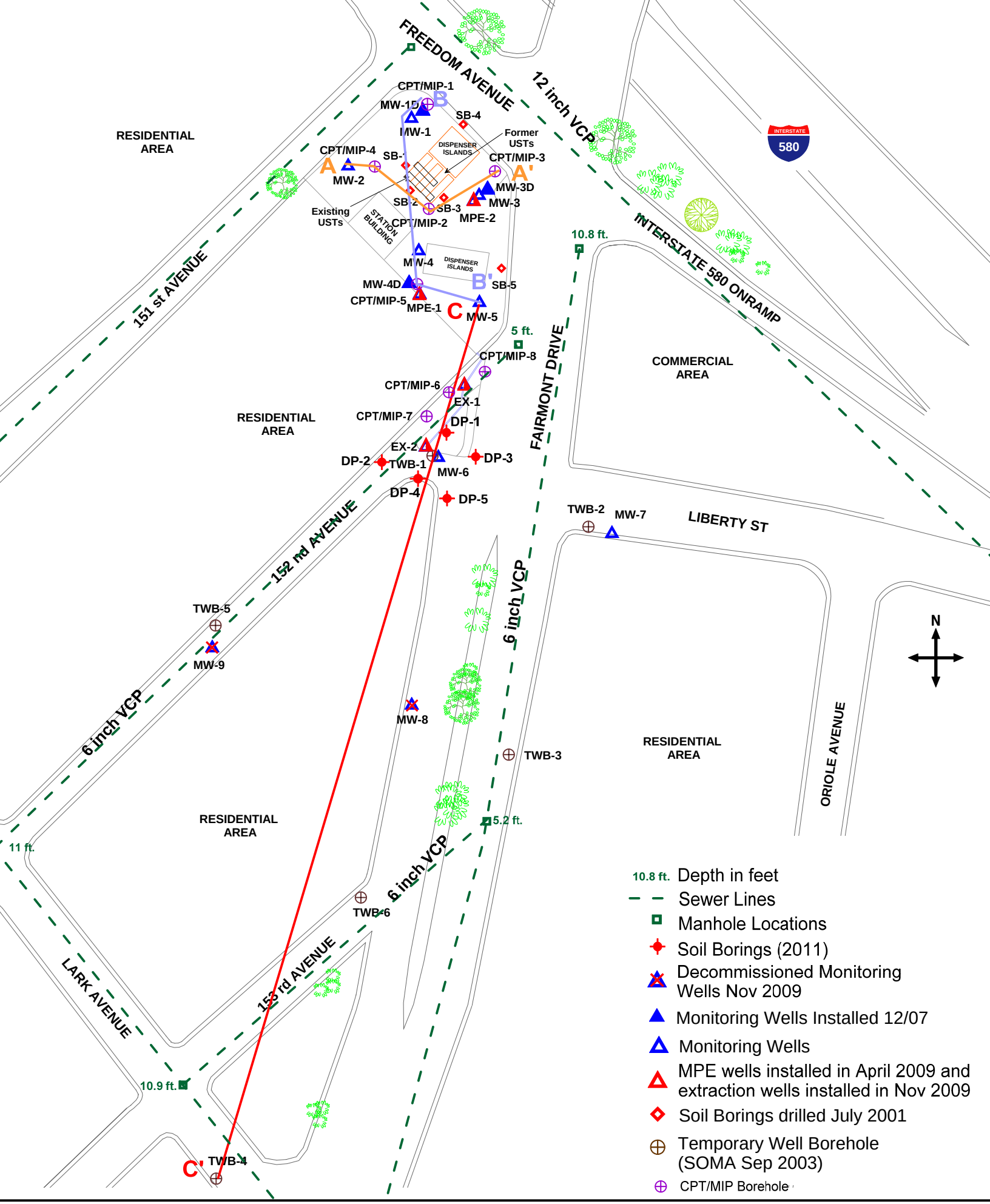
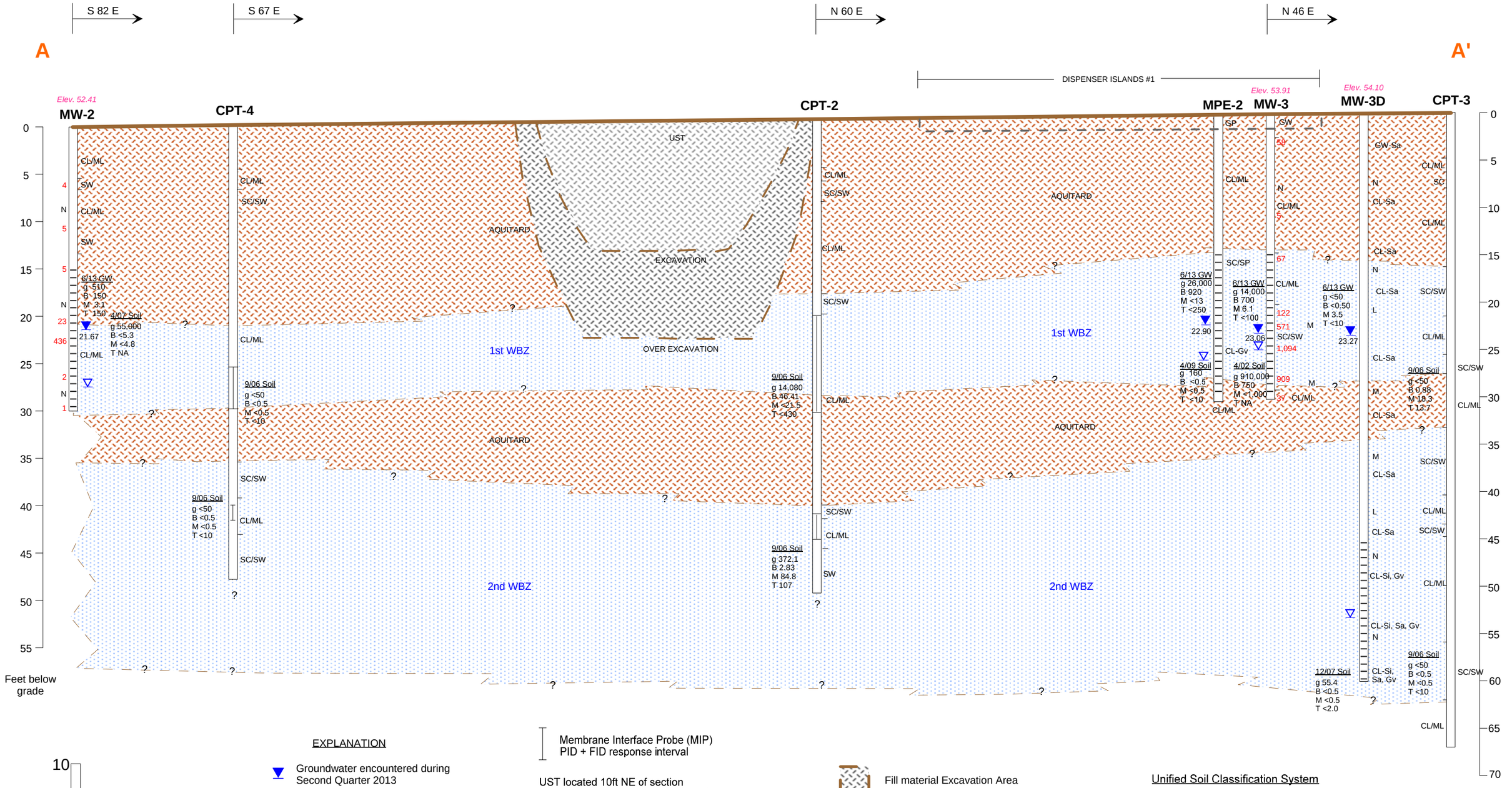


Figure 8: Locations of Geologic Cross-Sections and Utility Lines

SOMA ENVIRONMENTAL ENGINEERING, INC.



10 0 10

approximate scale in feet

EXPLANATION

- Groundwater encountered during Second Quarter 2013
- Groundwater encountered during well borehole drilling
- Monitoring well screen interval
- ? Inferred contact

Note: Analytical Soil and Groundwater Data for CPT borings taken from soil borings (GS)

Membrane Interface Probe (MIP)
PID + FID response interval

UST located 10ft NE of section
Dispenser # 1 located 20ft N of section

1/08 Month/Yr

122 - PID readings ppm VOCs

N, L, M, S: No, Light, Medium, Strong PHC Odor

Fill material Excavation Area

GW - GroundWater (ug/L)
Soil (ug/kg)

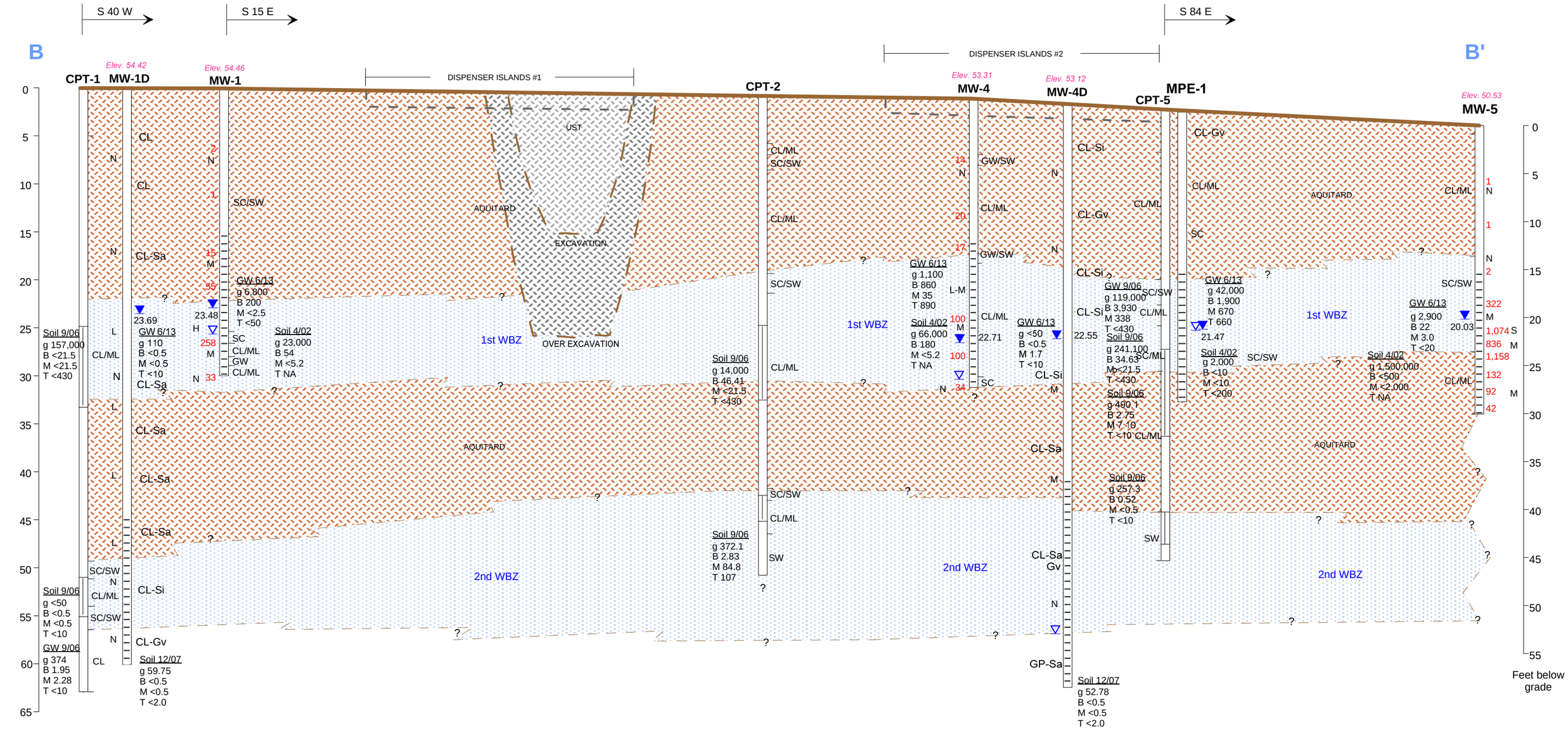
ug/L	g - TPH-g
ug/L	B - Benzene
ug/L	M - MtBE
ug/L	T - TBA

Unified Soil Classification System

CL	Clay	CL-Sa	Sandy Clayey
SP	Sand, Poorly Graded	CL-Si	Silty Clay
SW	Sand, Well Graded	CL-Gv	Gravelly Clay
GW	Gravel, Well Graded	GP-Sa	Sandy Gravel
ML	Silt		
SM	Silty Sand		

Figure 9: Geologic Cross-Section AA'

SOMA ENVIRONMENTAL ENGINEERING, INC.



EXPLANATION

- Groundwater encountered during Quarterly Monitoring Event First Quarter 2008
- Groundwater encountered during well borehole drilling
- Monitoring well screen interval
- ? Inferred contact

Note: Analytical Soil and groundwater Data for CPT borings taken from Soil borings (GS)

10 / 0 / 15 — approximate scale in feet

Dispenser Island #1 located 10ft N of section

Membrane Interface Probe (MIP)
PID + FID Response Interval

122 - PID readings ppm VOCs

N, L, M, S: No, Light, Medium, Strong PHC odor

Fill material Excavation Area

ug/L g - TPH-g
ug/L B - Benzene
ug/L M - MtBE
ug/L T - TBA

Unified Soil Classification System

CL	Clay	CL-Sa	Sandy Clay
SP	Sand, Poorly Graded	CL-Si	Silty Clay
SW	Sand, Well Graded	CL-Gv	Gravelly Clay
GW	Gravel, Well Graded	GP-Sa	Sandy Gravel
ML	Silt		
SM	Silty Sand		

Figure 10: Geologic Cross-Section BB'

SOMA ENVIRONMENTAL ENGINEERING, INC.

C

C'

S 15 W

Elev. 50.53'

MW-5

CPT-8

EX-1

CPT-6

CPT-7

DP-1

DP-3

EX-2

MW-6

TWB-1

Approx. Elev. 45.82'

DP-2

DP-4

DP-5

MW-8 MW-9 (Decommissioned)

Approx. Elev. 39'

TWB-6

Approx. Elev. 36'

TWB-4

appx 5.9 ft. bgs

appx 9.1 ft. bgs

6 VCP, Sewer Line along 152nd Ave

6 VCP, Sewer Line along 153rd Ave

AQUITARD

1st WBZ

2nd WBZ

Feet below grade

Unified Soil Classification System

CL	Clay
SP	Sand, Poorly Graded
SW	Sand, Well Graded
GW	Gravel, Well Graded
ML	Silt
SM	Silty Sand
ND	Non Detect

ug/L g - TPH-g
ug/L B - Benzene
ug/L M - MtBE
ug/L T - TBA

5 - PID readings ppm VOCs

N, L, M, S: No, Light, Medium, Strong PHC odor

Membrane Interface Probe (MIP) PID + FID Response Interval

10

0 50

approximate scale in feet

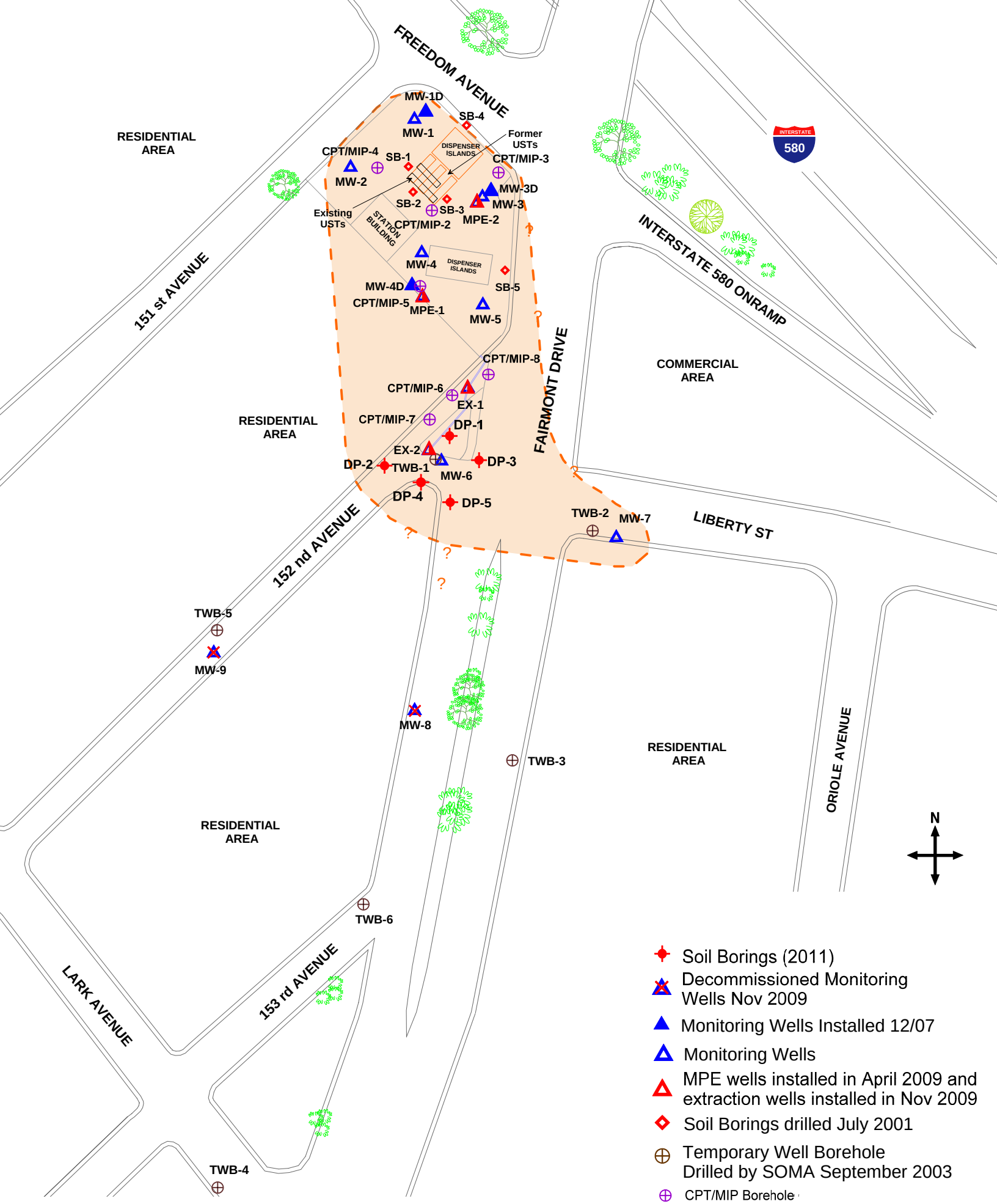
EXPLANATION

- Groundwater encountered during First Quarter 2008
- Groundwater encountered during well borehole drilling
- Monitoring well screen interval
- ? Inferred contact

Note: Analytical Soil and groundwater Data for CPT borings taken from Soil borings (GS)

Figure 11: Geologic Cross-Section CC'

SOMA ENVIRONMENTAL ENGINEERING, INC

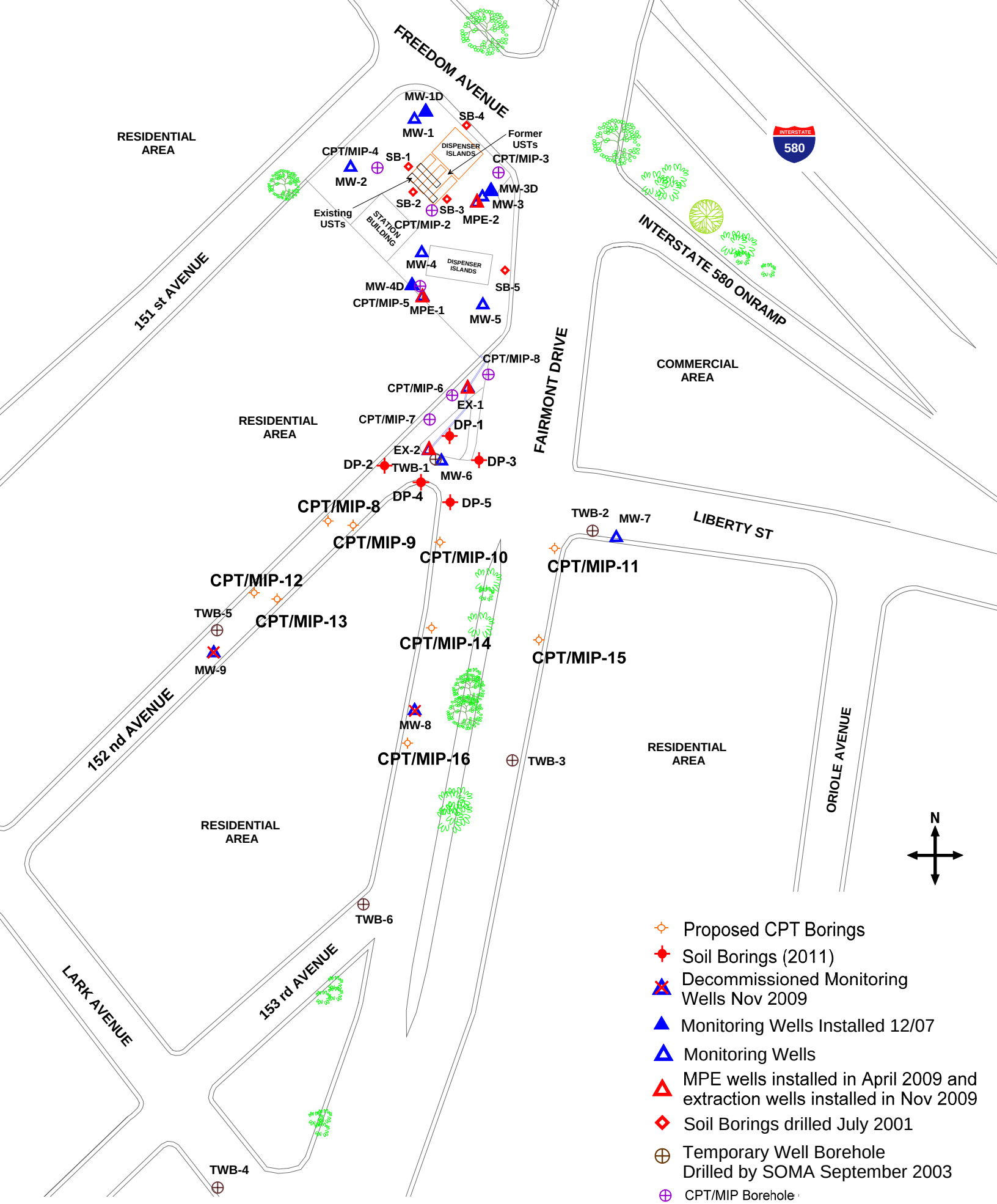


approximate scale in feet

0 50 100

Figure 12: Lateral Extent of Contaminants in Groundwater in First WBZ

SOMA ENVIRONMENTAL ENGINEERING, INC.

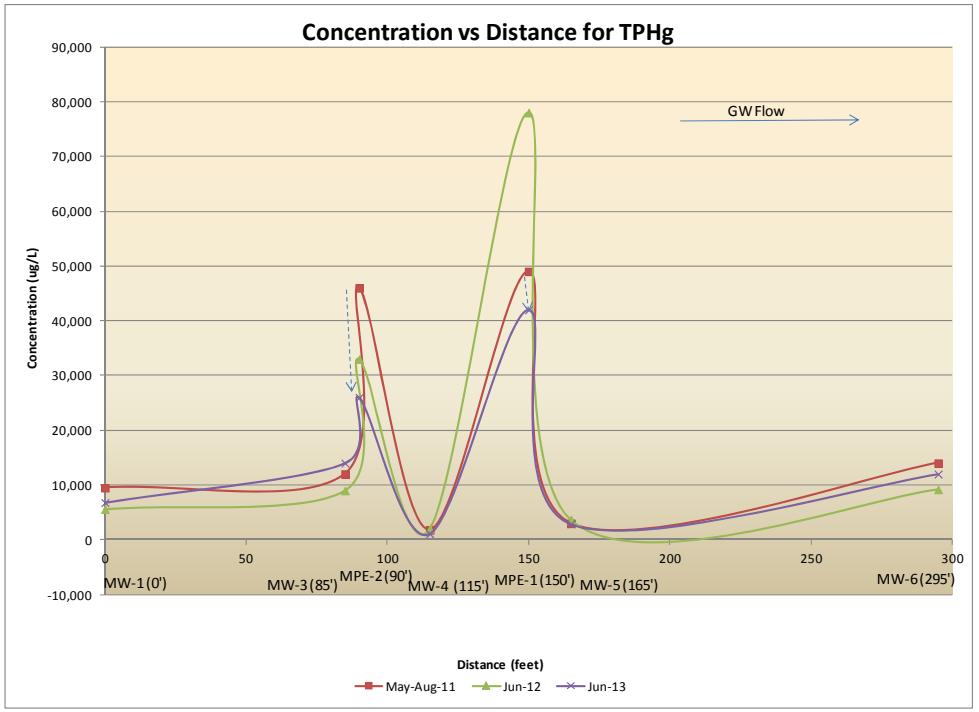


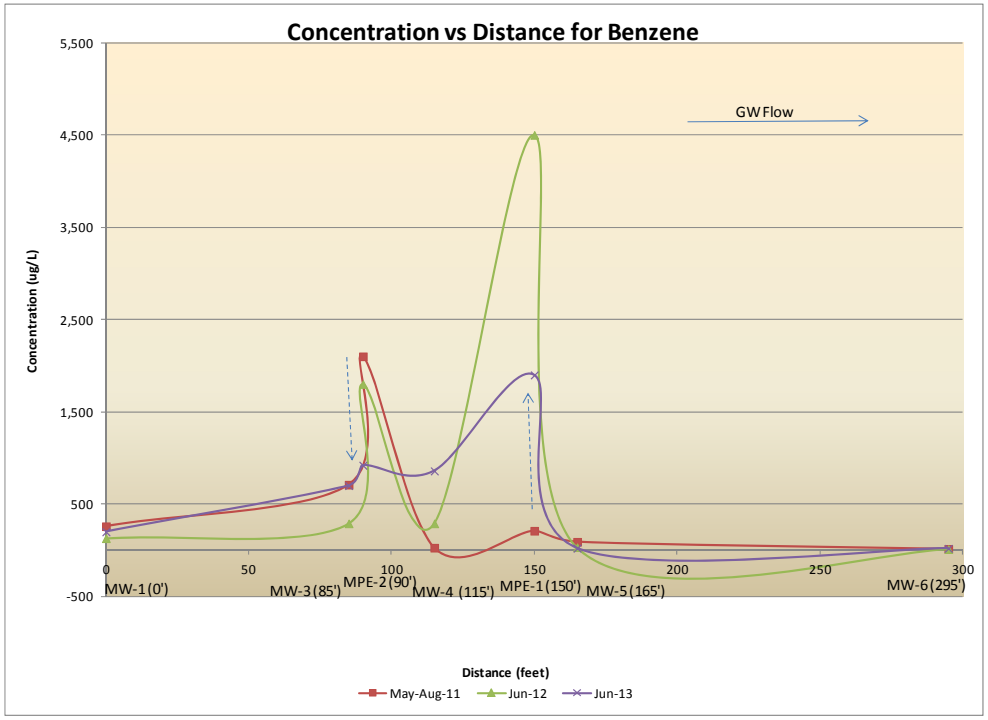
approximate scale in feet

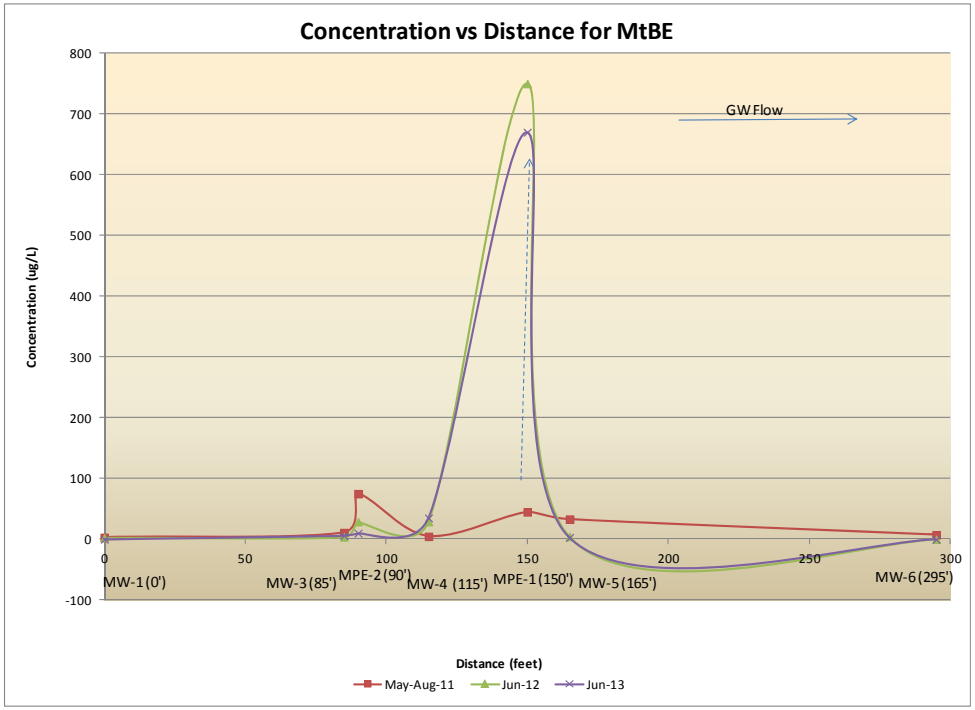
0 50 100

Figure 13: Proposed Boring Locations

SOMA ENVIRONMENTAL ENGINEERING, INC.







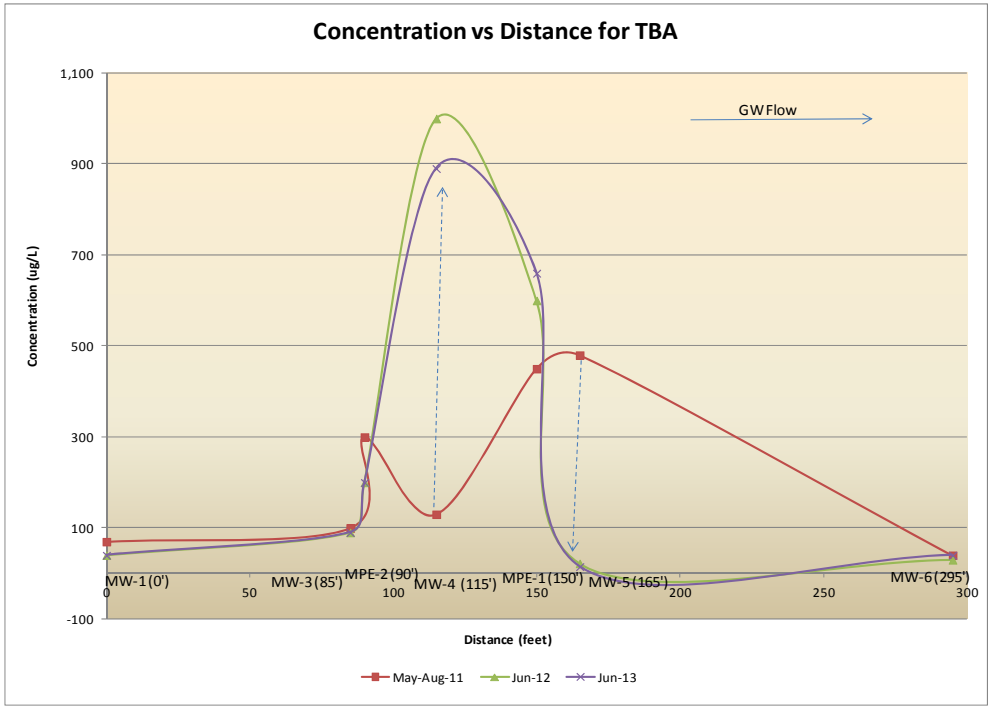


Figure 14: Contaminant Concentrations versus Distance in First WBZ

ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

151 st AVENUE

152 nd AVENUE

RESIDENTIAL AREA

RESIDENTIAL AREA

MW-1D

MW-1
6,800

SB-4

DISPENSER ISLANDS

Former USTs

SB-1

MW-2
510

MW-3D

SB-2

SB-3

MW-3
14,000

MPE-2
26,000

Existing USTs

STATION BUILDING

MW-4
1,100

DISPENSER ISLANDS

SB-5

MW-4D

MPE-1
42,000

MW-5
2,900

rail

EX-1
340

~19'

DP-1
84,000

EX-2

2,600

MW-6
12,000

DP-3
1,500

DP-2
46,000

~5.5'

DP-4
20,000

DP-5
80,000

parking lane

parking lane

parking lane

TWB-2

MW-7
890

LIBERTY ST

MW-8

TWB-3

TPH-g
ug/L

84,000
77,000
70,000
63,000
56,000
49,000
42,000
35,000
28,000
21,000
14,000
7,000
0

- Soil Borings (2011)
- Monitoring Wells Installed 12/07
- Monitoring Wells
- MPE wells installed in April 2009 and extraction wells installed in Nov 2009
- Soil Borings drilled July 2001
- Temporary Well Borehole Drilled by SOMA September 2003

Note: Concentrations from Aug 2011 through June 2013 sampling events

approximate scale in feet

0 50 100

Figure 15: Contour Map of TPH-g Concentrations in groundwater in First WBZ

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

151 st AVENUE

152 nd AVENUE

MW-1D

MW-1
200

SB-4

DISPENSER ISLANDS

SB-1

Former USTs

MW-2
150

MW-3D

SB-2

SB-3

MW-3
700

MPE-2
920

Existing USTs

STATION BUILDING

MW-4
860

DISPENSER ISLANDS

SB-5

MW-4D

MPE-1
1,900

MW-5
22

RESIDENTIAL AREA

rail

EX-1
37

~19'

DP-1
<17

EX-2
190

MW-6
20

DP-3
<1.0

DP-2
<5.0

~5.5'

DP-4
1.1

DP-5
290

TWB-2

MW-7
<0.5

LIBERTY ST

parking lane

parking lane

parking lane

MW-8

TWB-3

RESIDENTIAL AREA

Benzene ug/L

1,900
1,710
1,520
1,330
1,140
950
760
570
380
190
0.5

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole Drilled by SOMA September 2003

Note: Concentrations from Aug 2011 through Jun 2013 sampling events

approximate scale in feet

0 50 100

Figure 16: Contour Map of Benzene Concentrations in groundwater in First WBZ

SOMA ENVIRONMENTAL ENGINEERING, INC.

N

FREEDOM AVENUE

FAIRMONT DRIVE

INTERSTATE 580

151 st AVENUE

152 nd AVENUE

MW-1D

MW-1
<2.5

SB-4

DISPENSER ISLANDS

Former USTs

SB-1

MW-2
3.1

MW-3D

SB-2

SB-3

MW-3
6.1

MPE-2
<13

Existing USTs

STATION BUILDING

MW-4
35

DISPENSER ISLANDS

SB-5

MW-4D

MPE-1
670

MW-5
3

MtBE
ug/L

670
560
480
400
320
240
160
80
0.5

RESIDENTIAL AREA

rail

EX-1
62

~19'

DP-1
<17

EX-2
6.8

MW-6
<2.5

DP-3
150

DP-2
<5.0

~5.5'

DP-4
<0.5

DP-5
<25

TWB-2

MW-7
2.3

LIBERTY ST

parking lane

parking lane

parking lane

MW-8

TWB-3

RESIDENTIAL AREA

Soil Borings (2011)

Monitoring Wells Installed 12/07

Monitoring Wells

MPE wells installed in April 2009 and extraction wells installed in Nov 2009

Soil Borings drilled July 2001

Temporary Well Borehole
Drilled by SOMA September 2003

Note: Concentrations from Aug 2011 through Jun 2013 sampling events

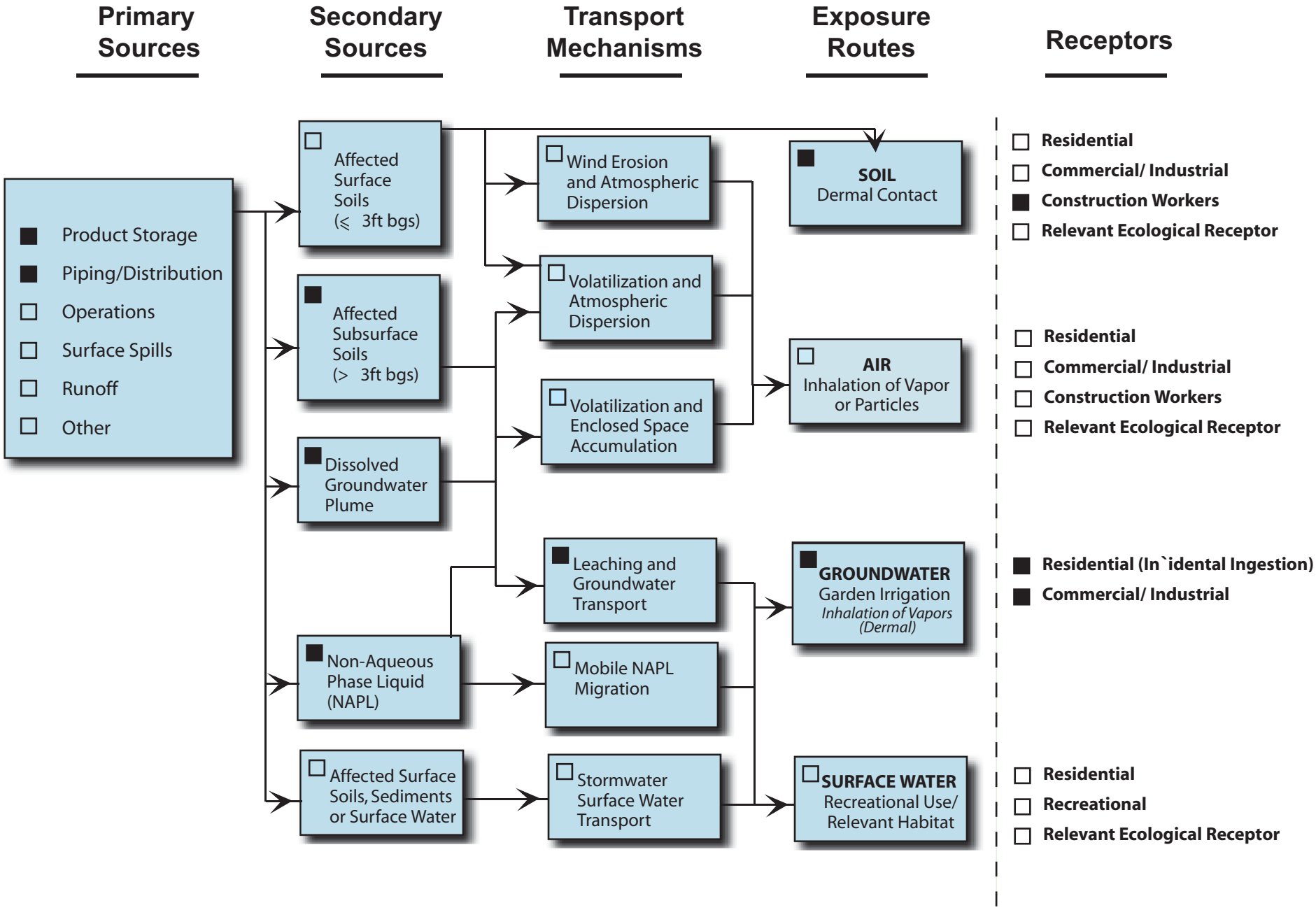
approximate scale in feet

0 50 100

Figure 17: Contour Map of MtBE Concentrations in groundwater in First WBZ

SOMA ENVIRONMENTAL ENGINEERING, INC.

15101 Freedom Avenue, San Leandro, CA



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

Figure 18: Comprehensive Site Conceptual Model Flow Chart

SOMA ENVIRONMENTAL ENGINEERING, INC

TABLES

Table 1

MPE Event
Operational Data : May 2013

15101 Freedom Ave.
San Leandro, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD FLOW VAPOR RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
5/1/2013	800								0	begin extraction from MPE-1 and MW-5
	900	670	19.2	1480	70	70	0	25	0	
	1100	680	19.5	1510	41	41	0	26.8	301	
	1300	650	21	1515	50	50	0	26.2	605	
	1500	610	21.5	1496	47	47	0	26.4	907	
	1700	605	21.7	1505	54	54	0	26	1,208	
5/2/2013	1000	496	20.2	1497	70	70	0	25	3,548	
	1100	502	20.2	1501	73	73	0	24.8	3,715	
	1200	505	20.2	1497	73	73	0	24.8	3,973	
	1300	212	22.4	1501	44	44	0	26.6	4,167	
5/3/2013	700	472	21.1	1504	63	63	0	25.4	7,038	
	900	472	19.4	1502	76	76	0	24.6		
	1100	467	19.4	1500	76	76	0	24.6		
	1600	380	19.2	1500	76	76	0	24.6	7,462	Shut down for the weekend
5/6/2013	730									Restart system
	800	228	19.1	1497	70	70	0	25	7,957	
	1200	250	22.2	1511	47	47	0	26.4		
	1500	312	21.6	1498	63	63	0	25.4	9,212	
	1630	328	21.4	1496	63	63	0	25.4	9,212	
5/7/2013	800	380	19.8	1496	63	63	0	25.4	12,856	
	1000	615	14	1501	149	149	0	20		
	1400	536	12	1500	162	162	0	19.2		
	1600	700	8	1501	209	209	0	16.2	14,032	
5/8/2013	800	355	8.2	1490	209	209	0	16.2		
	1100	350	8.2	1499	209	209	0	16.2	17,673	
	1300	340	8.4	1473	203	203	0	16.6		
	1500	320	7.5	1502	212	212	0	16		
	1600	719	18	1501	85	85	0	24		Extracting from MPE-2 only
5/9/2013	900	550	18.4	1500	85	85	0	24	23,923	Extracting from MPE-1 only
	1000	186	18.2	1503	85	85	0	24		Extracting from MPE-1 and MPE-2
	1100	340	12.4	1498	155	155	0	19.6		Extracting from MPE-2 and MW-5
	1300	651	12.8	1498	155	155	0	19.6		Extracting from MW-5 only
	1400	490	18.5	1504	92	92	0	23.6		Extracting from MPE-1 only
	1500	410	18.3	1500	165	165	0	19		Extracting from MPE-1 and MW-5
	1600	383	18.3	1505	165	165	0	19		
	1700	465	17.6	1497	95	95	0	23.4	25,183	
5/10/2013	700	381	13	1500	165	165	0	19	25,406	Extracting from MPE-1 and MPE-2
	1000	460	13	1499	149	149	0	20		
	1200	493	12.4	1501	149	149	0	20		
	1430	502	12.6	1505	152	152	0	19.8	26,065	Shut down for the weekend
5/13/2013	730									Restart system-Extracting from MPE-1 and MPE-2
	800	356	13.4	1500	146	146	0	20.2	35,817	
	1000	349	13.2	1507	147	147	0	20.1		
	1200	351	13.4	1493	142	142	0	20.4		
	1300	430	12.6	1500	149	149	0	20		
	1500	447	12.4	1500	149	149	0	20		
	1700	451	12.4	1499	149	149	0	20	36,950	

Table 1

MPE Event
Operational Data : May 2013

15101 Freedom Ave.
San Leandro, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD FLOW VAPOR RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
5/14/2013	800	389	13.2	1502	150	150	0	19.9	38,680	
	1000	408	12.9	1501	152	152	0	19.8		
	1200	412	12.7	1499	154	154	0	19.7		
	1400	383	12.5	1500	154	154	0	19.7		
	1500	377	12.2	1500	155	155	0	19.6		
	1700	354	12.5	1499	157	157	0	19.5	39,462	
5/15/2013	800	420	13	1500	155	155	0	19.6	41,164	
	1100	441	13	1501	155	155	0	19.6		
	1300	440	12.4	1499	155	155	0	19.6		
	1500	422	12.6	1498	155	155	0	19.6		
	1700	415	12.4	1499	155	155	0	19.6		
5/16/2013	1000	349	13.6	1501	142	142	0	20.4	42,125	
	1200	355	13	1500	149	149	0	20		
	1500	367	13	1499	149	149	0	20		
	1700	360	13	1502	149	149	0	20	42,701	
5/17/2013	800	388	13	1501	149	149	0	20	44,481	
	1000	385	12	1498	152	152	0	19.8		
	1200	397	12	1503	150	150	0	19.9		
	1400	387	12.6	1500	149	149	0	20		
	1500	400	12.8	1499	152	152	0	19.8	44,980	Shut down for the weekend
5/20/2013	830									Restart system-Extracting from MPE-1 and MPE-2
	900	279	15.4	1502	120	120	0	21.8	54,002	
	1100	349	15	1503	125	125	0	21.5		
	1300	335	14.1	1500	139	139	0	20.6		
	1500	338	14	1499	136	136	0	20.8		
	1700	325	14.2	1498	139	139	0	20.6	55,466	
5/21/2013	900	337	13.5	1501	146	146	0	20.2	56,876	
	1100	356	13.2	1500	147	147	0	20.1		
	1300	348	13	1498	149	149	0	20		
	1500	362	13	1499	149	149	0	20		
	1700	363	13	1500	150	150	0	19.9	57,930	
5/22/2013	900	379	13.2	1500	149	149	0	20	59,577	
	1100	383	13.1	1498	150	150	0	19.9		
	1300	381	13	1501	154	154	0	19.7		
	1500	382	13.1	1500	154	154	0	19.7		
	1700	382	13	1499	155	155	0	19.6		
5/23/2013	900	364	13.3	1501	150	150	0	19.9	61,345	
	1100	375	13.2	1499	152	152	0	19.8		
	1300	394	13.2	1500	152	152	0	19.8		
	1500	398	13.1	1502	154	154	0	19.7		
	1700	391	13	1501	154	154	0	19.7		
	1830	367	13	1502	154	154	0	19.7	62,581	
5/24/2013	800	363	13	1501	155	155	0	19.6	63,976	
	1000	365	12.8	1499	155	155	0	19.6		
	1200	376	12.8	1500	157	157	0	19.5		
	1400	362	12.6	1499	157	157	0	19.5		
	1600	361	12.6	1500	157	157	0	19.5	64,482	Shut down for the weekend

