



ENVIRONMENTAL ENGINEERING, INC.
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RECEIVED

By Alameda County Environmental Health at 2:53 pm, Mar 26, 2014

March 25, 2014

Ms. Karel Detterman
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: Site Location: 6501 Shattuck Avenue, Oakland, CA
Fuel Leak Case No. RO0003066

Dear Ms. Detterman:

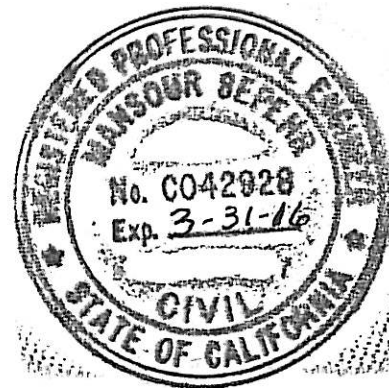
SOMA's "First Quarter 2014 Groundwater Monitoring Report" for the subject site has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

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. Athan Magganas w/report enclosure



**First Quarter 2014
Groundwater Monitoring Report**

**6501 Shattuck Avenue
Oakland, California**

March 25, 2014

Project 5031

Prepared for

**Bruder LLC
2550 Appian Way, Suite 201
Pinole, California, 94564**



ENVIRONMENTAL ENGINEERING, INC.

6620 Owens Drive Suite A Pleasanton CA 94588 Ph: 925.734.6400 F: 925.734-6401 www.somaenv.com

PERJURY STATEMENT

Site Location: 6501 Shattuck Avenue, Oakland, California
First Quarter 2014 Groundwater Monitoring Report

"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".

A. Magganas MNGR Bruder LLC

Bruder LLC
Athan Magganas
2550 Appian Way, Suite 201
Pinole, California 94564

3/18/14

CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this document for Bruder LLC, at the request of Bruder LLC property owner Mr. Athan Magganas, for the property located at 6501 Shattuck Avenue in Oakland, California to comply with requirements of the Alameda County Environmental Health Department (ACEHD) for the First Quarter 2014 groundwater monitoring event.



Mansour Sepéhr, PhD, PE
Principal Hydrogeologist



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- Appendix D Non-Hazardous Waste Manifest

1. INTRODUCTION

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report on behalf of Bruder LLC property owner, Mr. Athan Magganas, for the site located at 6501 Shattuck Ave., Oakland, California. The site is located at the northwest quadrant of the intersection of Shattuck Avenue and 65th Street near the common municipal limits of Oakland and Berkeley, approximately 3.25 miles north-northeast of the downtown Oakland commercial district. Former underground storage tank (UST) locations and site features are shown in Figure 2.

This report summarizes results of the First Quarter 2014 groundwater monitoring event conducted at the site on March 3, 2014. It includes physical and chemical properties and biodegradation parameters measured in the field for each groundwater sample and laboratory analytical results for groundwater samples.

1.1 Previous Activities

According to the Phase I Environmental Site Assessment Report dated January 26, 2007, prepared for the site by RGA Environmental, the site was redeveloped from a single-family residential property to a service station in 1933. The total period of operation of the service station could not be precisely determined from available historical sources, but based on the City Directory Abstract, the service station appears to have been converted to a repair shop and used car sales facility during the mid-1980s. The facility has operated as East Bay Smog Center and Auto Repair since 2000.

In September 2009, Controlled Environmental Services (CES) obtained permits for removal of six steel USTs located at the subject site. According to the report prepared by CES, dated October 23, 2009, two 1,000-gallon gasoline USTs, three 2,000-gallon gasoline USTs, and one 500-gallon waste oil UST were removed.

In June 2011, SOMA advanced six soil borings, B-4 through B-9, and collected soil and groundwater samples for analysis of TPHs and VOCs. Based on results of soil and groundwater investigation conducted in the vicinity of the former USTs, it was determined that petroleum-hydrocarbon contamination still exists in soil and groundwater beneath the site.

In October 2011, remedial excavation was conducted at the site. A total of 770 tons of PHC-impacted soils were excavated and disposed of off-site at Potrero Hills Landfill. The excavated area was backfilled and compacted with pre-tested clayey backfill material. Confirmation soil sampling indicated that all shallow residual PHC soil contamination has been removed from the area in the vicinity of former USTs.

In December 2013, one soil borehole (B-10) was installed adjacent to the former waste oil UST in order to determine extent of soil and groundwater contamination in accordance with ACEHS directive dated November 1, 2013. A report of investigation results was submitted on January 6, 2014.