Table 1

MPE Event
Operational Data : May 2013

15101 Freedom Ave.
San Leandro, California

DATE	TIME	PID (ppmv)	WELL MANIFOLD VACUUM (In of Hg)	OXIDIZER TEMPERATURE (^{0}F)	WELL FIELD FLOW VAPOR RATE (scfm)	TOTAL SYSTEM VAPOR FLOW RATE (scfm)	DILUTION AIR FLOW RATE (scfm)	SYSTEM (BLOWER) VACUUM (In of Hg)	SYSTEM TOTALIZER READING (gallons)	COMMENTS
5/28/2013	900	259	12.8	1498	155	155	0	19.6	64,477	Restart system at 8:30-Extracting from MPE-1 and MPE-2
	1100	256	12.8	1500	155	155	0	19.6		
	1300	259	12.7	1499	155	155	0	19.6		
	1500	261	12.7	1500	157	157	0	19.5		
	1700	258	12.6	1500	160	160	0	19.3	65,708	
5/29/2013	900	285	12.5	1500	160	160	0	19.3	66,846	
	1100	283	12.7	1499	158	158	0	19.4		
	1300	284	12.5	1501	158	158	0	19.4		
	1500	286	12.4	1498	160	160	0	19.3		
	1700	281	12.5	1501	158	158	0	19.4	67,431	
5/30/2013	900	221	12.7	1499	152	152	0	19.8	67,730	
	1100	239	12.5	1500	157	157	0	19.5		
	1300	251	12.5	1498	160	160	0	19.3		
	1500	257	12.5	1501	158	158	0	19.4		
	1700	253	12.5	1500	158	158	0	19.4	68,842	
5/31/2013	900	208	12.7	1500	168	168	0	18.8	68,871	
	1100	216	12.2	1498	168	168	0	18.8		
	1300	224	17.6	1503	106	106	0	22.7	69,588	End Extraction
Totalizer readings = 69,588 gallons = 2.55 gpm										
Total time of test = 27,240 minutes = 454 hours = 18.92 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 2

MPE Event
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-1,MW-5	START	**5/1/2013**	800	0	0								
			900	60	60	70	4,170	11.0026	670	0.0007	0.6354	0.0106	15
			1100	120	180	41	4,913	12.9618	680	0.0007	0.7598	0.0063	9
			1300	120	300	50	6,055	15.9763	650	0.0007	0.8952	0.0075	11
			1500	120	420	47	5,674	14.9714	610	0.0006	0.7872	0.0066	9
			1700	120	540	54	6,436	16.9811	605	0.0006	0.8856	0.0074	11
		5/2/2013	1000	1020	1,560	70	70,890	187.0449	496	0.0005	7.9971	0.0078	11
			1100	60	1,620	73	4,360	11.5051	502	0.0005	0.4979	0.0083	12
			1200	60	1,680	73	4,360	11.5051	505	0.0005	0.5008	0.0083	12
			1300	60	1,740	44	2,647	6.9833	212	0.0002	0.1276	0.0021	3
		5/3/2013	700	1080	2,820	63	68,205	179.9605	472	0.0005	7.3219	0.0068	10
			900	120	2,940	76	9,102	24.0149	472	0.0005	0.9771	0.0081	12
			1100	120	3,060	76	9,102	24.0149	467	0.0005	0.9667	0.0081	12
	STOP		1600	300	3,360	76	22,754	60.0374	380	0.0004	1.9666	0.0066	9
	START	**5/6/2013**	730	930	4,290		0	0.0000		0.0000	0.0000	0.0000	0
			800	30	4,320	70	2,085	5.5013	228	0.0002	0.1081	0.0036	5
			1200	240	4,560	47	11,348	29.9429	250	0.0003	0.6453	0.0027	4
			1500	180	4,740	63	11,368	29.9934	312	0.0003	0.8067	0.0045	6
			1630	90	4,830	63	5,684	14.9967	328	0.0003	0.4240	0.0047	7
		5/7/2013	800	930	5,760	63	58,732	154.9660	380	0.0004	5.0761	0.0055	8
			1000	120	5,880	149	17,861	47.1261	615	0.0006	2.4983	0.0208	30
			1400	240	6,120	162	38,768	102.2909	536	0.0005	4.7262	0.0197	28
			1600	120	6,240	209	25,097	66.2180	700	0.0007	3.9956	0.0333	48
		5/8/2013	800	960	7,200	209	200,773	529.7437	355	0.0004	16.2107	0.0169	24
			1100	180	7,380	209	37,645	99.3269	350	0.0004	2.9967	0.0166	24
			1300	120	7,500	203	24,335	64.2083	340	0.0003	1.8818	0.0157	23
			1500	120	7,620	212	25,477	67.2228	320	0.0003	1.8543	0.0155	22
MPE-2			1600	60	7,680	85	5,122	13.5147	719	0.0007	0.8376	0.0140	20
		5/9/2013	900	1020	8,700	85	87,075	229.7503	550	0.0006	10.8925	0.0107	15

Table 2

MPE Event
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-1		**5/9/2013**	1000	60	8,760	85	5,122	13.5147	186	0.0002	0.2167	0.0036	5
MPE-1, MPE-2			1100	60	8,820	155	9,311	24.5679	340	0.0003	0.7200	0.0120	17
MPE-2, MW-5			1300	120	8,940	155	18,622	49.1358	651	0.0007	2.7573	0.0230	33
MW-5			1400	60	9,000	92	5,503	14.5196	490	0.0005	0.6133	0.0102	15
MPE-1			1500	60	9,060	165	9,882	26.0751	410	0.0004	0.9215	0.0154	22
MPE-1, MW-5			1600	60	9,120	165	9,882	26.0751	383	0.0004	0.8609	0.0143	21
			1700	60	9,180	95	5,693	15.0220	465	0.0005	0.6021	0.0100	14
MPE-1, MPE-2		**5/10/2013**	700	840	10,020	165	138,355	365.0520	381	0.0004	11.9891	0.0143	21
			1000	180	10,200	149	26,791	70.6892	460	0.0005	2.8030	0.0156	22
			1200	120	10,320	149	17,861	47.1261	493	0.0005	2.0027	0.0167	24
	STOP		1430	150	10,470	152	22,802	60.1637	502	0.0005	2.6034	0.0174	25
MPE-1, MPE-2	**START**	**5/13/2013**	800	30	10,500	146	4,370	11.5303	356	0.0004	0.3538	0.0118	17
			1000	120	10,620	147	17,670	46.6237	349	0.0003	1.4026	0.0117	17
			1200	120	10,740	142	17,099	45.1165	351	0.0004	1.3651	0.0114	16
			1300	60	10,800	149	8,930	23.5631	430	0.0004	0.8734	0.0146	21
			1500	120	10,920	149	17,861	47.1261	447	0.0004	1.8158	0.0151	22
			1700	120	11,040	149	17,861	47.1261	451	0.0005	1.8321	0.0153	22
		5/14/2013	800	780	11,820	150	117,333	309.5855	389	0.0004	10.3810	0.0133	19
			1000	120	11,940	152	18,242	48.1310	408	0.0004	1.6927	0.0141	20
			1200	120	12,060	154	18,432	48.6334	412	0.0004	1.7272	0.0144	21
			1400	120	12,180	154	18,432	48.6334	383	0.0004	1.6056	0.0134	19
			1500	60	12,240	155	9,311	24.5679	377	0.0004	0.7984	0.0133	19
			1700	120	12,360	157	18,813	49.6382	354	0.0004	1.5147	0.0126	18
		5/15/2013	800	780	13,140	155	121,046	319.3826	420	0.0004	11.5629	0.0148	21
			1100	180	13,320	155	27,934	73.7037	441	0.0004	2.8018	0.0156	22
			1300	120	13,440	155	18,622	49.1358	440	0.0004	1.8636	0.0155	22
			1500	120	13,560	155	18,622	49.1358	422	0.0004	1.7874	0.0149	21
			1700	120	13,680	155	18,622	49.1358	415	0.0004	1.7577	0.0146	21
		5/16/2013	1000	1020	14,700	142	145,343	383.4899	349	0.0003	11.5368	0.0113	16
			1200	120	14,820	149	17,861	47.1261	355	0.0004	1.4421	0.0120	17
			1500	180	15,000	149	26,791	70.6892	367	0.0004	2.2363	0.0124	18
			1700	120	15,120	149	17,861	47.1261	360	0.0004	1.4624	0.0122	18
		5/17/2013	800	900	16,020	149	133,956	353.4459	388	0.0004	11.8212	0.0131	19
			1000	120	16,140	152	18,242	48.1310	385	0.0004	1.5973	0.0133	19

Table 2

MPE Event
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
		5/17/2013	1200	120	16,260	150	18,051	47.6285	397	0.0004	1.6299	0.0136	20
			1400	120	16,380	149	17,861	47.1261	387	0.0004	1.5721	0.0131	19
	STOP		1500	60	16,440	152	9,121	24.0655	400	0.0004	0.8298	0.0138	20
MPE-1, MPE-2	START	**5/20/2013**	900	30	16,470	120	3,608	9.5207	279	0.0003	0.2290	0.0076	11
			1100	120	16,590	125	15,005	39.5899	349	0.0003	1.1910	0.0099	14
			1300	120	16,710	139	16,718	44.1116	335	0.0003	1.2738	0.0106	15
			1500	120	16,830	136	16,337	43.1068	338	0.0003	1.2559	0.0105	15
			1700	120	16,950	139	16,718	44.1116	325	0.0003	1.2358	0.0103	15
		5/21/2013	900	960	17,910	146	139,840	368.9703	337	0.0003	10.7184	0.0112	16
			1100	120	18,030	147	17,670	46.6237	356	0.0004	1.4308	0.0119	17
			1300	120	18,150	149	17,861	47.1261	348	0.0003	1.4137	0.0118	17
			1500	120	18,270	149	17,861	47.1261	362	0.0004	1.4705	0.0123	18
			1700	120	18,390	150	18,051	47.6285	363	0.0004	1.4903	0.0124	18
		5/22/2013	900	960	19,350	149	142,886	377.0090	379	0.0004	12.3168	0.0128	18
			1100	120	19,470	150	18,051	47.6285	383	0.0004	1.5724	0.0131	19
			1300	120	19,590	154	18,432	48.6334	381	0.0004	1.5972	0.0133	19
			1500	120	19,710	154	18,432	48.6334	382	0.0004	1.6014	0.0133	19
			1700	120	19,830	155	18,622	49.1358	382	0.0004	1.6180	0.0135	19
		5/23/2013	900	960	20,790	150	144,410	381.0283	364	0.0004	11.9554	0.0125	18
			1100	120	20,910	152	18,242	48.1310	375	0.0004	1.5558	0.0130	19
			1300	120	21,030	152	18,242	48.1310	394	0.0004	1.6347	0.0136	20
			1500	120	21,150	154	18,432	48.6334	398	0.0004	1.6685	0.0139	20
			1700	120	21,270	154	18,432	48.6334	391	0.0004	1.6391	0.0137	20
			1830	90	21,360	154	13,824	36.4750	367	0.0004	1.1539	0.0128	18
		5/24/2013	800	810	22,170	155	125,702	331.6666	363	0.0004	10.3780	0.0128	18
			1000	120	22,290	155	18,622	49.1358	365	0.0004	1.5460	0.0129	19
			1200	120	22,410	157	18,813	49.6382	376	0.0004	1.6088	0.0134	19
			1400	120	22,530	157	18,813	49.6382	362	0.0004	1.5489	0.0129	19
	STOP		1600	120	22,650	157	18,813	49.6382	361	0.0004	1.5447	0.0129	19
	START	**5/28/2013**	900	30	22,680	155	4,656	12.2839	259	0.0003	0.2742	0.0091	13
			1100	120	22,800	155	18,622	49.1358	256	0.0003	1.0843	0.0090	13
			1300	120	22,920	155	18,622	49.1358	259	0.0003	1.0970	0.0091	13
			1500	120	23,040	157	18,813	49.6382	261	0.0003	1.1168	0.0093	13
			1700	120	23,160	160	19,194	50.6430	258	0.0003	1.1263	0.0094	14

Table 2

MPE Event
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
		5/29/2013	900	960	24,120	160	153,550	405.1443	285	0.0003	9.9532	0.0104	15
			1100	120	24,240	158	19,003	50.1406	283	0.0003	1.2232	0.0102	15
			1300	120	24,360	158	19,003	50.1406	284	0.0003	1.2275	0.0102	15
			1500	120	24,480	160	19,194	50.6430	286	0.0003	1.2485	0.0104	15
			1700	120	24,600	158	19,003	50.1406	281	0.0003	1.2145	0.0101	15
		5/30/2013	900	960	25,560	152	145,933	385.0476	221	0.0002	7.3352	0.0076	11
			1100	120	25,680	157	18,813	49.6382	239	0.0002	1.0226	0.0085	12
			1300	120	25,800	160	19,194	50.6430	251	0.0003	1.0957	0.0091	13
			1500	120	25,920	158	19,003	50.1406	257	0.0003	1.1108	0.0093	13
			1700	120	26,040	158	19,003	50.1406	253	0.0003	1.0935	0.0091	13
		5/31/2013	900	960	27,000	168	161,166	425.2410	208	0.0002	7.6244	0.0079	11
			1100	120	27,120	168	20,146	53.1551	216	0.0002	0.9897	0.0082	12
			1300	120	27,240	106	12,720	33.5609	224	0.0002	0.6480	0.0054	8
	TOTAL				**27,240**		**3,588,227**	**9468**			**300**	**0.0110**	**16**
	MEDIAN					**151**			**376**	**0.0004**			

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 2a

MPE Event (MPE-1 and MW-5)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-1,MW-5	START	**5/1/2013**	800	0	0								
			900	60	60	70	4,170	11.0026	670	0.0007	0.6354	0.0106	15
			1100	120	180	41	4,913	12.9618	680	0.0007	0.7598	0.0063	9
			1300	120	300	50	6,055	15.9763	650	0.0007	0.8952	0.0075	11
			1500	120	420	47	5,674	14.9714	610	0.0006	0.7872	0.0066	9
			1700	120	540	54	6,436	16.9811	605	0.0006	0.8856	0.0074	11
		5/2/2013	1000	1020	1,560	70	70,890	187.0449	496	0.0005	7.9971	0.0078	11
			1100	60	1,620	73	4,360	11.5051	502	0.0005	0.4979	0.0083	12
			1200	60	1,680	73	4,360	11.5051	505	0.0005	0.5008	0.0083	12
			1300	60	1,740	44	2,647	6.9833	212	0.0002	0.1276	0.0021	3
		5/3/2013	700	1080	2,820	63	68,205	179.9605	472	0.0005	7.3219	0.0068	10
			900	120	2,940	76	9,102	24.0149	472	0.0005	0.9771	0.0081	12
			1100	120	3,060	76	9,102	24.0149	467	0.0005	0.9667	0.0081	12
	STOP		1600	300	3,360	76	22,754	60.0374	380	0.0004	1.9666	0.0066	9
	START	**5/6/2013**	730	930	4,290		0	0.0000		0.0000	0.0000	0.0000	0
			800	30	4,320	70	2,085	5.5013	228	0.0002	0.1081	0.0036	5
			1200	240	4,560	47	11,348	29.9429	250	0.0003	0.6453	0.0027	4
			1500	180	4,740	63	11,368	29.9934	312	0.0003	0.8067	0.0045	6
			1630	90	4,830	63	5,684	14.9967	328	0.0003	0.4240	0.0047	7
		5/7/2013	800	930	5,760	63	58,732	154.9660	380	0.0004	5.0761	0.0055	8
			1000	120	5,880	149	17,861	47.1261	615	0.0006	2.4983	0.0208	30
			1400	240	6,120	162	38,768	102.2909	536	0.0005	4.7262	0.0197	28
			1600	120	6,240	209	25,097	66.2180	700	0.0007	3.9956	0.0333	48
		5/8/2013	800	960	7,200	209	200,773	529.7437	355	0.0004	16.2107	0.0169	24
			1100	180	7,380	209	37,645	99.3269	350	0.0004	2.9967	0.0166	24
			1300	120	7,500	203	24,335	64.2083	340	0.0003	1.8818	0.0157	23
			1500	120	7,620	212	25,477	67.2228	320	0.0003	1.8543	0.0155	22

Table 2a

MPE Event (MPE-1 and MW-5)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-1, MW-5		**5/9/2013**	1600	60	7,680	165	9,882	26.0751	383	0.0004	0.8609	0.0143	21
			1700	60	7,740	95	5,693	15.0220	465	0.0005	0.6021	0.0100	14
	TOTAL				**7,740**		**693,416**	**1830**			**67**	**0.0087**	**12**
	MEDIAN					**73**			**467**	**0.0005**			

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 2b

MPE Event (MPE-2)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-2		**5/8/2013**	1600	60	60	85	5,122	13.5147	719	0.0007	0.8376	0.0140	20
		5/9/2013	900	1020	1,080	85	87,075	229.7503	550	0.0006	10.8925	0.0107	15
	TOTAL				**1,080**		**92,197**	**243**			**12**	**0.0109**	**16**
	MEDIAN					**85**			**635**	**0.0006**			

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 2c

MPE Event (MPE-1)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-1		**5/9/2013**	1000	60	60	85	5,122	13.5147	186	0.0002	0.2167	0.0036	5
MPE-1		**5/9/2013**	1500	60	120	165	9,882	26.0751	410	0.0004	0.9215	0.0154	22
	TOTAL				**120**		**15,005**	**40**			**1.14**	**0.0095**	**14**
	MEDIAN					**125**			**298**	**0.0003**			

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 2d

MPE Event (MPE-1 and MPE-2)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-1, MPE-2			1100	60	60	155	9,311	24.5679	340	0.0003	0.7200	0.0120	17
MPE-1, MPE-2		**5/10/2013**	700	840	900	165	138,355	365.0520	381	0.0004	11.9891	0.0143	21
			1000	180	1,080	149	26,791	70.6892	460	0.0005	2.8030	0.0156	22
			1200	120	1,200	149	17,861	47.1261	493	0.0005	2.0027	0.0167	24
	STOP		1430	150	1,350	152	22,802	60.1637	502	0.0005	2.6034	0.0174	25
MPE-1, MPE-2	**START**	**5/13/2013**	800	30	1,380	146	4,370	11.5303	356	0.0004	0.3538	0.0118	17
			1000	120	1,500	147	17,670	46.6237	349	0.0003	1.4026	0.0117	17
			1200	120	1,620	142	17,099	45.1165	351	0.0004	1.3651	0.0114	16
			1300	60	1,680	149	8,930	23.5631	430	0.0004	0.8734	0.0146	21
			1500	120	1,800	149	17,861	47.1261	447	0.0004	1.8158	0.0151	22
			1700	120	1,920	149	17,861	47.1261	451	0.0005	1.8321	0.0153	22
		5/14/2013	800	780	2,700	150	117,333	309.5855	389	0.0004	10.3810	0.0133	19
			1000	120	2,820	152	18,242	48.1310	408	0.0004	1.6927	0.0141	20
			1200	120	2,940	154	18,432	48.6334	412	0.0004	1.7272	0.0144	21
			1400	120	3,060	154	18,432	48.6334	383	0.0004	1.6056	0.0134	19
			1500	60	3,120	155	9,311	24.5679	377	0.0004	0.7984	0.0133	19
			1700	120	3,240	157	18,813	49.6382	354	0.0004	1.5147	0.0126	18
		5/15/2013	800	780	4,020	155	121,046	319.3826	420	0.0004	11.5629	0.0148	21
			1100	180	4,200	155	27,934	73.7037	441	0.0004	2.8018	0.0156	22
			1300	120	4,320	155	18,622	49.1358	440	0.0004	1.8636	0.0155	22
			1500	120	4,440	155	18,622	49.1358	422	0.0004	1.7874	0.0149	21
			1700	120	4,560	155	18,622	49.1358	415	0.0004	1.7577	0.0146	21
		5/16/2013	1000	1020	5,580	142	145,343	383.4899	349	0.0003	11.5368	0.0113	16
			1200	120	5,700	149	17,861	47.1261	355	0.0004	1.4421	0.0120	17
			1500	180	5,880	149	26,791	70.6892	367	0.0004	2.2363	0.0124	18
			1700	120	6,000	149	17,861	47.1261	360	0.0004	1.4624	0.0122	18
		5/17/2013	800	900	6,900	149	133,956	353.4459	388	0.0004	11.8212	0.0131	19
			1000	120	7,020	152	18,242	48.1310	385	0.0004	1.5973	0.0133	19

Table 2d

MPE Event (MPE-1 and MPE-2)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
		5/17/2013	1200	120	7,140	150	18,051	47.6285	397	0.0004	1.6299	0.0136	20
			1400	120	7,260	149	17,861	47.1261	387	0.0004	1.5721	0.0131	19
	STOP		1500	60	7,320	152	9,121	24.0655	400	0.0004	0.8298	0.0138	20
MPE-1, MPE-2	**START**	**5/20/2013**	900	30	7,350	120	3,608	9.5207	279	0.0003	0.2290	0.0076	11
			1100	120	7,470	125	15,005	39.5899	349	0.0003	1.1910	0.0099	14
			1300	120	7,590	139	16,718	44.1116	335	0.0003	1.2738	0.0106	15
			1500	120	7,710	136	16,337	43.1068	338	0.0003	1.2559	0.0105	15
			1700	120	7,830	139	16,718	44.1116	325	0.0003	1.2358	0.0103	15
		5/21/2013	900	960	8,790	146	139,840	368.9703	337	0.0003	10.7184	0.0112	16
			1100	120	8,910	147	17,670	46.6237	356	0.0004	1.4308	0.0119	17
			1300	120	9,030	149	17,861	47.1261	348	0.0003	1.4137	0.0118	17
			1500	120	9,150	149	17,861	47.1261	362	0.0004	1.4705	0.0123	18
			1700	120	9,270	150	18,051	47.6285	363	0.0004	1.4903	0.0124	18
		5/22/2013	900	960	10,230	149	142,886	377.0090	379	0.0004	12.3168	0.0128	18
			1100	120	10,350	150	18,051	47.6285	383	0.0004	1.5724	0.0131	19
			1300	120	10,470	154	18,432	48.6334	381	0.0004	1.5972	0.0133	19
			1500	120	10,590	154	18,432	48.6334	382	0.0004	1.6014	0.0133	19
			1700	120	10,710	155	18,622	49.1358	382	0.0004	1.6180	0.0135	19
		5/23/2013	900	960	11,670	150	144,410	381.0283	364	0.0004	11.9554	0.0125	18
			1100	120	11,790	152	18,242	48.1310	375	0.0004	1.5558	0.0130	19
			1300	120	11,910	152	18,242	48.1310	394	0.0004	1.6347	0.0136	20
			1500	120	12,030	154	18,432	48.6334	398	0.0004	1.6685	0.0139	20
			1700	120	12,150	154	18,432	48.6334	391	0.0004	1.6391	0.0137	20
			1830	90	12,240	154	13,824	36.4750	367	0.0004	1.1539	0.0128	18
		5/24/2013	800	810	13,050	155	125,702	331.6666	363	0.0004	10.3780	0.0128	18
			1000	120	13,170	155	18,622	49.1358	365	0.0004	1.5460	0.0129	19
			1200	120	13,290	157	18,813	49.6382	376	0.0004	1.6088	0.0134	19
			1400	120	13,410	157	18,813	49.6382	362	0.0004	1.5489	0.0129	19
			1600	120	13,530	157	18,813	49.6382	361	0.0004	1.5447	0.0129	19
		5/28/2013	900	30	13,560	155	4,656	12.2839	259	0.0003	0.2742	0.0091	13
			1100	120	13,680	155	18,622	49.1358	256	0.0003	1.0843	0.0090	13
			1300	120	13,800	155	18,622	49.1358	259	0.0003	1.0970	0.0091	13
			1500	120	13,920	157	18,813	49.6382	261	0.0003	1.1168	0.0093	13
			1700	120	14,040	160	19,194	50.6430	258	0.0003	1.1263	0.0094	14

Table 2d

MPE Event (MPE-1 and MPE-2)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
		5/29/2013	900	960	15,000	160	153,550	405.1443	285	0.0003	9.9532	0.0104	15
			1100	120	15,120	158	19,003	50.1406	283	0.0003	1.2232	0.0102	15
			1300	120	15,240	158	19,003	50.1406	284	0.0003	1.2275	0.0102	15
			1500	120	15,360	160	19,194	50.6430	286	0.0003	1.2485	0.0104	15
			1700	120	15,480	158	19,003	50.1406	281	0.0003	1.2145	0.0101	15
		5/30/2013	900	960	16,440	152	145,933	385.0476	221	0.0002	7.3352	0.0076	11
			1100	120	16,560	157	18,813	49.6382	239	0.0002	1.0226	0.0085	12
			1300	120	16,680	160	19,194	50.6430	251	0.0003	1.0957	0.0091	13
			1500	120	16,800	158	19,003	50.1406	257	0.0003	1.1108	0.0093	13
			1700	120	16,920	158	19,003	50.1406	253	0.0003	1.0935	0.0091	13
		5/31/2013	900	960	17,880	168	161,166	425.2410	208	0.0002	7.6244	0.0079	11
			1100	120	18,000	168	20,146	53.1551	216	0.0002	0.9897	0.0082	12
			1300	120	18,120	106	12,720	33.5609	224	0.0002	0.6480	0.0054	8
	TOTAL MEDIAN				**18,120**	**154**	**2,763,484**	**7292**	**363**	**0.0004**	**217**	**0.0119**	**17**

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 2e

MPE Event (MPE-2 and MW-5)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MPE-2, MW-5		**5/9/2013**	1300	120	120	155	18,622	49.1358	651	0.0007	2.7573	0.0230	33
	TOTAL MEDIAN				**120**	**155**	**18,622**	**49**	**651**	**0.0007**	**2.76**	**0.0230**	**33**

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 2f

MPE Event (MW-5)
Extraction Data and VOC Mass Removal Rate
May 2013

15101 Freedom Avenue
San Leandro, California

MPE WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		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
MW-5		**5/9/2013**	1400	60	60	92	5,503	14.5196	490	0.0005	0.6133	0.0102	15
	TOTAL MEDIAN				**60**	**92**	**5,503**	**15**	**490**	**0.0005**	**0.613**	**0.0102**	**15**

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 3
SVE Abatement System Emissions
15101 Freedom Avenue, San Leandro, CA

Operation Start Date/Time	Onboard Analyzer Sample Date/Time	Onboard Analyzer		Lab Sample Date/Time	USEPA TO-3 MODIFIED		USEPA TO-15 MODIFIED		Q (SCFM)	Abatement Efficiency	Emissions Rate Benzene (lbs/day)
		Hydrocarbons (TPH-g + BTEX) (ppmv as hexane)			TPH-g (ppmv)		Benzene (ppmv)				
		Inlet	Outlet		Inlet	Outlet	Inlet	Outlet			
5/1/13 @ 08:00	5/1/13 @ 14:00	650	8	5/1/13 @ 14:00	66	5.3	3.3	0.15	50	95.5%	1.09E-03
				5/20/13 @ 11:00	2.2	0.83	0.007	0.00075	125	89.3%	2.69153E-05
	5/28/13 @15:00	261	7								

SCFM standard cubic feet per minute

lbs/day pounds per day

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
1st WBZ											
MW-1	5/10/2002	51.71	22.85	-	28.86	5,700	360	4.5	340	450	2
	8/8/2002	51.71	23.31	-	28.40	9,100	590	2.6	830	362	<1.3
	11/8/2002	51.71	23.58	-	28.13	7,900	570	3.1	680	392	< 1.0
	2/21/2003	51.71	22.62	-	29.09	2,900	160	1.6 C	170	211	<0.5
	5/28/2003	51.71	22.43	-	29.28	1,700	55	<0.5	90	115	2.00
	8/12/2003	51.71	21.30	-	30.41	2,600	2.5	<0.5	190	130	<0.5
	10/9/2003	51.71	23.49	-	28.22	9,200	560.0	2.7 C	670	648	<1.0
	1/15/2004	51.71	22.43	-	29.28	5,500	190	<1.0	220	124.4	<0.5
	5/25/2004	51.71	22.94	-	28.77	8,000	400	1.50	420	393	3.40
	9/21/2004	54.46	23.49	-	30.97	9,300	580	9.30	690	683	4.60
	12/14/2004	54.46	23.01	-	31.45	7,360	337	<4.3	731	633	<4.3
	3/11/2005	54.46	21.48	-	32.98	2,510	45.2	<0.5	23.2	39.63	2.80
	6/15/2005	54.46	22.42	-	32.04	1,690	36.3	<2.0	59.5	28.73	2.01
	8/26/2005	54.46	23.00	-	31.46	7,310	318	<8.60	475	316	5.15
	11/11/2005	54.46	21.40	-	33.06	9,640	341	<8.6	467	329.7	6.04
	2/9/2006	54.46	21.81	-	32.65	775	14	<2.0	12.6	10.32	4.01
	5/9/2006	54.46	21.68	-	32.78	444	7.80	<2.0	12.1	6.31	1.75
	8/10/2006	54.46	22.79	-	31.67	5,090	324	<8.60	108	59.9	8.24
	10/26/2006	54.46	23.19	-	31.27	6,950	556	<4.0	190	136.09	8.61
	1/25/2007	54.46	22.82	-	31.64	2,640	196	<2.0	105	25.5	7.92
	4/26/2007	54.46	22.67	-	31.79	861	95.5	<2.0	17	6.36	4.00
	7/25/2007	54.46	23.25	-	31.21	4,520	412	<4.0	182	77.9	7.48
	10/23/2007	54.46	23.42	-	31.04	3,900	117	<2.0	87.1	23.87	4.54

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-1 cont	1/22/2008	54.46	22.59	-	31.87	2,260	81.3	<2.0	17.5	<2.0	4.23
	4/16/2008	54.46	22.89	-	31.57	2,320	248	<2.0	54.1	37.3	<0.5
	7/3/2008	54.46	23.33	-	31.13	5,240	414	<2.0	168	94	6.56
	10/15/2008	54.46	23.76	-	30.70	4,500 [Y]	260	<1.0	150	130	3.40
	1/7/2009	54.46	23.25	-	31.21	4,800	140	<1.3	48	32	1.70
	4/14/2009	54.46	22.52	-	31.94	1,800 [Y]	78	<0.5	35	18	2.50
	8/27/2009	54.46	23.6	-	30.86	4,500	330	<2.0	97	42	4.60
	12/2/2009	54.46	23.43	-	31.03	3,800 [Y]	250	<2.0	110	25	2.50
	3/17/2010	54.46	22.32	-	32.14	1,100	33	<0.50	46	18	1.70
	6/3/2010	54.46	22.88	-	31.58	10,000	330	4.3	680	841.5	5.20
	9/2/2010	54.46	23.28	-	31.18	8,900	440	<5.0	510	310	<5.0
	12/2/2010	54.46	23.21	-	31.25	7,400	250	<3.1	390	180	<3.1
	3/4/2011	54.46	21.95	N	32.51	2,400	67	<0.5	45	8.4	2.20
	5/20/2011	54.46	22.8	N	31.66	9,500	260	6.2	970	480	<3.6
	9/9/2011	54.46	22.81	N	31.65	6,400	220	<1.3	380	160	2.30
	12/2/2011	54.46	21.97	N	32.49	4,700 [X]	96	<1.7	310	200	<3.3
	3/2/2012	54.46	22.82	N	31.64	6,800	320	<2.5	430	120	<2.5
	6/7/2012	54.46	22.92	N	31.54	5,600	130	<2.5	360	160	2.9
	9/21/2012	54.46	23.56	N	30.90	8,000	300	<2.5	410	340	2.6
	12/14/2012	54.46	22.77	N	31.69	5,900	130	<2.5	320	97	<2.5
	3/28/2013	54.46	23.15	N	31.31	5,100	230	<2.5	280	48	3.6
	6/11/2013	**54.46**	**23.48**	**N**	**30.98**	**6,800**	**200**	**<2.5**	**300**	**120**	**<2.5**
MW-2	5/10/2002	49.66	22.83	-	26.83 *	3,100	67	8	250	215	56
	8/8/2002	49.66	21.41	-	28.25	2,700	4.6	<0.5	310	140	<0.5
	11/8/2002	49.66	21.79	-	27.87	3,400	4.6	< 0.5	310	160	< 0.5
	2/21/2003	49.66	20.51	-	29.15	890	1.7 C	0.80 C	68	38.92 C	<0.5
	5/28/2003	49.66	20.33	-	29.33	2,700	5.2 C	<0.5	120	140	1.2
	8/12/2003	49.66	23.18	-	26.48*	8,500	640	<2.5	560	659	<0.8
	10/9/2003	49.66	21.71	-	27.95	3100 H	4.3 C	<0.5	210	160	<0.5

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-2 cont.	1/15/2004	49.66	20.31	-	29.35	660 H	1.5 C	<0.5	8.9	25	<0.5
	5/25/2004	49.66	21.09	-	28.57	4,500	5.1 C	<0.5	190	230	0.70
	9/21/2004	52.41	21.71	-	30.70	370	0.76 C	<0.5	25	16	0.50
	12/14/2004	52.41	21.20	-	31.21	880	1.0	<0.5	66	52	<0.5
	3/11/2005	52.41	19.15	-	33.26	564	<0.5	<0.5	21	11.9	<0.5
	6/15/2005	52.41	20.30	-	32.11	2,040	1.2	<2.0	78.2	22	<0.5
	8/26/2005	52.41	20.97	-	31.44	1,500	0.930	<2.00	87.6	21	0.86
	11/11/2005	52.41	25.30	-	27.11	2,140	1.08	<2.0	104	29	0.79
	2/9/2006	52.41	19.41	-	33.00	1,410	<0.5	<2.0	99.6	21.4	0.72
	5/9/2006	52.41	19.41	-	33.00	1,100	<0.5	<2.0	86.5	17	<0.5
	8/10/2006	52.41	20.8	-	31.61	3,180	2.87	<2.0	88.9	24.8	<0.50
	10/26/2006	52.41	21.22	-	31.19	1,200	<0.5	<2.0	23.5	4.79	0.6
	1/25/2007	52.41	20.89	-	31.52	623	0.64	<2.0	42.4	4.37	0.66
	4/26/2007	52.41	20.65	-	31.76	169	<0.5	<2.0	15.2	2.3	<0.5
	7/25/2007	52.41	21.43	-	30.98	276	0.78	<2.0	22.1	4.04	<0.5
	10/23/2007	52.41	21.59	-	30.82	535	<0.5	<2.0	18	5.11	<0.5
	1/22/2008	52.31	20.45	-	31.86	132	<0.5	<2.0	12.2	<2.0	<0.5
	4/15/2008	52.41	20.89	-	31.52	852	<0.5	<2.0	27.2	4.78	<0.5
	7/2/2008	52.41	21.5	-	30.91	98.3	<0.5	<2.0	2.76	<2.0	<0.5
	10/15/2008	52.41	22.06	-	30.35	1,400 [Y]	<0.5	<0.5	60	17	<0.5
	1/7/2009	52.41	21.35	-	31.06	93	<0.5	<0.5	2.1	0.74	<0.5
	4/13/2009	52.41	20.52	-	31.89	480 [Y]	<0.5	<0.5	20	5.5	<0.5
	8/27/2009	52.41	21.85	-	30.56	130	<0.5	<0.5	2.5	0.61	<0.5
	12/1/2009	52.41	21.59	-	30.82	760 [Y]	<0.5	<0.5	14	1.5	<0.5
	3/17/2010	52.41	20.11	-	32.30	480	<0.5	<0.5	30	6.9	<0.5
	6/3/2010	52.41	21	-	31.41	690	<0.5	<0.5	14	2.6	<0.5
	9/2/2010	52.41	21.42	-	30.99	470	<0.5	<0.5	7.6	1	<0.5
	12/2/2010	52.41	21.44	-	30.97	470	<0.5	<0.5	7.6	3.3	<0.5

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-2 cont.	3/4/2011	52.41	19.65	N	32.76	240	<0.5	<0.5	6.6	0.8	<0.5
	5/20/2011	52.41	20.75	N	31.66	310	<0.5	<0.5	4.8	<0.5	<0.5
	9/9/2011	52.41	21.05	N	31.36	1,000	<0.5	<0.5	12	0.76	<0.5
	12/2/2011	52.41	20.14	N	32.27	900 [x]	<2.9	<1.7	14	1.9	<3.3
	3/2/2012	52.41	19.98	N	32.43	880	<0.5	<0.5	5.3	0.58	<0.5
	6/7/2012	52.41	21.04	N	31.37	720	<0.5	<0.5	7.9	0.79	<0.5
	9/21/2012	52.41	21.78	N	30.63	1,400	<0.5	<0.5	11	<0.5	<0.5
	12/14/2012	52.41	20.71	N	31.70	760	<0.5	<0.5	10	1.5	<0.5
	3/28/2013	52.41	21.24	N	31.17	890	<0.5	<0.5	4.3	<0.5	<0.5
	6/11/2013	**52.41**	**21.67**	**N**	**30.74**	**510**	**150**	**<0.5**	**15**	**12.3**	**3.1**
MW-3	5/10/2002	51.16	22.28	-	28.88	44,000	6,000	900	1,500	6,200	2,400
	8/8/2002	51.16	22.88	-	28.28	40,000	5,800	1,100	1,600	6,500	1,300
	11/8/2002	51.16	23.19	-	27.97	47,000	5,300	1,200	2,200	8,600	1,000
	2/21/2003	51.16	22.02	-	29.14	39,000	5,500	1,500	2,000	8,600	1,300
	5/28/2003	51.16	21.89	-	29.27	52,000	7,300	3,000	2,800	12,700	2,100
	8/12/2003	51.16	22.66	-	28.50	31,000	6,100	860	1,500	6,900	1,200
	10/9/2003	51.16	23.06	-	28.10	41,000	6,100	1,100	2,200	10,200	960
	1/15/2004	51.16	21.85	-	29.31	51,000	4,100	1,100	2,000	8,400	590
	5/25/2004	51.16	22.55	-	28.61	65,000	4,300	1,300	2,500	10,500	720
	9/21/2004	53.91	23.08	-	30.83	42,000	4,900	890	2,200	8,700	480
	12/14/2004	53.91	22.52	-	31.39	35,151	4,066	972	2,942	13,032	491
	3/11/2005	53.91	20.90	-	33.01	42,600	3,040	1,100	1,530	6,670	968
	6/15/2005	53.91	21.85	-	32.06	84,100	5,110	2,160	3,030	8,800	2,670
	8/26/2005	53.91	22.49	-	31.42	43,500	3,630	1,080	2,500	6,830	1,440
	11/11/2005	53.91	22.81	-	31.10	47,700	4,240	520	2,170	6,320	1,390
	2/9/2006	53.91	21.12	-	32.79	44,500	5,070	1360	1,920	4,840	3,280
	5/9/2006	53.91	21.09	-	32.82	48,100	2,510	1,140	1,950	5,030	2,210
	8/10/2006	53.91	22.26	-	31.65	42,100	3,450	869	1,760	5,650	3,570
	10/26/2006	53.91	22.73	-	31.18	33,400	4,800	331	1,170	3,510	4,790

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-3 cont.	1/25/2007	53.91	22.34	-	31.57	19,300	4,820	167	1,540	3,740	3,430
	4/26/2007	53.91	22.24	-	31.67	30,700	2,350	158	1,470	4,320	1,330
	7/25/2007	53.91	22.83	-	31.08	34,900	5,400	364	2,080	6,360	1,980
	10/23/2007	53.91	23.01	-	30.9	22,600	4,070	<86	1,120	3,095	970
	1/22/2008	53.96	22.04	-	31.92	22,100	1,280	453	1,330	3,520	490
	4/16/2008	53.91	22.4	-	31.51	20,700	2,790	182	860	3,389	263
	7/3/2008	53.91	22.9	-	31.01	48,500	3,760	346	3,130	12,980	573
	10/16/2008	53.91	23.36	-	30.55	50,000	3,900	300	3,100	11,000	460
	1/8/2009	53.91	22.82	-	31.09	54,000	2,600	180	2,500	8,800	220
	4/13/2009	53.91	22.06	-	31.85	49,000	2,900	170	2,100	8,100	490
	8/27/2009	53.91	23.11	-	30.80	43,000	2,500	160	1,900	7,000	210
	12/2/2009	53.91	23.00	-	30.91	30,000	2,100	180	1,600	5,600	91
	3/17/2010	53.91	21.90	-	32.01	24,000	970	81	1,100	3,700	38
	6/3/2010	53.91	22.49	-	31.42	31,000	1,200	110	1,300	4,400	34
	9/2/2010	53.91	22.76	-	31.15	26,000	1,100	81	1,200	3,810	26
	12/2/2010	53.91	22.86	-	31.05	18,000	830	47	780	2,360	14
	3/4/2011	53.91	21.44	N	32.47	18,000	410	32	850	2,480	16
	5/20/2011	53.91	22.36	N	31.55	12,000	710	24	620	1,460	11
	9/9/2011	53.91	22.44	N	31.47	11,000	1,100	26	580	1,430	7.8
	12/2/2011	53.91	21.60	N	32.31	5,100 [x]	280	12	370	740	<1.7
	3/2/2012	53.91	22.39	N	31.52	13,000	440	23	690	1,570	<5.0
	6/7/2012	53.91	22.50	N	31.41	9,000	290	9.3	520	900	<5.0
	9/21/2012	53.91	23.17	N	30.74	12,000	710	26	630	1,230	8.2
	12/14/2012	53.91	22.32	Y	31.59	8,500	350	8.7	550	1,003	<5
	3/28/2013	53.91	22.69	Y	31.22	9,300	790	8.2	760	974	8.7
	6/11/2013	**53.91**	**23.06**	**Y**	**30.85**	**14,000**	**700**	**26**	**860**	**1,630**	**6.1**
MW-4	5/10/2002	50.54	21.78	-	28.76	880	25	1.0C	110	52	12,000
	8/8/2002	50.54	22.50	-	28.04	3,800	70	<5.0	300	115	4,800
	11/8/2002	50.54	22.81	-	27.73	5,100	150	10	460	258	2,400

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-4 cont.	2/21/2003	50.54	21.48	-	29.06	3,200	98	66	220	360	6,600
	5/28/2003	50.54	21.24	-	29.30	6,200	140	46	200	790	2,300
	8/12/2003	50.54	22.32	-	28.22	7,500	180	57	220	1450	1,900
	10/9/2003	50.54	22.74	-	27.80	5,800	250	32	300	970	7,800
	1/15/2004	50.54	21.19	-	29.35	5,900	270	17 C	150	640	7,300
	5/25/2004	50.54	22.03	-	28.51	9,100	210	51	200	1190	1800
	9/21/2004	53.31	22.76	-	30.55	5,200	290	12	370	600	7300
	12/14/2004	53.31	21.99	-	31.32	8,937	538	114	416	2379	5021
	3/11/2005	53.31	20.01	-	33.30	12,300	225	39.6	80.1	1465	3870
	6/15/2005	53.31	21.25	-	32.06	7,690	114	32.6	77.1	555	1150
	8/26/2005	53.31	22.03	-	31.28	8,850	175	24.6	150	851	1380
	11/11/2005	53.31	22.43	-	30.88	9,990	356	<43	196	700	3,640
	2/9/2006	53.31	20.31	-	33.00	6,850	205	<43	67.2	255.2	5,120
	5/9/2006	53.31	20.33	-	32.98	1,290	18.1	<8.6	12.9	25.87	799
	8/10/2006	53.31	21.74	-	31.57	7,830	118	<8.60	25.3	174.6	919
	10/26/2006	53.31	22.29	-	31.02	1,540	81.9	<43	96	46.4	3,610
	1/25/2007	53.31	21.86	-	31.45	4,370	163	<8.6	85.1	269.1	1,050
	4/26/2007	53.31	21.63	-	31.68	4,380	140	<8.6	67	276.8	576
	7/25/2007	53.31	22.49	-	30.82	4,970	220	<8.60	198	241.5	1,040
	10/23/2007	53.31	22.69	-	30.62	4,200	267	<8.6	147	155.5	1,220
	1/22/2008	53.36	21.39	-	31.97	2,180	133	<22.0	43.1	32.2	1,800
	4/15/2008	53.31	21.9	-	31.41	4,240	90.4	<22.0	107	380	674
	7/2/2008	53.31	22.55	-	30.76	2,300	193	<22.0	212	183	4,050
	10/16/2008	53.31	23.13	-	30.18	8,900	320	3.7	430	1,160	450
	1/8/2009	53.31	22.42	-	30.89	19,000	430	44	590	3,380	440
	4/13/2009	53.31	21.51	-	31.80	21,000	400	38	450	2,880	330
	8/27/2009	53.31	22.94	-	30.37	16,000	960	64	560	2,120	290
	12/2/2009	53.31	22.36	-	30.95	4,400	480	6	170	640	110

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-4 cont.	3/17/2010	53.31	21.39	-	31.92	14,000	260	6	230	1,220	93
	6/3/2010	53.31	22.23	-	31.08	18,000	240	4	310	770	41
	9/2/2010	53.31	22.51	-	30.80	1,800	800	<3.6	150	25	33
	12/2/2010	53.31	22.71	-	30.60	3,800	1,500	<10	200	115	29
	3/3/2011	53.31	20.64	N	32.67	2,400	28	<0.71	28	17	3
	5/19/2011	53.31	21.84	N	31.47	1,800	27	<0.5	29	11.2	4.8
	9/8/2011	53.31	22.11	N	31.20	3,600	300	2.6	270	68.5	59
	12/1/2011	53.31	21.38	N	31.93	1,400 [x]	370	<0.84	110	30.6	110
	3/2/2012	53.31	22.02	N	31.29	3,100	780	<2.0	150	59.6	50
	6/7/2012	53.31	22.24	N	31.07	2,000	290	<2.5	66	23	29
	9/21/2012	53.31	22.87	N	30.44	2,900	820	<2.5	75	17	72
	12/14/2012	53.31	21.84	N	31.47	840	48	<0.5	14	4.5	2.5
	3/28/2013	53.31	22.24	N	31.07	790	650	<5.0	26	<5.0	15
	6/11/2013	**53.31**	**22.71**	**N**	**30.60**	**1,100**	**860**	**<5.0**	**64**	**<5.0**	**35**
MW-5	5/10/2002	47.79	19.02	-	28.77	25,000	1,000	1200	1,100	3,060	1,800
	8/8/2002	47.79	19.80	-	27.99	18,000	1,000	660	950	1,720	1,500
	11/8/2002	47.79	20.14	-	27.65	16,000	1,300	380	930	1,550	1,200
	2/21/2003	47.79	18.70	-	29.09	12,000	390	71	770	1,100	860
	5/28/2003	47.79	18.52	-	29.27	9,100	210	31	560	790	600
	8/12/2003	47.79	19.54	-	28.25	12,000	660	75	660	1,110	1,000
	10/9/2003	47.79	20.06	-	27.73	15,000	1,000	130	1,000	1,430	1,700
	1/15/2004	47.79	18.42	-	29.37	9,900	450 C	16	500	431	1,100
	5/25/2004	47.79	19.30	-	28.49	9,200	380	24	490	536	720
	9/21/2004	50.53	20.15	-	30.38	10,000	980	71	560	770	1200
	12/14/2004	50.53	19.30	-	31.23	10,502	587	64	1040	1133	1015
	3/11/2005	50.53	17.20	-	33.33	8,390	407	<5.5	83	42.5	1530
	6/15/2005	50.53	18.54	-	31.99	9,350	147	18.3	435	146.2	573
	8/26/2005	50.53	19.31	-	31.22	9,500	261	<22	726	321.3	749
	11/11/2005	50.53	19.75	-	30.78	10,000	443	41.5	527	278.5	1,430

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-5 cont.	2/9/2006	50.53	17.58	-	32.95	7,640	237	<22	187	50.2	2,050
	5/9/2006	50.53	17.54	-	32.99	8,360	111	<8.6	300	75.84	566
	8/10/2006	50.53	19.02	-	31.51	16,100	250	<22	455	187.4	1,590
	10/26/2006	50.53	19.61	-	30.92	10,100	430	<22	375	192.6	3,060
	1/25/2007	50.53	19.19	-	31.34	3,960	340	<22	323	150.1	1,740
	4/26/2007	50.53	18.89	-	31.64	4,590	187	<8.6	307	116.5	861
	7/25/2007	50.53	19.81	-	30.72	6,490	419	21.8	413	223.2	913
	10/23/2007	50.53	19.98	-	30.55	6,120	550	11	284	141.4	433
	1/22/2008	50.18	18.69	-	31.49	9,810	572	22	574	184.1	126
	4/15/2008	50.18	19.16	-	31.02	8,890	335	15.1	477	397.5	136
	7/3/2008	50.53	19.88	-	30.65	13,100	949	34.4	875	825.5	176
	10/16/2008	50.53	20.45	-	30.08	11,000	870	25	820	668	160
	1/8/2009	50.53	19.72	-	30.81	12,000	490	21	690	456	76
	4/13/2009	50.53	18.81	-	31.72	9,000 [Y]	200	11	390	198	44
	8/27/2009	50.53	21.30	-	29.23	7,400	610	15	320	185	66
	12/2/2009	50.53	20.00	-	30.53	8,400 [Y]	400	12	540	296	45
	3/17/2010	50.53	18.73	-	31.80	4,800	120	8.7	120	107	14
	6/4/2010	50.53	19.60	-	30.93	7,200	160	5.7	190	149.2	24
	9/2/2010	50.53	19.82	-	30.71	9,200	110	12	270	318	35
	12/2/2010	50.53	20.10	-	30.43	9,100	170	6.7	350	442	23
	3/4/2011	50.53	18.00	N	32.53	2,600	18	0.62	54	18.1	3
	5/20/2011	50.53	19.18	N	31.35	4,000	91	8.5	110	106	33
Pre-MPE	8/4/2011	50.53	NM	-	NC	3,000	23	0.95	92	43.7	5.4
	9/9/2011	50.53	19.41	N	31.12	4,200	120	2.8	140	61.1	22
	12/2/2011	50.53	18.59	N	31.94	6,900 [X]	96	12	220	104	32
	3/2/2012	50.53	19.30	N	31.23	5,400	43	1.8	110	85	7
	6/7/2012	50.53	19.45	N	31.08	3,700	32	<1.0	100	59	4.4
	9/21/2012	50.53	20.17	N	30.36	3,900	68	1.5	140	88.5	9.8
	12/14/2012	50.53	19.12	N	31.41	3,100	48	6.7	100	62.3	5.2
	3/28/2013	50.53	19.47	N	31.06	1,900	30	<1.0	59	48.4	4.5
	6/11/2013	**50.53**	**20.03**	**N**	**30.50**	**2,900**	**22**	**3.9**	**110**	**131**	**3.0**

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-6	9/21/2004	45.82	17.64	-	28.18	34,000	150	130	2200	8100	0.6
	12/14/2004	45.82	15.75	-	30.07	5,161	137	7	436	1136	<5.5
	3/11/2005	45.82	13.80	-	32.02	6,040	125	3.22	260	722.1	4.94
	6/15/2005	45.82	14.78	-	31.04	5,590	44.3	6.60	272	382	5.85
	8/26/2005	45.82	15.91	-	29.91	6,130	99	<8.6	378	492.9	5.66
	11/11/2005	45.82	16.55	-	29.27	11,400	101	<8.6	645	834.7	4.33
	2/9/2006	45.82	13.92	-	31.90	2,790	32.3	<8.6	131	131.22	7.30
	5/9/2006	45.82	13.95	-	31.87	3,730	25	<2.0	213	207.82	5.87
	8/10/2006	45.82	15.28	-	30.54	4,800	41.9	<2.0	201	189	10.4
	10/26/2006	45.82	16.11	-	29.71	6,080	37.4	<2.0	116	183	9.78
	1/25/2007	45.82	15.76	-	30.06	3,220	25.2	<2.0	219	174	14.7
	4/26/2007	45.82	15.18	-	30.64	3,110	28	<2.0	165	138.47	14.6
	7/25/2007	45.82	16.82	-	29.00	4,960	54.1	<2.0	199	255.87	8.05
	10/23/2007	45.82	16.91	-	28.91	9,610	64.3	<2.0	188	302.6	5.81
	1/21/2008	45.82	15.36	-	30.46	3,290	33	<2.0	149	131.31	3.86
	4/15/2008	45.82	15.73	-	30.09	2,070	10.8	<2.0	51.1	67	<0.5
	7/2/2008	45.82	16.9	-	28.92	7,900	42.4	<2.0	194	296	3.58
	10/15/2008	45.82	17.21	-	28.61	18,000 [Y]	42	1.4	320	673	1.7
	1/7/2009	45.82	17.08	-	28.74	13,000	47	<3.1	210	425	<3.1
	4/13/2009	45.82	15.52	-	30.30	7,200 [Y]	26	<1.3	170	312.6	2.6
	8/26/2009	45.82	17.82	-	28.00	10,000 [Y]	25	<2.0	130	294	2.2
	12/1/2009	45.82	17.34	-	28.48	11,000 [Y]	31	6.1	220	539	<2.0
	3/16/2010	45.82	14.81	-	31.01	31,000	63	140	970	4,200	64
	6/3/2010	45.82	15.72	-	30.10	27,000	22	67	840	3,100	32
	9/1/2010	45.82	16.86	-	28.96	33,000	24	34	1,100	3,780	12
	12/2/2010	45.82	16.98	-	28.84	70,000	32	55	1,700	5,670	18

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-6 cont.	3/3/2011	45.82	14.35	Y	31.47	7,000	18	<2.5	97	237	11
	5/20/2011	45.82	14.95	Y	30.87	14,000	14	<2.5	300	823	7.2
	9/8/2011	45.82	16.14	Y	29.68	23,000	28	<2.5	360	812	3.4
	12/1/2011	45.82	16.17	16.15	29.65	NA	NA	NA	NA	NA	NA
	3/2/2012	45.82	16.11	Y	29.71	14,000	23	<4.2	400	694.4	<4.2
	6/6/2012	45.82	16.31	Y	29.51	9,200	12	<1.7	210	320	<1.7
	9/20/2012*	45.82	17.36	17.32	28.49	NA	NA	NA	NA	NA	NA
	12/13/2012	45.82	15.46	Y	30.36	13,000	22	<0.71	83	62.8	5.1
	3/27/2013	45.82	16.3	Y	29.52	7,400	27	<1.3	190	221.8	<1.3
	6/10/2013	**45.82**	**17.37**	**Y**	**28.45**	**12,000**	**20**	**<2.5**	**280**	**230**	**<2.5**
MW-7	9/21/2004	44.74	15.21	-	29.53	2,900	<0.5	<0.5	52	61	8.1
	12/14/2004	44.74	13.90	-	30.84	<50	1.6	<0.5	29	58	6.0
	3/11/2005	44.74	11.46	-	33.28	2,230	<2.5	<2.5	39.4	51.4	12.4
	6/15/2005	44.74	12.97	-	31.77	2,940	0.85	<2.0	50.6	31.9	13.7
	8/26/2005	44.74	14.10	-	30.64	2,310	<0.50	<2.0	55.7	29.6	4.01
	11/11/2005	44.74	14.59	-	30.15	3,030	<0.5	<2.0	66.5	42.3	9.76
	2/9/2006	44.74	NM	-	NM	NA	NA	NA	NA	NA	NA
	5/9/2006	44.74	12.02	-	32.72	1,400	<0.5	<2.0	19.8	12.4	2.30
	8/10/2006	44.74	13.72	-	31.02	604	<0.50	<2.0	6.2	4.63	1.42
	10/26/2006	44.74	14.38	-	30.36	1350	<0.50	<2.0	16.6	10.8	1.87
	1/25/2007	44.74	13.93	-	30.81	340	<0.5	<2.0	6.84	2.44	1.63
	4/26/2007	44.74	14.44	-	30.30	552	<0.5	<2.0	11.4	6.11	4.12
	7/25/2007	44.74	14.79	-	29.95	1,230	<0.5	<2.0	27	19.24	3.2
	10/23/2007	44.74	14.88	-	29.86	1,730	0.67	<2.0	20.7	17.31	8.44
	1/21/2008	44.74	13.34	-	31.40	610	1.15	<2.0	8.4	4.34	17.2
	4/15/2008	44.74	13.91	-	30.83	1,460	<0.5	<2.0	15.9	19.7	17.3
	7/2/2008	44.74	14.87	-	29.87	1,450	<0.5	<2.0	11	6.8	22.1
	10/15/2008	44.74	15.68	-	29.06	1,900 [Y]	0.56	1.2	27	39.5	55
	1/7/2009	44.74	14.72	-	30.02	2,700	1.2	2.9	11	25	39
	4/13/2009	44.74	13.54	-	31.20	2,300 [Y]	<0.5	<0.5	15	6.3	63
	8/26/2009	44.74	15.84	-	28.90	2,700 [Y]	<0.5	<0.5	48	53	140
	12/1/2009	44.74	15.03	-	29.71	1,800 [Y]	<0.5	<0.5	22	15	120

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-7 cont.	3/16/2010	44.74	12.56	-	32.18	1,100	<0.5	<0.5	3.2	1.4	65
	6/3/2010	44.74	13.80	-	30.94	740	<0.5	<0.5	1.8	0.62	28
	9/1/2010	44.74	14.84	-	29.90	1,200	<0.5	<0.5	10	3.2	29
	12/2/2010	44.74	14.74	-	30.00	1,400	<0.5	<0.5	8	0.74	21
	3/3/2011	44.74	13.31	N	31.43	1,000	<0.5	<0.5	1.8	<0.5	16
	5/19/2011	44.74	13.43	N	31.31	810	<0.5	<0.5	2.2	0.79	7.8
	9/8/2011	44.74	14.38	N	30.36	1,000	<0.5	<0.5	8.3	2.9	5.4
	12/1/2011	44.74	13.57	N	31.17	1,500 [x]	<0.33	<0.19	12	5.7	13
	3/2/2012	44.74	14.16	N	30.58	1,000	<0.5	<0.5	4	1.1	5.1
	6/6/2012	44.74	14.00	N	30.74	780	<0.5	<0.5	2.9	1.0	2.6
	9/20/2012	44.74	15.26	N	29.48	1,200	<0.5	<0.5	4.3	0.92	2.7
	12/13/2012	44.74	13.34	N	31.40	1,100	<0.5	<0.5	0.99	<0.5	3.4
	3/27/2013	44.74	14.30	N	30.44	680	<0.5	<0.5	1.8	<0.5	4.2
	6/10/2013	**44.74**	**15.06**	**N**	**29.68**	**890**	**<0.5**	**<0.5**	**2.6**	**<0.5**	**2.3**
MW-8	9/21/2004	41.14	12.98	-	28.16	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	41.14	11.22	-	29.92	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	3/11/2005	41.14	NM	-	NM	NA	NA	NA	NA	NA	NA
	6/15/2005	41.14	10.46	-	30.68	<200	0.53	<2.0	<0.5	<1.0	<0.5
	8/26/2005	41.14	11.53	-	29.61	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	41.14	11.92	-	29.22	<50	<0.5	<2.0	1.36	1.8	<0.5
	2/9/2006	41.14	9.74	-	31.40	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	41.14	9.90	-	31.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	41.14	10.9	-	30.24	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	41.14	11.68	-	29.46	<50	<0.50	<2.0	3.37	<1.0	<0.50
	1/25/2007	41.14	11.44	-	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	41.14	10.81	-	30.33	<50	<0.5	<2.0	4.29	<2.0	<0.5
	7/25/2007	41.14	12.31	-	28.83	<50	<0.5	<2.0	4.39	<2.0	<0.5
	10/23/2007	41.14	12.37	-	28.77	<50	<0.5	<2.0	4.31	<2.0	<0.5
	1/21/2008	41.14	11.02	-	30.12	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/15/2008	41.14	11.44	-	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/2/2008	41.14	12.39	-	28.75	94.8	<0.5	<2.0	1	<2.0	<0.5
	10/15/2008	41.14	13.42	-	27.72	<50	<0.5	<0.5	<0.5	<0.5	<0.5

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-8 cont.	1/7/2009	41.14	12.50	-	28.64	<50	<0.5	<0.5	<0.5	0.6	<0.5
	4/13/2009	41.14	11.23	-	29.91	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	41.14	13.24	-	27.90	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Well Decommissioned 11/13/2009										
MW-9	9/21/2004	40.26	12.18	-	28.08	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2004	40.26	10.91	-	29.35	<50	<0.5	<0.5	<0.5	<1.0	<0.5
	3/11/2005	40.26	10.52	-	29.74	<200	<0.5	<0.5	<0.5	<1.0	<0.5
	6/15/2005	40.26	14.73	-	25.53	<200	<0.5	<2.0	<0.5	<1.0	<0.5
	8/26/2005	40.26	10.59	-	29.67	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	11/11/2005	40.26	11.25	-	29.01	<50	<0.5	<2.0	<0.5	<1.0	<0.5
	2/9/2006	40.26	10.05	-	30.21	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	5/9/2006	40.26	9.06	-	31.20	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	8/10/2006	40.26	10.01	-	30.25	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	10/26/2006	40.26	10.81	-	29.45	<50	<0.50	<2.0	<0.50	<1.0	<0.50
	1/25/2007	40.26	10.67	-	29.59	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/26/2007	40.26	10.05	-	30.21	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/25/2007	40.26	11.44	-	28.82	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/23/2007	40.26	11.59	-	28.67	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	1/21/2008	40.26	10.37	-	29.89	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	4/15/2008	40.26	10.56	-	29.70	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/2/2008	40.26	11.95	-	28.31	161	<0.5	<2.0	2.15	<2.0	<0.5
	10/15/2008	40.26	12.64	-	27.62	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	40.26	11.75	-	28.51	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/13/2009	40.26	10.89	-	29.37	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	40.26	12.50	-	27.76	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	Well Decommissioned 11/13/2009										

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
Extraction Wells											
EX-1	12/2/2009	47.36	17.02	-	30.34	2,900	120	4	64	410	25
	3/16/2010	47.36	19.08	-	28.28	2,200	150	18	94	326	210
	6/3/2010	47.36	17.02	-	30.34	3,600	180	6.3	150	428	83
	9/1/2010	47.36	16.88	-	30.48	550	6.5	0.5	6.9	31.7	38
	12/2/2010	47.36	19.84	-	27.52	<200	3.1	<2.0	<2.0	<2.0	210
	3/3/2011	47.36	14.96	N	32.4	530	51	0.94	15	31.3	110
	5/19/2011	47.36	16.12	N	31.24	370	42	<0.71	7.6	17.2	110
	9/8/2011	47.36	16.47	N	30.89	110	5	<0.5	2.2	6.4	12
	12/1/2011	47.36	16.1	N	31.26	780 [x]	91	3	29	85	150
	3/2/2012	47.36	16.35	N	31.01	140	6	<0.5	3.5	8	14
	6/6/2012	47.36	24.76	N	22.6	250	22	<0.5	4.7	20	71
	9/20/2012	47.36	17.26	N	30.1	95	24	<0.5	<0.5	2.61	36
	12/13/2012	47.36	16.55	N	30.81	1,000	73	2.3	47	110	48
	3/27/2013	47.36	16.15	N	31.21	69	4.1	<0.5	3.3	10	1.8
	6/10/2013	**47.36**	**24.25**	**N**	**23.11**	**340**	**37**	**<0.5**	**5.9**	**15.1**	**62**
EX-2	12/2/2009	45.96	17.56	-	28.4	7,100 [Y]	9.3	3.2	440	770	<3.1
	3/16/2010	45.96	19.65	-	26.31	13,000	600	360	770	2,250	15
	6/3/2010	45.96	17.10	-	28.86	16,000	590	400	700	2,500	9.5
	9/1/2010	45.96	16.99	-	28.97	6,100	230	74	200	890	11
	12/2/2010	45.96	20.87	-	25.09	14,000	510	270	640	2,170	15
	3/3/2011	45.96	14.61	N	31.35	8,600	340	52	460	1,350	13
	5/19/2011	45.96	15.08	N	30.88	7,500	260	65	390	1,080	11
	9/8/2011	45.96	16.34	N	29.62	3,400	190	28	160	451	5.4
	12/1/2011	45.96	22.60	N	23.36	9,900 [x]	630	200	690	1,760	<3.3
	3/2/2012	45.96	16.48	N	29.48	5,000	220	25	200	600	7.1
	6/6/2012	45.96	18.90	N	27.06	6,900	290	97	310	790	5.2
	9/20/2012	45.96	17.49	N	28.47	1,800	170	14	62	204	5.0
	12/13/2012	45.96	15.96	N	30	7,300	490	180	610	1,290	5.2
	3/27/2013	45.96	16.59	N	29.37	2,200	130	9.6	100	288	4.3
	6/10/2013	**45.96**	**23.11**	**N**	**22.85**	**2,600**	**190**	**20**	**100**	**248**	**6.8**
MPE Wells											
MPE-1	12/1/2009	51.96	21.41	-	30.55	NA	NA	NA	NA	NA	NA

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MPE-1 cont.	3/16/2010	51.96	20.22	-	31.74	NA	NA	NA	NA	NA	NA
	6/3/2010	51.96	21.18	-	30.78	NA	NA	NA	NA	NA	NA
	9/1/2010	51.96	21.25	-	30.71	NA	NA	NA	NA	NA	NA
	12/2/2010	51.96	21.64	-	30.32	NA	NA	NA	NA	NA	NA
	3/3/2011	51.96	19.33	-	32.63	NA	NA	NA	NA	NA	NA
	5/19/2011	51.96	20.6	-	31.36	NA	NA	NA	NA	NA	NA
Pre-MPE	8/4/2011	51.96	NM	-	NC	49,000	210	100	840	7,070	45
	9/8/2011	51.96	20.83	-	31.13	NA	NA	NA	NA	NA	NA
Post-MPE	9/26/2011	51.96	20.94	Y	31.02	62,000	6,300	3,700	1,800	9,400	1,200
	12/2/2011	51.96	20.14	Y	31.82	56,000	9,000	7,700	2,200	10,800	2,600
	3/2/2012	51.96	20.73	Y	31.23	97,000	11,000	11,000	2,600	12,600	2,700
	6/6/2012	51.96	20.96	Y	31.00	78,000	4,500	4,900	2,300	10,700	750
	9/20/2012	51.96	21.58	Y	30.38	89,000	8,600	9,200	3,400	14,800	1,900
	12/14/2012	51.96	20.57	Y	31.39	98,000	7,400	9,600	2,900	13,300	1,300
	3/27/2013	51.96	20.91	Y	31.05	61,000	6,600	4,500	2,200	9,400	1,500
	6/10/2013	**51.96**	**21.47**	**Y**	**30.49**	**42,000**	**1,900**	**980**	**630**	**4,400**	**670**
MPE-2	12/1/2009	53.72	22.87	-	30.85	NA	NA	NA	NA	NA	NA
	3/16/2010	53.72	21.7	-	32.02	NA	NA	NA	NA	NA	NA
	6/3/2010	53.72	22.35	-	31.37	NA	NA	NA	NA	NA	NA
	9/1/2010	53.72	23.7	-	30.02	NA	NA	NA	NA	NA	NA
	12/2/2010	53.72	22.7	-	31.02	NA	NA	NA	NA	NA	NA
	3/3/2011	53.72	21.25	-	32.47	NA	NA	NA	NA	NA	NA
	5/19/2011	53.72	22.19	-	31.53	NA	NA	NA	NA	NA	NA
Pre-MPE	8/4/2011	53.72	NM	-	NC	46,000	2,100	80	1,900	5,300	75
	9/8/2011	53.72	22.31	-	31.41	NA	NA	NA	NA	NA	NA
Post-MPE	9/26/2011	53.72	22.38	N	31.34	37,000	1,800	33	1,700	2,760	<17
	12/2/2011	53.72	21.44	N	32.28	26,000	1,600	43	1,800	3,370	<17
	3/2/2012	53.72	22.24	N	31.48	36,000	1,100	19	1,700	2,970	<17
	6/7/2012	53.72	22.35	N	31.37	33,000	1,800	27	1,600	2,700	29
	9/21/2012	53.72	23.03	N	30.69	31,000	1,700	13	1,900	2,747	14
	12/14/2012	53.72	22.17	N	31.55	31,000	1,700	20	1,800	2,490	16
	3/28/2013	53.72	22.53	N	31.19	20,000	2,200	<20	1,300	960	<20
	6/11/2013	**53.72**	**22.9**	**N**	**30.82**	**26,000**	**920**	**<13**	**1,500**	**1,352**	**<13**

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
2nd WBZ											
MW-1D	1/3/2008	54.42		-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	1/22/2008	54.42	22.85	-	31.57	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	4/16/2008	54.42	23.10	-	31.32	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	7/3/2008	54.42	23.44	-	30.98	75.9	<0.5	<2.0	0.54	<2.0	<0.5
	10/15/2008	54.42	23.82	-	30.60	120	1.6	<0.5	2.8	3.6	<0.5
	1/8/2009	54.42	23.44	-	30.98	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2009	54.42	23.06	-	31.36	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	54.42	23.73	-	30.69	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	54.42	23.59	-	30.83	330 [Y]	<0.5	<0.5	1.3	2.2	<0.5
	3/16/2010	54.42	22.60	-	31.82	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/2010	54.42	23.10	-	31.32	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/1/2010	54.42	23.51	-	30.91	<50	<0.5	<0.5	0.52	1.8	<0.5
	12/3/2010	54.42	23.41	-	31.01	61	<0.5	<0.5	1.0	3.73	<0.5
	3/3/2011	54.42	22.27	N	32.15	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	54.42	22.89	N	31.53	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	54.42	23.08	N	31.34	220	<0.5	<0.5	0.6	1.4	<0.5
	12/1/2011	54.42	22.26	N	32.16	<22	<0.33	<0.19	<0.15	<0.20	<0.38
	3/2/2012	54.42	23.01	N	31.41	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	54.42	23.18	N	31.24	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/20/2012	54.42	23.76	N	30.66	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	12/13/2012	54.42	23.04	N	31.38	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	3/27/2013	54.42	23.34	N	31.08	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	**54.42**	**23.69**	**N**	**30.73**	**110**	**<0.5**	**<0.5**	**0.55**	**<0.5**	**<0.5**
MW-3D	1/3/2008	54.10		-	-	<50	<0.50	<2.0	<0.50	<2.0	87.6
	1/22/2008	54.10	22.31	-	31.79	<50	<0.50	<2.0	<0.50	<2.0	88.3
	4/16/2008	54.10	22.64	-	31.46	<50	<0.5	<2.0	<0.5	<2.0	71.1
	7/3/2008	54.10	23.17	-	30.93	<50	<0.5	<2.0	<0.5	<2.0	67.4
	10/16/2008	54.10	23.62	-	30.48	<50	<0.5	<0.5	<0.5	<0.5	37
	1/8/2009	54.10	23.07	-	31.03	<50	<0.5	<0.5	<0.5	<0.5	29
	4/14/2009	54.10	22.36	-	31.74	<50	<0.5	<0.5	<0.5	<0.5	44
	8/26/2009	54.10	23.41	-	30.69	<50	<0.5	<0.5	<0.5	<0.5	20
	12/1/2009	54.10	23.27	-	30.83	110 Y	<0.5	<0.5	<0.5	0.52	24

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-3D cont.	3/16/2010	54.10	22.10	-	32.00	<50	<0.5	<0.5	<0.5	<0.5	7.1
	6/4/2010	54.10	22.70	-	31.40	<50	<0.5	<0.5	<0.5	<0.5	17
	9/1/2010	54.10	23.09	-	31.01	78	<0.5	<0.5	1.1	4.71	24
	12/3/2010	54.10	22.90	-	31.20	<50	<0.5	<0.5	0.56	1.4	13
	3/3/2011	54.10	21.66	N	32.44	<50	1.3	<0.5	<0.5	0.59	14
	5/19/2011	54.10	22.61	N	31.49	<50	<0.5	<0.5	<0.5	<0.5	5.2
	9/8/2011	54.10	22.68	N	31.42	69	<0.5	<0.5	<0.5	0.62	4.8
	12/1/2011	54.10	22.86	N	31.24	<22	<0.33	<0.19	<0.15	<0.20	10
	3/2/2012	54.10	22.60	N	31.50	<50	<0.5	<0.5	<0.5	<0.5	4.2
	6/6/2012	54.10	22.77	N	31.33	<50	<0.5	<0.5	<0.5	<0.5	4.8
	9/20/2012	54.10	23.42	N	30.68	<50	<0.5	<0.5	<0.5	<0.5	5.1
	12/13/2012	54.10	22.57	N	31.53	<50	<0.5	<0.5	<0.5	<0.5	4.4
	3/27/2013	54.10	22.87	N	31.23	<50	<0.5	<0.5	<0.5	<0.5	4.4
	6/10/2013	**54.10**	**23.27**	**N**	**30.83**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**3.5**
MW-4D	1/4/2008	53.12		-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
	1/22/2008	53.12	21.11	-	32.01	91.5	18.7	<2.0	7.08	11.42	219
	4/15/2008	53.12	21.67	-	31.45	<50	<0.5	<2.0	<0.5	<2.0	27
	7/3/2008	53.12	22.39	-	30.73	<50	<0.5	<2.0	<0.5	<2.0	6.27
	10/16/2008	53.12	22.98	-	30.14	<50	<0.5	<0.5	<0.5	<0.5	1.9
	1/8/2009	53.12	22.25	-	30.87	<50	<0.5	<0.5	<0.5	<0.5	2
	4/14/2009	53.12	21.34	-	31.78	<50	<0.5	<0.5	<0.5	<0.5	2.2
	8/27/2009	53.12	22.79	-	30.33	<50	<0.5	<0.5	<0.5	<0.5	2.2
	12/1/2009	53.12	22.49	-	30.63	120 [Y]	<0.5	<0.5	1.4	2.3	2.3
	3/16/2010	53.12	21.02	-	32.10	<50	<0.5	<0.5	<0.5	<0.5	0.65
	6/4/2010	53.12	21.93	-	31.19	<50	<0.5	<0.5	<0.5	<0.5	1.1
	9/1/2010	53.12	23.32	-	29.80	<50	<0.5	<0.5	0.85	3.76	2.2
	12/3/2010	53.12	22.46	-	30.66	<50	<0.5	<0.5	<0.5	0.67	<0.5
	3/3/2011	53.12	20.45	N	32.67	<50	<0.5	<0.5	<0.5	<0.5	0.58
	5/19/2011	53.12	21.57	N	31.55	<50	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	53.12	21.92	N	31.20	59	<0.5	<0.5	<0.5	0.51	1.7
	12/1/2011	53.12	21.19	N	31.93	<22	<0.33	<0.19	<0.15	<0.20	4.2

Table 4a

Historical Groundwater Elevation Data and Analytical Results

15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	Casing Elevation [1] (feet)	Depth to Groundwater (feet)	Free-Product (feet)/ Sheen (Y/N)	Groundwater Elevation (feet)	TPH-g (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MtBE 8260B [2] (µg/L)
MW-4D cont.	3/2/2012	53.12	21.8	N	31.32	<50	<0.5	<0.5	0.85	1.2	2.7
	6/6/2012	53.12	22.00	N	31.12	<50	<0.5	<0.5	<0.5	<0.5	1.3
	9/20/2012	53.12	22.67	N	30.45	<50	<0.5	<0.5	<0.5	<0.5	1.6
	12/13/2012	53.12	21.55	N	31.57	<50	<0.5	<0.5	<0.5	<0.5	0.94
	3/27/2013	53.12	21.98	N	31.14	<50	<0.5	<0.5	<0.5	<0.5	2.1
	6/10/2013	**53.12**	**22.55**	**N**	**30.57**	**<50**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**1.7**
1573 153 RD	7/2/2008	NS	NM	-	NC	<50	<0.5	<2.0	<0.5	<2.0	<0.5
	10/16/2008	NS	NM	-	NC	<50	<0.5	<0.5	<0.5	<0.5	<0.5
Equipment Blanks											
EB-PMP	1/21/2008	-	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PRB	1/21/2008	-	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PMP2	1/22/2008	-	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
EB-PRB2	1/22/2008	-	-	-	-	<50	<0.50	<2.0	<0.50	<2.0	<0.50
ESL (ug/L)	**-**	**-**	**-**	**-**	**-**	**100**	**1**	**40**	**30**	**20**	**5**

Notes:

The first time SOMA monitored this Site was in May 2002.

*: Due to minimal recharge rates in well MW-2, the groundwater elevation recorded on these dates did not match the overall site conditions, May 2002 & August 2003.

NC: Not Calculated

[1]: Top of casing elevations were surveyed to a datum of 67.07 M.S.L by Kier & Wright Civil Engineers & Land Surveyors on May 7, 2002. On October 11, 2004, the site was re-surveyed by Harrington Surveys, Inc. of Walnut Creek, CA to a datum of California Coordinate System, Zone 3, NAD 83.

[2] MtBE analyzed by EPA Method 8021B, and confirmed by EPA Method 8260B.

<: Not detected above the laboratory reporting limit.

Y: Sample exhibits chromatographic pattern which does not resemble standard

[C] Presence confirmed, but confirmation concentration differed by more than a factor of two.

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

H: Heavier hydrocarbons contributed to the quantitation.

x: Does not match pattern of reference Gasoline Standard. Hydrocarbons in the range of C5-C12 quantified as gasoline (possibly aged gasoline)

NA: Not Analyzed. Well MW-8 was inaccessible during the First Quarter 2005, car was parked over well.

Not Analyzed. Well MW-7 was inaccessible during the First Quarter 2006, car was parked over well.

NM: Not Measured. Well MW-8 was inaccessible during the First Quarter 2005, car was parked over well.

Not Measured. Well MW-7 was inaccessible during the First Quarter 2006, car was parked over well.

The first time SOMA monitored wells MW-6 to MW-9 was in September 2004.

EB-PMP/EB-PRB: Equipment Blanks for Pump and Probe

ESL: Environmental Screening Levels per CRWQCB SFBay Region (Revised May 2013);

MW-8 and MW-9 were decommissioned November 13, 2009

* During September 2012 groundwater monitoring event, free-product was observed in MW-6. groundwater elevation in this well has been corrected for the presence of FP:
Corrected depth to groundwater is equal to (measured depth)- 0.68(free product thickness)
The correction factor is derived by the following: specific gravity of gas at 20^0C is 0.68, then specific gravity is multiplied by the thickness of free product

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
				1st WBZ			
MW-1	8/8/2002	78	<1.3	<1.3	<1.3	NA	NA
	11/1/2002	42	< 1.0	< 1.0	< 1.0	NA	NA
	2/21/2003	47	<0.5	<0.5	<0.5	NA	NA
	5/28/2003	25	<0.5	<0.5	<0.5	NA	NA
	8/12/2003	<10	<0.5	<0.5	<0.5	NA	NA
	10/9/2003	70	<1.0	<1.0	<1.0	NA	NA
	1/15/2004	55	<0.5	<0.5	<0.5	NA	NA
	5/25/2004	62	<0.7	<0.7	<0.7	NA	NA
	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<21.5	<4.3	<4.3	<17.2	NA	NA
	3/11/2005	81	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	68.9	<2.15	<2.15	<8.6	NA	NA
	11/11/2005	46	<2.15	<2.15	<8.6	NA	NA
	2/9/2006	11.3	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	0.51	<0.5
	8/10/2006	<43	<2.15	<2.15	<8.60	3.37	<2.15
	10/26/2006	39.4	<1.0	<1.0	<4.0	2.92	<1.0
	1/25/2007	41.4	<0.5	<0.5	<2.0	1.36	<0.5
	4/26/2007	39.6	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	46.5	<1.0	<1.0	<4.0	<1.0	<1.0
	10/23/2007	53.7	<0.5	<0.5	<2.0	<0.5	<0.5
	1/22/2008	23.8	<0.5	<0.5	2.16	<0.5	<0.5
	4/16/2008	8.36	<0.5	<0.5	<2.0	164	<0.5
	7/3/2008	30.5	<0.5	<0.5	<2.0	1.08	<0.5
	10/15/2008	<20	<1.0	<1.0	<1.0	<1.0	<1.0
	1/7/2009	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	4/14/2009	15	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	12/2/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	3/17/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2010	26	<0.5	<0.5	<0.5	<0.5	<0.5
	9/2/2010	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	12/2/2010	<63	<3.1	<3.1	<3.1	<3.1	<3.1
	3/4/2011	40	<0.5	<0.5	<0.5	<0.5	<0.5
	5/20/2011	<71	<3.6	<3.6	<3.6	<3.6	<3.6
	9/9/2011	33	<1.3	<1.3	<1.3	<1.3	<1.3
	12/2/2011	49	<3.2	<3.5	<2.8	<2.4	<1.7
	3/2/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	6/7/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	9/21/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	12/14/2012	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	3/28/2013	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	6/11/2013	**<50**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**
MW-2	8/8/2002	21	<0.5	<0.5	<0.5	NA	NA
	11/1/2002	15	<0.5	<0.5	<0.5	NA	NA
	2/21/2003	12	<0.5	<0.5	<0.5	NA	NA
	5/28/2003	31	<0.5	<0.5	<0.5	NA	NA
	8/12/2003	69	<0.8	<0.8	<0.8	NA	NA
	10/9/2003	12	<0.5	<0.5	<0.5	NA	NA
	1/15/2004	<10	<0.5	<0.5	<0.5	NA	NA
	5/25/2004	14	<0.5	<0.5	<0.5	NA	NA
	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<2.5	<0.5	<0.5	<2.0	NA	NA

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-2 cont.	3/11/2005	<2.5	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	<10	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	1/22/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	2.44	<0.5
	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/13/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/17/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/2/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/2/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/4/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	5/20/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/9/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/2/2011	<13	<3.2	<3.5	<2.8	<2.4	<1.7
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/7/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/21/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/14/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/28/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/11/2013	**150**	**<0.5**	**1.6**	**<0.5**	**<0.5**	**<0.5**
MW-3	8/8/2002	<330	<8.3	<8.3	330	NA	NA
	11/1/2002	85	< 1.3	<1.3	220	NA	NA
	2/21/2003	140	<5.0	<5.0	320	NA	NA
	5/28/2003	520	<10	<10	530	NA	NA
	8/12/2003	180	<4.2	<4.2	270	NA	NA
	10/9/2003	<170	<8.3	<8.3	200	NA	NA
	1/15/2004	<100	<5.0	<5.0	150	NA	NA
	5/25/2004	<100	<5.0	<5.0	270	NA	NA
	9/21/2004	<140	<7.1	<7.1	110	NA	NA
	12/14/2004	<100	<20	<20	154	NA	NA
	3/11/2005	<215	<43	<43	256	NA	NA
	6/15/2005	<215	<10.8	<10.8	374	NA	NA
	8/26/2005	699	<21.5	<21.5	277	NA	NA
	11/11/2005	<430	<21.5	<21.5	171	NA	NA
	2/9/2006	<430	<21.5	<21.5	620	NA	NA
	5/9/2006	367	<10.8	<10.8	594	<10.8	<10.8
	8/10/2006	365	<10.8	<10.8	727	<10.8	<10.8
	10/26/2006	591	<10.8	<10.8	899	<10.8	<10.8
	1/25/2007	711	<10.8	<10.8	768	<10.8	<10.8
	4/26/2007	690	<10.8	<10.8	369	<10.8	<10.8
	7/25/2007	1,340	<10.8	<10.8	565	<10.8	<10.8
	10/23/2007	1,050	<21.5	<21.5	301	<21.5	<21.5
	1/22/2008	373	<10.8	<10.8	170	<0.5	<0.5
	4/16/2008	881	<5.50	<5.50	<22.0	1,850	12.1
	7/3/2008	426	<10.8	<10.8	124	<10.8	<10.8
	10/16/2008	<400	<20	<20	<20	<20	<20
	1/8/2009	<500	<25	<25	<25	<25	<25
	4/13/2009	<500	<25	<25	<25	<25	<25
	8/27/2009	<500	<25	<25	<25	<25	<25
	12/2/2009	270	<13	<13	<13	<13	<13

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-3 cont.	3/17/2010	<250	<13	<13	<13	<13	<13
	6/3/2010	<250	<13	<13	<13	<13	<13
	9/2/2010	<250	<13	<13	<13	<13	<13
	12/2/2010	<130	<6.3	<6.3	<6.3	<6.3	<6.3
	3/4/2011	<170	<8.3	<8.3	<8.3	<8.3	<8.3
	5/20/2011	<130	<6.3	<6.3	<6.3	<6.3	<6.3
	9/9/2011	<140	<7.1	<7.1	<7.1	<7.1	<7.1
	12/2/2011	<6.6	<1.6	<1.7	<1.4	<1.2	<0.86
	3/2/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	6/7/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	9/21/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	12/14/2012	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	3/28/2013	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	6/11/2013	**<100**	**<5.0**	**<5.0**	**<5.0**	**<5.0**	**<5.0**
MW-4	8/8/2002	1500	<17	<17	18	NA	NA
	11/1/2002	580	< 5.0	6	13	NA	NA
	2/21/2003	1600	<20	22	<20	NA	NA
	5/28/2003	690	<8.3	<8.3	17	NA	NA
	8/12/2003	550	<7.1	7.3	18	NA	NA
	10/9/2003	1400	<31	50	<31	NA	NA
	1/15/2004	1,300	<20	25	21	NA	NA
	5/25/2004	560	<8.3	<8.3	24	NA	NA
	9/21/2004	1,300	<50	<50	<50	NA	NA
	12/14/2004	826	<10.75	21	49	NA	NA
	3/11/2005	1,110	<10.8	12.1	<43	NA	NA
	6/15/2005	<110	<5.5	<5.5	22.9	NA	NA
	8/26/2005	902	<5.50	<5.50	37.4	NA	NA
	11/11/2005	884	<10.8	<10.8	<43	NA	NA
	2/9/2006	769	<10.8	16.4	45.6	NA	NA
	5/9/2006	405	<2.15	2.95	31.3	<2.15	<2.15
	8/10/2006	306	<2.15	<2.15	35.3	<2.15	<2.15
	10/26/2006	3430	<10.8	13.8	<43	<10.8	<10.8
	1/25/2007	822	<2.15	2.4	28	2.25	<2.15
	4/26/2007	556	<2.15	2.28	29.2	<2.15	<2.15
	7/25/2007	1,860	<2.15	9.94	24	<2.15	<2.15
	10/23/2007	3,400	<2.15	18.4	25.9	<2.15	<2.15
	1/22/2008	2,580	<5.50	64.7	<22	<0.5	<0.5
	4/15/2008	1,100	<5.50	11.7	<22	39.9	<5.50
	7/2/2008	8,720	<5.50	75.2	<22	<5.50	<5.50
	10/16/2008	700	<3.6	4.2	37	5.4	<3.6
	1/8/2009	1,500	<3.6	9.9	41	3.6	<3.6
	4/13/2009	1,100	<8.3	<8.3	28	<8.3	<8.3
	8/27/2009	4,900	<5.0	24	<5.0	<5.0	<5.0
	12/2/2009	6,800	<5.0	69	<5.0	<5.0	<5.0
	3/17/2010	1,900	<3.6	18	<3.6	<3.6	<3.6
	6/3/2010	930	<3.6	7.7	<3.6	<3.6	<3.6
	9/2/2010	7,200	<3.6	57	<3.6	<3.6	<3.6
	12/2/2010	3,800	<10	30	<10	<10	<10
	3/3/2011	410	<0.71	3.2	<0.71	<0.71	<0.71
	5/19/2011	130	<0.5	1.4	<0.5	<0.5	<0.5
	9/8/2011	380	<0.5	3.5	<0.5	1.1	<0.5
	12/1/2011	790	<1.6	5.4	8.2	<1.2	<0.86
	3/2/2012	920	<2.0	5.9	24	<2.0	<2.0
	6/7/2012	1,000	<2.5	13	<2.5	<2.5	<2.5
	9/21/2012	1,300	<2.5	14	<2.5	<2.5	<2.5
	12/14/2012	36	<0.5	0.65	<0.5	<0.5	<0.5
	3/28/2013	2,500	<5.0	29	<5.0	<5.0	<5.0
	6/11/2013	**890**	**<5.0**	**12**	**<5.0**	**<5.0**	**<5.0**
MW-5	8/8/2002	<250	<6.3	<6.3	510	NA	NA
	11/1/2002	66	< 2.0	< 2.0	560	NA	NA
	2/21/2003	<63	<3.1	<3.1	280	NA	NA
	5/28/2003	<33	<1.7	<1.7	110	NA	NA
	8/12/2003	130	<3.6	<3.6	270	NA	NA
	10/9/2003	<100	<5.0	<5.0	740	NA	NA
	1/15/2004	<63	<3.1	<3.1	300	NA	NA
	5/25/2004	<100	<5.0	<5.0	210	NA	NA
	9/21/2004	<130	<6.3	<6.3	550	NA	NA
	12/14/2004	40	<5.5	<5.5	444	NA	NA

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-5 cont.	3/11/2005	88.8	<5.5	<5.5	448	NA	NA
	6/15/2005	<43	<2.15	<2.15	88.1	NA	NA
	8/26/2005	274	<5.50	<5.50	195	NA	NA
	11/11/2005	192	<5.50	<5.50	360	NA	NA
	2/9/2006	218	<5.50	<5.50	523	NA	NA
	5/9/2006	91.8	<2.15	<2.15	163	<2.15	<2.15
	8/10/2006	138	<5.50	<5.50	342	<5.50	<5.50
	10/26/2006	322	<5.50	<5.50	712	<5.50	<5.50
	1/25/2007	878	<5.50	<5.50	552	<5.50	<5.50
	4/26/2007	708	<2.15	<2.15	310	<2.15	<2.15
	7/25/2007	1,020	<2.15	<2.15	356	<2.15	<2.15
	10/23/2007	1,510	<2.15	<2.15	181	<2.15	<2.15
	1/22/2008	470	<0.5	4.56	62.1	<0.5	<0.5
	4/15/2008	566	<1.0	<1.0	29.6	231	5.66
	7/3/2008	2,320	<2.15	<2.15	53.3	<2.15	<2.15
	10/16/2008	990	<5.0	<5.0	82	<5.0	<5.0
	1/8/2009	360	<6.3	<6.3	51	<6.3	<6.3
	4/13/2009	280	<3.1	<3.1	<3.1	<3.1	<3.1
	8/27/2009	1,300	<5.0	<5.0	<5.0	<5.0	<5.0
	12/2/2009	320	<5.0	<5.0	25	<5.0	<5.0
	3/17/2010	570	<1.0	<1.0	<1.0	<1.0	<1.0
	6/4/2010	340	<1.0	<1.0	<1.0	<1.0	<1.0
	9/2/2010	320	<2.5	<2.5	13	<2.5	<2.5
	12/2/2010	200	<3.1	<3.1	<3.1	<3.1	<3.1
	3/4/2011	180	<0.5	<0.5	<0.5	<0.5	<0.5
	5/20/2011	480	<1.0	<1.0	<1.0	<1.0	<1.0
Pre- MPE	8/4/2011	110	<0.71	<0.71	2.6	<0.71	<0.71
	9/9/2011	260	<1.0	<1.0	11	<1.0	<1.0
	12/2/2011	95	<3.2	<3.5	14	<2.4	<1.7
	3/2/2012	59	<1.0	<1.0	4.1	<1.0	<1.0
	6/7/2012	22	<1.0	<1.0	2.8	<1.0	<1.0
	9/21/2012	66	<1.0	<1.0	<1.0	<1.0	<1.0
	12/14/2012	<20	<1.0	<1.0	4.2	<1.0	<1.0
	3/28/2013	<20	<1.0	<1.0	<1.0	<1.0	<1.0
	6/11/2013	**<20**	**<1.0**	**<1.0**	**2.5**	**<1.0**	**<1.0**
MW-6	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<5.5	<5.5	<5.5	<22	NA	NA
	3/11/2005	2.54	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<20	<1.0	<1.0	<4.0	NA	NA
	8/26/2005	<43	<2.15	<2.15	<8.6	NA	NA
	11/11/2005	<43	<2.15	<2.15	<8.6	NA	NA
	2/9/2006	<43	<2.15	<2.15	<8.6	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	7.21	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	5.66	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	6.68	<0.5	<0.5	<2.0	<0.5	<0.5
	1/21/2008	13.9	<0.5	<0.5	<2.0	<0.5	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	6.78	1.49
	7/2/2008	4.54	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	<63	<3.1	<3.1	<3.1	<3.1	<3.1
	4/13/2009	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	8/26/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	12/1/2009	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	3/16/2010	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	6/3/2010	<40	<2.0	<2.0	<2.0	<2.0	<2.0
	9/1/2010	<200	<10	<10	<10	<10	<10
	12/2/2010	<330	<17	<17	<17	<17	<17
	3/3/2011	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	5/20/2011	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	9/8/2011	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	12/1/2011	NA	NA	NA	NA	NA	NA

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-6 cont.	3/2/2012	<83	<4.2	<4.2	<4.2	<4.2	<4.2
	6/6/2012	<33	<1.7	<1.7	<1.7	<1.7	<1.7
	9/20/2012	NA	NA	NA	NA	NA	NA
	12/13/2012	29	<0.71	<0.71	<0.71	<0.71	<0.71
	3/27/2013	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	6/10/2013	**<50**	**<2.5**	**<2.5**	**<2.5**	**<2.5**	**<2.5**
MW-7	9/21/2004	<10	<0.5	<0.5	1.5	NA	NA
	12/14/2004	<2.5	<0.5	<0.5	<2.0	NA	NA
	3/11/2005	<12.5	<2.5	<2.5	<10	NA	NA
	6/15/2005	<10	<0.5	<0.5	2.23	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	NA	NA	NA	NA	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	6.49	<0.5	<0.5	2.58	<0.5	<0.5
	1/21/2008	<2.0	<0.5	<0.5	6.01	<0.5	<0.5
	4/15/2008	8.8	<0.5	<0.5	<2.0	<0.5	1.26
	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	14	<0.5	<0.5
	1/7/2009	<10	<0.5	<0.5	11	<0.5	<0.5
	4/13/2009	<10	<0.5	<0.5	16	<0.5	<0.5
	8/26/2009	<33	<0.5	<0.5	33	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	30	<0.5	<0.5
	3/16/2010	11	<0.5	<0.5	<0.5	<0.5	<0.5
	6/3/2010	20	<0.5	<0.5	7.1	<0.5	<0.5
	9/1/2010	47	<0.5	<0.5	7.2	<0.5	<0.5
	12/2/2010	22	<0.5	<0.5	4.9	<0.5	<0.5
	3/4/2011	14	<0.5	<0.5	4.0	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	2.1	<0.5	<0.5
	9/8/2011	<10	<0.5	<0.5	1.6	<0.5	<0.5
	12/1/2011	15	<0.36	<0.40	2.4	<0.28	<0.19
	3/2/2012	<10	<0.5	<0.5	0.82	<0.5	<0.5
	6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/13/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	**<10**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-8	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<2.5	<0.5	<0.5	<2.0	NA	NA
	3/11/2005	NA	NA	NA	NA	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	<10	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	<0.5	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	1/21/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/7/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/13/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	Well Decommissioned 11/13/2009						