1.2 Summary of Field Activities and Laboratory Analysis

1.2.1 Field Activities

On March 3, 2014, three monitoring wells (MW-1, MW-2, and MW-3) were measured for depth to groundwater. Additional field measurements and groundwater samples were collected from all three wells. Properties measured in the field were Dissolved oxygen (DO), pH, temperature, electrical conductivity (EC), turbidity, and oxidation and reduction potential (ORP). This monitoring event was conducted in accordance with procedures and guidelines of Alameda County Environmental Health Services (ACEHS).

To evaluate the state of biodegradation processes in the subsurface, biodegradation parameters such as dissolved oxygen (DO), turbidity, and oxidation reduction potential (ORP) were measured.

Figure 2 shows well locations. Appendix A details groundwater monitoring procedures followed during this event.

Purged groundwater was temporarily stored on-site in a 55-gallon drum. One drum generated during the previous monitoring event and one drum generated during the current monitoring event was transported to an appropriate disposal facility on February 14, 2014, and March 20, 2014, respectively. Appendix D includes the non-hazardous waste manifests for removal of purged groundwater.

1.2.2 Laboratory Analysis

Curtis and Tompkins Laboratories, a California state-certified laboratory, analyzed groundwater samples for the following: TPH-g, TPH as diesel (TPH-d), and TPH as motor Oil (TPH-mo); Full list of VOCs by EPA Method 8260 (including BTEX (benzene, toluene, ethylbenzene, and total xylenes), and MtBE). TPH-g, TPH-d, and TPH-mo were analyzed using EPA Method 8015B.

2. RESULTS

Results of field measurements and laboratory analyses for the groundwater monitoring event conducted on March 3, 2014 follow below.

2.1 Field Measurements

Monitoring wells MW-1 through MW-3 were measured for depth to groundwater (Table 1). Depths ranged from 3.21 feet in MW-1 to 4.49 feet in MW-3. Groundwater elevations ranged from 125.49 feet in MW-1 to 126.85 feet in MW-3.

Figure 3 displays the groundwater elevation contour map. The groundwater flow direction is southwesterly at a gradient of approximately 0.037 feet/feet. Since the previous monitoring event (Fourth Quarter 2013), groundwater flow direction has remained southwesterly and the gradient has increased. Appendix B shows field measurements, biodegradation parameter measurements and gradient calculations.

The more positive the redox potential of an electron acceptor, the more energetically favorable is the reaction utilizing that electron acceptor. The most energetically preferred electron acceptor for redox reactions is DO. Negative redox potentials indicate that contaminants in the groundwater are conducive to anaerobic biodegradation. Positive redox potentials are more energetically favorable in utilizing electron acceptors during chemical reactions. This promotes the removal of organic mass from the contaminated groundwater by indigenous bacteria in the subsurface during the release of the transfer of electrons. Evaluating the distribution of electron acceptors can provide evidence of where, and to what extent, hydrocarbon biodegradation is occurring.

Once stabilization of the existing aquifer was achieved, upon terminating the purge cycle at each well, DO and ORP readings were as follows: DO ranged from 0.95 mg/L in MW-3 to 1.55 mg/L in MW-1. ORP showed positive redox potentials in MW-1, MW-2 and MW-3.

2.2 Laboratory Analysis

Groundwater analytical data for this monitoring event is shown in Table 1. Appendix C includes the laboratory report and chain of custody form.

TPH-g, TPH-d, TPH-mo, and all VOCs were below laboratory reporting-limit in MW-1, MW-2, and MW-3, except for TPH-d and 1,2-DCA which were detected in MW-1 at low levels of 60 µg/l and 0.60 µg/L, respectively. Figure 4 shows a map of TPH-d and 1,2-DCA concentrations in groundwater. Since the previous monitoring event (Fourth Quarter 2013), TPH-d has increased, 1,2-DCA has decreased in MW-1 and all other contaminants have remained below laboratory-reporting limits.

During the analytical testing of diesel, sample from MW-1 exhibited chromatographic pattern that did not resemble standard. Refer to the laboratory analytical report for further clarification of diesel testing and results.

3. CONCLUSIONS AND RECOMMENDATIONS

Conclusions and recommendations based on results of First Quarter 2014 groundwater monitoring are summarized below.

- In general, the groundwater flow direction is southwesterly at a gradient of 0.037 feet/feet.
- All contaminant concentrations were below laboratory reporting-limits in all monitoring wells except MW-1, where TPH-d and 1,2-DCA were detected at 60 µg/L and 0.6 µg/L, respectively. Since the previous monitoring event (Fourth Quarter 2013), TPH-d has increased and 1,2-DCA has decreased in MW-1.
- Based on the ACEHS directive dated March 12, 2014, SOMA will schedule well destruction and waste removal activities within the suggested time frame.