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
MW-9	9/21/2004	<10	<0.5	<0.5	<0.5	NA	NA
	12/14/2004	<2.5	<0.5	<0.5	<2.0	NA	NA
	3/11/2005	<2.5	<0.5	<0.5	<2.0	NA	NA
	6/15/2005	<10	<0.5	<0.5	<2.0	NA	NA
	8/26/2005	<10	<0.5	<0.5	<2.0	NA	NA
	11/11/2005	<10	<0.5	<0.5	<2.0	NA	NA
	2/9/2006	<10	<0.5	<0.5	<2.0	NA	NA
	5/9/2006	<10	<0.5	<0.5	<2.0	2.8	<0.5
	8/10/2006	<10	<0.5	<0.5	<2.0	1.83	<0.5
	10/26/2006	<10	<0.5	<0.5	<2.0	3.07	<0.5
	1/25/2007	<2.0	<0.5	<0.5	<2.0	2.92	<0.5
	4/26/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/25/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/23/2007	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	1/21/2008	<2.0	<0.5	<0.5	<2.0	1.18	<0.5
	4/15/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/2/2008	<2.0	<0.5	<0.5	<2.0	2.07	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	1.5	<0.5
	1/7/2009	<10	<0.5	<0.5	<0.5	1.4	<0.5
	4/13/2009	<10	<0.5	<0.5	<0.5	0.97	<0.5
	8/26/2009	<10	<0.5	<0.5	<0.5	2.6	<0.5
	Well Decommissioned 11/13/2009						
EX-1	12/2/2009	150	<1.3	<1.3	<1.3	<1.3	<1.3
	3/16/2010	980	<1.3	2.4	27	<1.3	<1.3
	6/3/2010	570	<1.3	1.9	<1.3	<1.3	<1.3
	9/1/2010	470	<0.5	1.4	2	<0.5	<0.5
	12/2/2010	1,300	<2.0	3.6	15	<2.0	<2.0
	3/3/2011	690	<0.71	2.5	12	<0.71	<0.71
	5/19/2011	370	<0.71	1.9	13	<0.71	<0.71
	9/8/2011	32	<0.5	<0.5	0.53	<0.5	<0.5
	12/1/2011	1,200	<1.6	8.3	6.8	<1.2	<0.86
	3/2/2012	31	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	390	<0.5	2.9	4.8	0.57	<0.5
	9/20/2012	170	<0.5	1.5	<0.5	<0.5	<0.5
	12/13/2012	210	<0.5	2.7	5.2	<0.5	<0.5
	3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	**280**	**<0.5**	**4**	**1.6**	**<0.5**	**<0.5**
EX-2	12/2/2009	<63	<3.1	<3.1	<3.1	<3.1	<3.1
	3/16/2010	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	6/3/2010	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	9/1/2010	<50	<2.5	<2.5	<2.5	<2.5	<2.5
	12/2/2010	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	3/3/2011	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	5/19/2011	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	9/8/2011	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	12/1/2011	74	<3.2	<3.5	<2.8	<2.4	<1.7
	3/2/2012	<25	<1.3	<1.3	<1.3	<1.3	<1.3
	6/6/2012	<33	<1.7	<1.7	<1.7	<1.7	<1.7
	9/20/2012	<33	<1.7	<1.7	<1.7	<1.7	<1.7
	12/13/2012	<71	<3.6	<3.6	<3.6	<3.6	<3.6
	3/27/2013	<20	<1.0	<1.0	<1.0	<1.0	<1.0
	6/10/2013	**32**	**<1.0**	**<1.0**	**<1.0**	**<1.0**	**<1.0**
	MPE Wells						
MPE-1	8/4/2011	<500	<25	<25	<25	<25	<25
	9/26/2011	<500	<25	<25	600	<25	<25
	12/2/2011	830	<32	<35	750	<24	<17
	3/2/2012	<710	<36	<36	1,200	<36	<36
	6/6/2012	<630	<31	<31	430	<31	<31
	9/20/2012	<1,300	<63	<63	1,200	<63	<63
	12/14/2012	<1,300	<63	<63	940	<63	<63
	3/27/2013	<710	<36	<36	890	<36	<36
	6/10/2013	**660**	**<13**	**<13**	**380**	**<13**	**<13**
MPE-2	8/4/2011	<330	<17	<17	<17	<17	<17
	9/26/2011	<330	<17	<17	<17	<17	<17
	12/2/2011	<66	<16	<17	<14	<12	<8.6
	3/2/2012	<330	<17	<17	<17	<17	<17
	6/7/2012	<250	<13	<13	<13	<13	<13
	9/21/2012	<250	<13	<13	<13	<13	<13
	12/14/2012	<250	<13	<13	<13	<13	<13
	3/28/2013	<400	<20	<20	<20	<20	<20
	6/11/2013	**<250**	**<13**	**<13**	**<13**	**<13**	**<13**

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
2nd WBZ							
MW-1D	1/3/2008	111	<0.5	<0.5	<2.0	NA	NA
	1/22/2008	12.9	<0.5	<0.5	<2.0	<0.5	<0.5
	4/16/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	7/3/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/15/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/8/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/26/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/16/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/1/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/3/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/3/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2011	<1.5	<0.36	<0.40	<0.32	<0.28	<0.19
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/13/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	**<10**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-3D	1/3/2008	37.3	<0.5	3.12	15.3	NA	NA
	1/22/2008	15.6	<0.5	3.1	15.3	<0.5	<0.5
	4/16/2008	17.7	<0.5	<0.5	<2.0	<0.5	<0.5
	7/3/2008	<2.0	<0.5	<0.5	7.45	<0.5	<0.5
	10/16/2008	<10	<0.5	<0.5	4.7	<0.5	<0.5
	1/8/2009	<10	<0.5	<0.5	3.4	<0.5	<0.5
	4/14/2009	<10	<0.5	<0.5	5	<0.5	<0.5
	8/26/2009	<10	<0.5	<0.5	1.6	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	2.2	<0.5	<0.5
	3/16/2010	<10	<0.5	<0.5	0.65	<0.5	<0.5
	6/4/2010	<10	<0.5	<0.5	1.8	<0.5	<0.5
	9/1/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/3/2010	<10	<0.5	<0.5	0.93	<0.5	<0.5
	3/3/2011	<10	<0.5	<0.5	1.0	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2011	<1.5	<0.36	<0.40	0.52	<0.28	<0.19
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/13/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	**<10**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-4D	1/4/2008	25	<0.5	<0.5	<2.0	NA	NA
	1/22/2008	124	<0.5	4.9	3.32	<0.5	<0.5
	4/15/2008	25.7	<0.5	<0.5	<2.0	<0.5	<0.5
	7/3/2008	3.38	<0.5	<0.5	<2.0	<0.5	<0.5
	10/16/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	1/8/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	4/14/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	8/27/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2009	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/16/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/4/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/1/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/3/2010	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/3/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	5/19/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/8/2011	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/1/2011	<1.5	<0.36	<0.40	<0.32	<0.28	<0.19
	3/2/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/6/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	9/20/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	12/13/2012	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	3/27/2013	<10	<0.5	<0.5	<0.5	<0.5	<0.5
	6/10/2013	**<10**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<0.5**

Table 4b
Historical Gasoline Oxygenates Results
15101 Freedom Avenue, San Leandro, CA

Monitoring Well	Date	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	1,2-DCA (µg/L)	EDB (µg/L)
1573 153 RD	7/2/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
	10/16/2008	<10	<0.5	<0.5	<0.5	<0.5	<0.5
EB-PMP	1/21/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
EB-PRB	1/21/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
EB-PMP2	1/22/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
EB-PRB2	1/22/2008	<2.0	<0.5	<0.5	<2.0	<0.5	<0.5
ESL		**12**	**NE**	**NE**	**NE**	**0.5**	**0.05**

Notes:
August 8, 2002 was the first time that samples were analyzed for Gasoline Oxygenates
<: Not detected above the laboratory reporting limit.
NA: Not Analyzed. Well MW-8 was inaccessible during the 1Q05 & well MW-7 (1Q06) car was parked over each well.
NE: Not Established
TBA: tert-Butyl Alcohol
DIPE: Isopropyl Ether
ETBE: Ethyl tert-Butyl Ether
TAME: Methyl tert-Amyl Ether
ESL: Environmental Screening Levels per CRWQCB SFBay Region (Revised May 2013);
MW-8 and MW-9 were decommissioned November 13, 2009

Table 5
Effluent Chemical Analytical Results
and Operational History of Remediation System
15101 Freedom Ave, San Leandro, CA

Date	Volume (gallons)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	COD (mg/L)	TSS (mg/L)	pH
2009											
8-Oct-2009	15,351	<50	120 [Y]	NA	NA	NA	NA	NA	NA	NA	NA
19-Nov-2009	8,287	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.7
9-Dec-2009	0	Installation of GWETS									
16-Dec-2009	20,000	<50	<50	<300	<0.5	0.65 C	<0.5	0.84 C	<10	<5	7.4
2010											
18-Jan-2010	215,453	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.4
15-Feb-2010	297,560	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	11	<5	6.7
15-Mar-2010	475,245	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5.0	6.5
19-Apr-2010	621,180	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	8	6.6
17-May-2010	705,770	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	8	6.7
16-Jun-2010	825,200	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	17	9	6.8
19-Jul-2010	910,652	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	8	6.6
16-Aug-2010	939,935	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.6
28-Sep-2010	970,450	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	10	6.8
26-Oct-2010	1,013,700	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.2
15-Nov-2010	1,052,591	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.5
7-Dec-2010	1,100,492	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.6
2011											
11-Jan-2011	1,179,075	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	12	6	6.6
10-Feb-2011	1,249,569	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.6
14-Mar-2011	1,336,784	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.5
11-Apr-2011	1,364,272	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.5
10-May-2011	1,466,472	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	12	7	6.6
7-Jun-2011	1,532,263	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	6	6.6

Table 5
Effluent Chemical Analytical Results
and Operational History of Remediation System
15101 Freedom Ave, San Leandro, CA

Date	Volume (gallons)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	COD (mg/L)	TSS (mg/L)	pH
28-Jul-2011	1,573,295	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	5	6.3
25-Aug-2011	1,613,935	77	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.1
23-Sep-2011	1,631,273	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.7
27-Oct-2011	1,642,277	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	7	7.1
18-Nov-2011	1,676,170	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.8
1-Dec-2011	1,694,889	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.97
2012											
19-Jan-2012	1,715,163	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	7.02
23-Feb-2012	1,794,185	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	<5	6.98
20-Mar-2012	1,803,832	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	<10	7	7.02
17-Apr-2012	1,876,439	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.95
29-May-2012	1,900,111	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.89
11-Jun-2012	1,914,130	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.1
12-Jul-2012	1,943,456	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.3
17-Aug-2012	1,955,438	<50	<52	<310	<0.5	<0.5	<0.5	<0.5	NA	NA	7.04
17-Sep-2012	1,979,852	<50	<54	<330	<0.5	<0.5	<0.5	<0.5	NA	NA	7.02
23-Oct-2012	1,989,022	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.95
12-Nov-2012	1,995,170	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.90
4-Dec-2012	2,024,040	<50	<49	<290	<0.5	<0.5	<0.5	<0.5	NA	NA	6.86
2013											
7-Jan-2013	2,099,002	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.01
14-Feb-2013	2,186,595	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	7.08
14-Mar-2013	2,193,121	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.98
12-Apr-2013	2,198,793	<50	<50	<300	<0.5	<0.5	<0.5	<0.5	NA	NA	6.83
10-Jun-2013	2,273,686	<50	<58	<350	<0.5	<0.5	<0.5	<0.5	NA	NA	6.91
5-Jul-2013	**2,282,444**	**<50**	**<49**	**<290**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**NA**	**NA**	**6.87**

Table 5
Effluent Chemical Analytical Results
and Operational History of Remediation System
15101 Freedom Ave, San Leandro, CA

Date	Volume (gallons)	TPH-g (µg/L)	TPH-d (µg/L)	TPH-mo (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	COD (mg/L)	TSS (mg/L)	pH

Note:
NA: Not Available/Not Applicable
< : Less than Laboratory-reporting limit
In October and November 2009 discharge occurred only during MPE events
GWETS and totalizer installed in December 2009.
Week # 1 sampling conducted on Oct 8, 2009
C: Presence confirmed, but RPD between column exceeds 40%
Volume discharged during the October 2009 MPE event was 18,669 gallons
Volume discharged during the November 2009 MPE event was 10,507 gallons
Volume discharged during the December 2009 MPE event was 20,298 gallons
Volume discharged during the February 2010 MPE event was 6,339 gallons
Volume discharged during the March 2010 MPE event was 3,810 gallons
Volume discharged during the June 2010 MPE event was 15, 600 gallons
Volume discharged during the August 2010 MPE event was 1,421 gallons
Volume discharged during the October 2010 MPE event was 13,282 gallons
SOMA ceased COD and TSS testing based on a request from OLSD dated April 5, 2012

Table 6

Cumulative Masses of Petroleum Hydrocarbons Removed from the Groundwater Since Installation of the Treatment System

15101 Freedom Ave, San Leandro, CA

Date	Volume	Influent Concentration (µg/L)					Mass removed (pounds)				
	(gallons)	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH-g	Benzene	Toluene	Ethyl-benzene	Total Xylenes
2009											
9-Dec-2009	0	Installation of GWETS, began discharging treated groundwater to site sewer main									
2010											
18-Jan-2010	215,453	1,900	79	32.00	2.4	260	3.41	0.14	0.06	0.00	0.47
19-Apr-2010	621,180	2,100	75	28	56	332	10.50	0.40	0.15	0.19	1.59
19-Jul-2010	910,652	56 Y	<0.5	<0.5	<0.5	<0.5	10.64	0.40	0.15	0.19	1.59
26-Oct-2010	1,013,700	2,600	200	25	68	405	12.87	0.57	0.17	0.25	1.94
2011											
11-Jan-2011	1,179,075	1,700	80	19	50	295	15.21	0.68	0.20	0.32	2.34
11-Apr-2011	1,364,272	1,200	41	3.3	23	185	17.06	0.75	0.20	0.36	2.63
28-Jul-2011	1,573,295	540	21	2.8	5.4	49	18.00	0.78	0.21	0.37	2.71
27-Oct-2011	1,642,277	<50	1.50	<0.5	<0.5	2.9	18.00	0.78	0.21	0.37	2.71
2012											
19-Jan-2012	1,715,163	110 Y	<0.5	<0.5	<0.5	<0.5	18.07	0.78	0.21	0.37	2.71
17-Apr-2012	1,876,439	1,100	60	6.8	24	161	19.54	0.87	0.22	0.40	2.93
12-Jul-2012	1,943,456	320	30	1.6	15	34	19.72	0.88	0.22	0.41	2.95
23-Oct-2012	1,989,022	1,400 Y	130	12	42	153	20.25	0.93	0.22	0.42	3.01
2013											
7-Jan-2013	2,099,002	1,500	66	9.8	37	228	21.63	0.99	0.23	0.46	3.22
12-Apr-2013	2,198,793	1,600	110	3.8	64	131	22.96	1.08	0.24	0.51	3.32
5-Jul-2013	**2,282,444**	**680**	**71**	**1.8**	**22**	**33.9**	**23.43**	**1.13**	**0.24**	**0.52**	**3.35**

Notes:

< : Below laboratory-reporting limit

Y : sample exhibits chromatographic pattern which does not resmeble standard

Table 7
Historical Soil Analytical Results
15101 Freedom Avenue
San Leandro, California

SAMPLE DATE	SAMPLE ID	Sample Depth	8260B	8015 DRO	8260B						
			TPH-g[3] mg/kg	TPH-d[3] mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylenes mg/kg	MTBE mg/kg	TAME mg/kg	TBA mg/kg
FIRST WATER-BEARING ZONE											
4/22/2002	MW-1 @ 26'	26'	23	NA	0.054	0.04[E]	0.22	0.207	<0.0052	NA	NA
4/22/2002	MW-2 @ 21'	21'	55	NA	<0.0053	0.19[E]	0.72	0.167[E]	<0.0048	NA	NA
4/22/2002	MW-3 @ 25'	25'	910	NA	0.75	2.9	15	65	<1	NA	NA
4/22/2002	MW-4 @ 26'	26'	66	NA	0.18	0.03[E]	0.54	2.35	<0.0052	NA	NA
4/22/2002	MW-5 @ 23.5'	23.5'	1,500	NA	<0.5	5.2	20	67	<2	NA	NA
10/1/2003	TWB-1 @ 16-16.5	16-16.5	<1	NA	<0.0052	<0.0052	<0.0052	<0.0052	<0.0048	NA	NA
10/1/2003	TWB-1 @ 18-18.5	18-18.5	1.8[E]	NA	<0.0052	<0.0052	<0.0052	<0.0052	<0.0048	NA	NA
10/1/2003	TWB-1 @ 21.5-22	21.5-22	**3,300**	NA	<0.50	<0.50	56.00	182.00	<1.8	NA	NA
10/1/2003	TWB-1 @ 24-24.5	24-24.5	**4,000**	NA	<1	12.00	84.00	365.00	<0.0013	NA	NA
10/1/2003	TWB-2 @ 22-20.5	22-20.5	29[E]	NA	<0.025	<0.025	0.05	0.288[C]	<0.0048	NA	NA
10/1/2003	TWB-2 @ 29.5-30	29.5-30	<0.99	NA	<0.005	<0.005	<0.005	<0.005	<0.0045	NA	NA
10/1/2003	TWB-2 @ 31-31.5	31-31.5	1.6	NA	<0.0053	<0.0053	0.0097[D]	0.01	<0.0046	NA	NA
10/1/2003	TWB-2 @ 33-33.25	33-33.25	<1.1	NA	<0.0054	<0.0054	<0.0054	<0.0054	<0.0046	NA	NA
9/17/2003	TWB-3 @ 20-20.5	20-20.5	<1	NA	<0.0052	<0.0052	<0.0052	<0.0052	<0.0049	NA	NA
9/16/2003	TWB-4A @ 33-33.5	33-33.5	<1.1	NA	<0.0053	<0.0053	<0.0053	<0.0053	<0.005	NA	NA
9/16/2003	TWB-5 @ 32-32.5	32-32.5	<1.1	NA	<0.0053	<0.0053	<0.0053	<0.0053	<0.0044	NA	NA
9/16/2003	TWB-6 @ 20-20.5	20-20.5	<1	NA	<0.0052	<0.0052	<0.0052	<0.0052	<0.0045	NA	NA
9/16/2003	TWB-6 @ 28-30	28-30	<0.96	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0047	NA	NA
8/25/2004	MW-6 (5.5-6)	5.5-6	<1.1	<0.005	<0.0053	<0.0053	<0.0053	<0.0053	<0.0048	<0.0048	<0.096
8/25/2004	MW-6 (6-6.5)	6-6.5	<1.1	<0.005	<0.0053	<0.0053	<0.0053	<0.0053	<0.0045	<0.0045	<0.089
8/25/2004	MW-6 (8.5-9)	8.5-9	<1.1	<0.005	<0.0053	<0.0053	<0.0053	<0.0053	<0.0048	<0.0048	<0.096
8/25/2004	MW-6 (9-9.5)	9-9.5	<1.0	<0.005	<0.0050	<0.0050	<0.0050	<0.0050	<0.0045	<0.0045	<0.089
September-04	MW-6 (5.5-6)	5.5-6	<1.1	NA	<0.0053	<0.0053	<0.0053	<0.0053	NA	NA	NA
September-04	MW-6 (6-6.5)	6-6.5	<1.1	NA	<0.0053	<0.0053	<0.0053	<0.0053	NA	NA	NA
September-04	MW-6 (8.5-9)	8.5-9	<1.1	NA	<0.0053	<0.0053	<0.0053	<0.0053	NA	NA	NA
September-04	MW-6 (9-9.5)	9-9.5	<1	NA	<0.0053	<0.0053	<0.0053	<0.0053	NA	NA	NA

Table 7
Historical Soil Analytical Results
15101 Freedom Avenue
San Leandro, California

SAMPLE DATE	SAMPLE ID	Sample Depth	8260B	8015 DRO	8260B						
			TPH-g[3] mg/kg	TPH-d[3] mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylenes mg/kg	MTBE mg/kg	TAME mg/kg	TBA mg/kg
9/19/2006	DPS-1 (26-27)	26-27	157	114[(a)(b)]	<0.0215	1.034	0.7130	0.7636	<0.0215	<0.086	<0.43
9/20/2006	DPS-2 (26-27)	26-27	14.08	56.5[(a)(b)]	0.04641	0.9296	0.1202	0.2677	<0.0215	<0.086	<0.43
9/19/2006	DPS-3 (27-28)	27-28	<0.05	<50.0	0.0008800	0.0009	0.002560	0.001850	0.0183	0.00219	0.0137
9/19/2006	DPS-4 (27-28)	27-28	<0.05	<50.0	<0.0005	<0.002	0.002450	<0.001	<0.0005	<0.002	<0.01
9/20/2006	DPS-5 (22-23)	22-23	241.1	292[(a)(b)]	0.03463	1.195	0.9731	2.261	<0.0215	<0.086	<0.43
9/18/2006	DPS-6 (29-30)	29-30	0.06936	<50.0	<0.0005	<0.002	0.002520	0.00051	<0.0005	<0.002	<0.01
9/18/2006	DPS-6 (21-22)	21-22	259.7	<50.0	<0.0215	1.039	4.327	6.431	<0.0215	<0.086	<0.43
9/18/2006	DPS-8 (20-21)	20-21	216.4	71.1[(a)(b)]	0.05114	1.152	0.9010	1.6515	<0.0215	<0.086	<0.43
AQUITARD											
9/16/2003	TWB-6 @ 38-39	38-39	<1.1	NA	<0.0054	<0.0054	<0.0054	<0.0054	<0.0048	NA	NA
9/20/2006	DPS-5 (31-32)	31-32	0.4901	<50.0	0.002750	0.009260	0.01158	0.04261	0.00710	<0.002	<0.01
9/18/2006	DPS-7 (24-25)	24-25	<0.05	<50.0	<0.0005	<0.002	0.002300	<0.001	0.00316	<0.002	<0.01
9/18/2006	DPS-7 (34-35)	34-35	<0.05	<50.0	<0.0005	<0.002	0.002190	<0.001	<0.0005	<0.002	<0.01
9/18/2006	DPS-8 (30-31)	30-31	0.3212	<50.0	<0.0005	0.002970	0.003320	0.002700	**0.0436**	0.00320	<0.01
9/18/2006	DPS-8 (40.5-41)	40.5-41	<0.05	<50.0	<0.0005	<0.002	0.002600	0.001740	0.00692	<0.002	<0.01
SECOND WATER-BEARING ZONE											
9/19/2006	DPS-4 (39-40)	39-40	<0.05	<50.0	<0.0005	<0.002	<0.0005	<0.001	<0.0005	<0.002	<0.01
9/19/2006	DPS-1 (53-54)	53-54	<0.05	<50.0	<0.0005	<0.002	0.002100	<0.001	<0.0005	<0.002	<0.01
9/20/2006	DPS-2 (42-43)	42-43	0.3721	<50.0	0.002830	0.004150	0.003620	0.02352	**0.0848**	<0.002	**0.107**
9/19/2006	DPS-3 (57-58)	57-58	<0.05	<50.0	<0.0005	<0.002	0.002060	<0.001	<0.0005	<0.002	<0.01
9/20/2006	DPS-5 (41-42)	41-42	0.2573	<50.0	0.00052	0.003180	0.006190	0.01938	<0.0005	<0.002	<0.01
9/18/2006	DPS-6 (58-60)	58-60	<0.05	<50.0	<0.0005	<0.002	0.002040	0.004830	<0.0005	<0.002	<0.01
12/17/2007	MW-1D @ 60'	60'	0.0598	NA	<0.0005	<0.002	<0.0005	<0.002	<0.0005	<0.002	<0.002
12/18/2007	MW-3D @ 60'	60'	0.0554	NA	<0.0005	<0.002	<0.0005	<0.002	<0.0005	<0.002	<0.002
4/27/2009	MPE-1	22	2000	NA	<10	26	48	254	<10	<10	<200
4/27/2009	MPE-2	25.5	160	NA	<0.5	<0.1	2.9	14.3	<0.5	<0.5	<10
11/12/2009	EX-1	19	<1.0	NA	0.027	<0.005	0.17	0.52	<0.005	<0.005	<0.099
11/12/2009	EX-1	24	41	NA	<0.051	<0.051	1.8	2.43	<0.051	<0.051	<1.0
11/12/2009	EX-2	23.5	33	NA	<0.012	<0.0012	<0.012	<0.012	<0.012	<0.012	<0.25
11/12/2009	EX-2	27	<0.96	NA	<0.005	<0.005	0.046	0.111	<0.005	<0.005	<0.099

Table 7
Historical Soil Analytical Results
15101 Freedom Avenue
San Leandro, California

SAMPLE DATE	SAMPLE ID	Sample Depth	8260B	8015 DRO	8260B						
			TPH-g[3] mg/kg	TPH-d[3] mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylenes mg/kg	MTBE mg/kg	TAME mg/kg	TBA mg/kg
7/20/2011	DP-1	6.5	<1.1	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096
7/20/2011	DP-1	16	<0.91	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094
7/20/2011	DP-1	20	22	NA	<0.046	<0.046	0.65	2.94	<0.046	<0.046	<0.93
7/20/2011	DP-1	22	5.7	NA	<0.0048	0.0086	0.14	1.15	<0.0048	<0.0048	<0.096
7/20/2011	DP-1	23	<1.0	NA	<0.0048	<0.0048	0.01	0.0253	<0.0048	<0.0048	<0.097
7/20/2011	DP-1	30	1.3	NA	<0.0044	<0.0044	0.024	0.122	<0.0044	<0.0044	<0.088
7/20/2011	DP-2	8	<0.92	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094
7/20/2011	DP-2	10	<1.1	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.094
7/20/2011	DP-2	20	<0.94	NA	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.093
7/20/2011	DP-2	24	4.4 Y	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098
7/20/2011	DP-2	28	<1.0	NA	<0.0047	<0.0047	0.034	0.042	<0.0047	<0.0047	<0.095
7/20/2011	DP-2	30	<0.92	NA	<0.0047	<0.0047	0.0071	<0.0047	<0.0047	<0.0047	<0.094
7/21/2011	DP-3	6	<1.0	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.099
7/21/2011	DP-3	12	<1.1	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096
7/21/2011	DP-3	20	26 Y	NA	<0.0048	<0.0048	0.1	0.28	<0.0048	<0.0048	<0.095
7/21/2011	DP-3	21	<0.98	NA	<0.0046	<0.0046	<0.0046	<0.0046	0.0051	<0.0046	<0.093
7/21/2011	DP-3	30	<1.1	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.099
7/21/2011	DP-4	8	<1.1	NA	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.093
7/21/2011	DP-4	11	<0.99	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.095
7/21/2011	DP-4	16	<1.0	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098
7/21/2011	DP-4	20	5.2 Y	NA	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.092
7/21/2011	DP-4	24	140	NA	<0.25	<0.25	2.2	6.79	<0.25	<0.25	<5.0
7/21/2011	DP-4	26	40	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096
7/21/2011	DP-4	30	<1.0	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096
7/20/2011	DP-5	7.5	<1.1	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.096
7/20/2011	DP-5	10.5	<1.0	NA	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.095
7/20/2011	DP-5	12.5	<0.93	NA	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.097
7/20/2011	DP-5	23	67	NA	<0.0047	<0.0047	1.6	1.8	<0.0047	<0.0047	<0.093
7/20/2011	DP-5	28	<0.96	NA	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.093
7/20/2011	DP-5	30	<0.96	NA	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.098
ESLs*			**100**	**100**	**0.044**	**2.90**	**3.30**	**2.30**	**0.023**	**NL**	**0.075**

Notes:

(a) The sample chromatographic pattern does not resemble the fuel standard for quantiation

(b) Unidentified hydrocarbon C9-C16

(c) Environmental Screening Levels

Table 7
Historical Soil Analytical Results
15101 Freedom Avenue
San Leandro, California

SAMPLE DATE	SAMPLE ID	Sample Depth	8260B	8015 DRO	8260B						
			TPH-g[3] mg/kg	TPH-d[3] mg/kg	Benzene mg/kg	Toluene mg/kg	Ethyl-benzene mg/kg	Xylenes mg/kg	MTBE mg/kg	TAME mg/kg	TBA mg/kg

(d) Sample exhibits chromatographic pattern that does not resemble standard

(e) Presence confirmed but RPD between columns exceeds 40%

ESLs Environmental Screening levels as per SF Bay Region RWQCB-Interim Final November 2007, revised May 2008
(Table C. Deep Soils (>3m bgs) Groundwater is a Current or Potential Source of Drinking Water)

NA Not Analyzed
NL Not Listed on ESL Tables

Table 8: Site Conceptual Model

15101 Freedom Ave, San Leandro

Primary Sources	Secondary Sources	Transport Mechanism	Exposure Routes	Receptors
Product Storage Piping/ Distribution	Subsurface Soils	Volatalization	Soil (Dermal Contact) Air (Inhalation of Vapor Particles)	Construction Workers Residential Commercial/Inductrial Construction Workers
	Dissolved Groundwater Plume	Leaching and Groundwater Transport	Groundwater (Garden Irrigation, Inhalation, Dermal Contact)	Residential (Incidental Ingestion) Commercial Industrial
	Non Aqueous Phase Liquid (NAPL)			

Table 9
Soil Vapor Analytical Results / November 2007
15101 Freedom Ave
San Leandro, California

Compound	Sample ID					Shallow Soil Gas Screening Levels	
	SGS-1 (ug/m^3)	SGS-2 (ug/m^3)	SGS-3 (ug/m^3)	SGS-4 (ug/m^3)	SGS-4 Lab Duplicate (ug/m^3)	Commersial/ Industrial [1] (ug/m^3)	Residential [2] (ug/m^3)
TPH-g	2.1	2.3	1.4	0.42	0.44	1,200,000	150,000
2-Propanol	<7.6	<7.6	<6.9	<8.1	-	NL	NL
MtBE	<2.8	<2.8	<2.5	<3.0	-	47,000	4,700
Benzene	9.6	5.7	6.6	<2.6	-	420	42
Toluene	65	32	190	16	-	1,300,000	160,000
Ethyl Benzene	29	15	13	<3.6	-	4,900	490
m,p-Xylene	110	60	41	9.7	-	440,000	52,000
o-Xylene	40	21	12	<3.6	-		
tert-Butyl alcohol	<9.4	<9.4	<8.5	<9.9	-	NL	NL
Ethyl-tert-butyl ether	<13	<13	<12	<14	-	NL	NL
Isopropyl ether	<13	<13	<12	<14	-	NL	NL
tert-Amyl methyl ether	<13	<13	<12	<14	-	NL	NL

Laboratory Note:

J- Estimated Value

Note

NL- Not Listed

< - Less Than Laboratory Reporting lLimit

ESLs Environmental Screening Levels per CRWQCB SFBay Region, Revised May 2013, Table E-2 (Shallow Soil Gas Screening levels for evaluation of Potential Vapor Intrusion Concerns

[1] Lowest Commercial/Industrial Land Use

[2] Lowest Residential

APPENDIX A

SITE HISTORY AND PREVIOUS REMEDIATION ACTIVITIES

In May 1999, three 10,000-gallon USTs, approximately 250 feet of product piping, and six product dispensers were removed from the site (Geo-Logic, 1999). A total of 21 soil samples were collected for laboratory analyses from the removal areas, including seven from the east and west sides of the UST removal excavation, at depths ranging from 12 to 14 feet below ground surface (bgs), and 14 from beneath the fuel dispensers and product delivery piping ranging in depth from 2.5 to 3.5 feet bgs. Samples were analyzed for the following: total petroleum hydrocarbons as gasoline (TPH-g); benzene, toluene, ethylbenzene, xylenes (BTEX); and methyl tertiary-butyl ether (MtBE). Analysis results indicated the need for removal of additional soil from product piping areas and the UST removal excavation. Concentrations of TPH-g, BTEX and MtBE in soil samples from the UST removal excavation were elevated relative to those from the product piping and dispenser areas, where concentrations were relatively low. Following over excavation, three soil samples were collected for laboratory analysis from the enlarged UST removal excavation ranging in depth from 16.5 to 24.5 feet bgs, and one from the product delivery piping at 5 feet bgs. Laboratory analysis detected elevated concentrations in soil samples at 24.5 feet bgs from the UST removal excavation relative to those at 16.5 and 19.5 feet bgs. Low concentrations of petroleum hydrocarbons were detected in the soil sample from the product delivery piping.

In July 1999, one 14,000-gallon UST divided into a 6,000-gallon unit for diesel and an 8,000-gallon unit for gasoline, and one 20,000-gallon UST for gasoline were installed at the site (Geo-Logic, 1999).

On January 3, 2000, ACHCS notified the property owner, Mr. Pazdel, of an unauthorized release that had occurred during removal of old USTs in May 1999. ACHCS requested a preliminary site assessment.

On July 5, 2001, a soil and groundwater investigation was conducted at the site to delineate the extent of soil and groundwater impact discovered during removal of the USTs, product delivery piping and product dispensers in May 1999 (CSS Environmental Services, 2001). Five soil borings, SB-1 through SB-5, were advanced using direct-push methods, to a maximum depth of 31 feet bgs. Groundwater was encountered in borings at depths ranging from 29 to 30 feet bgs, and stabilized at depths ranging from 17 to 20 feet bgs. Ten soil samples were collected from borings for laboratory analysis of TPH-g, BTEX and MtBE. Analytical results revealed elevated concentrations between 19 and 25.5 feet bgs. Maximum concentrations of TPH-g and BTEX in samples were 470,000 µg/kg, 2,600 µg/kg, 16,000 µg/kg, 12,000 µg/kg, and 73,000 µg/kg, respectively. MtBE was not detected in any soil samples. Grab groundwater samples were collected from each boring for laboratory analysis of TPH-g, BTEX and MtBE. Maximum concentrations of TPH-g and benzene in boring samples were 83,000 µg/L and 19,000 µg/L, respectively. MtBE was detected in four of five grab groundwater samples, at a maximum concentration of 87,000 µg/L.

In April 2002, groundwater monitoring wells MW-1 through MW-5 were installed on the site to a total depth of 30 feet bgs, and competed with well screens installed between 15 and 30 feet bgs. The wells were installed to evaluate the groundwater flow gradient and the extent of dissolved-phase fuel hydrocarbons in groundwater (SOMA, 2002). Groundwater was first encountered at depths ranging from approximately 25 to 29 feet bgs, and stabilized at depths ranging from 21 to 23 feet bgs. Five soil samples were collected from borings for laboratory analyses of TPH-g, BTEX and MtBE. Results revealed elevated concentrations of TPH-g and BTEX between 21 and 26 feet bgs, coincident with the depth at which groundwater was first encountered in the boreholes. No MtBE was detected in soil samples. Groundwater samples were initially collected from each monitoring well during Second Quarter 2002 (May 2002) for laboratory analyses of TPH-g, BTEX and MtBE (SOMA, 2002a). Maximum concentrations of TPH-g, benzene and MtBE in groundwater samples were 44,000 µg/L, 6,000 µg/L and 12,000 µg/L, respectively. Groundwater was determined to flow south across the site. Elevated levels of dissolved-phase hydrocarbons in the farthest downgradient monitoring well indicated off-site migration.

Between August and October 2003, a soil and groundwater investigation was conducted to evaluate off-site extent of dissolved-phase hydrocarbon migration with groundwater (SOMA, 2003). The investigation included a sensitive receptor survey to locate water supply wells and/or water bodies within a 2,000-foot radius of the site, and a conduit study to identify underground utilities adjacent to the site beneath Freedom Avenue, Fairmont Drive and 153rd Avenue. Soil borings TWB-1 through TWB-6 were advanced to depths ranging from 30 to 44 feet bgs, at locations ranging from 125 to 750 feet hydraulically downgradient from the site. Fourteen soil samples were collected at depths ranging from 16 to 39 feet bgs for laboratory analysis of TPH-g, BTEX, MtBE and 1,2-dichloroethene (1,2-DCE). Results revealed soil impact off-site to a maximum distance of 265 feet hydraulically downgradient of the site, at depths ranging from 18 to 31.5 feet bgs. Elevated concentrations were detected at depths ranging from 21.5 to 24.5 feet bgs, approximately 125 feet hydraulically downgradient from the site. Concentrations of benzene, MtBE and 1,2 DCE were not detected in soil samples. Grab groundwater samples were collected from each boring for laboratory analysis of TPH-g, BTEX, MtBE and 1,2-dichloroethane (1,2-DCA). Maximum concentrations of TPH-g and benzene were 410,000 µg/L and 2,200 µg/L, respectively, detected in a boring 125 feet hydraulically downgradient of the site. Maximum concentration of MtBE was 34 µg/L, detected in a boring 265 feet hydraulically downgradient of the site. The investigation resulted in preliminary identification of two water-bearing zones beneath the site and proximity. The sensitive receptor survey identified 10 wells within 2,000 feet of the site. Three are located hydraulically downgradient of the site: one irrigation well and two wells of unknown use. The remaining wells are either hydraulically upgradient or crossgradient of the site. No water body was identified within a 0.5-mile distance from the site. The conduit study revealed two sewer lines beneath Fairmont Drive

and 153rd Avenue; it was determined that neither was submerged by groundwater.

In September 2004, an additional soil and groundwater investigation was conducted to further evaluate the extent of dissolved-phase hydrocarbon migration with groundwater off-site (SOMA 2004). Groundwater monitoring wells MW-6 thru MW-9 were installed downgradient from the site to total depths ranging from 21 to 33 feet bgs, and completed with well screens ranging from 4 to 15 feet long installed at the base of each well. Groundwater was first encountered at depths ranging from approximately 15 to 20 feet bgs, and stabilized at depths ranging from 12 to 17 feet bgs. Four soil samples were collected from one monitoring well borehole. Soil samples were not collected from other boreholes because of extensive and unexpected lateral lithologic changes encountered between the well boreholes during drilling, necessitating continuous coring that precluded soil sample collection. Collected samples were analyzed for TPH-g and BTEX; neither was detected.

During this investigation, an attempt was made to collect a groundwater sample from an irrigation well hydraulically downgradient from the site, identified by the sensitive receptor survey conducted between August and October 2003. The irrigation well had been unused for some time and, subsequently, no groundwater sample could be collected.

An attempt was made to locate another well of unknown use hydraulically downgradient from the site, also identified by the sensitive receptor survey. This well could not be located despite canvassing of the surrounding residential neighborhood with written requests for information. Based on results of this investigation and the previous investigation conducted between August and October 2003, one water-bearing zone was identified to consist of discontinuous water-bearing layers and stringers separated by discontinuous clay lenses of varying thickness. Additionally, a preferential flow pathway study was proposed consisting of a possible buried stream channel trending north to south beneath the eastern portion of the site, and extending off-site to the south, beneath the intersection of 153rd Avenue, Fairmont Drive and Liberty Avenue, which is hydraulically downgradient from the site.

On November 21, 2005, ACHCS requested that the property owner submit a workplan for a soil and water investigation by January 21, 2006. It was submitted on December 28, 2005 (SOMA, 2005) and proposed installation of eight cone penetrometer test (CPT), membrane interface probe (MIP) borings to refine hydrogeologic conditions using CPT technology on- and off-site. The purpose of this investigation was to define the horizontal and vertical extent of the soil and groundwater impact on- and off-site using MIP technology, and to collect soil and groundwater samples for laboratory analyses to support MIP findings.

Based on a telephone conversation between SOMA and ACHCS, an addendum to SOMA's December 2005 workplan was prepared and submitted on March 3, 2006. The workplan provided further clarification for advancing the CPT/MIP as requested by ACHCS.

On April 10, 2006, SOMA oversaw drilling of CPT/MIP boreholes. Fisch Environmental, SOMA's subcontractor, used a Geoprobe 6600. Because of unforeseen subsurface drilling conditions, and the fact that Fisch's drilling rig was not strong enough to drill through the hard subsurface materials, drilling could not advance beyond 35 feet bgs in any of the CPT/MIP locations despite three days effort. An ACHCS representative was present during this operation. On April 26, using a hollow stem auger, a CPT calibration borehole was drilled to 47 feet bgs. Because CPT/MIP boreholes could not be advanced to targeted depths, Gregg Drilling was selected to drill CPT/MIP boreholes at a later date, and Fisch's compensation was to be appropriately reduced.

In a letter dated May 29, 2006, ACHCS reduced the quantity of on-site CPT/MIP borings from six to five, altered some boring locations, adjusted depths at which to collect groundwater samples, and requested development of a site conceptual model (SCM) and corrective action plan (CAP) along with an interim remediation and migration control evaluation. ACHCS established a November 30, 2006 deadline for report submittal.

On September 7, 2006, SOMA resumed the field investigation. To characterize site lithology and hydrogeology, and evaluate lateral and vertical distribution of soil and groundwater impact on- and off-site, SOMA supervised advancement of eight CPT/MIP borings by Gregg, using a 25-ton CPT rig. The MIP portion of the study was performed by Fisch utilizing an MIP probe attached to Gregg's CPT probe. After completion of the CPT/MIP program, eight borings were advanced using direct-push drilling methods, in the immediate proximity of the CPT/MIP borings. These borings were advanced to collect soil and groundwater samples for laboratory analyses to support MIP findings.

Investigation results were presented by SOMA in "Additional Soil and Groundwater Investigation Report and Initial Conceptual Site Model, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California," dated November 27, 2006. The report also included an interim remediation and migration control evaluation.

In summary, the report described two main water-bearing zones designated as the First and Second water-bearing zones (WBZs). Both WBZs appear to be laterally continuous across the site and hydraulically downgradient of the site, and are separated by a laterally continuous aquitard. Moderately weathered fuel hydrocarbons are adsorbed to soil or dissolved in groundwater within the First and Second WBZs. The source area in the First WBZ appears to be in proximity to the location of the former USTs and the existing fuel dispensers in both the

north and southeast portions of the site. A source area for the Second WBZ is indeterminate because limited data for the Second WBZ was generated by the investigation. The site is located in an area of primarily residential properties with a commercial property to the east. Population/receptors exposed to fuel hydrocarbons in soil and groundwater of the First WBZ on- and off-site include current and future on-site workers and current off-site commercial workers and residents. Sources are fuel hydrocarbons adsorbed to soil, and dissolved-phase hydrocarbons in groundwater, of the First WBZ. Exposure pathways for on-site receptors are inhalation of volatile emissions from impacted soil and groundwater of the First WBZ. The only exposure pathway for off-site residents appears to be incidental ingestion of groundwater from the First and Second WBZs. The soil interim remediation alternatives evaluated included soil excavation, soil vapor extraction (SVE), and multi-phase extraction (MPE). Groundwater interim remediation alternatives included groundwater extraction, ozone sparging and hydrogen peroxide injection.

ACHCS correspondence dated March 14, 2007 directed that a workplan be prepared to address ACHCS comments contained therein and SOMA's recommendations in the November 27, 2006 report.

A workplan detailing proposed monitoring well installation, soil gas survey and remediation feasibility study was submitted to ACHCS on April 11, 2007 and approved in ACHCS correspondence dated October 18, 2007.

SOMA submitted "Additional Soil and Groundwater Investigation for Remedial Investigation and Feasibility Study" on March 14, 2008. ACHCS comments included in correspondence dated April 25, 2008 were addressed by SOMA's correspondence dated June 9, 2008.

In December 2007 SOMA installed three groundwater monitoring wells within the Second WBZ (MW-1D, MW-2D, and MW-3D) to approximately 60 feet bgs. A soil vapor study was conducted utilizing four soil gas sampling probes (SGS-1 through SGS-4, advanced to 5 feet bgs). Based on results of the soil gas sampling, concentrations of COCs in soil gas at the site are not considered a significant risk to human health.

In March 2009, ACHCS approved SOMA's CAP and initiated a public comment period for affected stakeholders to comment on SOMA's remedial action plan. On April 27, 2009, SOMA installed extraction wells MPE-1 and MPE-2 onsite. In their May 2009 correspondence, ACHCS approved SOMA's recommendation to decommission MW-8 and MW-9, off site wells that have consistently demonstrated COCs below ESLs and laboratory detection limits. November 2009, SOMA installed EX-1 and EX-2 off-site, within the downgradient plume and installed a groundwater extraction and treatment system at the site.

Quarterly and/or Semi-Annual groundwater monitoring/sampling has been regularly conducted at the site since Second Quarter 2002. Currently there are 14 groundwater monitoring wells, ten on-site and four off-site.

SOMA conducted MPE pilot testing between November 13 and 16, 2007. An estimated VOC mass of 106 lbs was removed during testing, at a mass removal rate of 35 lbs/day over 72 hours. Week long MPE events have been conducted at the site with a total of 806 lbs of VOCs being removed as of August 2011.

The groundwater extraction system was initiated on December 9, 2009 and has removed and treated 2,316,430 gallons of groundwater as of July 11, 2013 and approximately 28.67 lbs of hydrocarbons.

APPENDIX B
MPE EVENT FIELD DATA SHEETS

Golden Gate Remediation Technology

ADDRESS: 15101 Freedom Ave., San Leandro
PROJECT #: 2555

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
5/1/2013	800	begin extraction from MPE- 1 and MW-5								
	900	1480	179	19.2	25	70	0	70	670	0
	1100	1510	192	19.5	26.8	41	0	41	680	301
	1300	1515	193	21	26.2	50	0	50	inf=650; eff=8	605
	1500	1496	196	21.5	26.4	47	0	47	610	907
	1700	1505	198	21.7	26	54	0	54	605	1,208
5/2/2013	1000	1497	201	20.2	25	70	0	70	496	3,548
	1100	1501	205	20.2	24.8	73	0	73	502	3,715
	1200	1497	208	20.2	24.8	73	0	73	505	3,973
	1300	1501	209	22.4	26.6	44	0	44	212	4,167
5/3/2013	700	1504	197	21.1	25.4	63	0	63	472	7,038
	900	1502	202	19.4	24.6	76	0	76	472	
	1100	1500	207	19.4	24.6	76	0	76	467	
	1600	1500	211	19.2	24.6	76	0	76	380	7,462
		Shut down for the weekend								
5/6/2013	730	Restart system								
	800	1497	179	19.1	25	70	0	70	228	7,957
	1200	1511	192	22.2	26.4	47	0	47	250	
	1500	1498	194	21.6	25.4	63	0	63	312	9,212
	1630	1496	196	21.4	25.4	63	0	63	328	9,212
5/7/2013	800	1496	188	19.8	25.4	63	0	63	380	12,856
	1000	1501	189	14	20	149	0	149	615	
	1400	1500	194	12	19.2	162	0	162	536	
	1600	1501	193	8	16.2	209	0	209	700	14,032
5/8/2013	800	1490	181	8.2	16.2	209	0	209	355	
	1100	1499	183	8.2	16.2	209	0	209	350	17,673
	1300	1473	184	8.4	16.6	203	0	203	340	
	1500	1502	183	7.5	16	212	0	212	320	
		Extracting from MPE-2 only								
	1600	1501	191	18	24	85	0	85	719	

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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
5/9/2013	900	1500	184	18.4	24	85	0	85	550	23,923
		Extracting from MPE-1 only								
	1000	1503	184	18.2	24	85	0	85	186	
		Extracting from MPE-1 and MPE-2								
	1100	1498	183	12.4	19.6	155	0	155	340	
		Extracting from MPE-2 and MW-5								
	1300	1498	187	12.8	19.6	155	0	155	651	
		Extracting from MW-5 only								
	1400	1504	190	18.5	23.6	92	0	92	490	
		Extracting from MPE-1 only								
	1500	1500	190	18.3	19	165	0	165	410	
		Extracting from MPE-1 and MW-5								
	1600	1505	191	18.3	19	165	0	165	383	
	1700	1497	192	17.6	23.4	95	0	95	465	25,183
5/10/2013		Extracting from MPE-1 and MPE-2								
	700	1500	176	13	19	165	0	165	381	25,406
	1000	1499	178	13	20	149	0	149	460	
	1200	1501	183	12.4	20	149	0	149	493	
	1430	1505	192	12.6	19.8	152	0	152	502	26,065
		Shut down for the weekend								
5/13/2013	730	Extracting from MPE-1 and MPE-2								
	800	1500	172	13.4	20.2	146	0	146	356	35,817
	1000	1507	173	13.2	20.1	147	0	147	349	
	1200	1493	174	13.4	20.4	142	0	142	351	
	1300	1500	193	12.6	20	149	0	149	430	
	1500	1500	194	12.4	20	149	0	149	447	
	1700	1499	196	12.4	20	149	0	149	451	36,950
5/14/2013	800	1502	178	13.2	19.9	150	0	150	389	38,680
	1000	1501	182	12.9	19.8	152	0	152	408	
	1200	1499	189	12.7	19.7	154	0	154	412	
	1400	1500	194	12.5	19.7	154	0	154	383	
	1500	1500	191	12.2	19.6	155	0	155	377	
	1700	1499	193	12.5	19.5	157	0	157	354	39,462

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Golden Gate Remediation Technology

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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
5/15/2013	800	1500	178	13	19.6	155	0	155	420	41,164
	1100	1501	181	13	19.6	155	0	155	441	
	1300	1499	187	12.4	19.6	155	0	155	440	
	1500	1498	190	12.6	19.6	155	0	155	422	
	1700	1499	188	12.4	19.6	155	0	155	415	
5/16/2013	1000	1501	173	13.6	20.4	142	0	142	349	42,125
	1200	1500	185	13	20	149	0	149	355	
	1500	1499	188	13	20	149	0	149	367	
	1700	1502	189	13	20	149	0	149	360	42,701
5/17/2013	800	1501	179	13	20	149	0	149	388	44,481
	1000	1498	182	12	19.8	152	0	152	385	
	1200	1503	184	12	19.9	150	0	150	397	
	1400	1500	187	12.6	20	149	0	149	387	
	1500	1499	188	12.8	19.8	152	0	152	400	44,980
		Shut down for the weekend								
5/20/2013	830	Extracting from MPE-1 and MPE-2								
	900	1502	185	15.4	21.8	120	0	120	279	54,002
	1100	1503	200	15	21.5	125	0	125	349	
	1300	1500	197	14.1	20.6	139	0	139	335	
	1500	1499	196	14	20.8	136	0	136	338	
	1700	1498	191	14.2	20.6	139	0	139	325	55,466
5/21/2013	900	1501	178	13.5	20.2	146	0	146	337	56,876
	1100	1500	183	13.2	20.1	147	0	147	356	
	1300	1498	187	13	20	149	0	149	348	
	1500	1499	188	13	20	149	0	149	362	
	1700	1500	190	13	19.9	150	0	150	363	57,930
5/22/2013	900	1500	184	13.2	20	149	0	149	379	59,577
	1100	1498	185	13.1	19.9	150	0	150	383	
	1300	1501	186	13	19.7	154	0	154	381	
	1500	1500	186	13.1	19.7	154	0	154	382	
	1700	1499	188	13	19.6	155	0	155	382	

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Golden Gate Remediation Technology

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PROJECT #: 2555

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
5/23/2013	900	1501	183	13.3	19.9	150	0	150	364	61,345
	1100	1499	182	13.2	19.8	152	0	152	375	
	1300	1500	184	13.2	19.8	152	0	152	394	
	1500	1502	190	13.1	19.7	154	0	154	398	
	1700	1501	191	13	19.7	154	0	154	391	
	1830	1502	181	13	19.7	154	0	154	367	62,581
5/24/2013	800	1501	182	13	19.6	155	0	155	363	63,976
	1000	1499	186	12.8	19.6	155	0	155	365	
	1200	1500	190	12.8	19.5	157	0	157	376	
	1400	1499	194	12.6	19.5	157	0	157	362	
	1600	1500	191	12.6	19.5	157	0	157	361	64,482
		Shut down for the weekend								
5/28/2013	830	Extracting from MPE-1 and MPE-2								
	900	1498	178	12.8	19.6	155	0	155	259	64,477
	1100	1500	190	12.8	19.6	155	0	155	256	
	1300	1499	191	12.7	19.6	155	0	155	259	
	1500	1500	192	12.7	19.5	157	0	157	inf=261; eff=7	
	1700	1500	191	12.6	19.3	160	0	160	258	65,708
5/29/2013	900	1500	190	12.5	19.3	160	0	160	285	66,846
	1100	1499	193	12.7	19.4	158	0	158	283	
	1300	1501	195	12.5	19.4	158	0	158	284	
	1500	1498	192	12.4	19.3	160	0	160	286	
	1700	1501	193	12.5	19.4	158	0	158	281	67,431
5/30/2013	900	1499	176	12.7	19.8	152	0	152	221	67,730
	1100	1500	190	12.5	19.5	157	0	157	239	
	1300	1498	195	12.5	19.3	160	0	160	251	
	1500	1501	197	12.5	19.4	158	0	158	257	
	1700	1500	194	12.5	19.4	158	0	158	253	68,842
5/31/2013	900	1500	178	12.7	18.8	168	0	168	208	68,871
	1100	1498	195	12.2	18.8	168	0	168	216	
	1300	1503	208	17.6	22.7	106	0	106	224	69,588
		End Extraction								

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APPENDIX C

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 244921
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2555
6620 Owens Dr.	Location : 15101 Freedom Ave. San Leandro
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
EFF MPE	244921-001
INF MPE	244921-002

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: 05/08/2013

Tracy Babjar
Project Manager
(510) 204-2226

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**244921**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2555**
Location:	**15101 Freedom Ave. San Leandro**
Request Date:	**05/01/13**
Samples Received:	**05/01/13**

This data package contains sample and QC results for two air samples, requested for the above referenced project on 05/01/13. The samples were received cold and intact.

Volatile Organics in Air by MS (EPA TO-15):

Low responses were observed for acetone and naphthalene in the CCV analyzed 05/03/13 09:26; affected data was qualified with "b". Low recoveries were observed for acetone and naphthalene in the BS/BSD for batch 198063; the associated RPDs were within limits, and these low recoveries were not associated with any reported results. High surrogate recovery was observed for bromofluorobenzene in INF MPE (lab # 244921-002). No other analytical problems were encountered.

Volatile Organics in Air GC (EPA TO-3):

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 # 244921

Sampler: Masoud Sepehr

Project No: 2555

Report To: **Joyce Bobek**

Project Name: 15101 Freedom Ave.,San Leandro

Company : SOMA Environmental

Turnaround Time: Standard

Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	Air	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	NONE	Analyses: TO-15	TO-3 (modified)
	EFF MPE	5,1,13 – 2				*	Tedlar bag					*	*	*
	INF MPE	↓				*	Tedlar bag					*	*	*

Notes: **EDF OUTPUT REQUIRED**

RELINQUISHED BY:	RECEIVED BY:
5,1,13 -5:20 DATE/TIME	5/1/13 5:20 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 244921 Date Received 5/1/13 Number of coolers 0
Client SOMA Project 2555

Date Opened 5/1/13 By (print) ec (sign) E-R
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; temp. taken with IR gun

☐ 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 there any missing / extra samples? _____ YES (NO)
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
17. Did you document your preservative check? _____ YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO (N/A)
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
If YES, Who was called?_____ By_____ Date:_____

COMMENTS

_____
_____
_____
_____
_____
_____

Rev 10, 11/11

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	EFF MPE	Units (M):	ug/m3
Lab ID:	244921-001	Sampled:	05/01/13
Matrix:	Air	Received:	05/01/13
Units (V):	ppbv		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	1.5	ND	7.4	3.000	198013	05/02/13
Freon 114	ND	1.5	ND	10	3.000	198013	05/02/13
Chloromethane	ND	1.5	ND	3.1	3.000	198013	05/02/13
Vinyl Chloride	ND	1.5	ND	3.8	3.000	198013	05/02/13
1,3-Butadiene	ND	1.5	ND	3.3	3.000	198013	05/02/13
Bromomethane	ND	1.5	ND	5.8	3.000	198013	05/02/13
Chloroethane	ND	1.5	ND	4.0	3.000	198013	05/02/13
Trichlorofluoromethane	ND	1.5	ND	8.4	3.000	198013	05/02/13
Acrolein	ND	6.0	ND	14	3.000	198013	05/02/13
1,1-Dichloroethene	ND	1.5	ND	5.9	3.000	198013	05/02/13
Freon 113	ND	1.5	ND	11	3.000	198013	05/02/13
Acetone	33	6.0	79	14	3.000	198013	05/02/13
Carbon Disulfide	ND	1.5	ND	4.7	3.000	198013	05/02/13
Methylene Chloride	ND	1.5	ND	5.2	3.000	198013	05/02/13
trans-1,2-Dichloroethene	ND	1.5	ND	5.9	3.000	198013	05/02/13
MTBE	ND	1.5	ND	5.4	3.000	198013	05/02/13
n-Hexane	120	1.5	410	5.3	3.000	198013	05/02/13
1,1-Dichloroethane	ND	1.5	ND	6.1	3.000	198013	05/02/13
Vinyl Acetate	ND	1.5	ND	5.3	3.000	198013	05/02/13
cis-1,2-Dichloroethene	ND	1.5	ND	5.9	3.000	198013	05/02/13
2-Butanone	6.9	1.5	20	4.4	3.000	198013	05/02/13
Ethyl Acetate	ND	1.5	ND	5.4	3.000	198013	05/02/13
Tetrahydrofuran	1.5	1.5	4.6	4.4	3.000	198013	05/02/13
Chloroform	ND	1.5	ND	7.3	3.000	198013	05/02/13
1,1,1-Trichloroethane	ND	1.5	ND	8.2	3.000	198013	05/02/13
Cyclohexane	65	1.5	220	5.2	3.000	198013	05/02/13
Carbon Tetrachloride	ND	1.5	ND	9.4	3.000	198013	05/02/13
Benzene	150	1.5	480	4.8	3.000	198013	05/02/13
1,2-Dichloroethane	ND	1.5	ND	6.1	3.000	198013	05/02/13
n-Heptane	110	1.5	440	6.1	3.000	198013	05/02/13
Trichloroethene	ND	1.5	ND	8.1	3.000	198013	05/02/13
1,2-Dichloropropane	ND	1.5	ND	6.9	3.000	198013	05/02/13
Bromodichloromethane	ND	1.5	ND	10	3.000	198013	05/02/13
cis-1,3-Dichloropropene	ND	1.5	ND	6.8	3.000	198013	05/02/13
4-Methyl-2-Pentanone	ND	1.5	ND	6.1	3.000	198013	05/02/13
Toluene	120	1.5	450	5.7	3.000	198013	05/02/13

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	EFF MPE	Units (M):	ug/m3
Lab ID:	244921-001	Sampled:	05/01/13
Matrix:	Air	Received:	05/01/13
Units (V):	ppbv		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	Batch#	Analyzed
trans-1,3-Dichloropropene	ND	1.5	ND	6.8	3.000	198013	05/02/13
1,1,2-Trichloroethane	ND	1.5	ND	8.2	3.000	198013	05/02/13
Tetrachloroethene	ND	1.5	ND	10	3.000	198013	05/02/13
2-Hexanone	ND	1.5	ND	6.1	3.000	198013	05/02/13
Dibromochloromethane	ND	1.5	ND	13	3.000	198013	05/02/13
1,2-Dibromoethane	ND	1.5	ND	12	3.000	198013	05/02/13
Chlorobenzene	ND	1.5	ND	6.9	3.000	198013	05/02/13
Ethylbenzene	110	1.5	460	6.5	3.000	198013	05/02/13
m,p-Xylenes	270	3.0	1,200	13	6.000	198063	05/03/13
o-Xylene	130	1.5	570	6.5	3.000	198013	05/02/13
Styrene	ND	1.5	ND	6.4	3.000	198013	05/02/13
Bromoform	ND	1.5	ND	16	3.000	198013	05/02/13
1,1,2,2-Tetrachloroethane	ND	1.5	ND	10	3.000	198013	05/02/13
4-Ethyltoluene	54	1.5	260	7.4	3.000	198013	05/02/13
1,3,5-Trimethylbenzene	59	1.5	290	7.4	3.000	198013	05/02/13
1,2,4-Trimethylbenzene	140	3.0	670	15	6.000	198063	05/03/13
1,3-Dichlorobenzene	ND	1.5	ND	9.0	3.000	198013	05/02/13
1,4-Dichlorobenzene	ND	1.5	ND	9.0	3.000	198013	05/02/13
Benzyl chloride	ND	1.5	ND	7.8	3.000	198013	05/02/13
1,2-Dichlorobenzene	ND	1.5	ND	9.0	3.000	198013	05/02/13
1,2,4-Trichlorobenzene	ND	1.5	ND	11	3.000	198013	05/02/13
Hexachlorobutadiene	ND	1.5	ND	16	3.000	198013	05/02/13
Naphthalene	ND	6.0	ND	31	3.000	198013	05/02/13

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Bromofluorobenzene	124	70-130	3.000	198013	05/02/13

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	INF MPE	Units (M):	ug/m3
Lab ID:	244921-002	Sampled:	05/01/13
Matrix:	Air	Received:	05/01/13
Units (V):	ppbv		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	10	ND	49	20.00	198013	05/02/13
Freon 114	ND	10	ND	70	20.00	198013	05/02/13
Chloromethane	ND	10	ND	21	20.00	198013	05/02/13
Vinyl Chloride	ND	10	ND	26	20.00	198013	05/02/13
1,3-Butadiene	ND	10	ND	22	20.00	198013	05/02/13
Bromomethane	ND	10	ND	39	20.00	198013	05/02/13
Chloroethane	ND	10	ND	26	20.00	198013	05/02/13
Trichlorofluoromethane	ND	10	ND	56	20.00	198013	05/02/13
Acrolein	ND	40	ND	92	20.00	198013	05/02/13
1,1-Dichloroethene	ND	10	ND	40	20.00	198013	05/02/13
Freon 113	ND	10	ND	77	20.00	198013	05/02/13
Acetone	ND	40	ND	95	20.00	198013	05/02/13
Carbon Disulfide	ND	10	ND	31	20.00	198013	05/02/13
Methylene Chloride	ND	10	ND	35	20.00	198013	05/02/13
trans-1,2-Dichloroethene	ND	10	ND	40	20.00	198013	05/02/13
MTBE	ND	10	ND	36	20.00	198013	05/02/13
n-Hexane	4,000	60	14,000	210	120.0	198063	05/03/13
1,1-Dichloroethane	ND	10	ND	40	20.00	198013	05/02/13
Vinyl Acetate	ND	10	ND	35	20.00	198013	05/02/13
cis-1,2-Dichloroethene	ND	10	ND	40	20.00	198013	05/02/13
2-Butanone	ND	10	ND	29	20.00	198013	05/02/13
Ethyl Acetate	ND	10	ND	36	20.00	198013	05/02/13
Tetrahydrofuran	ND	10	ND	29	20.00	198013	05/02/13
Chloroform	ND	10	ND	49	20.00	198013	05/02/13
1,1,1-Trichloroethane	ND	10	ND	55	20.00	198013	05/02/13
Cyclohexane	1,600	10	5,500	34	20.00	198013	05/02/13
Carbon Tetrachloride	ND	10	ND	63	20.00	198013	05/02/13
Benzene	3,300	60	11,000	190	120.0	198063	05/03/13
1,2-Dichloroethane	ND	10	ND	40	20.00	198013	05/02/13
n-Heptane	1,800	10	7,500	41	20.00	198013	05/02/13
Trichloroethene	ND	10	ND	54	20.00	198013	05/02/13
1,2-Dichloropropane	ND	10	ND	46	20.00	198013	05/02/13
Bromodichloromethane	ND	10	ND	67	20.00	198013	05/02/13
cis-1,3-Dichloropropene	ND	10	ND	45	20.00	198013	05/02/13
4-Methyl-2-Pentanone	ND	10	ND	41	20.00	198013	05/02/13

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	INF MPE	Units (M):	ug/m3
Lab ID:	244921-002	Sampled:	05/01/13
Matrix:	Air	Received:	05/01/13
Units (V):	ppbv		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac	Batch#	Analyzed
Toluene	1,300	10	4,800	38	20.00	198013	05/02/13
trans-1,3-Dichloropropene	ND	10	ND	45	20.00	198013	05/02/13
1,1,2-Trichloroethane	ND	10	ND	55	20.00	198013	05/02/13
Tetrachloroethene	ND	10	ND	68	20.00	198013	05/02/13
2-Hexanone	ND	10	ND	41	20.00	198013	05/02/13
Dibromochloromethane	ND	10	ND	85	20.00	198013	05/02/13
1,2-Dibromoethane	ND	10	ND	77	20.00	198013	05/02/13
Chlorobenzene	ND	10	ND	46	20.00	198013	05/02/13
Ethylbenzene	520	10	2,200	43	20.00	198013	05/02/13
m,p-Xylenes	1,600	10	7,100	43	20.00	198013	05/02/13
o-Xylene	660	10	2,800	43	20.00	198013	05/02/13
Styrene	ND	10	ND	43	20.00	198013	05/02/13
Bromoform	ND	10	ND	100	20.00	198013	05/02/13
1,1,2,2-Tetrachloroethane	ND	10	ND	69	20.00	198013	05/02/13
4-Ethyltoluene	210	10	1,000	49	20.00	198013	05/02/13
1,3,5-Trimethylbenzene	240	10	1,200	49	20.00	198013	05/02/13
1,2,4-Trimethylbenzene	600	10	2,900	49	20.00	198013	05/02/13
1,3-Dichlorobenzene	ND	10	ND	60	20.00	198013	05/02/13
1,4-Dichlorobenzene	ND	10	ND	60	20.00	198013	05/02/13
Benzyl chloride	ND	10	ND	52	20.00	198013	05/02/13
1,2-Dichlorobenzene	ND	10	ND	60	20.00	198013	05/02/13
1,2,4-Trichlorobenzene	ND	10	ND	74	20.00	198013	05/02/13
Hexachlorobutadiene	ND	10	ND	110	20.00	198013	05/02/13
Naphthalene	ND	40	ND	210	20.00	198013	05/02/13

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Bromofluorobenzene	134 *	70-130	20.00	198013	05/02/13

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198013
Units (V):	ppbv	Analyzed:	05/02/13
Diln Fac:	1.000		

Type: BS Lab ID: QC686761

Analyte	Spiked	Result (V)	%REC	Limits
Freon 12	10.00	10.01	100	70-130
Freon 114	10.00	9.774	98	70-130
Chloromethane	10.00	8.582	86	70-130
Vinyl Chloride	10.00	8.102	81	70-130
1,3-Butadiene	10.00	8.054	81	70-130
Bromomethane	10.00	8.531	85	70-130
Chloroethane	10.00	8.750	88	70-130
Trichlorofluoromethane	10.00	9.222	92	70-130
Acrolein	10.00	8.247	82	61-130
1,1-Dichloroethene	10.00	8.618	86	70-130
Freon 113	10.00	9.013	90	70-130
Acetone	10.00	7.669	77	70-130
Carbon Disulfide	10.00	7.704	77	70-130
Methylene Chloride	10.00	7.541	75	70-130
trans-1,2-Dichloroethene	10.00	9.385	94	70-130
MTBE	10.00	10.07	101	70-130
n-Hexane	10.00	8.304	83	70-130
1,1-Dichloroethane	10.00	8.755	88	70-130
Vinyl Acetate	10.00	8.417	84	70-130
cis-1,2-Dichloroethene	10.00	9.233	92	70-130
2-Butanone	10.00	8.920	89	70-130
Ethyl Acetate	10.00	9.226	92	70-130
Tetrahydrofuran	10.00	10.64	106	70-130
Chloroform	10.00	9.558	96	70-130
1,1,1-Trichloroethane	10.00	10.71	107	70-130
Cyclohexane	10.00	10.73	107	70-130
Carbon Tetrachloride	10.00	12.14	121	70-130
Benzene	10.00	9.869	99	70-130
1,2-Dichloroethane	10.00	10.17	102	70-130
n-Heptane	10.00	9.276	93	70-130
Trichloroethene	10.00	9.926	99	70-130
1,2-Dichloropropane	10.00	10.73	107	70-130
Bromodichloromethane	10.00	10.76	108	70-130
cis-1,3-Dichloropropene	10.00	9.850	99	70-130

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198013
Units (V):	ppbv	Analyzed:	05/02/13
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits
4-Methyl-2-Pentanone	10.00	10.57	106	70-130
Toluene	10.00	8.836	88	70-130
trans-1,3-Dichloropropene	10.00	10.14	101	70-130
1,1,2-Trichloroethane	10.00	9.960	100	70-130
Tetrachloroethene	10.00	8.887	89	70-130
2-Hexanone	10.00	9.749	97	70-130
Dibromochloromethane	10.00	10.02	100	70-130
1,2-Dibromoethane	10.00	9.653	97	70-130
Chlorobenzene	10.00	8.541	85	70-130
Ethylbenzene	10.00	9.202	92	70-130
m,p-Xylenes	20.00	20.68	103	70-130
o-Xylene	10.00	10.59	106	70-130
Styrene	10.00	10.16	102	70-130
Bromoform	10.00	10.08	101	70-130
1,1,2,2-Tetrachloroethane	10.00	9.611	96	70-130
4-Ethyltoluene	10.00	10.98	110	70-130
1,3,5-Trimethylbenzene	10.00	9.761	98	70-130
1,2,4-Trimethylbenzene	10.00	9.782	98	70-130
1,3-Dichlorobenzene	10.00	9.965	100	70-130
1,4-Dichlorobenzene	10.00	9.905	99	70-130
Benzyl chloride	10.00	9.706	97	70-130
1,2-Dichlorobenzene	10.00	9.634	96	70-130
1,2,4-Trichlorobenzene	10.00	7.153	72	70-130
Hexachlorobutadiene	10.00	6.959	70	70-130
Naphthalene	10.00	8.878	89	67-130

Surrogate	%REC	Limits
Bromofluorobenzene	107	70-130

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198013
Units (V):	ppbv	Analyzed:	05/02/13
Diln Fac:	1.000		

Type: BSD Lab ID: QC686762

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Freon 12	10.00	9.729	97	70-130	3	20
Freon 114	10.00	9.584	96	70-130	2	20
Chloromethane	10.00	8.628	86	70-130	1	24
Vinyl Chloride	10.00	8.206	82	70-130	1	24
1,3-Butadiene	10.00	7.991	80	70-130	1	22
Bromomethane	10.00	8.334	83	70-130	2	20
Chloroethane	10.00	8.855	89	70-130	1	20
Trichlorofluoromethane	10.00	9.327	93	70-130	1	21
Acrolein	10.00	7.979	80	61-130	3	36
1,1-Dichloroethene	10.00	8.649	86	70-130	0	20
Freon 113	10.00	9.240	92	70-130	2	24
Acetone	10.00	7.674	77	70-130	0	21
Carbon Disulfide	10.00	7.690	77	70-130	0	21
Methylene Chloride	10.00	7.705	77	70-130	2	24
trans-1,2-Dichloroethene	10.00	9.311	93	70-130	1	20
MTBE	10.00	9.751	98	70-130	3	20
n-Hexane	10.00	8.552	86	70-130	3	20
1,1-Dichloroethane	10.00	8.880	89	70-130	1	20
Vinyl Acetate	10.00	8.423	84	70-130	0	21
cis-1,2-Dichloroethene	10.00	9.313	93	70-130	1	20
2-Butanone	10.00	8.890	89	70-130	0	20
Ethyl Acetate	10.00	9.119	91	70-130	1	22
Tetrahydrofuran	10.00	10.64	106	70-130	0	20
Chloroform	10.00	9.586	96	70-130	0	21
1,1,1-Trichloroethane	10.00	10.85	109	70-130	1	21
Cyclohexane	10.00	10.72	107	70-130	0	20
Carbon Tetrachloride	10.00	12.48	125	70-130	3	20
Benzene	10.00	9.830	98	70-130	0	20
1,2-Dichloroethane	10.00	10.09	101	70-130	1	20
n-Heptane	10.00	9.290	93	70-130	0	20
Trichloroethene	10.00	9.768	98	70-130	2	20
1,2-Dichloropropane	10.00	10.66	107	70-130	1	20
Bromodichloromethane	10.00	10.63	106	70-130	1	20
cis-1,3-Dichloropropene	10.00	10.41	104	70-130	6	20

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198013
Units (V):	ppbv	Analyzed:	05/02/13
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
4-Methyl-2-Pentanone	10.00	10.77	108	70-130	2	20
Toluene	10.00	9.337	93	70-130	6	23
trans-1,3-Dichloropropene	10.00	10.91	109	70-130	7	20
1,1,2-Trichloroethane	10.00	10.11	101	70-130	1	20
Tetrachloroethene	10.00	9.196	92	70-130	3	20
2-Hexanone	10.00	10.11	101	70-130	4	20
Dibromochloromethane	10.00	10.15	101	70-130	1	20
1,2-Dibromoethane	10.00	10.12	101	70-130	5	20
Chlorobenzene	10.00	8.542	85	70-130	0	21
Ethylbenzene	10.00	9.365	94	70-130	2	20
m,p-Xylenes	20.00	21.24	106	70-130	3	20
o-Xylene	10.00	10.38	104	70-130	2	20
Styrene	10.00	9.977	100	70-130	2	22
Bromoform	10.00	10.37	104	70-130	3	20
1,1,2,2-Tetrachloroethane	10.00	10.08	101	70-130	5	24
4-Ethyltoluene	10.00	10.93	109	70-130	1	22
1,3,5-Trimethylbenzene	10.00	10.29	103	70-130	5	22
1,2,4-Trimethylbenzene	10.00	9.995	100	70-130	2	23
1,3-Dichlorobenzene	10.00	10.15	102	70-130	2	21
1,4-Dichlorobenzene	10.00	9.867	99	70-130	0	22
Benzyl chloride	10.00	9.867	99	70-130	2	21
1,2-Dichlorobenzene	10.00	9.786	98	70-130	2	22
1,2,4-Trichlorobenzene	10.00	8.028	80	70-130	12	24
Hexachlorobutadiene	10.00	7.977	80	70-130	14	25
Naphthalene	10.00	10.29	103	67-130	15	24

Surrogate	%REC	Limits
Bromofluorobenzene	105	70-130

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC686763	Diln Fac:	1.000
Matrix:	Air	Batch#:	198013
Units (V):	ppbv	Analyzed:	05/02/13

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.50	ND	2.5
Freon 114	ND	0.50	ND	3.5
Chloromethane	ND	0.50	ND	1.0
Vinyl Chloride	ND	0.50	ND	1.3
1,3-Butadiene	ND	0.50	ND	1.1
Bromomethane	ND	0.50	ND	1.9
Chloroethane	ND	0.50	ND	1.3
Trichlorofluoromethane	ND	0.50	ND	2.8
Acrolein	ND	2.0	ND	4.6
1,1-Dichloroethene	ND	0.50	ND	2.0
Freon 113	ND	0.50	ND	3.8
Acetone	ND	2.0	ND	4.8
Carbon Disulfide	ND	0.50	ND	1.6
Methylene Chloride	ND	0.50	ND	1.7
trans-1,2-Dichloroethene	ND	0.50	ND	2.0
MTBE	ND	0.50	ND	1.8
n-Hexane	ND	0.50	ND	1.8
1,1-Dichloroethane	ND	0.50	ND	2.0
Vinyl Acetate	ND	0.50	ND	1.8
cis-1,2-Dichloroethene	ND	0.50	ND	2.0
2-Butanone	ND	0.50	ND	1.5
Ethyl Acetate	ND	0.50	ND	1.8
Tetrahydrofuran	ND	0.50	ND	1.5
Chloroform	ND	0.50	ND	2.4
1,1,1-Trichloroethane	ND	0.50	ND	2.7
Cyclohexane	ND	0.50	ND	1.7
Carbon Tetrachloride	ND	0.50	ND	3.1
Benzene	ND	0.50	ND	1.6
1,2-Dichloroethane	ND	0.50	ND	2.0
n-Heptane	ND	0.50	ND	2.0
Trichloroethene	ND	0.50	ND	2.7
1,2-Dichloropropane	ND	0.50	ND	2.3
Bromodichloromethane	ND	0.50	ND	3.4
cis-1,3-Dichloropropene	ND	0.50	ND	2.3
4-Methyl-2-Pentanone	ND	0.50	ND	2.0

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC686763	Diln Fac:	1.000
Matrix:	Air	Batch#:	198013
Units (V):	ppbv	Analyzed:	05/02/13

Analyte	Result (V)	RL	Result (M)	RL
Toluene	ND	0.50	ND	1.9
trans-1,3-Dichloropropene	ND	0.50	ND	2.3
1,1,2-Trichloroethane	ND	0.50	ND	2.7
Tetrachloroethene	ND	0.50	ND	3.4
2-Hexanone	ND	0.50	ND	2.0
Dibromochloromethane	ND	0.50	ND	4.3
1,2-Dibromoethane	ND	0.50	ND	3.8
Chlorobenzene	ND	0.50	ND	2.3
Ethylbenzene	ND	0.50	ND	2.2
m,p-Xylenes	ND	0.50	ND	2.2
o-Xylene	ND	0.50	ND	2.2
Styrene	ND	0.50	ND	2.1
Bromoform	ND	0.50	ND	5.2
1,1,2,2-Tetrachloroethane	ND	0.50	ND	3.4
4-Ethyltoluene	ND	0.50	ND	2.5
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5
1,3-Dichlorobenzene	ND	0.50	ND	3.0
1,4-Dichlorobenzene	ND	0.50	ND	3.0
Benzyl chloride	ND	0.50	ND	2.6
1,2-Dichlorobenzene	ND	0.50	ND	3.0
1,2,4-Trichlorobenzene	ND	0.50	ND	3.7
Hexachlorobutadiene	ND	0.50	ND	5.3
Naphthalene	ND	2.0	ND	10

Surrogate	%REC	Limits
Bromofluorobenzene	106	70-130

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198063
Units (V):	ppbv	Analyzed:	05/03/13
Diln Fac:	1.000		

Type: BS Lab ID: QC686979

Analyte	Spiked	Result (V)	%REC	Limits
Freon 12	10.00	9.550	96	70-130
Freon 114	10.00	9.157	92	70-130
Chloromethane	10.00	7.917	79	70-130
Vinyl Chloride	10.00	8.696	87	70-130
1,3-Butadiene	10.00	9.562	96	70-130
Bromomethane	10.00	9.228	92	70-130
Chloroethane	10.00	9.001	90	70-130
Trichlorofluoromethane	10.00	9.673	97	70-130
Acrolein	10.00	7.422	74	61-130
1,1-Dichloroethene	10.00	9.849	98	70-130
Freon 113	10.00	9.414	94	70-130
Acetone	10.00	6.732 b	67 *	70-130
Carbon Disulfide	10.00	8.088	81	70-130
Methylene Chloride	10.00	7.853	79	70-130
trans-1,2-Dichloroethene	10.00	9.885	99	70-130
MTBE	10.00	9.847	98	70-130
n-Hexane	10.00	9.350	94	70-130
1,1-Dichloroethane	10.00	9.594	96	70-130
Vinyl Acetate	10.00	10.04	100	70-130
cis-1,2-Dichloroethene	10.00	9.726	97	70-130
2-Butanone	10.00	10.06	101	70-130
Ethyl Acetate	10.00	9.805	98	70-130
Tetrahydrofuran	10.00	8.666	87	70-130
Chloroform	10.00	9.743	97	70-130
1,1,1-Trichloroethane	10.00	9.893	99	70-130
Cyclohexane	10.00	9.972	100	70-130
Carbon Tetrachloride	10.00	9.001	90	70-130
Benzene	10.00	9.952	100	70-130
1,2-Dichloroethane	10.00	9.985	100	70-130
n-Heptane	10.00	10.21	102	70-130
Trichloroethene	10.00	10.10	101	70-130
1,2-Dichloropropane	10.00	10.23	102	70-130

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198063
Units (V):	ppbv	Analyzed:	05/03/13
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits
Bromodichloromethane	10.00	9.970	100	70-130
cis-1,3-Dichloropropene	10.00	10.73	107	70-130
4-Methyl-2-Pentanone	10.00	9.882	99	70-130
Toluene	10.00	9.907	99	70-130
trans-1,3-Dichloropropene	10.00	10.65	107	70-130
1,1,2-Trichloroethane	10.00	9.755	98	70-130
Tetrachloroethene	10.00	8.900	89	70-130
2-Hexanone	10.00	10.38	104	70-130
Dibromochloromethane	10.00	9.353	94	70-130
1,2-Dibromoethane	10.00	9.426	94	70-130
Chlorobenzene	10.00	9.819	98	70-130
Ethylbenzene	10.00	9.581	96	70-130
m,p-Xylenes	20.00	19.11	96	70-130
o-Xylene	10.00	9.583	96	70-130
Styrene	10.00	9.879	99	70-130
Bromoform	10.00	8.767	88	70-130
1,1,2,2-Tetrachloroethane	10.00	9.055	91	70-130
4-Ethyltoluene	10.00	10.23	102	70-130
1,3,5-Trimethylbenzene	10.00	9.842	98	70-130
1,2,4-Trimethylbenzene	10.00	10.00	100	70-130
1,3-Dichlorobenzene	10.00	9.566	96	70-130
1,4-Dichlorobenzene	10.00	9.555	96	70-130
Benzyl chloride	10.00	10.10	101	70-130
1,2-Dichlorobenzene	10.00	9.258	93	70-130
1,2,4-Trichlorobenzene	10.00	7.613	76	70-130
Hexachlorobutadiene	10.00	8.061	81	70-130
Naphthalene	10.00	6.593 b	66 *	67-130

Surrogate	%REC	Limits
Bromofluorobenzene	101	70-130

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198063
Units (V):	ppbv	Analyzed:	05/03/13
Diln Fac:	1.000		

Type: BSD Lab ID: QC686980

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Freon 12	10.00	9.312	93	70-130	3	20
Freon 114	10.00	8.994	90	70-130	2	20
Chloromethane	10.00	8.349	83	70-130	5	24
Vinyl Chloride	10.00	8.483	85	70-130	2	24
1,3-Butadiene	10.00	9.286	93	70-130	3	22
Bromomethane	10.00	8.810	88	70-130	5	20
Chloroethane	10.00	8.651	87	70-130	4	20
Trichlorofluoromethane	10.00	9.491	95	70-130	2	21
Acrolein	10.00	7.085	71	61-130	5	36
1,1-Dichloroethene	10.00	9.622	96	70-130	2	20
Freon 113	10.00	9.208	92	70-130	2	24
Acetone	10.00	6.616 b	66 *	70-130	2	21
Carbon Disulfide	10.00	7.833	78	70-130	3	21
Methylene Chloride	10.00	7.693	77	70-130	2	24
trans-1,2-Dichloroethene	10.00	9.533	95	70-130	4	20
MTBE	10.00	9.621	96	70-130	2	20
n-Hexane	10.00	9.150	92	70-130	2	20
1,1-Dichloroethane	10.00	9.324	93	70-130	3	20
Vinyl Acetate	10.00	9.683	97	70-130	4	21
cis-1,2-Dichloroethene	10.00	9.426	94	70-130	3	20
2-Butanone	10.00	9.903	99	70-130	2	20
Ethyl Acetate	10.00	9.746	97	70-130	1	22
Tetrahydrofuran	10.00	8.813	88	70-130	2	20
Chloroform	10.00	9.473	95	70-130	3	21
1,1,1-Trichloroethane	10.00	9.826	98	70-130	1	21
Cyclohexane	10.00	10.01	100	70-130	0	20
Carbon Tetrachloride	10.00	8.773	88	70-130	3	20
Benzene	10.00	9.950	100	70-130	0	20
1,2-Dichloroethane	10.00	9.951	100	70-130	0	20
n-Heptane	10.00	10.19	102	70-130	0	20
Trichloroethene	10.00	10.00	100	70-130	1	20
1,2-Dichloropropane	10.00	10.18	102	70-130	0	20

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198063
Units (V):	ppbv	Analyzed:	05/03/13
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Bromodichloromethane	10.00	9.993	100	70-130	0	20
cis-1,3-Dichloropropene	10.00	10.76	108	70-130	0	20
4-Methyl-2-Pentanone	10.00	10.11	101	70-130	2	20
Toluene	10.00	9.927	99	70-130	0	23
trans-1,3-Dichloropropene	10.00	10.83	108	70-130	2	20
1,1,2-Trichloroethane	10.00	9.880	99	70-130	1	20
Tetrachloroethene	10.00	9.059	91	70-130	2	20
2-Hexanone	10.00	10.16	102	70-130	2	20
Dibromochloromethane	10.00	9.408	94	70-130	1	20
1,2-Dibromoethane	10.00	9.378	94	70-130	1	20
Chlorobenzene	10.00	9.670	97	70-130	2	21
Ethylbenzene	10.00	9.689	97	70-130	1	20
m,p-Xylenes	20.00	19.14	96	70-130	0	20
o-Xylene	10.00	9.551	96	70-130	0	20
Styrene	10.00	9.759	98	70-130	1	22
Bromoform	10.00	8.853	89	70-130	1	20
1,1,2,2-Tetrachloroethane	10.00	9.049	90	70-130	0	24
4-Ethyltoluene	10.00	10.07	101	70-130	2	22
1,3,5-Trimethylbenzene	10.00	9.551	96	70-130	3	22
1,2,4-Trimethylbenzene	10.00	10.00	100	70-130	0	23
1,3-Dichlorobenzene	10.00	9.473	95	70-130	1	21
1,4-Dichlorobenzene	10.00	9.595	96	70-130	0	22
Benzyl chloride	10.00	10.17	102	70-130	1	21
1,2-Dichlorobenzene	10.00	9.166	92	70-130	1	22
1,2,4-Trichlorobenzene	10.00	7.834	78	70-130	3	24
Hexachlorobutadiene	10.00	7.907	79	70-130	2	25
Naphthalene	10.00	6.873 b	69	67-130	4	24

Surrogate	%REC	Limits
Bromofluorobenzene	101	70-130

*= Value outside of QC limits; see narrative
b= See narrative
RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC686981	Diln Fac:	1.000
Matrix:	Air	Batch#:	198063
Units (V):	ppbv	Analyzed:	05/03/13

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.50	ND	2.5
Freon 114	ND	0.50	ND	3.5
Chloromethane	ND	0.50	ND	1.0
Vinyl Chloride	ND	0.50	ND	1.3
1,3-Butadiene	ND	0.50	ND	1.1
Bromomethane	ND	0.50	ND	1.9
Chloroethane	ND	0.50	ND	1.3
Trichlorofluoromethane	ND	0.50	ND	2.8
Acrolein	ND	2.0	ND	4.6
1,1-Dichloroethene	ND	0.50	ND	2.0
Freon 113	ND	0.50	ND	3.8
Acetone	ND	2.0	ND	4.8
Carbon Disulfide	ND	0.50	ND	1.6
Methylene Chloride	ND	0.50	ND	1.7
trans-1,2-Dichloroethene	ND	0.50	ND	2.0
MTBE	ND	0.50	ND	1.8
n-Hexane	ND	0.50	ND	1.8
1,1-Dichloroethane	ND	0.50	ND	2.0
Vinyl Acetate	ND	0.50	ND	1.8
cis-1,2-Dichloroethene	ND	0.50	ND	2.0
2-Butanone	ND	0.50	ND	1.5
Ethyl Acetate	ND	0.50	ND	1.8
Tetrahydrofuran	ND	0.50	ND	1.5
Chloroform	ND	0.50	ND	2.4
1,1,1-Trichloroethane	ND	0.50	ND	2.7
Cyclohexane	ND	0.50	ND	1.7
Carbon Tetrachloride	ND	0.50	ND	3.1
Benzene	ND	0.50	ND	1.6
1,2-Dichloroethane	ND	0.50	ND	2.0
n-Heptane	ND	0.50	ND	2.0
Trichloroethene	ND	0.50	ND	2.7
1,2-Dichloropropane	ND	0.50	ND	2.3
Bromodichloromethane	ND	0.50	ND	3.4
cis-1,3-Dichloropropene	ND	0.50	ND	2.3
4-Methyl-2-Pentanone	ND	0.50	ND	2.0

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC686981	Diln Fac:	1.000
Matrix:	Air	Batch#:	198063
Units (V):	ppbv	Analyzed:	05/03/13

Analyte	Result (V)	RL	Result (M)	RL
Toluene	ND	0.50	ND	1.9
trans-1,3-Dichloropropene	ND	0.50	ND	2.3
1,1,2-Trichloroethane	ND	0.50	ND	2.7
Tetrachloroethene	ND	0.50	ND	3.4
2-Hexanone	ND	0.50	ND	2.0
Dibromochloromethane	ND	0.50	ND	4.3
1,2-Dibromoethane	ND	0.50	ND	3.8
Chlorobenzene	ND	0.50	ND	2.3
Ethylbenzene	ND	0.50	ND	2.2
m,p-Xylenes	ND	0.50	ND	2.2
o-Xylene	ND	0.50	ND	2.2
Styrene	ND	0.50	ND	2.1
Bromoform	ND	0.50	ND	5.2
1,1,2,2-Tetrachloroethane	ND	0.50	ND	3.4
4-Ethyltoluene	ND	0.50	ND	2.5
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5
1,3-Dichlorobenzene	ND	0.50	ND	3.0
1,4-Dichlorobenzene	ND	0.50	ND	3.0
Benzyl chloride	ND	0.50	ND	2.6
1,2-Dichlorobenzene	ND	0.50	ND	3.0
1,2,4-Trichlorobenzene	ND	0.50	ND	3.7
Hexachlorobutadiene	ND	0.50	ND	5.3
Naphthalene	ND	2.0	ND	10

Surrogate	%REC	Limits
Bromofluorobenzene	86	70-130

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Aromatic / Petroleum Hydrocarbons in Air

Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-3
Analyte:	Gasoline Range Organics C6-C12	Batch#:	198025
Matrix:	Air	Sampled:	05/01/13
Units (V):	ppbv	Received:	05/01/13
Units (M):	ug/m3	Analyzed:	05/02/13

Field ID	Type	Lab ID	Result (V)	RL	MDL	Result (M)	RL	MDL	Diln Fac
EFF MPE	SAMPLE	244921-001	5,300	25	5.6	22,000	100	23	1.000
INF MPE	SAMPLE	244921-002	66,000	500	110	270,000	2,000	460	20.00
	BLANK	QC686807	ND	25	5.6	ND	100	23	1.000

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Aromatic / Petroleum Hydrocarbons in Air

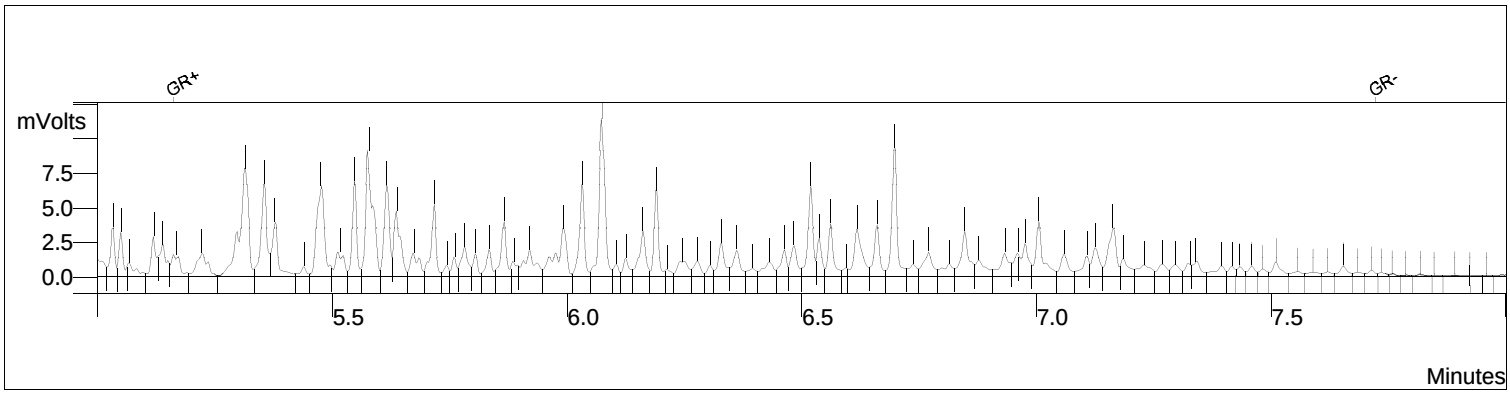
Lab #:	244921	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-3
Analyte:	Gasoline Range Organics C6-C12	Diln Fac:	1.000
Matrix:	Air	Batch#:	198025
Units (V):	ppbv	Analyzed:	05/02/13

Type	Lab ID	Spiked	Result (V)	%REC	Limits	RPD	Lim
BS	QC686805	2,100	2,028	97	70-130		
BSD	QC686806	2,100	1,999	95	70-130	1	25