4. REPORT LIMITATIONS

This report is the summary of work done by SOMA, including observations and descriptions of site conditions. It includes analytical results produced by Curtis and Tompkins, Laboratories for the current groundwater monitoring event. Quantities and locations of wells were selected to provide the required information, but may not be completely representative of entire site conditions. All conclusions and recommendations are based on results of laboratory analysis. Conclusions beyond those specifically stated in this document should not be inferred from this report.

SOMA warrants that services were provided in accordance with generally accepted environmental engineering and consulting practices at the time of this sampling.

Figures



SITE:
6501 Shattuck Ave,
Oakland, CA

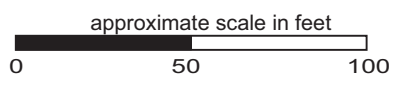


Figure 1: Site vicinity map.

2996 SHATTUCK AVENUE-
groundwater flow predominantly
westerly, DTW 2.3-8.5' bgs

6407 TELEGRAPH-
groundwater flow southwest,
DTW 5-8' bgs

← estimated groundwater
flow direction

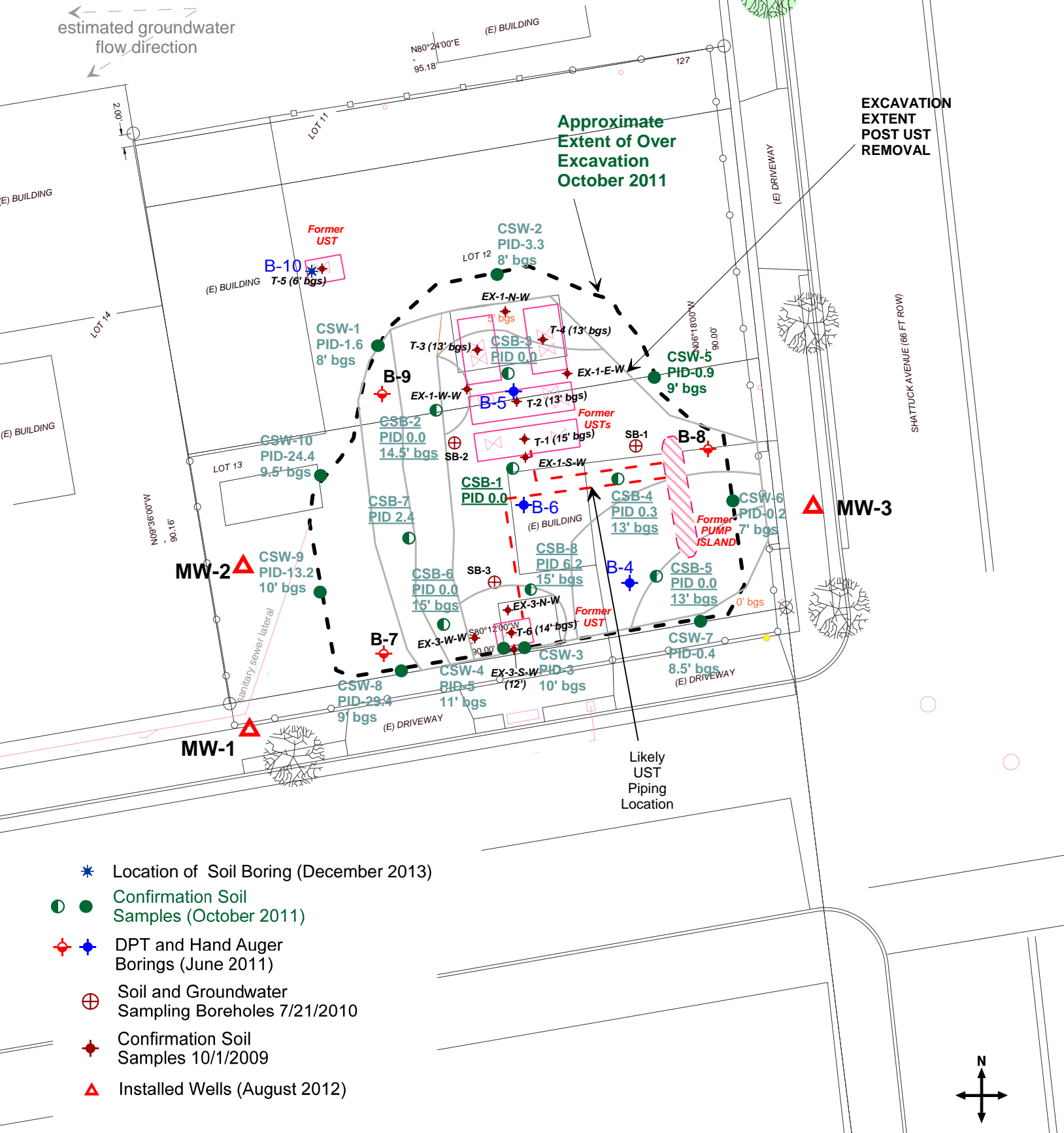


Figure 2: Site map showing excavation extent, location of former USTs, soil borings, and groundwater monitoring wells