RPD= Relative Percent Difference
Result V= Result in volume units

GRO by TO-3

Sample ID:	244921-001,198025		
Data File:	c:\varianws\data\050213\122_007.run		
Sample List:	c:\varianws\050213.smp		
Method:	c:\varianws\to3_081811.mth		
Acquisition Date:	05/02/2013 14:15:21		
Calculation Date:	05/02/2013 14:27:22		
Instrument ID:	MSAIR03	Operator:	TO-3
Injection Notes:	1x		
Multiplier:	1.000	Divisor:	1.000



Channel: **Front = FID** **RESULTS**

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.443	GRO:6-12	197765	5315.766
		Totals	**197765**	**5315.766**

Integration Parameters

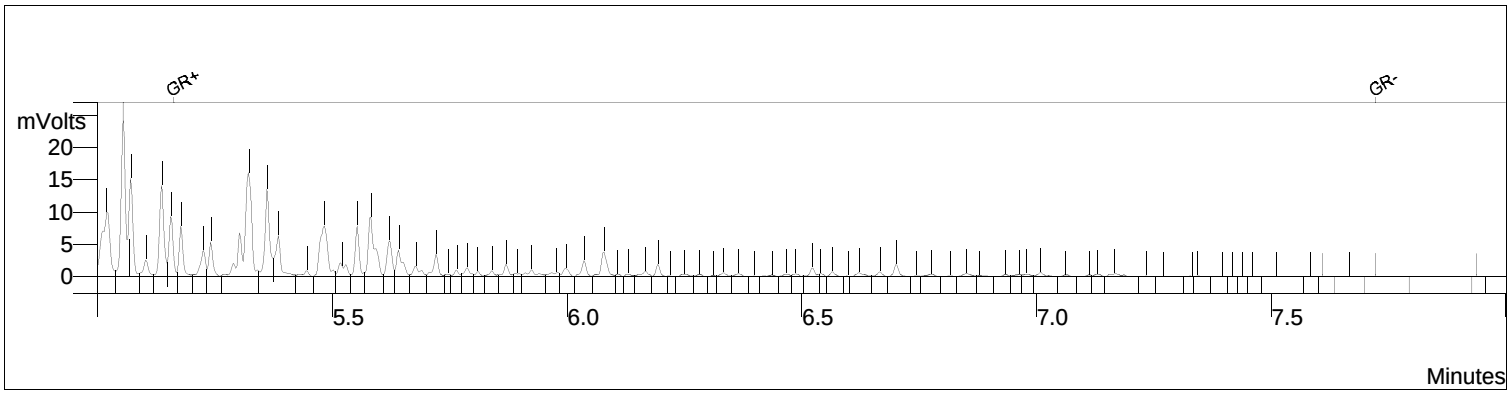
Initial Tangent %:	0
Initial Peak Width (sec):	4
Initial Peak Reject Value:	50.000
Initial S/N Ratio:	3

Data Handling Time Events

Time (min)	Event
0.009	II on
4.801	II off
5.163	GR on
7.723	GR off

GRO by TO-3

Sample ID:	244921-002,198025		
Data File:	c:\varianws\data\050213\122_011.run		
Sample List:	c:\varianws\050213.smp		
Method:	c:\varianws\to3_081811.mth		
Acquisition Date:	05/02/2013 15:43:22		
Calculation Date:	05/02/2013 15:55:25		
Instrument ID:	MSAIR03	Operator:	TO-3
Injection Notes:	20x		
Multiplier:	1.000	Divisor:	1.000



Channel: Front = FID RESULTS

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.443	GRO:6-12	122573	3294.659
		Totals	**122573**	**3294.659**

Integration Parameters

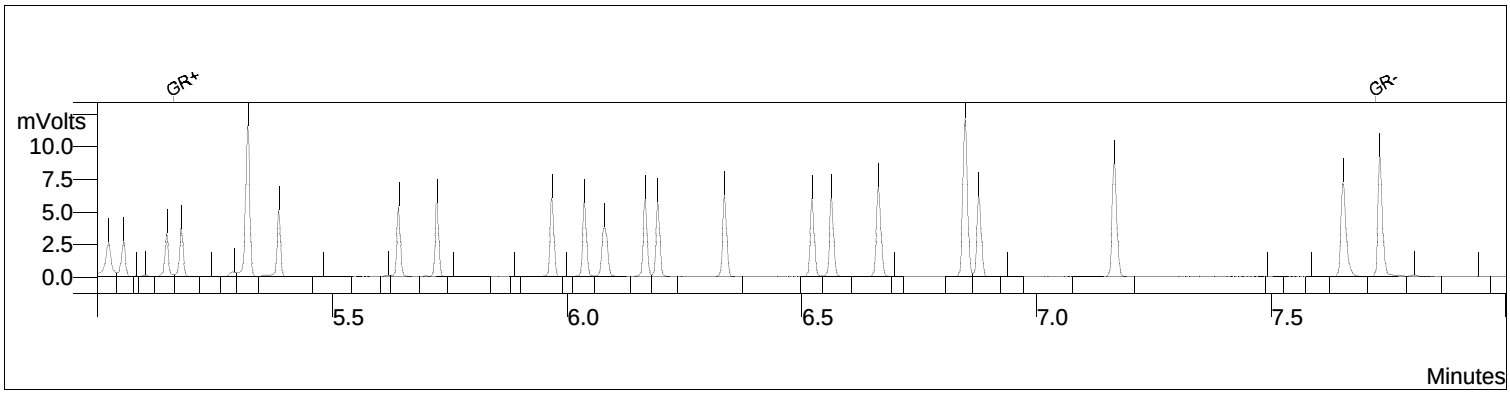
Initial Tangent %:	0
Initial Peak Width (sec):	4
Initial Peak Reject Value:	50.000
Initial S/N Ratio:	3

Data Handling Time Events

Time (min)	Event
0.009	II on
4.801	II off
5.163	GR on
7.723	GR off

GRO by TO-3

Sample ID:	ccv/bs,qc686805		
Data File:	c:\varianws\data\050213\122_004.run		
Sample List:	c:\varianws\050213.smp		
Method:	c:\varianws\to3_081811.mth		
Acquisition Date:	05/02/2013 13:30:06		
Calculation Date:	05/02/2013 13:42:09		
Instrument ID:	MSAIR03	Operator:	TO-3
Injection Notes:	198025,s22184,1x		
Multiplier:	1.000	Divisor:	1.000



Channel: **Front = FID** **RESULTS**

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.443	GRO:6-12	75448	2027.966
		Totals	**75448**	**2027.966**

Integration Parameters

Initial Tangent %:	0
Initial Peak Width (sec):	4
Initial Peak Reject Value:	50.000
Initial S/N Ratio:	3

Data Handling Time Events

Time (min)	Event
0.009	II on
4.801	II off
5.163	GR on
7.723	GR off

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

Laboratory Job Number 245440
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.	Project : 2555
6620 Owens Dr.	Location : 15101 Freedom Ave. San Leandro
Pleasanton, CA 94588	Level : II

Sample ID	Lab ID
EFF MPE	245440-001
INF MPE	245440-002

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: 05/24/2013

Tracy Babjar
Project Manager
(510) 204-2226

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**245440**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2555**
Location:	**15101 Freedom Ave. San Leandro**
Request Date:	**05/20/13**
Samples Received:	**05/20/13**

This data package contains sample and QC results for two air samples, requested for the above referenced project on 05/20/13. The samples were received cold and intact.

Volatile Organics in Air by MS (EPA TO-15):
High surrogate recovery was observed for bromofluorobenzene in EFF MPE (lab # 245440-001). No other analytical problems were encountered.

Volatile Organics in Air GC (EPA TO-3):
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 # 245440

Sampler: Masoud Sepehr

Project No: 2555

Report To: Joyce Bobek

Project Name: 15101 Freedom Ave.,San Leandro

Company : SOMA Environmental

Turnaround Time: Standard

Telephone: 925-734-6400

Fax: 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Water	Waste	Air	# of Containers	Preservative: HCL	H_2SO_4	HNO_3	ICE	NONE	Analyses: TO-15	TO-3 (Modified)
1	EFF MPE	5-20-13 11:00				*	Tedlar bag					*	*	*
2	INF MPE	5-20-13 11:05				*	Tedlar bag					*	*	*

Notes: EDF OUTPUT REQUIRED

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME
	5/20/13 15:33		5/20/13 15:33
	5/20/13 17:16		5/20/13 17:16
	DATE/TIME		DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 245440 Date Received 5/20/13 Number of coolers 0
Client SOMA Project 15101 Freedom Ave

Date Opened 5/20/13 By (print) AM (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; temp. taken with IR gun

☐ 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 there any missing / extra samples? _____ YES (NO)
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
17. Did you document your preservative check? _____ YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? _____ YES NO (N/A)
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
   If YES, Who was called?_____ By_____ Date:_____

COMMENTS

_____
_____
_____
_____
_____
_____

Rev 10, 11/11

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	EFF MPE	Diln Fac:	1.000
Lab ID:	245440-001	Batch#:	198731
Matrix:	Air	Sampled:	05/20/13
Units (V):	ppbv	Received:	05/20/13
Units (M):	ug/m3	Analyzed:	05/21/13

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.50	ND	2.5
Freon 114	ND	0.50	ND	3.5
Chloromethane	ND	0.50	ND	1.0
Vinyl Chloride	ND	0.50	ND	1.3
1,3-Butadiene	ND	0.50	ND	1.1
Bromomethane	ND	0.50	ND	1.9
Chloroethane	ND	0.50	ND	1.3
Trichlorofluoromethane	ND	0.50	ND	2.8
Acrolein	2.6	2.0	6.0	4.6
1,1-Dichloroethene	ND	0.50	ND	2.0
Freon 113	ND	0.50	ND	3.8
Acetone	24	2.0	57	4.8
Carbon Disulfide	2.1	0.50	6.4	1.6
Methylene Chloride	ND	0.50	ND	1.7
trans-1,2-Dichloroethene	ND	0.50	ND	2.0
MTBE	ND	0.50	ND	1.8
n-Hexane	1.9	0.50	6.7	1.8
1,1-Dichloroethane	ND	0.50	ND	2.0
Vinyl Acetate	ND	0.50	ND	1.8
cis-1,2-Dichloroethene	ND	0.50	ND	2.0
2-Butanone	12	0.50	36	1.5
Ethyl Acetate	ND	0.50	ND	1.8
Tetrahydrofuran	1.5	0.50	4.3	1.5
Chloroform	ND	0.50	ND	2.4
1,1,1-Trichloroethane	ND	0.50	ND	2.7
Cyclohexane	1.8	0.50	6.0	1.7
Carbon Tetrachloride	ND	0.50	ND	3.1
Benzene	0.75	0.50	2.4	1.6
1,2-Dichloroethane	ND	0.50	ND	2.0
n-Heptane	5.7	0.50	23	2.0
Trichloroethene	ND	0.50	ND	2.7
1,2-Dichloropropane	ND	0.50	ND	2.3
Bromodichloromethane	ND	0.50	ND	3.4
cis-1,3-Dichloropropene	ND	0.50	ND	2.3

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	EFF MPE	Diln Fac:	1.000
Lab ID:	245440-001	Batch#:	198731
Matrix:	Air	Sampled:	05/20/13
Units (V):	ppbv	Received:	05/20/13
Units (M):	ug/m3	Analyzed:	05/21/13

Analyte	Result (V)	RL	Result (M)	RL
4-Methyl-2-Pentanone	ND	0.50	ND	2.0
Toluene	4.6	0.50	17	1.9
trans-1,3-Dichloropropene	ND	0.50	ND	2.3
1,1,2-Trichloroethane	ND	0.50	ND	2.7
Tetrachloroethene	ND	0.50	ND	3.4
2-Hexanone	0.96	0.50	3.9	2.0
Dibromochloromethane	ND	0.50	ND	4.3
1,2-Dibromoethane	ND	0.50	ND	3.8
Chlorobenzene	ND	0.50	ND	2.3
Ethylbenzene	8.3	0.50	36	2.2
m,p-Xylenes	58	0.50	250	2.2
o-Xylene	21	0.50	93	2.2
Styrene	ND	0.50	ND	2.1
Bromoform	ND	0.50	ND	5.2
1,1,2,2-Tetrachloroethane	ND	0.50	ND	3.4
4-Ethyltoluene	16	0.50	81	2.5
1,3,5-Trimethylbenzene	19	0.50	95	2.5
1,2,4-Trimethylbenzene	37	0.50	180	2.5
1,3-Dichlorobenzene	ND	0.50	ND	3.0
1,4-Dichlorobenzene	ND	0.50	ND	3.0
Benzyl chloride	ND	0.50	ND	2.6
1,2-Dichlorobenzene	ND	0.50	ND	3.0
1,2,4-Trichlorobenzene	ND	0.50	ND	3.7
Hexachlorobutadiene	ND	0.50	ND	5.3
Naphthalene	ND	2.0	ND	10

Surrogate	%REC	Limits
Bromofluorobenzene	132 *	70-130

*= Value outside of QC limits; see narrative
ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	INF MPE	Batch#:	198731
Lab ID:	245440-002	Sampled:	05/20/13
Matrix:	Air	Received:	05/20/13
Units (V):	ppbv	Analyzed:	05/21/13
Units (M):	ug/m3		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac
Freon 12	ND	1.0	ND	4.9	2.000
Freon 114	ND	1.0	ND	7.0	2.000
Chloromethane	ND	1.0	ND	2.1	2.000
Vinyl Chloride	ND	1.0	ND	2.6	2.000
1,3-Butadiene	ND	1.0	ND	2.2	2.000
Bromomethane	ND	1.0	ND	3.9	2.000
Chloroethane	ND	1.0	ND	2.6	2.000
Trichlorofluoromethane	ND	1.0	ND	5.6	2.000
Acrolein	ND	4.0	ND	9.2	2.000
1,1-Dichloroethene	ND	1.0	ND	4.0	2.000
Freon 113	ND	1.0	ND	7.7	2.000
Acetone	24	4.0	57	9.5	2.000
Carbon Disulfide	ND	1.0	ND	3.1	2.000
Methylene Chloride	ND	1.0	ND	3.5	2.000
trans-1,2-Dichloroethene	ND	1.0	ND	4.0	2.000
MTBE	ND	1.0	ND	3.6	2.000
n-Hexane	52	1.0	180	3.5	2.000
1,1-Dichloroethane	ND	1.0	ND	4.0	2.000
Vinyl Acetate	ND	1.0	ND	3.5	2.000
cis-1,2-Dichloroethene	ND	1.0	ND	4.0	2.000
2-Butanone	6.0	1.0	18	2.9	2.000
Ethyl Acetate	ND	1.0	ND	3.6	2.000
Tetrahydrofuran	ND	1.0	ND	2.9	2.000
Chloroform	ND	1.0	ND	4.9	2.000
1,1,1-Trichloroethane	ND	1.0	ND	5.5	2.000
Cyclohexane	38	1.0	130	3.4	2.000
Carbon Tetrachloride	ND	1.0	ND	6.3	2.000
Benzene	7.0	1.0	22	3.2	2.000
1,2-Dichloroethane	ND	1.0	ND	4.0	2.000
n-Heptane	87	1.0	360	4.1	2.000
Trichloroethene	ND	1.0	ND	5.4	2.000
1,2-Dichloropropane	ND	1.0	ND	4.6	2.000
Bromodichloromethane	ND	1.0	ND	6.7	2.000
cis-1,3-Dichloropropene	ND	1.0	ND	4.5	2.000
4-Methyl-2-Pentanone	ND	1.0	ND	4.1	2.000

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Field ID:	INF MPE	Batch#:	198731
Lab ID:	245440-002	Sampled:	05/20/13
Matrix:	Air	Received:	05/20/13
Units (V):	ppbv	Analyzed:	05/21/13
Units (M):	ug/m3		

Analyte	Result (V)	RL	Result (M)	RL	Diln Fac
Toluene	38	1.0	140	3.8	2.000
trans-1,3-Dichloropropene	ND	1.0	ND	4.5	2.000
1,1,2-Trichloroethane	ND	1.0	ND	5.5	2.000
Tetrachloroethene	ND	1.0	ND	6.8	2.000
2-Hexanone	ND	1.0	ND	4.1	2.000
Dibromochloromethane	ND	1.0	ND	8.5	2.000
1,2-Dibromoethane	ND	1.0	ND	7.7	2.000
Chlorobenzene	ND	1.0	ND	4.6	2.000
Ethylbenzene	50	1.0	220	4.3	2.000
m,p-Xylenes	230	1.5	980	6.5	3.000
o-Xylene	83	1.0	360	4.3	2.000
Styrene	2.7	1.0	11	4.3	2.000
Bromoform	ND	1.0	ND	10	2.000
1,1,2,2-Tetrachloroethane	ND	1.0	ND	6.9	2.000
4-Ethyltoluene	39	1.0	190	4.9	2.000
1,3,5-Trimethylbenzene	44	1.0	220	4.9	2.000
1,2,4-Trimethylbenzene	72	1.0	350	4.9	2.000
1,3-Dichlorobenzene	ND	1.0	ND	6.0	2.000
1,4-Dichlorobenzene	ND	1.0	ND	6.0	2.000
Benzyl chloride	ND	1.0	ND	5.2	2.000
1,2-Dichlorobenzene	ND	1.0	ND	6.0	2.000
1,2,4-Trichlorobenzene	ND	1.0	ND	7.4	2.000
Hexachlorobutadiene	ND	1.0	ND	11	2.000
Naphthalene	ND	4.0	ND	21	2.000

Surrogate	%REC	Limits	Diln Fac
Bromofluorobenzene	108	70-130	2.000

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198731
Units (V):	ppbv	Analyzed:	05/21/13
Diln Fac:	1.000		

Type: BS Lab ID: QC689648

Analyte	Spiked	Result (V)	%REC	Limits
Freon 12	10.00	9.710	97	70-130
Freon 114	10.00	10.30	103	70-130
Chloromethane	10.00	8.789	88	70-130
Vinyl Chloride	10.00	8.672	87	70-130
1,3-Butadiene	10.00	7.975	80	70-130
Bromomethane	10.00	8.863	89	70-130
Chloroethane	10.00	9.179	92	70-130
Trichlorofluoromethane	10.00	9.665	97	70-130
Acrolein	10.00	8.693	87	61-130
1,1-Dichloroethene	10.00	9.049	90	70-130
Freon 113	10.00	9.440	94	70-130
Acetone	10.00	7.830	78	70-130
Carbon Disulfide	10.00	8.049	80	70-130
Methylene Chloride	10.00	7.901	79	70-130
trans-1,2-Dichloroethene	10.00	9.465	95	70-130
MTBE	10.00	10.33	103	70-130
n-Hexane	10.00	8.992	90	70-130
1,1-Dichloroethane	10.00	9.407	94	70-130
Vinyl Acetate	10.00	8.829	88	70-130
cis-1,2-Dichloroethene	10.00	9.371	94	70-130
2-Butanone	10.00	9.362	94	70-130
Ethyl Acetate	10.00	9.554	96	70-130
Tetrahydrofuran	10.00	10.88	109	70-130
Chloroform	10.00	9.974	100	70-130
1,1,1-Trichloroethane	10.00	10.74	107	70-130
Cyclohexane	10.00	10.94	109	70-130
Carbon Tetrachloride	10.00	12.39	124	70-130
Benzene	10.00	10.11	101	70-130
1,2-Dichloroethane	10.00	10.36	104	70-130
n-Heptane	10.00	9.821	98	70-130
Trichloroethene	10.00	10.28	103	70-130
1,2-Dichloropropane	10.00	10.91	109	70-130
Bromodichloromethane	10.00	10.87	109	70-130
cis-1,3-Dichloropropene	10.00	10.72	107	70-130

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198731
Units (V):	ppbv	Analyzed:	05/21/13
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits
4-Methyl-2-Pentanone	10.00	11.07	111	70-130
Toluene	10.00	9.406	94	70-130
trans-1,3-Dichloropropene	10.00	11.35	114	70-130
1,1,2-Trichloroethane	10.00	10.07	101	70-130
Tetrachloroethene	10.00	9.485	95	70-130
2-Hexanone	10.00	10.72	107	70-130
Dibromochloromethane	10.00	10.36	104	70-130
1,2-Dibromoethane	10.00	10.12	101	70-130
Chlorobenzene	10.00	8.796	88	70-130
Ethylbenzene	10.00	9.166	92	70-130
m,p-Xylenes	20.00	20.47	102	70-130
o-Xylene	10.00	10.23	102	70-130
Styrene	10.00	9.995	100	70-130
Bromoform	10.00	10.66	107	70-130
1,1,2,2-Tetrachloroethane	10.00	10.44	104	70-130
4-Ethyltoluene	10.00	11.42	114	70-130
1,3,5-Trimethylbenzene	10.00	11.02	110	70-130
1,2,4-Trimethylbenzene	10.00	11.00	110	70-130
1,3-Dichlorobenzene	10.00	10.55	105	70-130
1,4-Dichlorobenzene	10.00	10.43	104	70-130
Benzyl chloride	10.00	10.15	101	70-130
1,2-Dichlorobenzene	10.00	10.29	103	70-130
1,2,4-Trichlorobenzene	10.00	9.921	99	70-130
Hexachlorobutadiene	10.00	9.112	91	70-130
Naphthalene	10.00	12.43	124	67-130

Surrogate	%REC	Limits
Bromofluorobenzene	106	70-130

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198731
Units (V):	ppbv	Analyzed:	05/21/13
Diln Fac:	1.000		

Type: BSD Lab ID: QC689649

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
Freon 12	10.00	9.727	97	70-130	0	20
Freon 114	10.00	10.28	103	70-130	0	20
Chloromethane	10.00	8.408	84	70-130	4	24
Vinyl Chloride	10.00	8.206	82	70-130	6	24
1,3-Butadiene	10.00	7.546	75	70-130	6	22
Bromomethane	10.00	8.739	87	70-130	1	20
Chloroethane	10.00	9.294	93	70-130	1	20
Trichlorofluoromethane	10.00	9.607	96	70-130	1	21
Acrolein	10.00	8.105	81	61-130	7	36
1,1-Dichloroethene	10.00	8.792	88	70-130	3	20
Freon 113	10.00	9.377	94	70-130	1	24
Acetone	10.00	7.590	76	70-130	3	21
Carbon Disulfide	10.00	7.830	78	70-130	3	21
Methylene Chloride	10.00	7.785	78	70-130	1	24
trans-1,2-Dichloroethene	10.00	9.453	95	70-130	0	20
MTBE	10.00	10.14	101	70-130	2	20
n-Hexane	10.00	8.791	88	70-130	2	20
1,1-Dichloroethane	10.00	9.257	93	70-130	2	20
Vinyl Acetate	10.00	8.524	85	70-130	4	21
cis-1,2-Dichloroethene	10.00	9.269	93	70-130	1	20
2-Butanone	10.00	9.079	91	70-130	3	20
Ethyl Acetate	10.00	9.164	92	70-130	4	22
Tetrahydrofuran	10.00	10.44	104	70-130	4	20
Chloroform	10.00	9.747	97	70-130	2	21
1,1,1-Trichloroethane	10.00	10.44	104	70-130	3	21
Cyclohexane	10.00	10.14	101	70-130	8	20
Carbon Tetrachloride	10.00	11.82	118	70-130	5	20
Benzene	10.00	9.821	98	70-130	3	20
1,2-Dichloroethane	10.00	9.727	97	70-130	6	20
n-Heptane	10.00	9.203	92	70-130	6	20
Trichloroethene	10.00	9.750	98	70-130	5	20
1,2-Dichloropropane	10.00	10.35	104	70-130	5	20
Bromodichloromethane	10.00	10.36	104	70-130	5	20
cis-1,3-Dichloropropene	10.00	10.43	104	70-130	3	20

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Matrix:	Air	Batch#:	198731
Units (V):	ppbv	Analyzed:	05/21/13
Diln Fac:	1.000		

Analyte	Spiked	Result (V)	%REC	Limits	RPD	Lim
4-Methyl-2-Pentanone	10.00	10.69	107	70-130	3	20
Toluene	10.00	9.963	100	70-130	6	23
trans-1,3-Dichloropropene	10.00	10.62	106	70-130	7	20
1,1,2-Trichloroethane	10.00	10.44	104	70-130	4	20
Tetrachloroethene	10.00	10.00	100	70-130	5	20
2-Hexanone	10.00	10.95	109	70-130	2	20
Dibromochloromethane	10.00	10.73	107	70-130	4	20
1,2-Dibromoethane	10.00	10.66	107	70-130	5	20
Chlorobenzene	10.00	9.244	92	70-130	5	21
Ethylbenzene	10.00	9.313	93	70-130	2	20
m,p-Xylenes	20.00	21.22	106	70-130	4	20
o-Xylene	10.00	10.55	105	70-130	3	20
Styrene	10.00	10.27	103	70-130	3	22
Bromoform	10.00	11.03	110	70-130	3	20
1,1,2,2-Tetrachloroethane	10.00	11.14	111	70-130	6	24
4-Ethyltoluene	10.00	11.96	120	70-130	5	22
1,3,5-Trimethylbenzene	10.00	11.13	111	70-130	1	22
1,2,4-Trimethylbenzene	10.00	11.47	115	70-130	4	23
1,3-Dichlorobenzene	10.00	10.72	107	70-130	2	21
1,4-Dichlorobenzene	10.00	10.76	108	70-130	3	22
Benzyl chloride	10.00	10.27	103	70-130	1	21
1,2-Dichlorobenzene	10.00	10.89	109	70-130	6	22
1,2,4-Trichlorobenzene	10.00	9.303	93	70-130	6	24
Hexachlorobutadiene	10.00	9.323	93	70-130	2	25
Naphthalene	10.00	11.97	120	67-130	4	24

Surrogate	%REC	Limits
Bromofluorobenzene	108	70-130

RPD= Relative Percent Difference
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC689650	Diln Fac:	1.000
Matrix:	Air	Batch#:	198731
Units (V):	ppbv	Analyzed:	05/21/13

Analyte	Result (V)	RL	Result (M)	RL
Freon 12	ND	0.50	ND	2.5
Freon 114	ND	0.50	ND	3.5
Chloromethane	ND	0.50	ND	1.0
Vinyl Chloride	ND	0.50	ND	1.3
1,3-Butadiene	ND	0.50	ND	1.1
Bromomethane	ND	0.50	ND	1.9
Chloroethane	ND	0.50	ND	1.3
Trichlorofluoromethane	ND	0.50	ND	2.8
Acrolein	ND	2.0	ND	4.6
1,1-Dichloroethene	ND	0.50	ND	2.0
Freon 113	ND	0.50	ND	3.8
Acetone	ND	2.0	ND	4.8
Carbon Disulfide	ND	0.50	ND	1.6
Methylene Chloride	ND	0.50	ND	1.7
trans-1,2-Dichloroethene	ND	0.50	ND	2.0
MTBE	ND	0.50	ND	1.8
n-Hexane	ND	0.50	ND	1.8
1,1-Dichloroethane	ND	0.50	ND	2.0
Vinyl Acetate	ND	0.50	ND	1.8
cis-1,2-Dichloroethene	ND	0.50	ND	2.0
2-Butanone	ND	0.50	ND	1.5
Ethyl Acetate	ND	0.50	ND	1.8
Tetrahydrofuran	ND	0.50	ND	1.5
Chloroform	ND	0.50	ND	2.4
1,1,1-Trichloroethane	ND	0.50	ND	2.7
Cyclohexane	ND	0.50	ND	1.7
Carbon Tetrachloride	ND	0.50	ND	3.1
Benzene	ND	0.50	ND	1.6
1,2-Dichloroethane	ND	0.50	ND	2.0
n-Heptane	ND	0.50	ND	2.0
Trichloroethene	ND	0.50	ND	2.7
1,2-Dichloropropane	ND	0.50	ND	2.3
Bromodichloromethane	ND	0.50	ND	3.4
cis-1,3-Dichloropropene	ND	0.50	ND	2.3
4-Methyl-2-Pentanone	ND	0.50	ND	2.0

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Volatile Organics in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-15
Type:	BLANK	Units (M):	ug/m3
Lab ID:	QC689650	Diln Fac:	1.000
Matrix:	Air	Batch#:	198731
Units (V):	ppbv	Analyzed:	05/21/13

Analyte	Result (V)	RL	Result (M)	RL
Toluene	ND	0.50	ND	1.9
trans-1,3-Dichloropropene	ND	0.50	ND	2.3
1,1,2-Trichloroethane	ND	0.50	ND	2.7
Tetrachloroethene	ND	0.50	ND	3.4
2-Hexanone	ND	0.50	ND	2.0
Dibromochloromethane	ND	0.50	ND	4.3
1,2-Dibromoethane	ND	0.50	ND	3.8
Chlorobenzene	ND	0.50	ND	2.3
Ethylbenzene	ND	0.50	ND	2.2
m,p-Xylenes	ND	0.50	ND	2.2
o-Xylene	ND	0.50	ND	2.2
Styrene	ND	0.50	ND	2.1
Bromoform	ND	0.50	ND	5.2
1,1,2,2-Tetrachloroethane	ND	0.50	ND	3.4
4-Ethyltoluene	ND	0.50	ND	2.5
1,3,5-Trimethylbenzene	ND	0.50	ND	2.5
1,2,4-Trimethylbenzene	ND	0.50	ND	2.5
1,3-Dichlorobenzene	ND	0.50	ND	3.0
1,4-Dichlorobenzene	ND	0.50	ND	3.0
Benzyl chloride	ND	0.50	ND	2.6
1,2-Dichlorobenzene	ND	0.50	ND	3.0
1,2,4-Trichlorobenzene	ND	0.50	ND	3.7
Hexachlorobutadiene	ND	0.50	ND	5.3
Naphthalene	ND	2.0	ND	10

Surrogate	%REC	Limits
Bromofluorobenzene	109	70-130

ND= Not Detected
RL= Reporting Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Aromatic / Petroleum Hydrocarbons in Air

Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-3
Analyte:	Gasoline Range Organics C6-C12	Batch#:	198754
Matrix:	Air	Sampled:	05/20/13
Units (V):	ppbv	Received:	05/20/13
Units (M):	ug/m3	Analyzed:	05/21/13
Diln Fac:	1.000		

Field ID	Type	Lab ID	Result (V)	RL	MDL	Result (M)	RL	MDL
EFF MPE	SAMPLE	245440-001	830	25	5.6	3,400	100	23
INF MPE	SAMPLE	245440-002	2,200	25	5.6	8,900	100	23
	BLANK	QC689733	ND	25	5.6	ND	100	23

ND= Not Detected
RL= Reporting Limit
MDL= Method Detection Limit
Result M= Result in mass units
Result V= Result in volume units

Curtis & Tompkins, Ltd.

Batch QC Report

Aromatic / Petroleum Hydrocarbons in Air

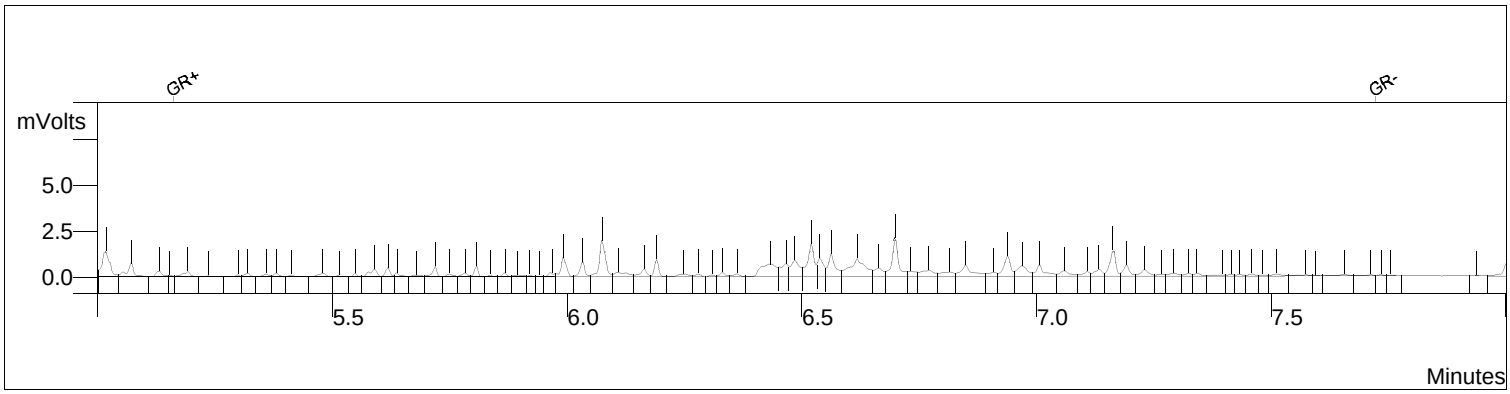
Lab #:	245440	Location:	15101 Freedom Ave. San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2555	Analysis:	EPA TO-3
Analyte:	Gasoline Range Organics C6-C12	Diln Fac:	1.000
Matrix:	Air	Batch#:	198754
Units (V):	ppbv	Analyzed:	05/21/13

Type	Lab ID	Spiked	Result (V)	%REC	Limits	RPD	Lim
BS	QC689731	2,100	2,056	98	70-130		
BSD	QC689732	2,100	2,167	103	70-130	5	25

RPD= Relative Percent Difference
Result V= Result in volume units

GRO by TO-3

Sample ID:	245440-001		
Data File:	c:\varianws\data\052113\141_005.run		
Sample List:	c:\varianws\052113.smp		
Method:	c:\varianws\to3_081811.mth		
Acquisition Date:	05/21/2013 14:29:21		
Calculation Date:	05/21/2013 14:41:23		
Instrument ID:	MSAIR03	Operator:	TO-3
Injection Notes:	198754,1x		
Multiplier:	1.000	Divisor:	1.000



Channel: Front = FID RESULTS

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.443	GRO:6-12	30906	830.732
		Totals	**30906**	**830.732**

Integration Parameters

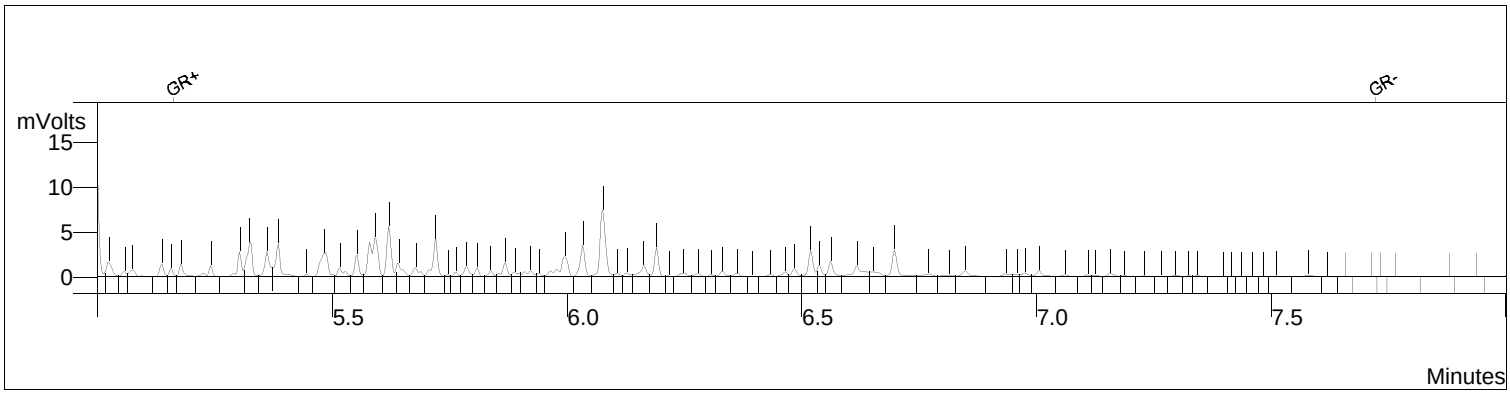
Initial Tangent %:	0
Initial Peak Width (sec):	4
Initial Peak Reject Value:	50.000
Initial S/N Ratio:	3

Data Handling Time Events

Time (min)	Event
0.009	II on
4.801	II off
5.163	GR on
7.723	GR off

GRO by TO-3

Sample ID:	245440-002		
Data File:	c:\varianws\data\052113\141_006.run		
Sample List:	c:\varianws\052113.smp		
Method:	c:\varianws\to3_081811.mth		
Acquisition Date:	05/21/2013 14:44:48		
Calculation Date:	05/21/2013 14:56:50		
Instrument ID:	MSAIR03	Operator:	TO-3
Injection Notes:	198754,1x		
Multiplier:	1.000	Divisor:	1.000



Channel: **Front = FID** **RESULTS**

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.443	GRO:6-12	81067	2179.025
		Totals	**81067**	**2179.025**

Integration Parameters

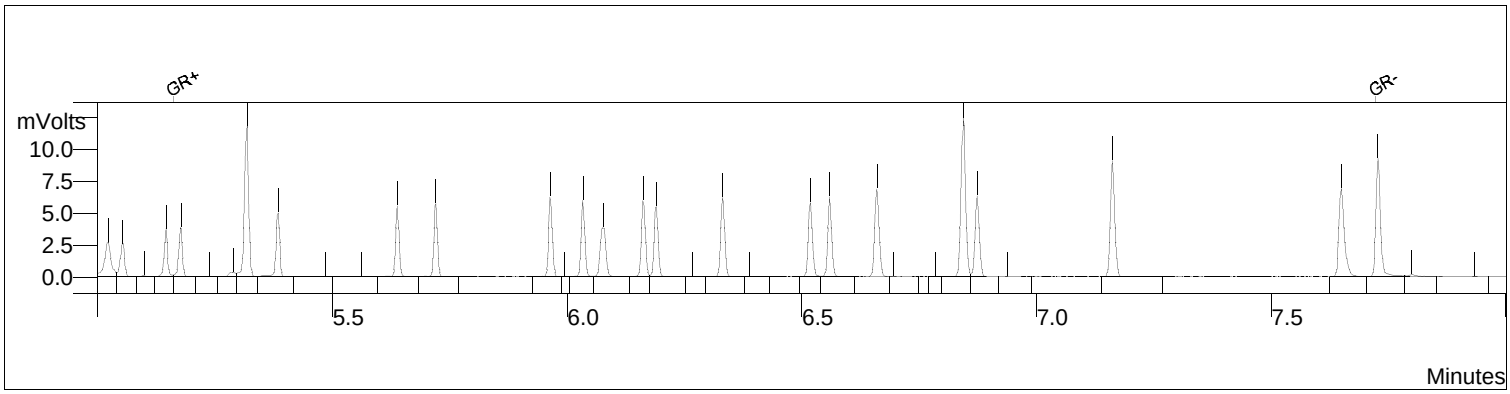
Initial Tangent %:	0
Initial Peak Width (sec):	4
Initial Peak Reject Value:	50.000
Initial S/N Ratio:	3

Data Handling Time Events

Time (min)	Event
0.009	II on
4.801	II off
5.163	GR on
7.723	GR off

GRO by TO-3

Sample ID:	ccv/bs,qc689731		
Data File:	c:\varianws\data\052113\141_002.run		
Sample List:	c:\varianws\052113.smp		
Method:	c:\varianws\to3_081811.mth		
Acquisition Date:	05/21/2013 13:42:57		
Calculation Date:	05/21/2013 13:54:59		
Instrument ID:	MSAIR03	Operator:	TO-3
Injection Notes:	198754,s22425,1x		
Multiplier:	1.000	Divisor:	1.000



Channel: **Front = FID** **RESULTS**

#	RT (min)	Peak Name	Area	Result (ppbv)
1	6.443	GRO:6-12	76485	2055.857
		Totals	**76485**	**2055.857**

Integration Parameters

Initial Tangent %:	0
Initial Peak Width (sec):	4
Initial Peak Reject Value:	50.000
Initial S/N Ratio:	3

Data Handling Time Events

Time (min)	Event
0.009	II on
4.801	II off
5.163	GR on
7.723	GR off

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

Laboratory Job Number 246075
ANALYTICAL REPORT

SOMA Environmental Engineering Inc.
6620 Owens Dr.
Pleasanton, CA 94588

Project : 2551
Location : 15101 Freedom Avenue San Leandro
Level : II

Sample ID	Lab ID
MW-1	246075-001
MW-2	246075-002
MW-3	246075-003
MW-4	246075-004
MW-5	246075-005
MW-6	246075-006
MW-7	246075-007
MW-1D	246075-008
MW-3D	246075-009
MW-4D	246075-010
EX-1	246075-011
EX-2	246075-012
MPE-1	246075-013
MPE-2	246075-014

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: Tracy Babjar Date: 06/21/2013

Tracy Babjar
Project Manager
(510) 204-2226

NELAP # 01107CA

Curtis & Tompkins, Ltd.

CASE NARRATIVE

Laboratory number:	**246075**
Client:	**SOMA Environmental Engineering Inc.**
Project:	**2551**
Location:	**15101 Freedom Avenue San Leandro**
Request Date:	**06/12/13**
Samples Received:	**06/12/13**

This data package contains sample and QC results for fourteen water samples, requested for the above referenced project on 06/12/13. The samples were received cold and intact.

Volatile Organics by GC/MS (EPA 8260B):

Low response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 06/17/13 13:30; this analyte met minimum response criteria, and affected data was qualified with "b". Low response was observed for tert-butyl alcohol (TBA) in the CCV analyzed 06/15/13 14:25; this analyte met minimum response criteria, and affected data was qualified with "b". Low recoveries were observed for tert-butyl alcohol (TBA) in the MS/MSD for batch 199812; the parent sample was not a project sample, the BS/BSD were within limits, and the associated RPD was within limits. High RPD was observed for gasoline C7-C12 in the BS/BSD for batch 199682; this analyte was not detected at or above the RL in the associated samples. High RPD was observed for tert-butyl alcohol (TBA) in the BS/BSD for batch 199901; this analyte was not detected at or above the RL in the associated sample. No other 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 # 24607s

Sampler: Lizzie Hightower/

Project No: 2551

Report To: Joyce Bobek

Project Name: 15101 Freedom Ave.,San Leandro

Company : SOMA Environmental

Turnaround Time: Standard

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
1	MW-1	6/11/13, 9:02		*		3-VOAs	*			*	*	*
2	MW-2	6/11/13, 8:29		*		3-VOAs	*			*	*	*
3	MW-3	6/11/13, 7:29		*		3-VOAs	*			*	*	*
4	MW-4	6/11/13, 7:30		*		3-VOAs	*			*	*	*
5	MW-5	6/11/13, 10:31		*		3-VOAs	*			*	*	*
6	MW-6	6/10/13, 12:06		*		3-VOAs	*			*	*	*
7	MW-7	6/10/13, 11:38		*		3-VOAs	*			*	*	*
8	MW-1D	6/10/13, 12:26		*		3-VOAs	*			*	*	*
9	MW-3D	6/10/13, 14:05		*		3-VOAs	*			*	*	*
10	MW-4D	6/10/13, 14:38		*		3-VOAs	*			*	*	*
11	EX-1	6/10/13, 12:21 PM		*		3-VOAs	*			*	*	*
12	EX-2	6/10/13, 12:28		*		3-VOAs	*			*	*	*
13	MPE-1	6/10/13, 15:05		*		3-VOAs	*			*	*	*
14	MPE-2	6/11/13, 17:12		*		3-VOAs	*			*	*	*

Notes: **EDF OUTPUT REQUIRED**
Ethanol

RELINQUISHED BY:	RECEIVED BY:
6/11/13, 17:47 DATE/TIME	6/12/13 910 DATE/TIME
6/12/13 1415 DATE/TIME	6/12/13 1415 DATE/TIME
DATE/TIME	DATE/TIME

COOLER RECEIPT CHECKLIST

Curtis & Tompkins, Ltd.

Login # 246075 Date Received 6/12/13 Number of coolers 1
Client SOMA ENVIRONMENTAL Project 15101 FREEDOM AVE, SAN LEANDRO (2553)

Date Opened 6/12/13 By (print) TR (sign) Tina Rankin
Date Logged in 6/12/13 By (print) MA (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) 2.7

☐ Samples Received on ice & cold without a temperature blank; temp. taken with IR gun

☐ 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 there any missing / extra samples? _____ YES (NO)
11. Are samples in the appropriate containers for indicated tests? _____ (YES) NO
12. Are sample labels present, in good condition and complete? _____ (YES) NO
13. Do the sample labels agree with custody papers? _____ (YES) NO
14. Was sufficient amount of sample sent for tests requested? _____ (YES) NO
15. Are the samples appropriately preserved? _____ YES NO (N/A)
16. Did you check preservatives for all bottles for each sample? _____ YES NO (N/A)
17. Did you document your preservative check? _____ YES NO (N/A)
18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO (N/A)
19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO (N/A)
20. Are bubbles > 6mm absent in VOA samples? _____ (YES) NO N/A
21. Was the client contacted concerning this sample delivery? _____ YES (NO)
If YES, Who was called?_____ By_____ Date:_____

COMMENTS

_____
_____
_____
_____
_____
_____

Rev 10, 11/11

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-1	Batch#:	199812
Lab ID:	246075-001	Sampled:	06/11/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	5.000		

Analyte	Result	RL
Gasoline C7-C12	6,800	250
tert-Butyl Alcohol (TBA)	ND	50
Isopropyl Ether (DIPE)	ND	2.5
Ethyl tert-Butyl Ether (ETBE)	ND	2.5
Methyl tert-Amyl Ether (TAME)	ND	2.5
Ethanol	ND	5,000
MTBE	ND	2.5
1,2-Dichloroethane	ND	2.5
Benzene	200	2.5
Toluene	ND	2.5
1,2-Dibromoethane	ND	2.5
Ethylbenzene	300	2.5
m,p-Xylenes	120	2.5
o-Xylene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	105	77-134
1,2-Dichloroethane-d4	113	72-140
Toluene-d8	105	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-2	Units:	ug/L
Lab ID:	246075-002	Sampled:	06/11/13
Matrix:	Water	Received:	06/12/13

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Gasoline C7-C12	510	130	2.500	199812	06/18/13
tert-Butyl Alcohol (TBA)	150	10	1.000	199682	06/14/13
Isopropyl Ether (DIPE)	ND	0.50	1.000	199682	06/14/13
Ethyl tert-Butyl Ether (ETBE)	1.6	0.50	1.000	199682	06/14/13
Methyl tert-Amyl Ether (TAME)	ND	0.50	1.000	199682	06/14/13
Ethanol	ND	1,000	1.000	199682	06/14/13
MTBE	3.1	0.50	1.000	199682	06/14/13
1,2-Dichloroethane	ND	0.50	1.000	199682	06/14/13
Benzene	150	1.3	2.500	199812	06/18/13
Toluene	ND	0.50	1.000	199682	06/14/13
1,2-Dibromoethane	ND	0.50	1.000	199682	06/14/13
Ethylbenzene	15	0.50	1.000	199682	06/14/13
m,p-Xylenes	10	0.50	1.000	199682	06/14/13
o-Xylene	2.3	0.50	1.000	199682	06/14/13

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	87	77-134	1.000	199682	06/14/13
1,2-Dichloroethane-d4	93	72-140	1.000	199682	06/14/13
Toluene-d8	97	80-120	1.000	199682	06/14/13
Bromofluorobenzene	94	80-120	1.000	199682	06/14/13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-3	Batch#:	199901
Lab ID:	246075-003	Sampled:	06/11/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/20/13
Diln Fac:	10.00		

Analyte	Result	RL
Gasoline C7-C12	14,000	500
tert-Butyl Alcohol (TBA)	ND	100
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Ethanol	ND	10,000
MTBE	6.1	5.0
1,2-Dichloroethane	ND	5.0
Benzene	700	5.0
Toluene	26	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	860	5.0
m,p-Xylenes	1,400	5.0
o-Xylene	230	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	99	77-134
1,2-Dichloroethane-d4	112	72-140
Toluene-d8	106	80-120
Bromofluorobenzene	109	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-4	Batch#:	199812
Lab ID:	246075-004	Sampled:	06/11/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	10.00		

Analyte	Result	RL
Gasoline C7-C12	1,100	500
tert-Butyl Alcohol (TBA)	890	100
Isopropyl Ether (DIPE)	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	12	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
Ethanol	ND	10,000
MTBE	35	5.0
1,2-Dichloroethane	ND	5.0
Benzene	860	5.0
Toluene	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethylbenzene	64	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-134
1,2-Dichloroethane-d4	111	72-140
Toluene-d8	101	80-120
Bromofluorobenzene	112	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-5	Batch#:	199812
Lab ID:	246075-005	Sampled:	06/11/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	2.000		

Analyte	Result	RL
Gasoline C7-C12	2,900	100
tert-Butyl Alcohol (TBA)	ND	20
Isopropyl Ether (DIPE)	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
Methyl tert-Amyl Ether (TAME)	2.5	1.0
Ethanol	ND	2,000
MTBE	3.0	1.0
1,2-Dichloroethane	ND	1.0
Benzene	22	1.0
Toluene	3.9	1.0
1,2-Dibromoethane	ND	1.0
Ethylbenzene	110	1.0
m,p-Xylenes	100	1.0
o-Xylene	31	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-134
1,2-Dichloroethane-d4	107	72-140
Toluene-d8	110	80-120
Bromofluorobenzene	115	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-6	Batch#:	199812
Lab ID:	246075-006	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	5.000		

Analyte	Result	RL
Gasoline C7-C12	12,000	250
tert-Butyl Alcohol (TBA)	ND	50
Isopropyl Ether (DIPE)	ND	2.5
Ethyl tert-Butyl Ether (ETBE)	ND	2.5
Methyl tert-Amyl Ether (TAME)	ND	2.5
Ethanol	ND	5,000
MTBE	ND	2.5
1,2-Dichloroethane	ND	2.5
Benzene	20	2.5
Toluene	ND	2.5
1,2-Dibromoethane	ND	2.5
Ethylbenzene	280	2.5
m,p-Xylenes	230	2.5
o-Xylene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-134
1,2-Dichloroethane-d4	112	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	116	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-7	Diln Fac:	1.000
Lab ID:	246075-007	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	890	50	199759	06/17/13
tert-Butyl Alcohol (TBA)	ND	10	199682	06/14/13
Isopropyl Ether (DIPE)	ND	0.50	199759	06/17/13
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	199759	06/17/13
Methyl tert-Amyl Ether (TAME)	ND	0.50	199759	06/17/13
Ethanol	ND	1,000	199759	06/17/13
MTBE	2.3	0.50	199759	06/17/13
1,2-Dichloroethane	ND	0.50	199759	06/17/13
Benzene	ND	0.50	199759	06/17/13
Toluene	ND	0.50	199759	06/17/13
1,2-Dibromoethane	ND	0.50	199759	06/17/13
Ethylbenzene	2.6	0.50	199759	06/17/13
m,p-Xylenes	ND	0.50	199759	06/17/13
o-Xylene	ND	0.50	199759	06/17/13

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	101	77-134	199759	06/17/13
1,2-Dichloroethane-d4	118	72-140	199759	06/17/13
Toluene-d8	108	80-120	199759	06/17/13
Bromofluorobenzene	112	80-120	199759	06/17/13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-1D	Diln Fac:	1.000
Lab ID:	246075-008	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	110	50	199759	06/17/13
tert-Butyl Alcohol (TBA)	ND	10	199682	06/14/13
Isopropyl Ether (DIPE)	ND	0.50	199759	06/17/13
Ethyl tert-Butyl Ether (ETBE)	ND	0.50	199759	06/17/13
Methyl tert-Amyl Ether (TAME)	ND	0.50	199759	06/17/13
Ethanol	ND	1,000	199759	06/17/13
MTBE	ND	0.50	199759	06/17/13
1,2-Dichloroethane	ND	0.50	199759	06/17/13
Benzene	ND	0.50	199759	06/17/13
Toluene	ND	0.50	199759	06/17/13
1,2-Dibromoethane	ND	0.50	199759	06/17/13
Ethylbenzene	0.55	0.50	199759	06/17/13
m,p-Xylenes	ND	0.50	199759	06/17/13
o-Xylene	ND	0.50	199759	06/17/13

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	102	77-134	199759	06/17/13
1,2-Dichloroethane-d4	113	72-140	199759	06/17/13
Toluene-d8	111	80-120	199759	06/17/13
Bromofluorobenzene	113	80-120	199759	06/17/13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-3D	Batch#:	199682
Lab ID:	246075-009	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/14/13
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	3.5	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	86	77-134
1,2-Dichloroethane-d4	93	72-140
Toluene-d8	97	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MW-4D	Batch#:	199682
Lab ID:	246075-010	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/14/13
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	1.7	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	85	77-134
1,2-Dichloroethane-d4	95	72-140
Toluene-d8	96	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	EX-1	Diln Fac:	1.000
Lab ID:	246075-011	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L		

Analyte	Result	RL	Batch#	Analyzed
Gasoline C7-C12	340	50	199759	06/17/13
tert-Butyl Alcohol (TBA)	280	10	199682	06/14/13
Isopropyl Ether (DIPE)	ND	0.50	199759	06/17/13
Ethyl tert-Butyl Ether (ETBE)	4.0	0.50	199759	06/17/13
Methyl tert-Amyl Ether (TAME)	1.6	0.50	199759	06/17/13
Ethanol	ND	1,000	199759	06/17/13
MTBE	62	0.50	199759	06/17/13
1,2-Dichloroethane	ND	0.50	199759	06/17/13
Benzene	37	0.50	199759	06/17/13
Toluene	ND	0.50	199759	06/17/13
1,2-Dibromoethane	ND	0.50	199759	06/17/13
Ethylbenzene	5.9	0.50	199759	06/17/13
m,p-Xylenes	13	0.50	199759	06/17/13
o-Xylene	2.1	0.50	199759	06/17/13

Surrogate	%REC	Limits	Batch#	Analyzed
Dibromofluoromethane	102	77-134	199759	06/17/13
1,2-Dichloroethane-d4	113	72-140	199759	06/17/13
Toluene-d8	110	80-120	199759	06/17/13
Bromofluorobenzene	111	80-120	199759	06/17/13

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	EX-2	Batch#:	199812
Lab ID:	246075-012	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	2.000		

Analyte	Result	RL
Gasoline C7-C12	2,600	100
tert-Butyl Alcohol (TBA)	32	20
Isopropyl Ether (DIPE)	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
Ethanol	ND	2,000
MTBE	6.8	1.0
1,2-Dichloroethane	ND	1.0
Benzene	190	1.0
Toluene	20	1.0
1,2-Dibromoethane	ND	1.0
Ethylbenzene	100	1.0
m,p-Xylenes	200	1.0
o-Xylene	48	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	100	77-134
1,2-Dichloroethane-d4	101	72-140
Toluene-d8	110	80-120
Bromofluorobenzene	116	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MPE-1	Batch#:	199812
Lab ID:	246075-013	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	25.00		

Analyte	Result	RL
Gasoline C7-C12	42,000	1,300
tert-Butyl Alcohol (TBA)	660	250
Isopropyl Ether (DIPE)	ND	13
Ethyl tert-Butyl Ether (ETBE)	ND	13
Methyl tert-Amyl Ether (TAME)	380	13
Ethanol	ND	25,000
MTBE	670	13
1,2-Dichloroethane	ND	13
Benzene	1,900	13
Toluene	980	13
1,2-Dibromoethane	ND	13
Ethylbenzene	630	13
m,p-Xylenes	3,100	13
o-Xylene	1,300	13

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-134
1,2-Dichloroethane-d4	109	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	115	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	MPE-2	Batch#:	199724
Lab ID:	246075-014	Sampled:	06/10/13
Matrix:	Water	Received:	06/12/13
Units:	ug/L	Analyzed:	06/16/13
Diln Fac:	25.00		

Analyte	Result	RL
Gasoline C7-C12	26,000	1,300
tert-Butyl Alcohol (TBA)	ND	250
Isopropyl Ether (DIPE)	ND	13
Ethyl tert-Butyl Ether (ETBE)	ND	13
Methyl tert-Amyl Ether (TAME)	ND	13
Ethanol	ND	25,000
MTBE	ND	13
1,2-Dichloroethane	ND	13
Benzene	920	13
Toluene	ND	13
1,2-Dibromoethane	ND	13
Ethylbenzene	1,500	13
m,p-Xylenes	1,300	13
o-Xylene	52	13

Surrogate	%REC	Limits
Dibromofluoromethane	89	77-134
1,2-Dichloroethane-d4	103	72-140
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199682
Units:	ug/L	Analyzed:	06/14/13
Diln Fac:	1.000		

Type: BS Lab ID: QC693590

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	54.78	88	37-144
Isopropyl Ether (DIPE)	12.50	9.309	74	52-123
Ethyl tert-Butyl Ether (ETBE)	12.50	10.51	84	57-120
Methyl tert-Amyl Ether (TAME)	12.50	11.82	95	59-120
MTBE	12.50	11.30	90	58-120
1,2-Dichloroethane	12.50	12.64	101	73-136
Benzene	12.50	12.28	98	78-125
Toluene	12.50	14.71	118	79-123
1,2-Dibromoethane	12.50	13.13	105	78-120
Ethylbenzene	12.50	14.70	118	80-126
m,p-Xylenes	25.00	28.82	115	80-123
o-Xylene	12.50	14.17	113	75-120

Surrogate	%REC	Limits
Dibromofluoromethane	86	77-134
1,2-Dichloroethane-d4	95	72-140
Toluene-d8	98	80-120
Bromofluorobenzene	94	80-120

Type: BSD Lab ID: QC693591

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	48.79	78	37-144	12	31
Isopropyl Ether (DIPE)	12.50	8.807	70	52-123	6	20
Ethyl tert-Butyl Ether (ETBE)	12.50	9.821	79	57-120	7	23
Methyl tert-Amyl Ether (TAME)	12.50	11.58	93	59-120	2	22
MTBE	12.50	10.87	87	58-120	4	23
1,2-Dichloroethane	12.50	12.04	96	73-136	5	20
Benzene	12.50	11.86	95	78-125	3	20
Toluene	12.50	13.74	110	79-123	7	20
1,2-Dibromoethane	12.50	12.39	99	78-120	6	20
Ethylbenzene	12.50	13.38	107	80-126	9	20
m,p-Xylenes	25.00	27.30	109	80-123	5	20
o-Xylene	12.50	13.20	106	75-120	7	20

Surrogate	%REC	Limits
Dibromofluoromethane	87	77-134
1,2-Dichloroethane-d4	97	72-140
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC693592	Batch#:	199682
Matrix:	Water	Analyzed:	06/14/13
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	84	77-134
1,2-Dichloroethane-d4	95	72-140
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199682
Units:	ug/L	Analyzed:	06/14/13
Diln Fac:	1.000		

Type: BS Lab ID: QC693593

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,045	104	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	85	77-134
1,2-Dichloroethane-d4	96	72-140
Toluene-d8	100	80-120
Bromofluorobenzene	97	80-120

Type: BSD Lab ID: QC693594

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	803.4	80	80-120	26 *	20

Surrogate	%REC	Limits
Dibromofluoromethane	87	77-134
1,2-Dichloroethane-d4	101	72-140
Toluene-d8	97	80-120
Bromofluorobenzene	96	80-120

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199724
Units:	ug/L	Analyzed:	06/15/13
Diln Fac:	1.000		

Type: BS Lab ID: QC693756

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	62.50	40.23 b	64	37-144
Isopropyl Ether (DIPE)	12.50	9.451	76	52-123
Ethyl tert-Butyl Ether (ETBE)	12.50	9.925	79	57-120
Methyl tert-Amyl Ether (TAME)	12.50	11.49	92	59-120
MTBE	12.50	10.45	84	58-120
1,2-Dichloroethane	12.50	12.21	98	73-136
Benzene	12.50	12.86	103	78-125
Toluene	12.50	13.73	110	79-123
1,2-Dibromoethane	12.50	12.34	99	78-120
Ethylbenzene	12.50	13.86	111	80-126
m,p-Xylenes	25.00	26.82	107	80-123
o-Xylene	12.50	13.69	110	75-120

Surrogate	%REC	Limits
Dibromofluoromethane	85	77-134
1,2-Dichloroethane-d4	90	72-140
Toluene-d8	98	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC693757

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	62.50	42.62 b	68	37-144	6	31
Isopropyl Ether (DIPE)	12.50	8.773	70	52-123	7	20
Ethyl tert-Butyl Ether (ETBE)	12.50	9.520	76	57-120	4	23
Methyl tert-Amyl Ether (TAME)	12.50	10.71	86	59-120	7	22
MTBE	12.50	10.17	81	58-120	3	23
1,2-Dichloroethane	12.50	11.59	93	73-136	5	20
Benzene	12.50	11.46	92	78-125	11	20
Toluene	12.50	12.30	98	79-123	11	20
1,2-Dibromoethane	12.50	11.62	93	78-120	6	20
Ethylbenzene	12.50	12.33	99	80-126	12	20
m,p-Xylenes	25.00	24.82	99	80-123	8	20
o-Xylene	12.50	12.00	96	75-120	13	20

Surrogate	%REC	Limits
Dibromofluoromethane	85	77-134
1,2-Dichloroethane-d4	91	72-140
Toluene-d8	97	80-120
Bromofluorobenzene	93	80-120

b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199724
Units:	ug/L	Analyzed:	06/15/13
Diln Fac:	1.000		

Type: BS Lab ID: QC693758

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	962.2	96	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	85	77-134
1,2-Dichloroethane-d4	96	72-140
Toluene-d8	99	80-120
Bromofluorobenzene	94	80-120

Type: BSD Lab ID: QC693759

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	902.9	90	80-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	85	77-134
1,2-Dichloroethane-d4	94	72-140
Toluene-d8	98	80-120
Bromofluorobenzene	95	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC693760	Batch#:	199724
Matrix:	Water	Analyzed:	06/15/13
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	84	77-134
1,2-Dichloroethane-d4	93	72-140
Toluene-d8	98	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC693889	Batch#:	199759
Matrix:	Water	Analyzed:	06/17/13
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	77-134
1,2-Dichloroethane-d4	117	72-140
Toluene-d8	104	80-120
Bromofluorobenzene	112	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199759
Units:	ug/L	Analyzed:	06/17/13
Diln Fac:	1.000		

Type: BS Lab ID: QC693890

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	60.76 b	61	37-144
Isopropyl Ether (DIPE)	20.00	18.83	94	52-123
Ethyl tert-Butyl Ether (ETBE)	20.00	18.86	94	57-120
Methyl tert-Amyl Ether (TAME)	20.00	17.68	88	59-120
MTBE	20.00	18.17	91	58-120
1,2-Dichloroethane	20.00	24.05	120	73-136
Benzene	20.00	20.98	105	78-125
Toluene	20.00	21.91	110	79-123
1,2-Dibromoethane	20.00	17.36	87	78-120
Ethylbenzene	20.00	23.03	115	80-126
m,p-Xylenes	40.00	43.68	109	80-123
o-Xylene	20.00	19.77	99	75-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-134
1,2-Dichloroethane-d4	117	72-140
Toluene-d8	107	80-120
Bromofluorobenzene	112	80-120

Type: BSD Lab ID: QC693891

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	59.65 b	60	37-144	2	31
Isopropyl Ether (DIPE)	20.00	18.16	91	52-123	4	20
Ethyl tert-Butyl Ether (ETBE)	20.00	18.40	92	57-120	3	23
Methyl tert-Amyl Ether (TAME)	20.00	17.54	88	59-120	1	22
MTBE	20.00	18.13	91	58-120	0	23
1,2-Dichloroethane	20.00	22.83	114	73-136	5	20
Benzene	20.00	19.95	100	78-125	5	20
Toluene	20.00	20.81	104	79-123	5	20
1,2-Dibromoethane	20.00	17.42	87	78-120	0	20
Ethylbenzene	20.00	22.73	114	80-126	1	20
m,p-Xylenes	40.00	42.24	106	80-123	3	20
o-Xylene	20.00	19.22	96	75-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	77-134
1,2-Dichloroethane-d4	117	72-140
Toluene-d8	108	80-120
Bromofluorobenzene	114	80-120

b= See narrative
RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199759
Units:	ug/L	Analyzed:	06/17/13
Diln Fac:	1.000		

Type: BS Lab ID: QC693892

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	900.0	978.2	109	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	77-134
1,2-Dichloroethane-d4	118	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	115	80-120

Type: BSD Lab ID: QC693893

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	900.0	930.9	103	80-120	5	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	77-134
1,2-Dichloroethane-d4	118	72-140
Toluene-d8	107	80-120
Bromofluorobenzene	114	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199812
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	1.000		

Type: BS Lab ID: QC694115

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	89.69	72	37-144
Isopropyl Ether (DIPE)	25.00	24.19	97	52-123
Ethyl tert-Butyl Ether (ETBE)	25.00	23.23	93	57-120
Methyl tert-Amyl Ether (TAME)	25.00	22.05	88	59-120
MTBE	25.00	23.06	92	58-120
1,2-Dichloroethane	25.00	26.96	108	73-136
Benzene	25.00	25.57	102	78-125
Toluene	25.00	27.65	111	79-123
1,2-Dibromoethane	25.00	22.13	89	78-120
Ethylbenzene	25.00	29.02	116	80-126
m,p-Xylenes	50.00	53.95	108	80-123
o-Xylene	25.00	25.42	102	75-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	77-134
1,2-Dichloroethane-d4	110	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	114	80-120

Type: BSD Lab ID: QC694116

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	125.0	83.09	66	37-144	8	31
Isopropyl Ether (DIPE)	25.00	23.57	94	52-123	3	20
Ethyl tert-Butyl Ether (ETBE)	25.00	22.55	90	57-120	3	23
Methyl tert-Amyl Ether (TAME)	25.00	21.18	85	59-120	4	22
MTBE	25.00	22.32	89	58-120	3	23
1,2-Dichloroethane	25.00	27.02	108	73-136	0	20
Benzene	25.00	25.34	101	78-125	1	20
Toluene	25.00	27.30	109	79-123	1	20
1,2-Dibromoethane	25.00	21.99	88	78-120	1	20
Ethylbenzene	25.00	28.57	114	80-126	2	20
m,p-Xylenes	50.00	53.26	107	80-123	1	20
o-Xylene	25.00	24.37	97	75-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	103	77-134
1,2-Dichloroethane-d4	111	72-140
Toluene-d8	110	80-120
Bromofluorobenzene	113	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC694117	Batch#:	199812
Matrix:	Water	Analyzed:	06/18/13
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	77-134
1,2-Dichloroethane-d4	112	72-140
Toluene-d8	111	80-120
Bromofluorobenzene	112	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199812
Units:	ug/L	Analyzed:	06/18/13
Diln Fac:	1.000		

Type: BS Lab ID: QC694118

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,007	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	77-134
1,2-Dichloroethane-d4	115	72-140
Toluene-d8	110	80-120
Bromofluorobenzene	116	80-120

Type: BSD Lab ID: QC694119

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	1,000	947.4	95	80-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-134
1,2-Dichloroethane-d4	111	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	115	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	246234-002	Batch#:	199812
Matrix:	Water	Sampled:	06/17/13
Units:	ug/L	Received:	06/17/13

Type: MS Analyzed: 06/18/13
Lab ID: QC694161

Analyte	MSS Result	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	<2.239	250.0	85.38	34 *	42-140
Isopropyl Ether (DIPE)	<0.1000	25.00	23.75	95	59-120
Ethyl tert-Butyl Ether (ETBE)	<0.1000	25.00	22.78	91	62-120
Methyl tert-Amyl Ether (TAME)	<0.1002	25.00	21.18	85	63-120
MTBE	<0.1119	25.00	22.44	90	63-120
1,2-Dichloroethane	<0.1071	25.00	26.20	105	80-133
Benzene	0.2188	25.00	25.93	103	80-125
Toluene	6.307	25.00	32.64	105	80-122
1,2-Dibromoethane	<0.1341	25.00	22.40	90	80-120
Ethylbenzene	2.002	25.00	30.12	112	80-124
m,p-Xylenes	21.08	50.00	69.87	98	80-121
o-Xylene	9.799	25.00	33.35	94	77-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-134
1,2-Dichloroethane-d4	108	72-140
Toluene-d8	109	80-120
Bromofluorobenzene	114	80-120

Type: MSD Analyzed: 06/19/13
Lab ID: QC694162

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	250.0	77.30	31 *	42-140	10	39
Isopropyl Ether (DIPE)	25.00	22.60	90	59-120	5	25
Ethyl tert-Butyl Ether (ETBE)	25.00	21.97	88	62-120	4	27
Methyl tert-Amyl Ether (TAME)	25.00	20.41	82	63-120	4	27
MTBE	25.00	23.71	95	63-120	5	27
1,2-Dichloroethane	25.00	25.49	102	80-133	3	21
Benzene	25.00	25.28	100	80-125	3	21
Toluene	25.00	32.39	104	80-122	1	21
1,2-Dibromoethane	25.00	21.76	87	80-120	3	22
Ethylbenzene	25.00	30.10	112	80-124	0	21
m,p-Xylenes	50.00	69.36	97	80-121	1	21
o-Xylene	25.00	33.03	93	77-120	1	22

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-134
1,2-Dichloroethane-d4	106	72-140
Toluene-d8	110	80-120
Bromofluorobenzene	112	80-120

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC694475	Batch#:	199901
Matrix:	Water	Analyzed:	06/20/13
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	77-134
1,2-Dichloroethane-d4	115	72-140
Toluene-d8	106	80-120
Bromofluorobenzene	107	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199901
Units:	ug/L	Analyzed:	06/20/13
Diln Fac:	1.000		

Type: BS Lab ID: QC694476

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	106.3	97.27	92	37-144
Isopropyl Ether (DIPE)	21.25	18.67	88	52-123
Ethyl tert-Butyl Ether (ETBE)	21.25	20.51	97	57-120
Methyl tert-Amyl Ether (TAME)	21.25	21.12	99	59-120
MTBE	21.25	21.82	103	58-120
1,2-Dichloroethane	21.25	25.10	118	73-136
Benzene	21.25	19.87	93	78-125
Toluene	21.25	21.50	101	79-123
1,2-Dibromoethane	21.25	20.31	96	78-120
Ethylbenzene	21.25	22.78	107	80-126
m,p-Xylenes	42.50	42.36	100	80-123
o-Xylene	21.25	19.85	93	75-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	77-134
1,2-Dichloroethane-d4	126	72-140
Toluene-d8	105	80-120
Bromofluorobenzene	106	80-120

Type: BSD Lab ID: QC694477

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	106.3	61.91	58	37-144	44 *	31
Isopropyl Ether (DIPE)	21.25	17.38	82	52-123	7	20
Ethyl tert-Butyl Ether (ETBE)	21.25	17.50	82	57-120	16	23
Methyl tert-Amyl Ether (TAME)	21.25	17.61	83	59-120	18	22
MTBE	21.25	17.85	84	58-120	20	23
1,2-Dichloroethane	21.25	22.98	108	73-136	9	20
Benzene	21.25	19.63	92	78-125	1	20
Toluene	21.25	21.21	100	79-123	1	20
1,2-Dibromoethane	21.25	17.32	82	78-120	16	20
Ethylbenzene	21.25	22.36	105	80-126	2	20
m,p-Xylenes	42.50	42.82	101	80-123	1	20
o-Xylene	21.25	19.22	90	75-120	3	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-134
1,2-Dichloroethane-d4	114	72-140
Toluene-d8	105	80-120
Bromofluorobenzene	106	80-120

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

Curtis & Tompkins, Ltd.

Batch QC Report

Purgeable Organics by GC/MS

Lab #:	246075	Location:	15101 Freedom Avenue San Leandro
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2551	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	199901
Units:	ug/L	Analyzed:	06/20/13
Diln Fac:	1.000		

Type: BS Lab ID: QC694478

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	800.0	834.0	104	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	77-134
1,2-Dichloroethane-d4	116	72-140
Toluene-d8	107	80-120
Bromofluorobenzene	108	80-120

Type: BSD Lab ID: QC694479

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	800.0	762.4	95	80-120	9	20

Surrogate	%REC	Limits
Dibromofluoromethane	96	77-134
1,2-Dichloroethane-d4	112	72-140
Toluene-d8	106	80-120
Bromofluorobenzene	108	80-120

RPD= Relative Percent Difference

Data File: \\Gcmsserver\DD\chem\MSVOA08.i\061813.b\HFI19TVH.D

Date : 18-JUN-2013 20:22

Client ID: DYNA P&T

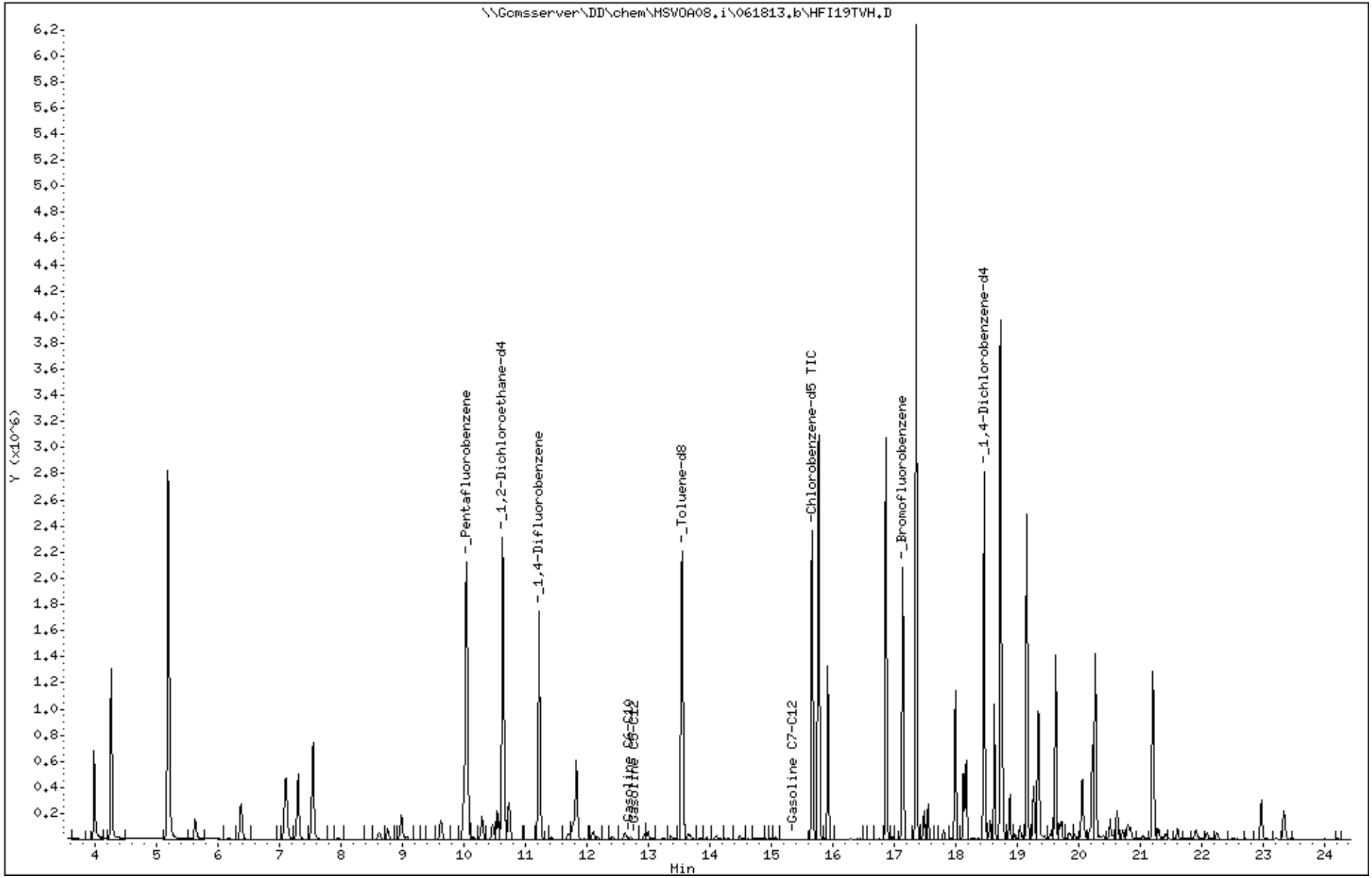
Instrument: MSVOA08.i

Sample Info: S,246075-001

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\061813.b\HFI18TVH.D

Date : 18-JUN-2013 19:45

Client ID: DYNA P&T

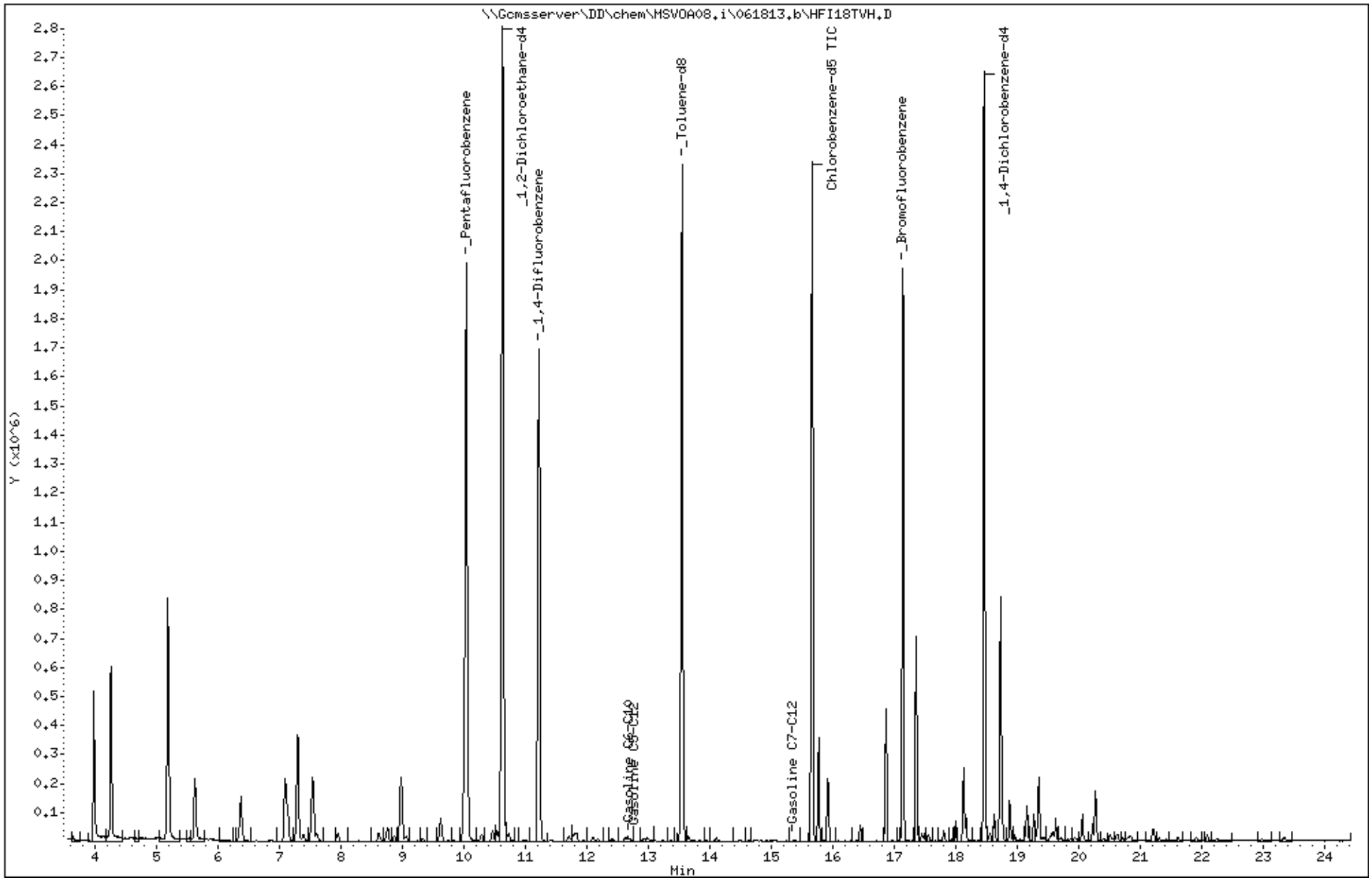
Instrument: MSVOA08.i

Sample Info: S,246075-002

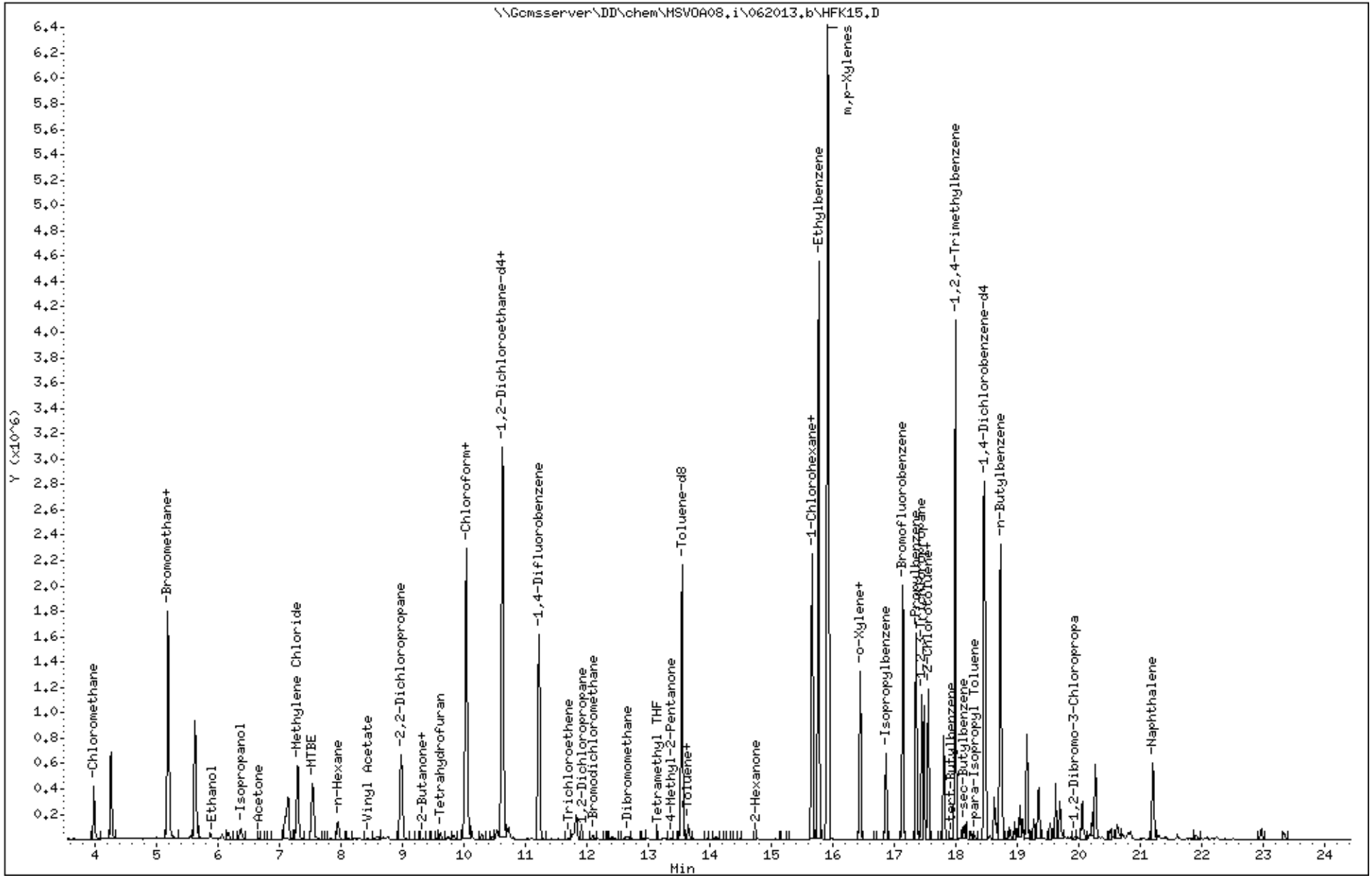
Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\062013.b\HFK15.D
Date : 20-JUN-2013 18:31
Client ID: DYNA P&T
Instrument: MSVOA08.i
Sample Info: S,246075-003
Purge Volume: 5.0
Operator: VOC
Column phase: RTX 624
Column diameter: 0.25