2996 SHATTUCK AVENUE-
groundwater flow predominantly
westerly, DTW 2.3-8.5' bgs

6407 TELEGRAPH-
groundwater flow southwest,
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estimated groundwater
flow direction

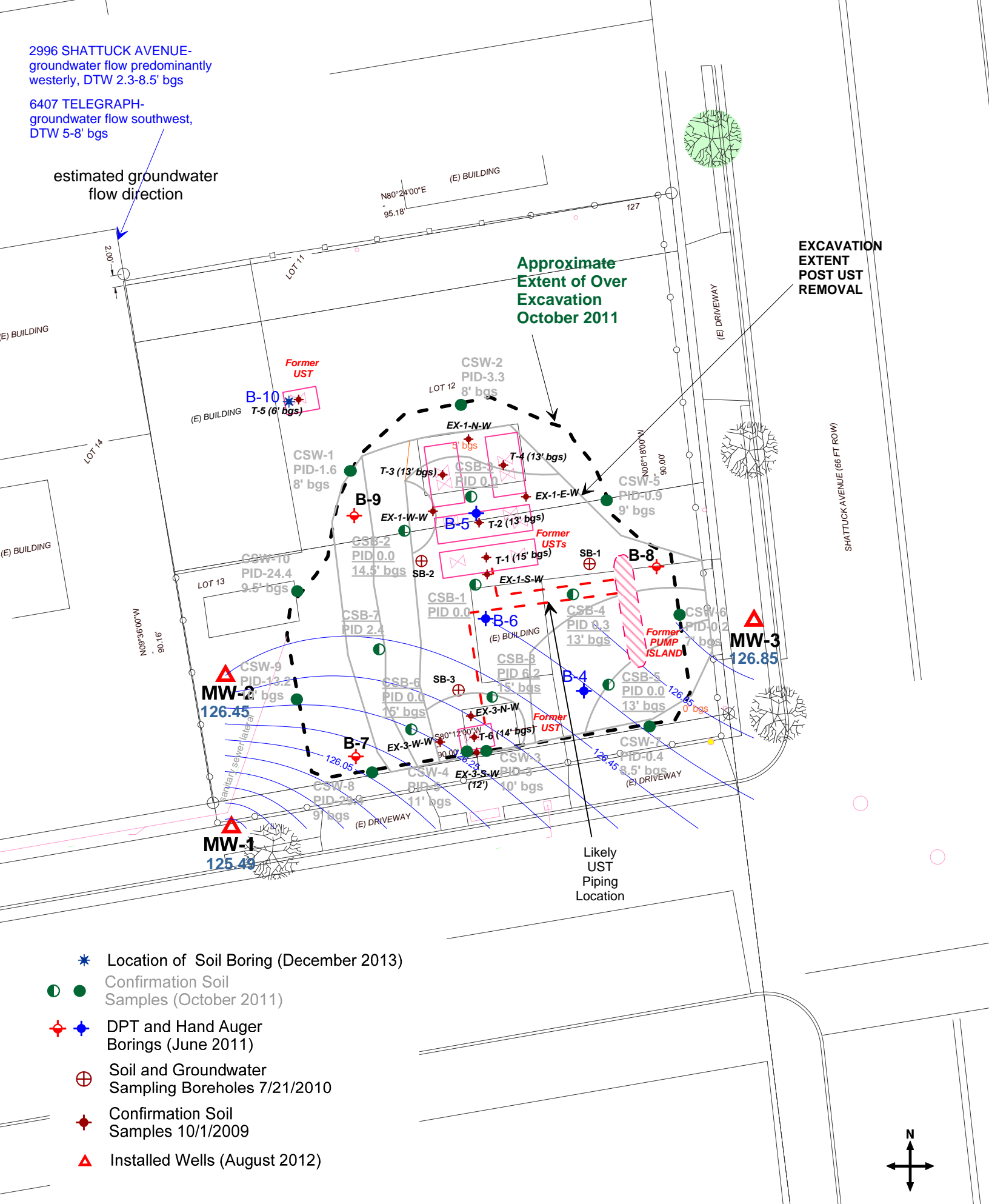
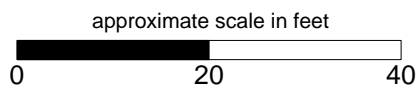