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\061813.b\HFI22TVH.D

Date : 18-JUN-2013 22:12

Client ID: DYNA P&T

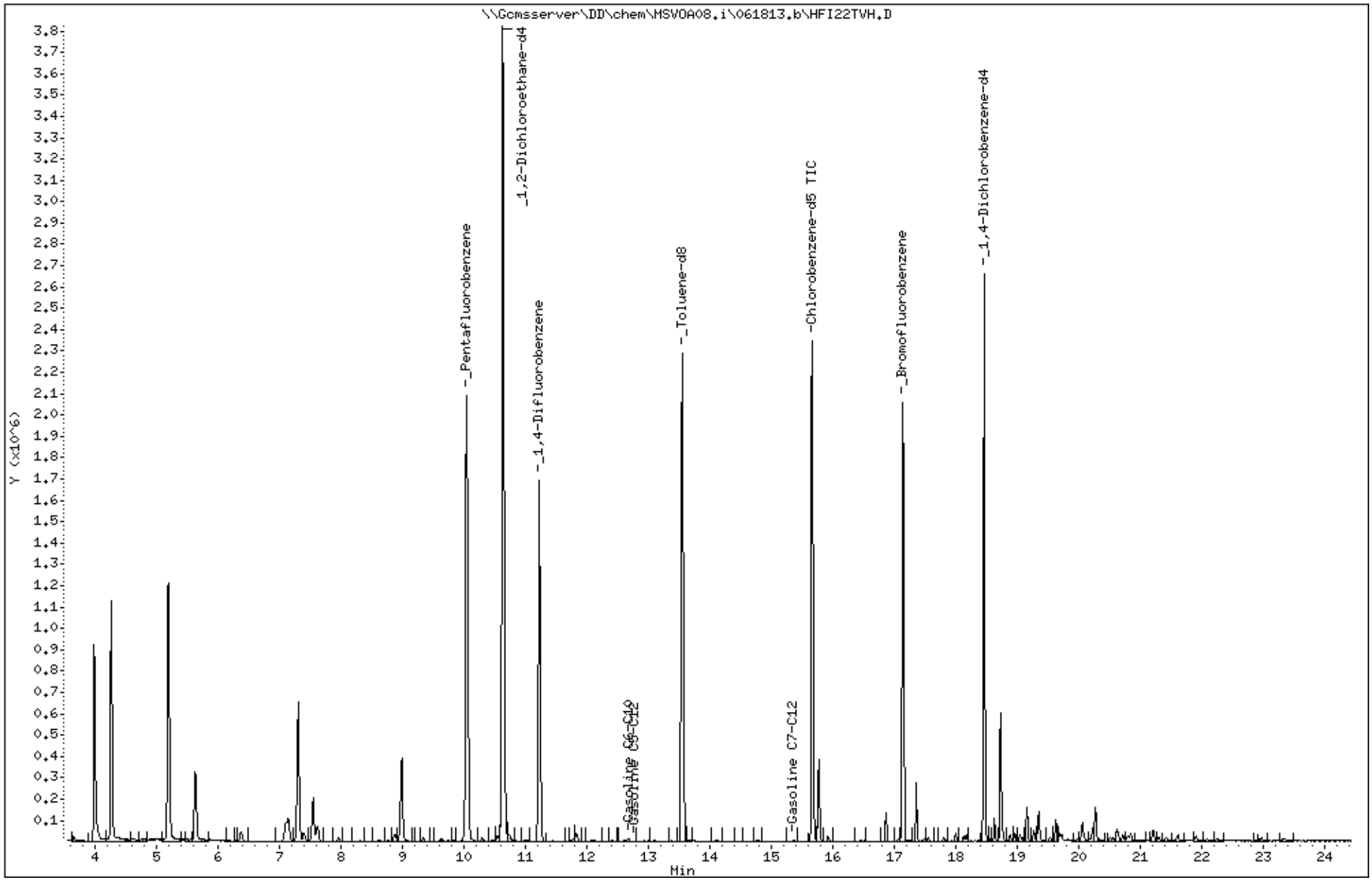
Instrument: MSVOA08.i

Sample Info: S,246075-004

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 18-JUN-2013 18:32

Client ID: DYNA P&T

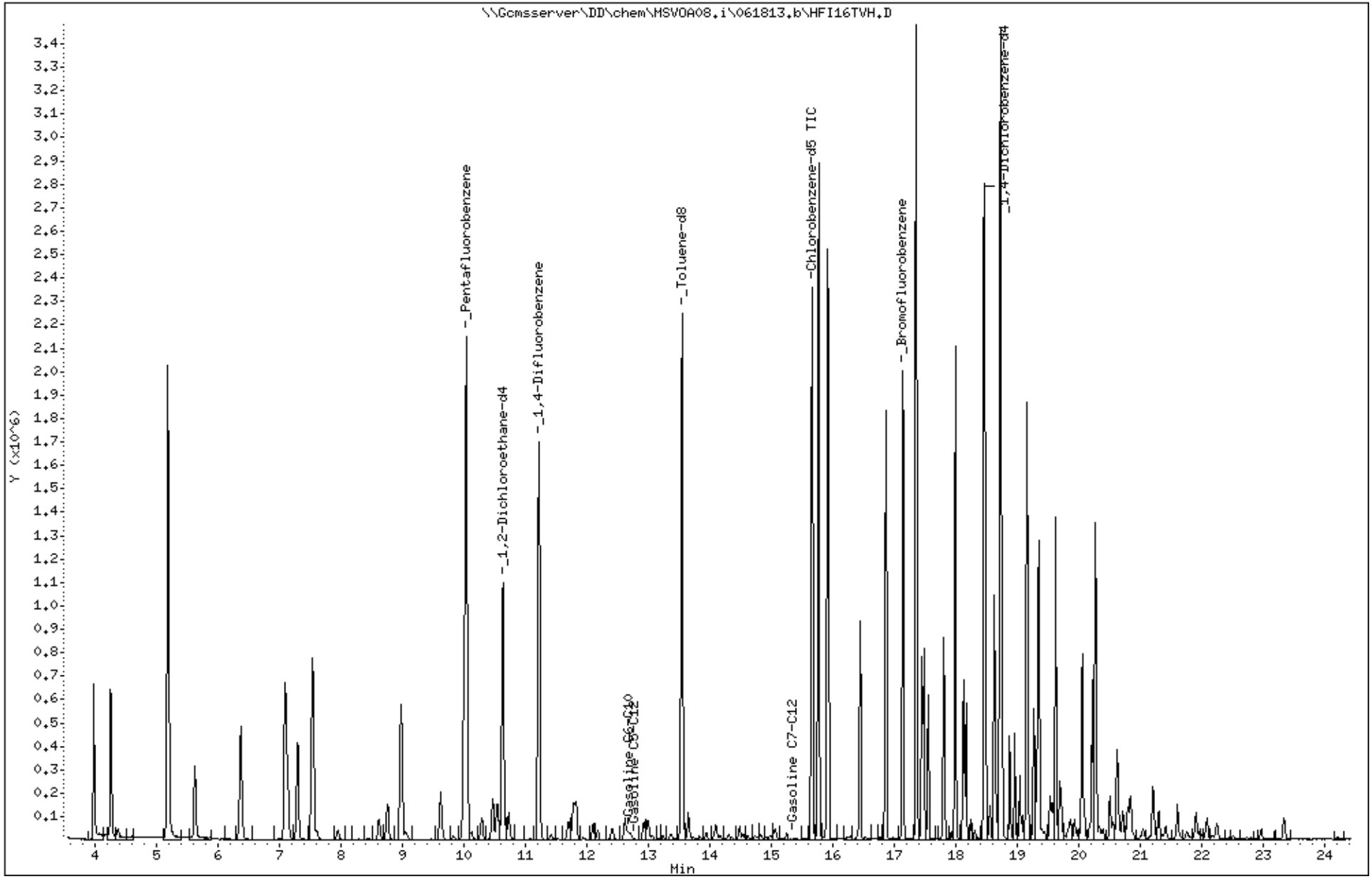
Instrument: MSVOA08.i

Sample Info: S,246075-005

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\061813.b\HFI20TVH.D

Date : 18-JUN-2013 20:59

Client ID: DYNA P&T

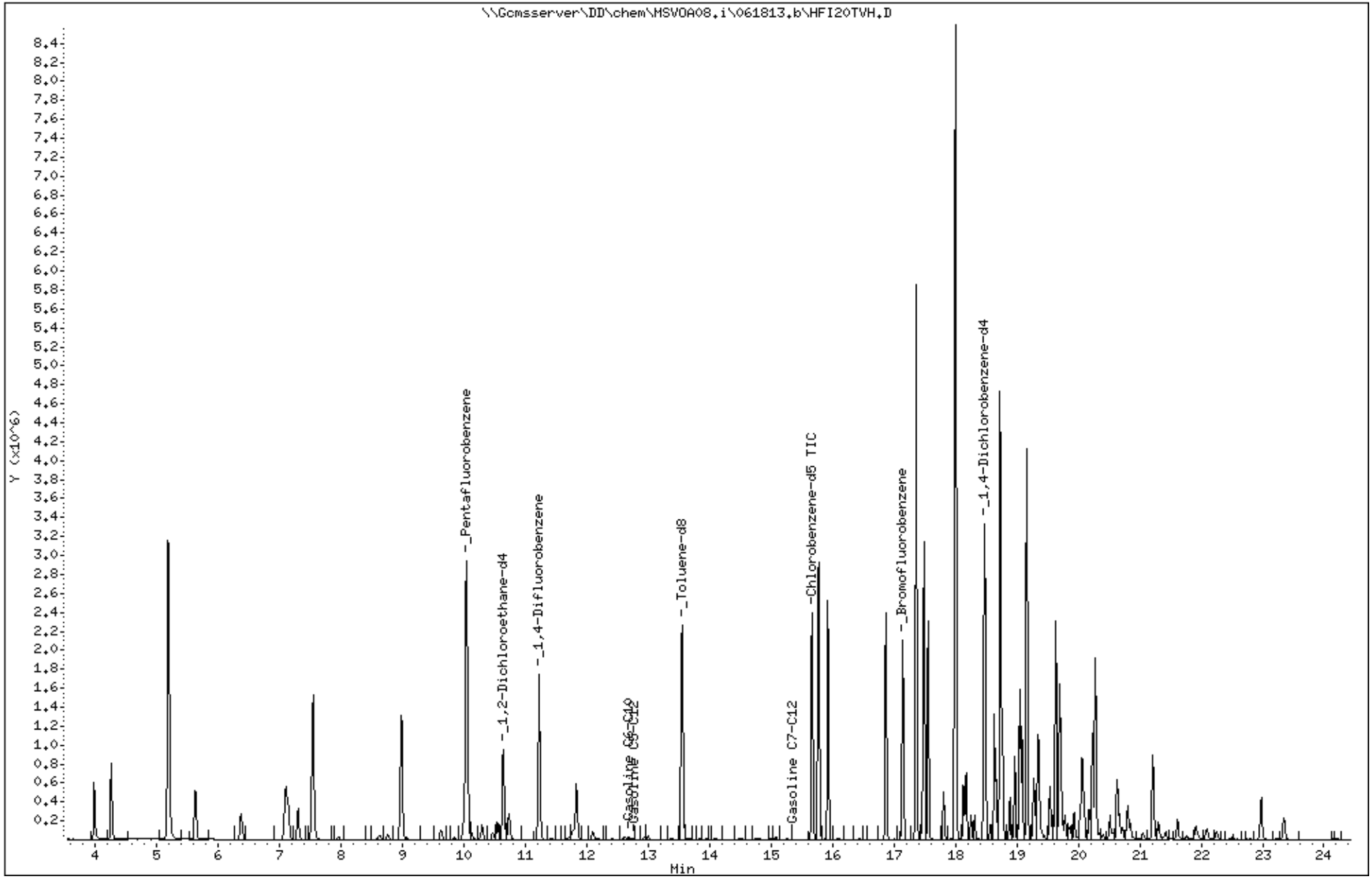
Instrument: MSVOA08.i

Sample Info: S,246075-006

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\061713.b\HFH11TVH.D

Date : 17-JUN-2013 17:51

Client ID: DYNA P&T

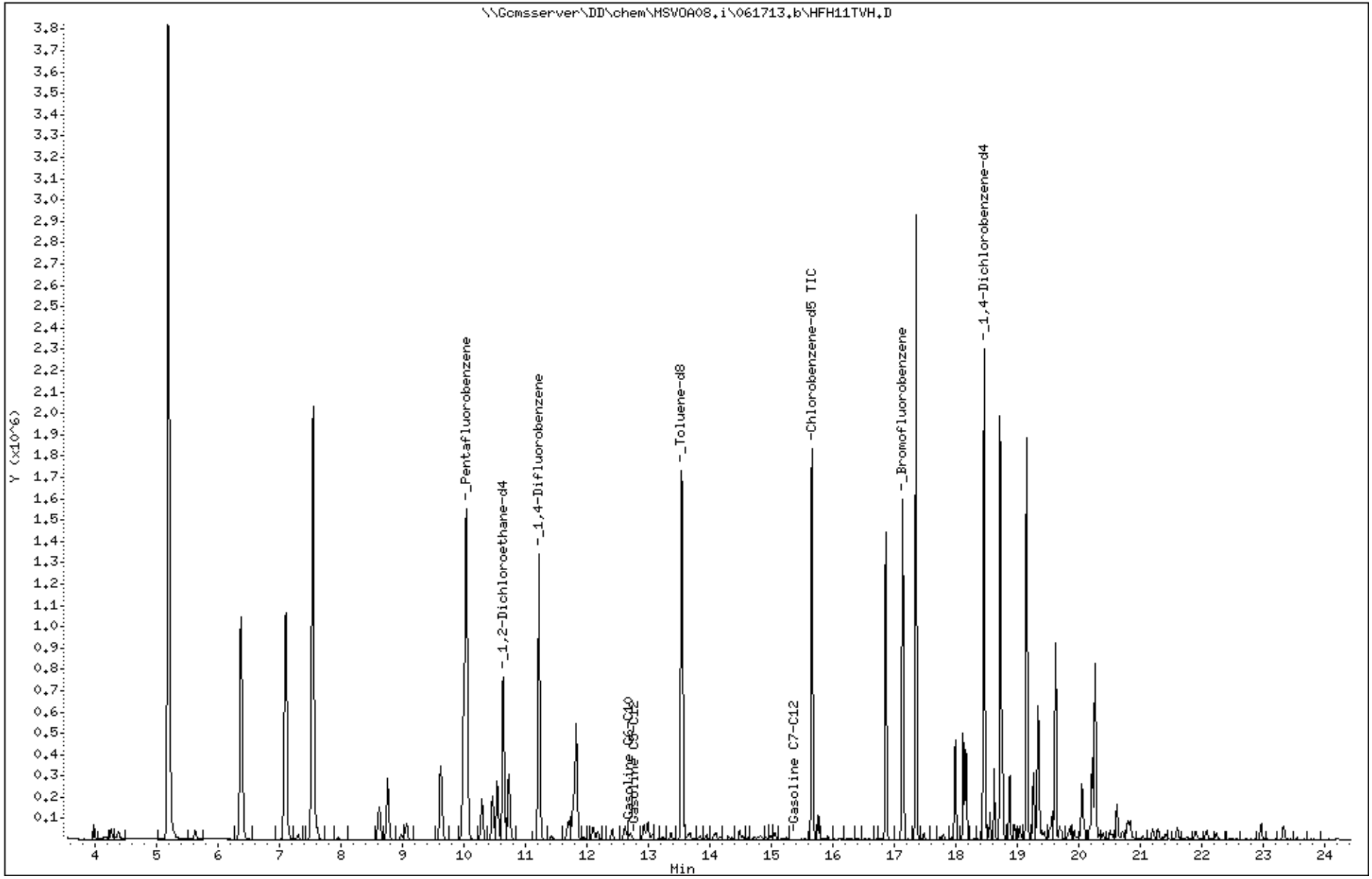
Instrument: MSVOA08.i

Sample Info: S,246075-007

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\061713.b\HFH12TVH.D

Date : 17-JUN-2013 18:28

Client ID: DYNA P&T

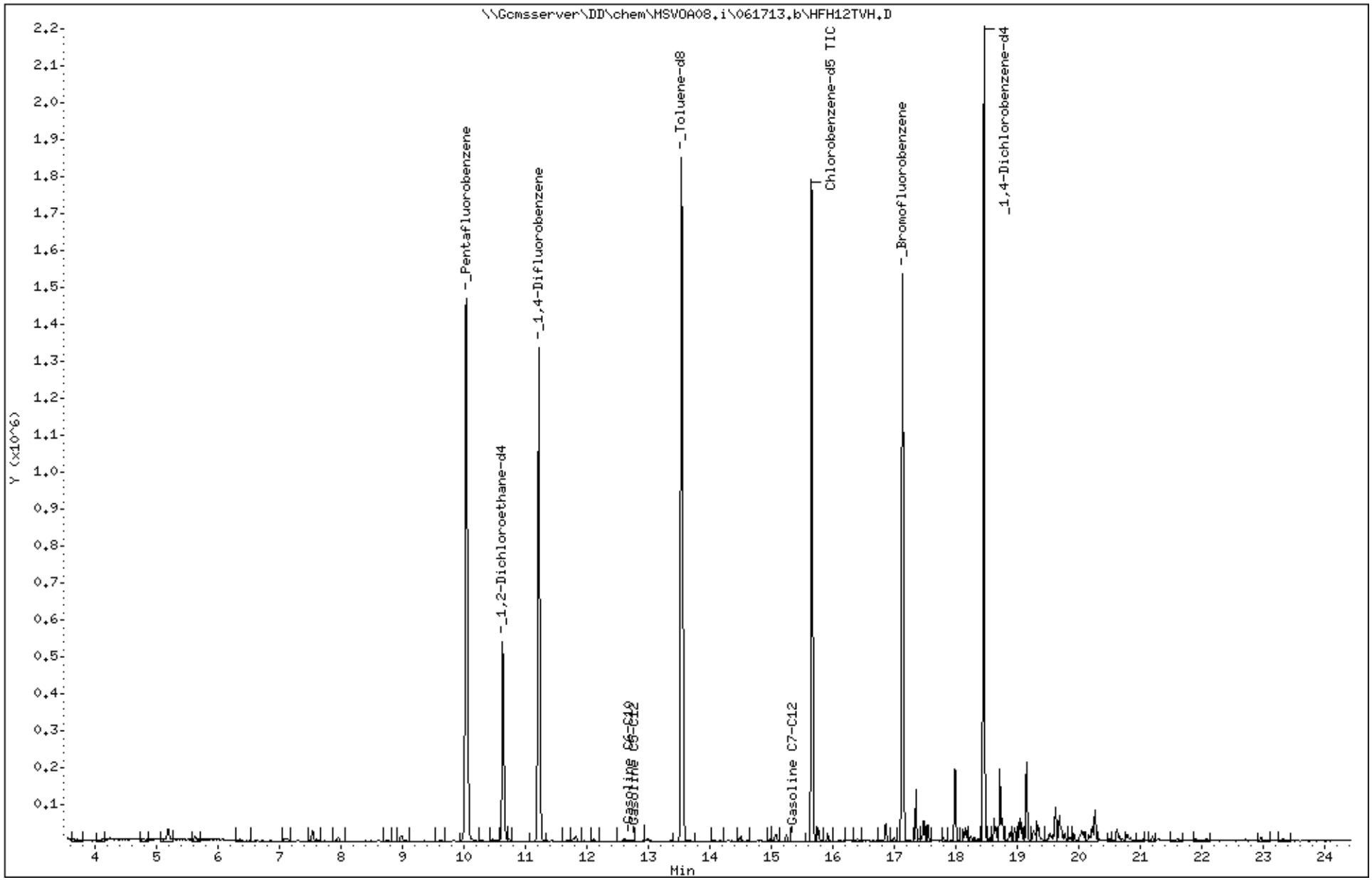
Instrument: MSVOA08.i

Sample Info: S,246075-008

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\Gcmsserver\DD\chem\MSVOA08.i\061713.b\HFH13TVH.D

Date : 17-JUN-2013 19:04

Client ID: DYNA P&T

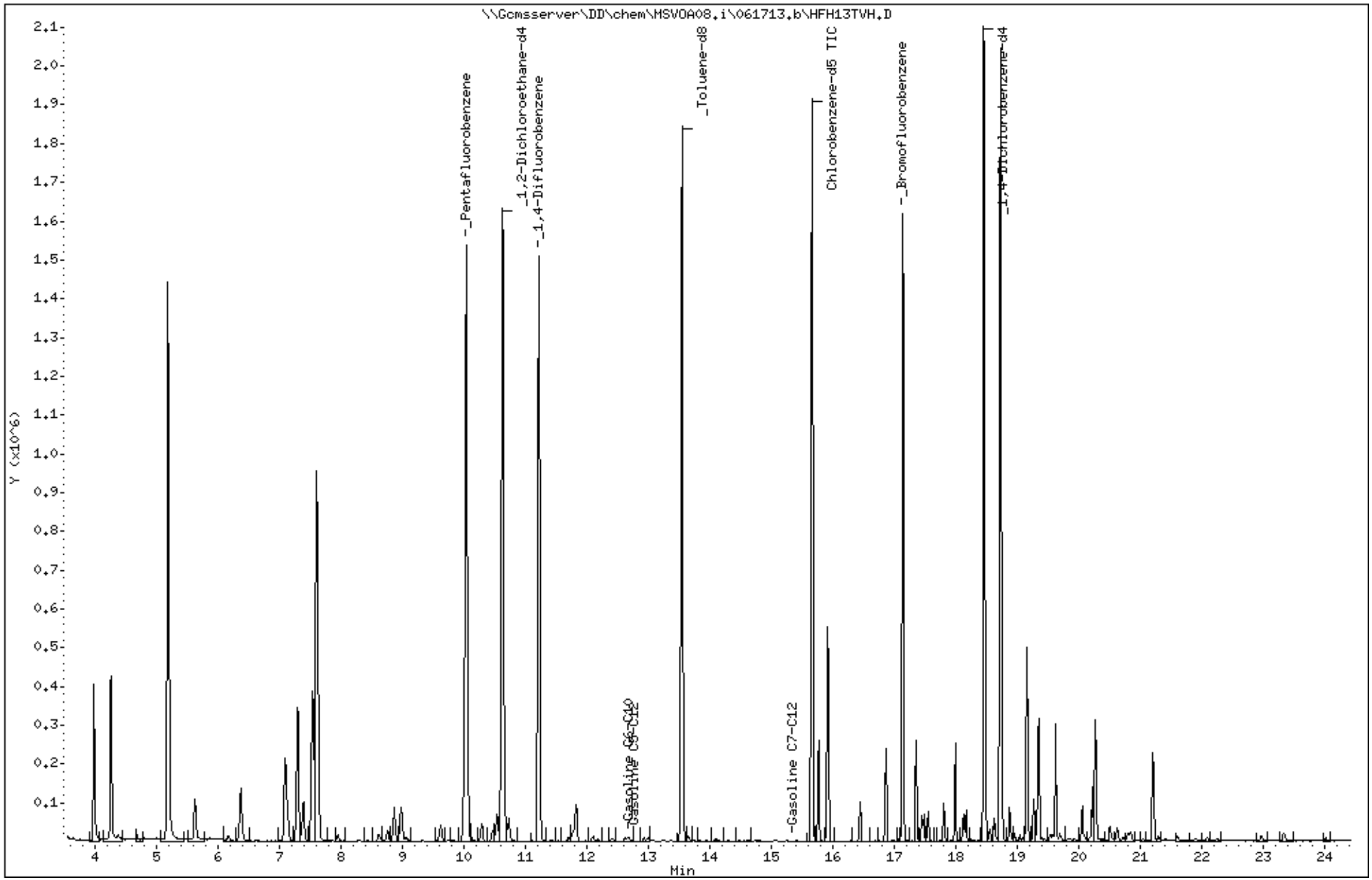
Instrument: MSVOA08.i

Sample Info: S,246075-011

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 18-JUN-2013 19:08

Client ID: DYNA P&T

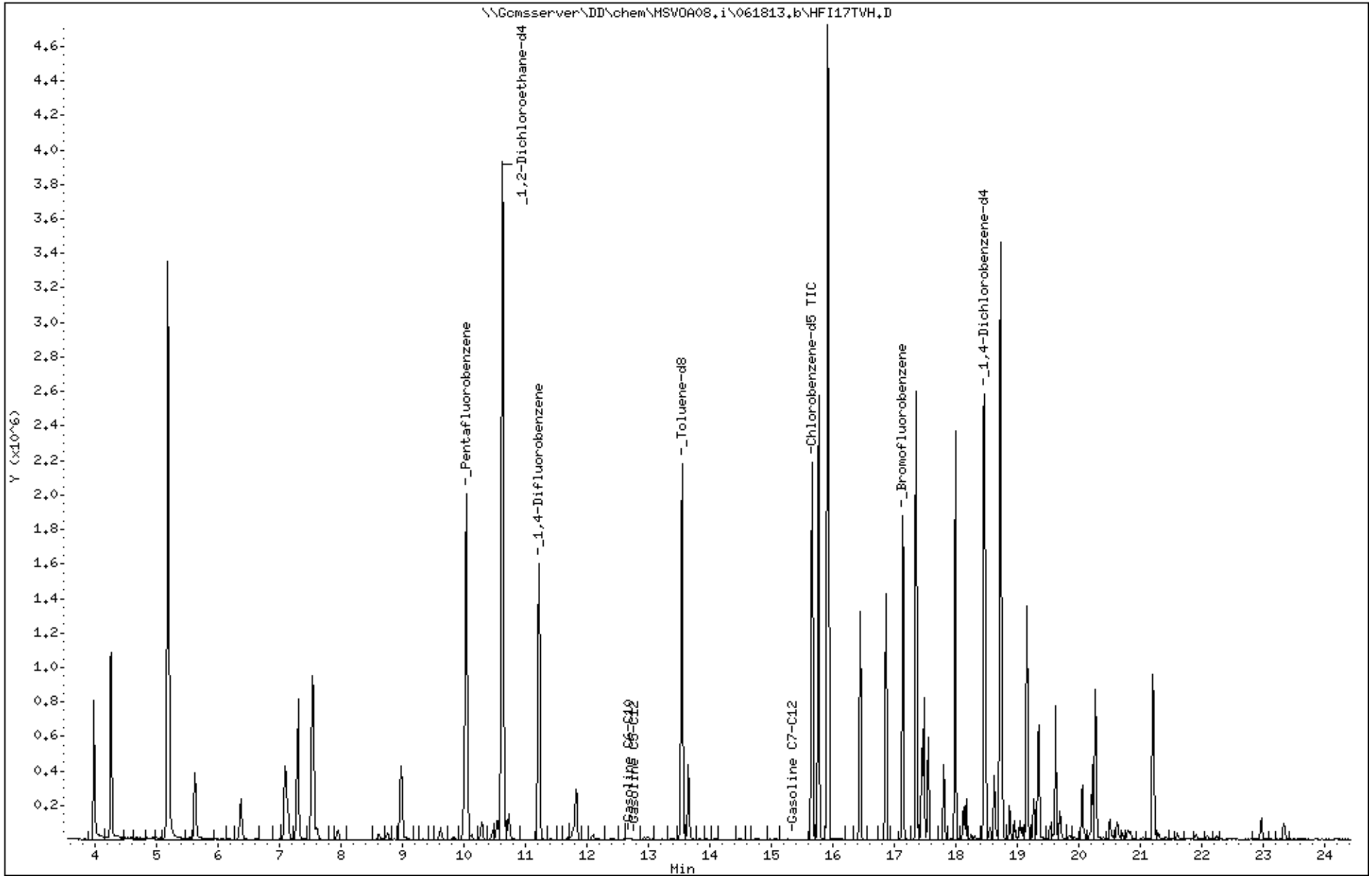
Instrument: MSVOA08.i

Sample Info: S,246075-012

Operator: VOC

Column phase:

Column diameter: 2.00



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Date : 18-JUN-2013 22:49

Client ID: DYNA P&T

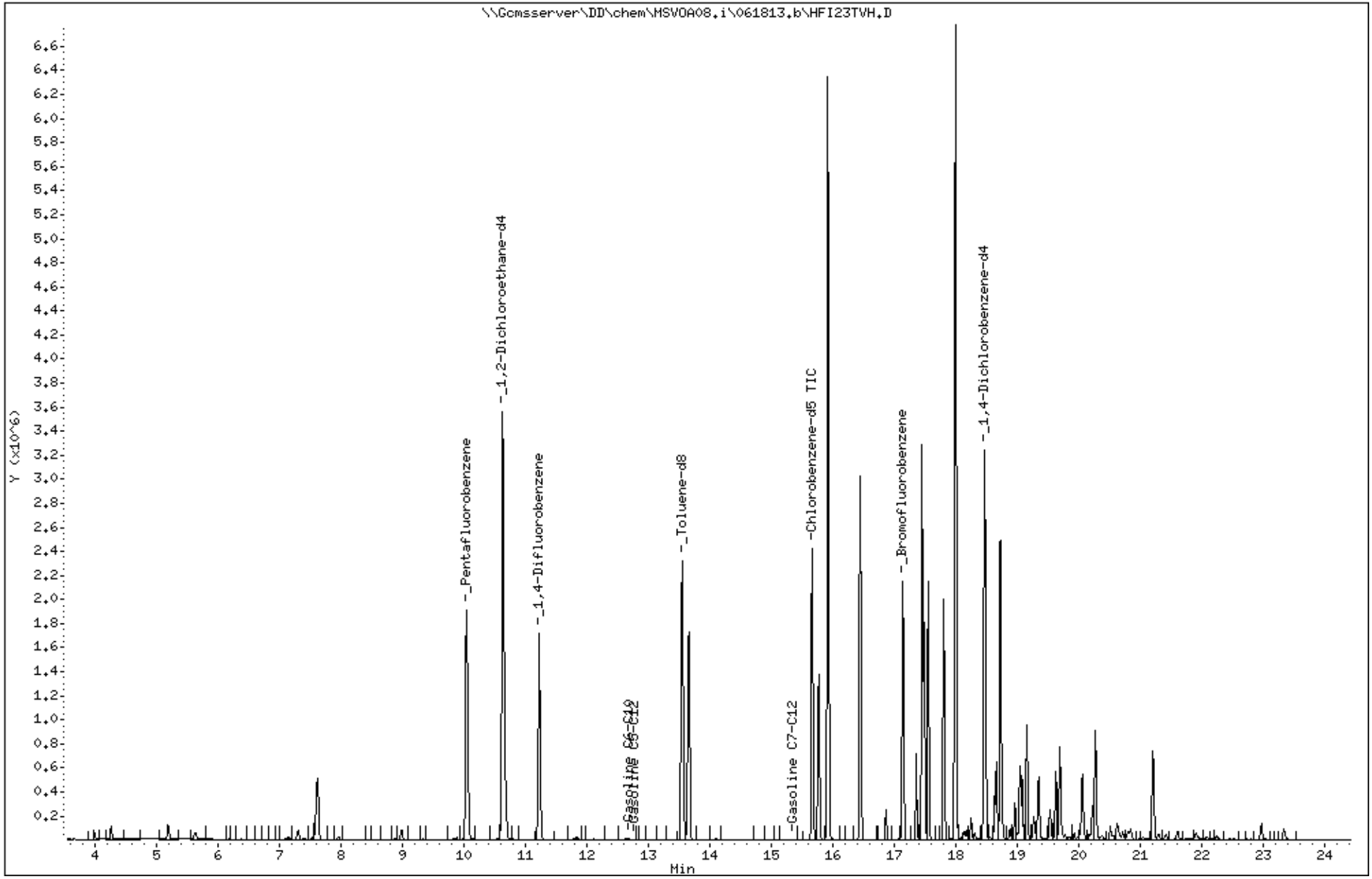
Instrument: MSVOA08.i

Sample Info: S,246075-013

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\GCMSSERVER\DD\chem\MSVOA09.i\061513.b\IFF27TVH.D

Date : 16-JUN-2013 02:36

Client ID: DYNA P&T

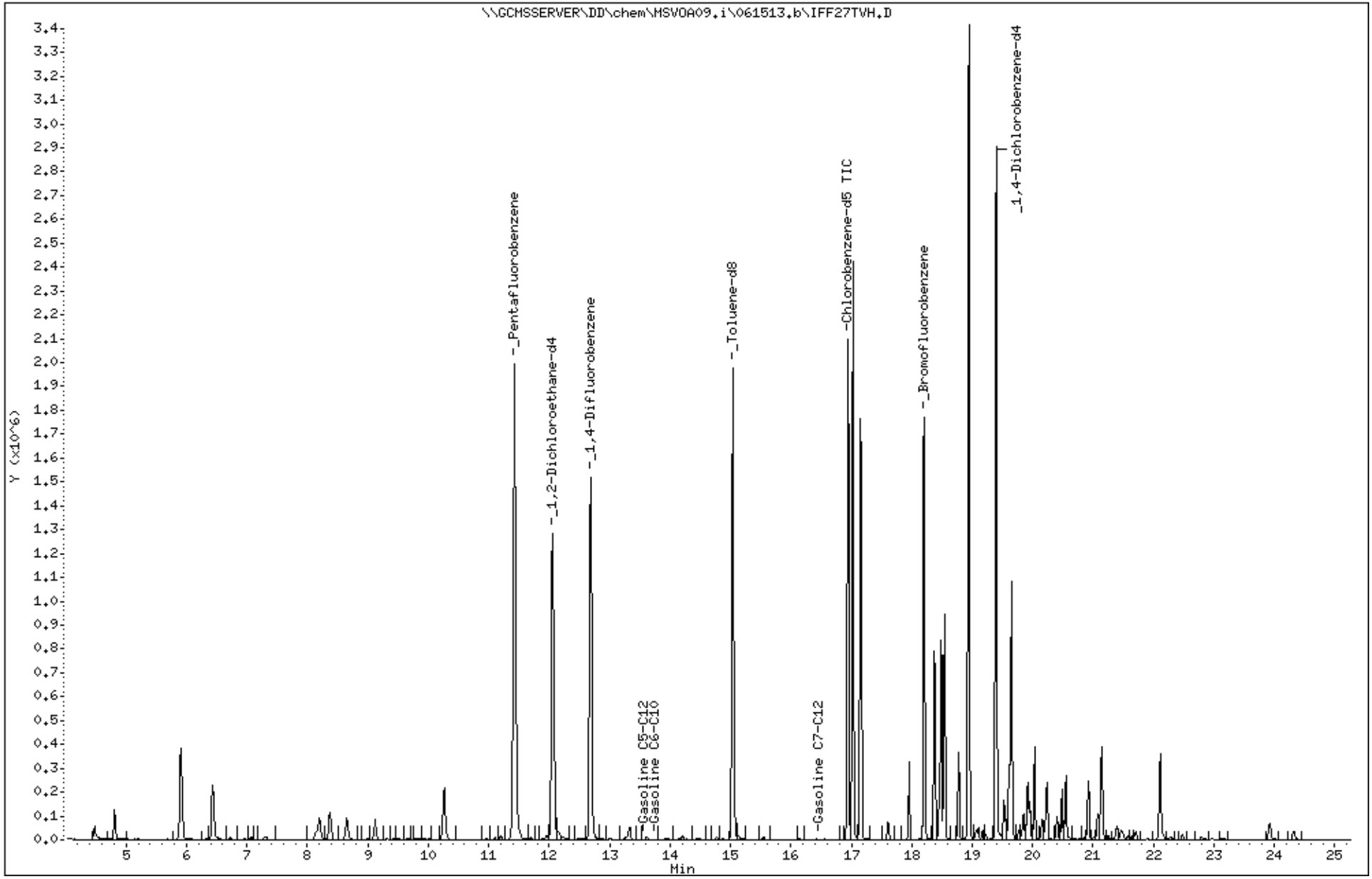
Instrument: MSVOA09.i

Sample Info: S,245075-014

Operator: VOC

Column phase:

Column diameter: 2.00



Data File: \\GCMSSERVER\DD\chem\MSVOA08.i\061713.b\HFH07TVH.D

Date : 17-JUN-2013 15:25

Client ID: DYNA P&T

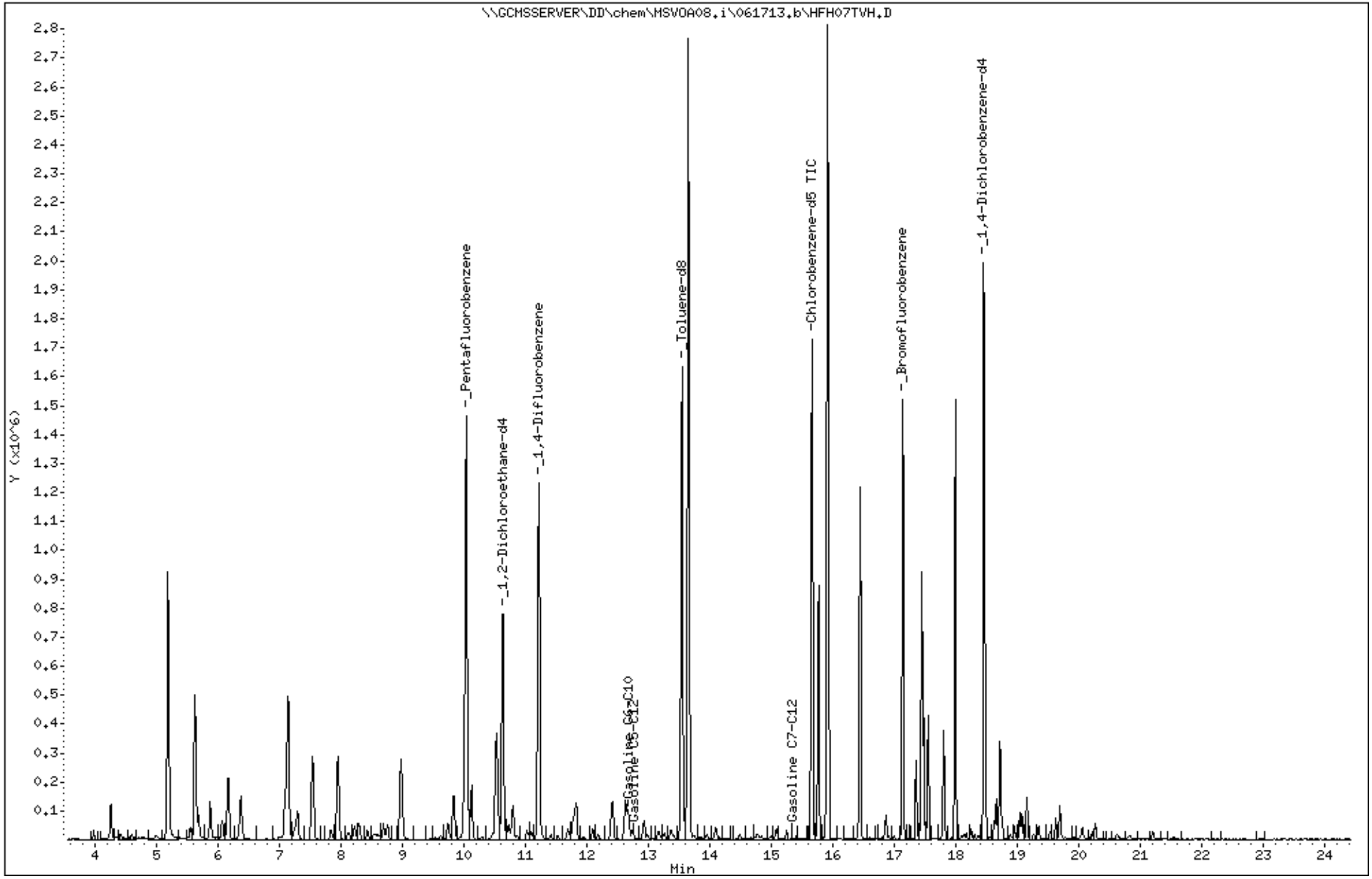
Instrument: MSVOA08.i

Sample Info: CCV/BS,QC693892,199759,S22314,.009/100

Operator: VOC

Column phase:

Column diameter: 2.00



APPENDIX D

UTILITY INFROMATION OBTAINED FROM OLSD

Sanitary Sewer System
Oro Loma Sanitary District, California

Accuracy is not guaranteed

7/9/2013

N

1 : 792

0 66 Ft

12" VCP 431'
X10
41.5/10.6
12" VCP 286'
FREEDOM AV
12" VCP 286'
FREEDOM AV
12" VCP 401'
12" VCP 401'
12" PVC 446'
G15
43.9/4.8
D12
40.7/12.7
E12
0/10.8
6" VCP 423'
F12
0/5
Y08
6" VCP 98'
Y09
0/6
6" VCP 127'
D07
0/6
Y11
6" VCP 220'
151ST AV
E09
0/7.9
6" VCP 477'
151ST AV
6" VCP 477'
6" VCP 617'
152ND AV
150TH
150TH
CASTRO VALLEY
CASTRO VALLEY
FOOTHILL BL
FOOTHILL BL
LIBERTY ST
LIBERTY ST
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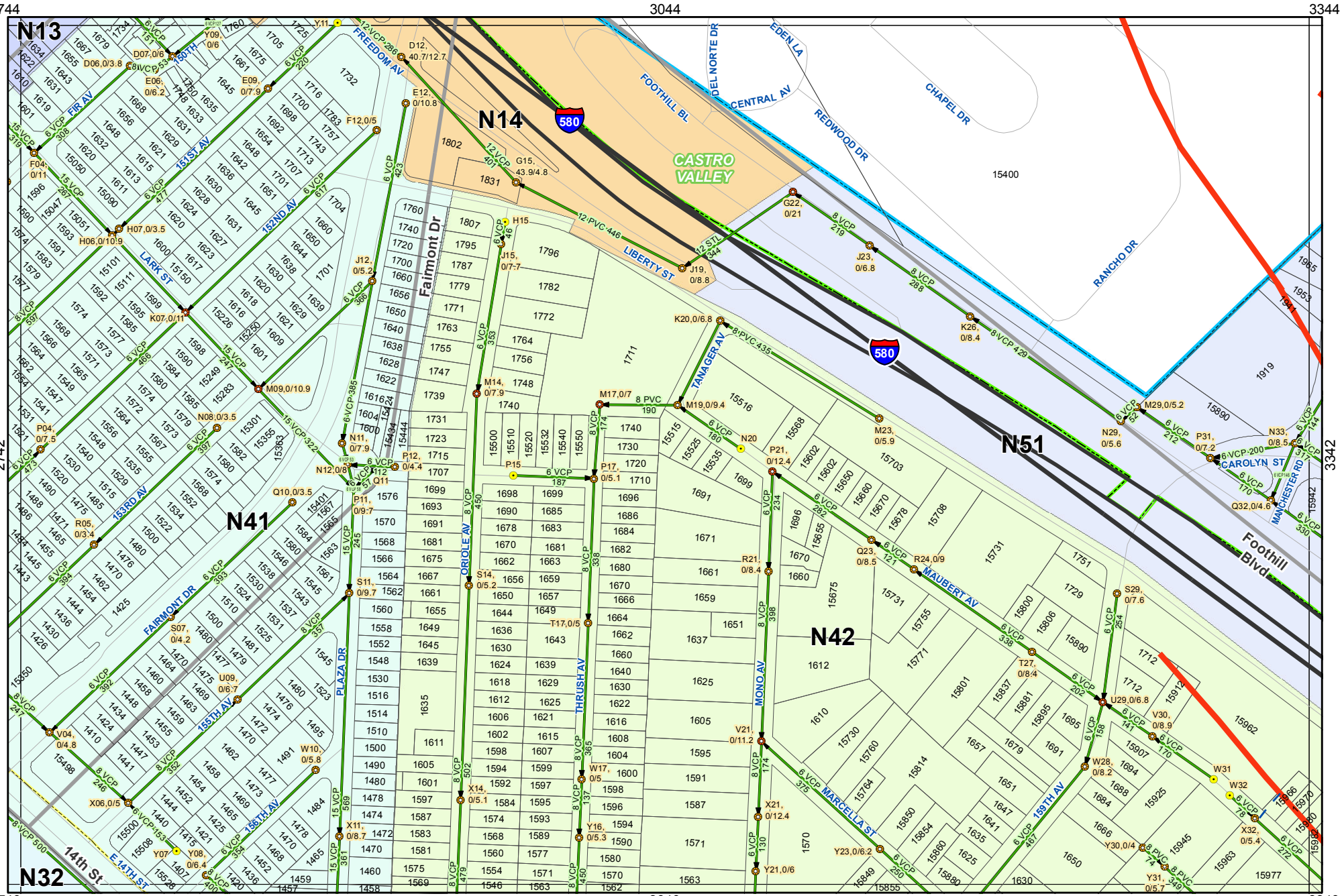


When black bar is inch

Scale is: 1 inch equals 300 feet

N

THIS MAP IS BASED ON THE CALIFORNIA COORDINATE SYSTEM
IT IS FOR REFERENCE ONLY AND THE ORO LOMA SANITARY DISTRICT
ASSUMES NO RESPONSIBILITY FOR ITS ACCURACY.

ORO LOMA SANITARY DISTRICT

COLLECTION SYSTEM **3042**

Printed on: 9/10/2012

APPENDIX E

STANDARD OPERATING PROCEDURES FOR CONDUCTING GROUNDWATER MONITORING EVENTS AND WELL SAMPLING REQUEST FORMS

Standard Operating Procedures for Conducting Groundwater Monitoring Activities

Water Level and Free-Product Measurements

Prior to measurement of groundwater depth at each well, equalization with the surrounding aquifer must be achieved. Initially, the well cap is removed and the pressure is allowed to dissipate, creating a more stable water table level within the well. After about 10-15 minutes, once the water level in the well stabilizes, the depth to groundwater is measured from the top of the casing to the nearest 0.01 foot using an electric sounder.

For free-product (FP) measurement, an oil-water interface probe is used. When the probe is lowered into the FP, the oil/water light and beeper are continuously on at which point a reading for depth to FP is noted. The probe is lowered further into the well until the water signal is given (light flashes and beeps intermittently). Then the probe is carefully raised until the FP signal is given and the reading is noted. This gives the depth to interface of product and water.

Purging and Field Measurements

Prior to sample collection, each well is purged using a battery-operated, 2-inch-diameter pump (Model ES-60 DC). During purging, groundwater is measured for parameters such as dissolved oxygen (DO), pH, temperature, electrical conductivity (EC), and oxygen-reduction potential (ORP) using a Hanna HI-9828 multi-parameter instrument. Turbidity is measured using a Hanna HI-98703 portable turbidimeter. The equipment is calibrated at the site using standard solutions and procedures provided by the manufacturer.

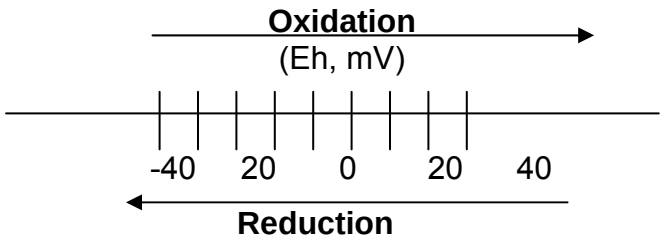
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater EC is directly related to the concentration of total dissolved solids (TDS) in solution.

There is a strong correlation between the turbidity level and the biological oxygen demand of natural water bodies. The main purpose for checking the turbidity level is to provide a general overview of the extent of the suspended solids in the groundwater.

ORP is the measure of the potential for an oxidation or reduction process to occur. In the oxidation process, a molecule or ion loses one or several electrons. In the reduction process, a molecule or ion gains one or several electrons. The unit of the redox potential is the volt or millivolt. The most important redox reaction in petroleum-contaminated groundwater is the oxidation of petroleum hydrocarbons in the presence of bacteria and free molecular oxygen. Because the solubility of O_2 in water is low (9 mg/L at 25 ^{o}C and 11 mg/L at 5 ^{o}C), and

because the rate of O_2 replenishment in subsurface environments is limited, DO can be entirely consumed when the oxidation of only a small amount of petroleum hydrocarbons occurs.

Oxidation of petroleum hydrocarbons can still occur when all the dissolved O_2 in the groundwater is consumed; however, the oxidizing agents (i.e., the constituents that undergo reduction) now become NO^-_3, MnO_2, Fe $(OH)_3$, SO_4^{2-} and others (Freeze and Cherry, 1979). As these oxidizing agents are consumed, the groundwater environment becomes more and more reduced. If the process advances far enough, the environment may become so strongly reduced that the petroleum hydrocarbons undergo anaerobic degradation, resulting in the production of methane and carbon dioxide. The concept of oxidation and reduction in terms of changes in oxidation states is illustrated below.



Purging of wells continues until the parameters for DO, pH, temperature, EC, turbidity, and redox stabilize, or three casing volumes are purged.

Once stabilization occurs, the groundwater samples are also tested on-site for ferrous iron (Fe^{+2}), nitrate (NO_3^-), and sulfate (SO_4^{-2}) concentrations.

Fe^{+2}, NO_3^-, and SO_4^{-2} are measured colorimetrically using the Hach Colorimeter Model 890, a microprocessor-controlled photometer suitable for colorimetric testing in the laboratory or the field. The required reagents for each specific test are provided in AccuVac ampuls.

Sampling

For sampling purposes, after purging a disposable polyethylene bailer is used to collect sufficient samples from each monitoring well for laboratory analyses. Groundwater samples are transferred into 40-mL VOA vials and preserved with hydrochloric acid. The vials are sealed to prevent air bubbles from developing within the headspace. For TPH-d analysis, groundwater samples are collected using 1-L, amber, non-preserved glass containers. Samples are placed in an ice-filled cooler and maintained at 4°C. A chain of custody form for all samples is prepared to accompany the samples, which are promptly delivered to a California state-certified analytical laboratory.

ENVIRONMENTAL ENGINEERING, INC.
6620 Owens Drive, Suite A • Pleasanton, CA 94588
TEL (925)734-6400 • FAX (925)734-6401
www.somaenv.com

May 1, 2013

Owner or Current Resident
1573 153rd Street
San Leandro, California 94578

Subject: Second Quarter 2013 Groundwater Monitoring Event
Site Located at 15101 Freedom Avenue, San Leandro, CA

Dear Owner or Current Resident:

As part of Second Quarter 2013 groundwater monitoring event, SOMA Environmental Engineering, Inc. (SOMA) has been requested by Alameda County Health Care Services Agency (ACHCSA) to collect groundwater samples from privately owned wells in the vicinity of the subject site location. SOMA plans to conduct the groundwater monitoring event at 15101 Freedom Avenue, San Leandro on June 5th & 6th, 2013.

According to ACHCSA there is an irrigation well on your property and it is in the vicinity of 15101 Freedom Avenue, San Leandro, California. Please select a day and time on the enclosed form that is most convenient for you to allow SOMA to collect a groundwater sample from your well. This procedure should take approximately 45 minutes. Please return the form in the envelope provided.

A copy of the laboratory report will be sent to you when the results become available. If you have any questions or concerns, please do not hesitate to call Ruchi Mathur or me at (925) 734-6400. Thank you for your cooperation.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogelogist

Enclosures (2)

cc: Mr. Mohammad Pazdel
Ms. Dilan Roe, Alameda County Health Care Services Agency

ENVIRONMENTAL ENGINEERING, INC.
6620 Owens Drive, Suite A • Pleasanton, CA 94588
TEL (925)734-6400 • FAX (925)734-6401
www.somaenv.com

May 1, 2013

Owner or Current Resident
1575 153rd Street
San Leandro, California 94578

Subject: Second Quarter 2013 Groundwater Monitoring Event
Site Located at 15101 Freedom Avenue, San Leandro, CA

Dear Owner or Current Resident:

As part of Second Quarter 2013 groundwater monitoring event, SOMA Environmental Engineering, Inc. (SOMA) has been requested by Alameda County Health Care Services Agency (ACHCSA) to collect groundwater samples from privately owned wells in the vicinity of the subject site location. SOMA plans to conduct the groundwater monitoring event at 15101 Freedom Avenue, San Leandro on June 5th & 6th, 2013.

According to ACHCSA there is an irrigation well on your property and it is in the vicinity of 15101 Freedom Avenue, San Leandro, California. Please select a day and time on the enclosed form that is most convenient for you to allow SOMA to collect a groundwater sample from your well. This procedure should take approximately 45 minutes. Please return the form in the envelope provided.

A copy of the laboratory report will be sent to you when the results become available. If you have any questions or concerns, please do not hesitate to call Ruchi Mathur or me at (925) 734-6400. Thank you for your cooperation.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogelogist

Enclosures (2)

cc: Mr. Mohammad Pazdel
Ms. Dilan Roe, Alameda County Health Care Services Agency

ENVIRONMENTAL ENGINEERING, INC.
6620 Owens Drive, Suite A • Pleasanton, CA 94588
TEL (925)734-6400 • FAX (925)734-6401
www.somaenv.com

Private Residential Well Sampling
Second Quarter 2013
Groundwater Monitoring Event

Name: _____

Address: _____

_____

Telephone #: _____

Please select a date and time (between 9:30 am and 5:00 pm) to allow SOMA's field crew to collect a groundwater sample from your well:

_____ June 5, 2013 (Wednesday) Time: _____ AM / PM

_____ June 6, 2013 (Thursday) Time: _____ AM / PM

Please return this form in the envelope provided by May 24, 2013.

Thank you.

APPENDIX F
PHOTOGRAPHIC DOCUMENTATION

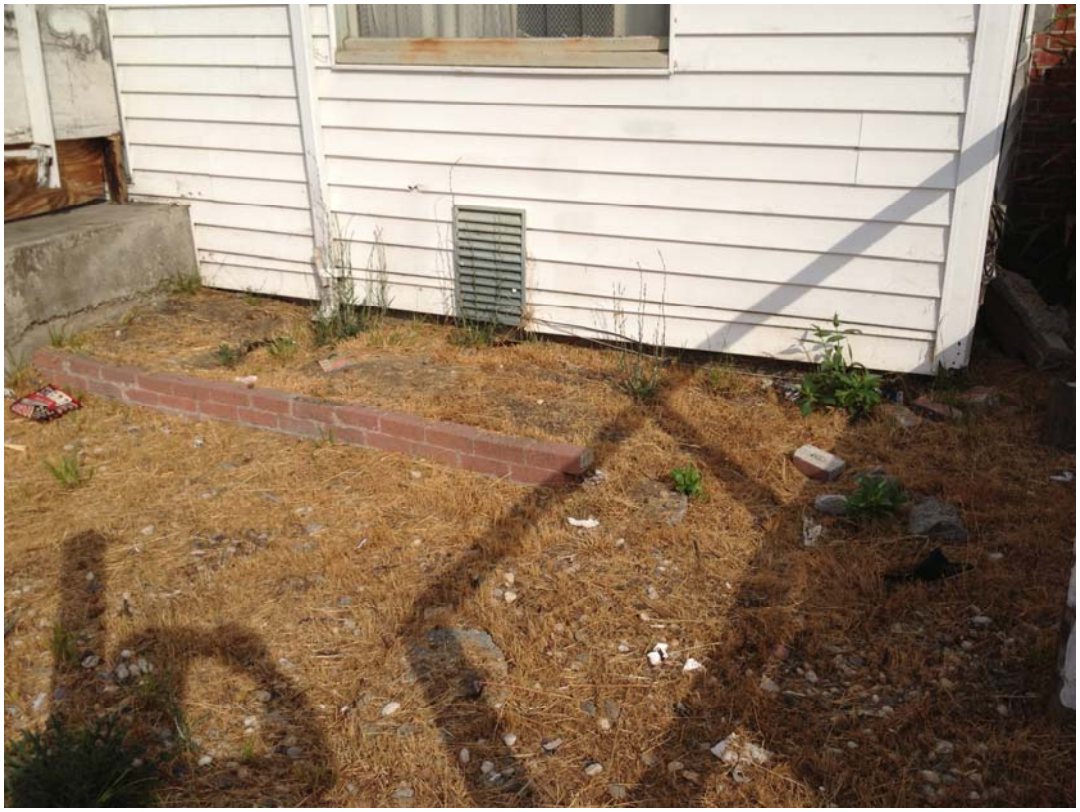


Plate 1. Property located next to site on 152nd St., showing crawl space underneath house

Plate 2. Property located near site on 152nd St., showing crawl space underneath house