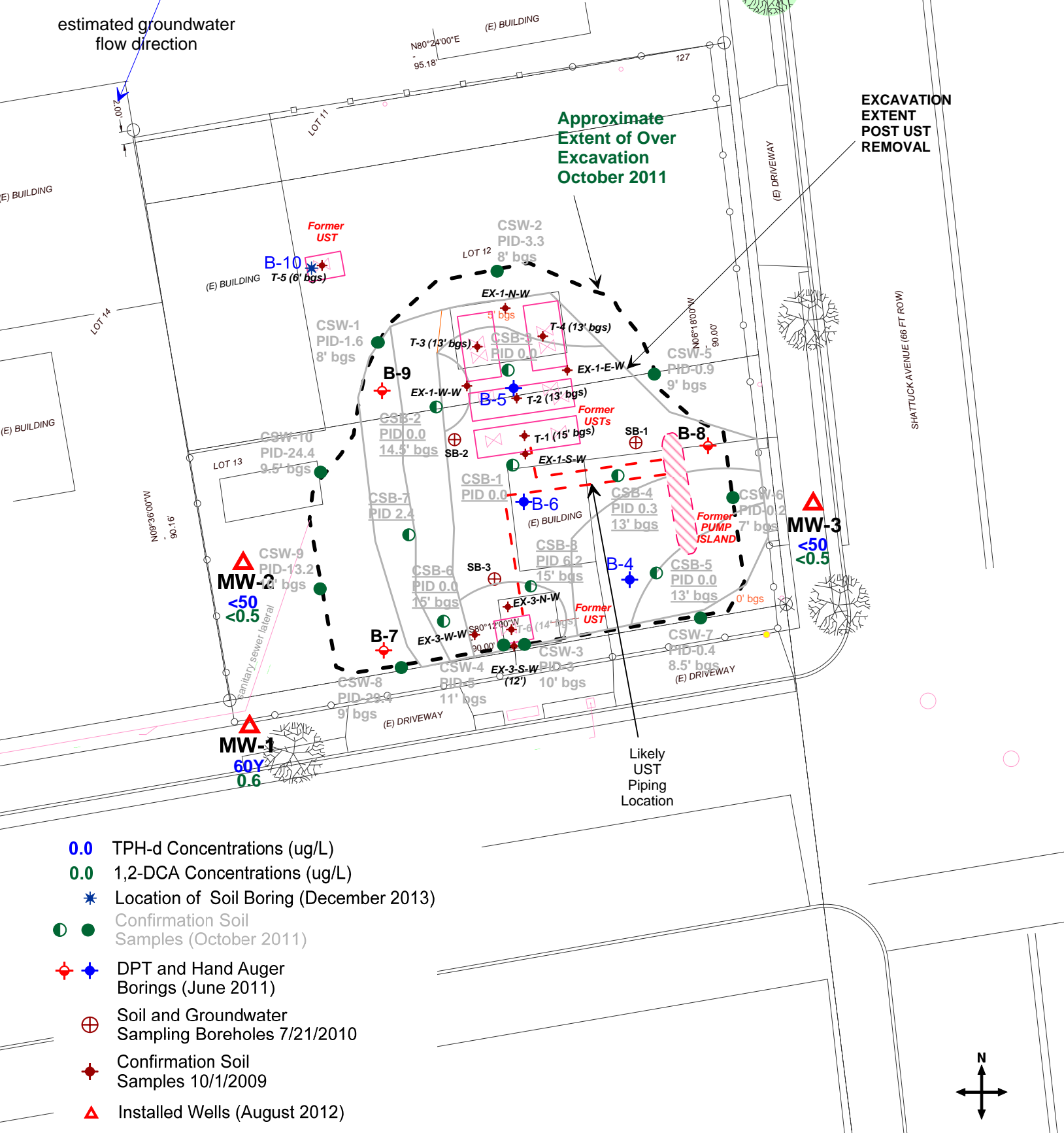
Figure 3: Groundwater elevation contour map in feet,
March 3, 2014



2996 SHATTUCK AVENUE-
groundwater flow predominantly
westerly, DTW 2.3-8.5' bgs

6407 TELEGRAPH-
groundwater flow southwest,
DTW 5-8' bgs

estimated groundwater
flow direction



- 0.0 TPH-d Concentrations (ug/L)
- 0.0 1,2-DCA Concentrations (ug/L)
- * Location of Soil Boring (December 2013)
- Confirmation Soil Samples (October 2011)
- ◆ DPT and Hand Auger Borings (June 2011)
- ⊕ Soil and Groundwater Sampling Boreholes 7/21/2010
- ◆ Confirmation Soil Samples 10/1/2009
- ▲ Installed Wells (August 2012)

approximate scale in feet

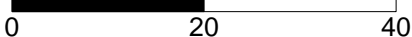


Figure 4: Map showing TPH-d and 1,2-DCA concentrations in groundwater, March 3, 2014

Tables

Table 1
Groundwater Analytical Results
6501 Shattuck Ave, Oakland, CA

| Monitoring Well | Date | Top of Casing Elevation (Ft.) | Depth to Groundwater (Ft.) | Groundwater Elevation | TPH-g µg/L | TPH-d µg/L | TPH-mo µg/L | Benzene µg/L | Toluene µg/L | Ethylbenzene µg/L | Xylenes µg/L | MtBE µg/L | 1,2-DCA µg/L | EDB µg/L |
|-----------------|-----------------|-------------------------------|----------------------------|-----------------------|-----------------|---------------|----------------|----------------|----------------|-------------------|----------------|----------------|----------------|----------------|
| MW-1 | 9/11/2012 | 128.70 | 6.14 | 122.56 | <50 | <52 | <310 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 1.30 | <0.5 |
| | 12/20/2012 | 128.70 | 2.94 | 125.76 | <50 | <51 | <310 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.90 | <0.5 |
| | 3/25/2013 | 128.70 | 4.48 | 124.22 | <50 | <56 | <330 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 1.00 | <0.5 |
| | 6/12/2013 | 128.70 | 5.35 | 123.35 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 1.00 | <0.5 |
| | 9/5/2013 | 128.70 | 6.31 | 122.39 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.80 | <0.5 |
| | 12/4/2013 | 128.70 | 5.79 | 122.91 | <50 | <52 | <310 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.80 | <0.5 |
| | 3/3/2014 | 128.70 | 3.21 | 125.49 | <50 | 60 Y | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.60 |
| MW-2 | 9/11/2012 | 130.32 | 7.81 | 122.51 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/20/2012 | 130.32 | 6.61 | 123.71 | 76 ^Y | <51 | <310 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 3/25/2013 | 130.32 | 7.65 | 122.67 | <50 | <57 | <340 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 6/12/2013 | 130.32 | 8.60 | 121.72 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 9/5/2013 | 130.32 | 7.62 | 122.70 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/4/2013 | 130.32 | 6.95 | 123.37 | <50 | <52 | <310 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 3/3/2014 | 130.32 | 3.87 | 126.45 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| MW-3 | 9/11/2012 | 131.34 | 7.89 | 123.45 | <50 | <53 | <320 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/20/2012 | 131.34 | 4.55 | 126.79 | <50 | <51 | <310 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 3/25/2013 | 131.34 | 4.99 | 126.35 | <50 | <58 | <350 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 6/12/2013 | 131.34 | 5.95 | 125.39 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 9/5/2013 | 131.34 | 6.70 | 124.64 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 12/4/2013 | 131.34 | 6.23 | 125.11 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| | 3/3/2014 | 131.34 | 4.49 | 126.85 | <50 | <50 | <300 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |

Note:

< : Below Laboratory Reporting Limit (Method Detection Limit)

All other VOCs were below laboratory-reporting limits in groundwater samples

Appendix A

Standard Operating Procedures for Conducting Groundwater Monitoring Activities

Standard Operating Procedures for Conducting Groundwater Monitoring Activities

Water Level 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.

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.

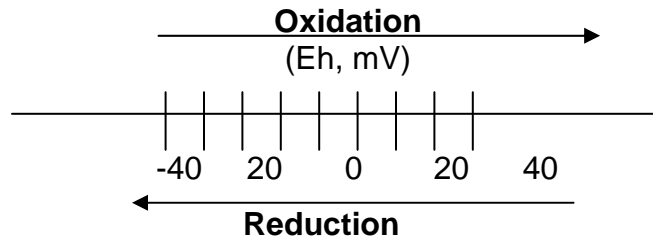
The pH of groundwater has an effect on the activity of microbial populations in the groundwater. The groundwater temperature affects the metabolic activity of bacteria. The groundwater EC is directly related to the concentration of total dissolved solids (TDS) in solution.

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 O₂ in water is low (9 mg/L at 25 °C and 11 mg/L at 5 °C), and because the rate of O₂ 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 O₂ in the groundwater is consumed; however, the oxidizing agents (i.e., the constituents that undergo reduction) now become NO₃⁻, MnO₂, Fe (OH)₃, SO₄²⁻

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 or 500-mL, amber, nonpreserved 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.

Appendix B

Tables of elevations and coordinates on wells, Field
Measurements of Physical, Chemical and Biodegradation
Parameters of the Groundwater Samples and Groundwater
Gradient Calculations



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-1
 Casing Diameter: 2 inch
 Depth of Well: 24.29 ft
 Top of Casing Elevation: 128.70 ft
 Depth to Groundwater: 3.21 ft
 Groundwater Elevation: 125.49 ft
 Water Column Height: 21.08 ft
 Purged Volume: 6 gallons

Project No.: 5031
 Address: 6501 Shattuck Avenue
 Oakland, CA
 Date: March 3, 2014
 Sampler: Lizzie Hightower

Purging Method: Bailer Pump Geotech
 Sampling Method: Bailer Pump Geotech
 Color: No Yes Describe _____
 Sheen: No Yes Describe _____
 Odor: No Yes Describe _____

Field Measurements:

| Time | Volume (gallons) | D.O. mg/L | pH | Temp °C | E.C. (µS/cm) | Turb. NTU | ORP |
|-------|----------------------|-----------|------|---------|--------------|-----------|--------|
| 13:25 | started purging well | | | | | | |
| 13:31 | 1 | 1.94 | 6.65 | 18.07 | 685 | 3.77 | +162.9 |
| 13:37 | 2 | 1.68 | 6.65 | 18.03 | 682 | 5.49 | +160.8 |
| 13:43 | 3 | 1.57 | 6.65 | 17.89 | 683 | 4.39 | +158.0 |
| 13:55 | 5 | 1.54 | 6.67 | 17.89 | 742 | 4.58 | +154.0 |
| 14:01 | 6 | 1.55 | 6.69 | 17.90 | 748 | 5.19 | +152.7 |
| 14:04 | sampled | | | | | | |

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-2
 Casing Diameter: 2 inch
 Depth of Well: 24.29 ft
 Top of Casing Elevation: 130.32 ft
 Depth to Groundwater: 3.87 ft
 Groundwater Elevation: 126.45 ft
 Water Column Height: 20.42 ft
 Purged Volume: 6 gallons

Project No.: 5031
 Address: 6501 Shattuck Avenue
 Oakland, CA
 Date: March 3, 2014
 Sampler: Lizzie Hightower

Purging Method: Bailer

Pump Geotech

Sampling Method: Bailer

Pump Geotech

Color: No Yes Describe _____

Sheen: No Yes Describe _____

Odor: No Yes Describe _____

Field Measurements:

| Time | Volume (gallons) | D.O. (mg/L) | pH | Temp (°C) | E.C. (µS/cm) | Turb. NTU | ORP |
|-------|----------------------|-------------|------|-----------|--------------|-----------|--------|
| 12:07 | Started purging well | | | | | | |
| 12:13 | 1 | 1.35 | 6.58 | 16.58 | 676 | 5.85 | +185.9 |
| 12:19 | 2 | 1.06 | 6.66 | 16.54 | 675 | 4.83 | +181.5 |
| 12:25 | 3 | 0.97 | 6.75 | 16.40 | 687 | 4.40 | +174.3 |
| 12:37 | 5 | 1.18 | 6.77 | 16.32 | 771 | 5.73 | +166.7 |
| 12:43 | 6 | 1.23 | 6.78 | 16.42 | 774 | 6.53 | +165.0 |
| 12:46 | Sampled | | | | | | |

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-3
 Casing Diameter: 2 inch
 Depth of Well: 24.80 ft
 Top of Casing Elevation: 131.34 ft
 Depth to Groundwater: 4.49 ft
 Groundwater Elevation: 126.85 ft
 Water Column Height: 20.31 ft
 Purged Volume: 6 gallons

Project No.: 5031
 Address: 6501 Shattuck Avenue
 Oakland, CA
 Date: March 3, 2014
 Sampler: Lizzie Hightower

Purging Method: Bailer Pump Geotech
 Sampling Method: Bailer Pump Geotech
 Color: No Yes Describe cloudy
 Sheen: No Yes Describe
 Odor: No Yes Describe

Field Measurements:

| Time | Volume (gallons) | D.O. mg/L | pH | Temp °C | E.C. (µS/cm) | Turb. NTU | ORP |
|-------|----------------------|-----------|------|---------|--------------|-----------|--------|
| 14:26 | Started purging well | | | | | | |
| 14:32 | 1 | 1.70 | 6.90 | 18.15 | 642 | 28.5 | +156.0 |
| 14:38 | 2 | 1.54 | 6.85 | 17.91 | 640 | 23.0 | +153.3 |
| 14:44 | 3 | 1.50 | 6.86 | 17.72 | 638 | 17.5 | +149.1 |
| 14:56 | 5 | 1.03 | 6.85 | 17.81 | 636 | 14.0 | +145.0 |
| 15:02 | 6 | 0.95 | 6.87 | 17.90 | 644 | 21.4 | +142.3 |
| 15:05 | Sampled | | | | | | |

Notes:



EPA On-line Tools for Site Assessment Calculation

[Module Home](#) [Objectives](#) [Table of Contents](#) [Previous](#) < [Next](#) >

Hydraulic Gradient

Gradient Calculation from fitting a plane to three points

$$a x_1 + b y_1 + c = h_1$$

$$a x_2 + b y_2 + c = h_2$$

$$a x_3 + b y_3 + c = h_3$$

where (x_i, y_i) are the coordinates of the well and

h_i is the head

$i = 1, 2, 3$

The gradient is calculated from the square root of $(a^2 + b^2)$ and the angle from the arctangent of a/b or b/a depending on the quadrant

Site Name

Date

Calculation basis

Coordinates

| x-coordinate | y-coordinate | head |
|--|--|-------------------------------------|
| <input type="text" value="6775.300744"/> | <input type="text" value="4740.653962"/> | <input type="text" value="125.49"/> |
| <input type="text" value="6774.282756"/> | <input type="text" value="4766.867171"/> | <input type="text" value="126.45"/> |
| <input type="text" value="6865.138245"/> | <input type="text" value="4776.029069"/> | <input type="text" value="126.85"/> |

Gradient Magnitude (i)

Degrees from North (+ y axis)

[Previous](#) [Top](#) [Next](#)

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Appendix C

Laboratory Report and Chain of Custody Form



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878


2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 253989
ANALYTICAL REPORT

| | |
|---|--|
| SOMA Environmental Engineering Inc. 6620 Owens Dr. Pleasanton, CA 94588 | Project : 5031 Location : 6501 Shattuck Ave., Oakland Level : II |
|---|--|

| <u>Sample ID</u> | <u>Lab ID</u> |
|------------------|---------------|
| MW-1 | 253989-001 |
| MW-2 | 253989-002 |
| MW-3 | 253989-003 |

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
Project Manager
tracy.babjar@ctberk.com
(510) 204-2226

Date: 03/10/2014

CASE NARRATIVE

Laboratory number: 253989
Client: SOMA Environmental Engineering Inc.
Project: 5031
Location: 6501 Shattuck Ave., Oakland
Request Date: 03/03/14
Samples Received: 03/03/14

This data package contains sample and QC results for three water samples, requested for the above referenced project on 03/03/14. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

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

No analytical problems were encountered.

COOLER RECEIPT CHECKLIST



Curtis & Tompkins, Ltd.

Login # 25398 Date Received 3/13/14 Number of coolers 1
 Client SOMA Project 5031

Date Opened 3/13 By (print) Ms (sign) [Signature]
 Date Logged in 3/13 By (print) Ms (sign) [Signature]

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 N/A
4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO N/A
5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO N/A
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 N/A
10. Are there any missing / extra samples? _____ YES NO N/A
11. Are samples in the appropriate containers for indicated tests? _____ YES NO N/A
12. Are sample labels present, in good condition and complete? _____ YES NO N/A
13. Do the sample labels agree with custody papers? _____ YES NO N/A
14. Was sufficient amount of sample sent for tests requested? _____ YES NO N/A
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 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 N/A
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS

Batch QC Report

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------------------|-----------|-----------------------------|
| Lab #: | 253989 | Location: | 6501 Shattuck Ave., Oakland |
| Client: | SOMA Environmental Engineering Inc. | Prep: | EPA 5030B |
| Project#: | 5031 | Analysis: | EPA 8015B |
| Type: | LCS | Diln Fac: | 1.000 |
| Lab ID: | QC730503 | Batch#: | 208677 |
| Matrix: | Water | Analyzed: | 03/06/14 |
| Units: | ug/L | | |

| Analyte | Spiked | Result | %REC | Limits |
|-----------------|--------|--------|------|--------|
| Gasoline C7-C12 | 1,000 | 938.5 | 94 | 80-120 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 86 | 77-128 |

Batch QC Report

| Total Volatile Hydrocarbons | | | |
|-----------------------------|-------------------------------------|-----------|-----------------------------|
| Lab #: | 253989 | Location: | 6501 Shattuck Ave., Oakland |
| Client: | SOMA Environmental Engineering Inc. | Prep: | EPA 5030B |
| Project#: | 5031 | Analysis: | EPA 8015B |
| Field ID: | ZZZZZZZZZZ | Batch#: | 208677 |
| MSS Lab ID: | 254026-007 | Sampled: | 03/03/14 |
| Matrix: | Water | Received: | 03/04/14 |
| Units: | ug/L | Analyzed: | 03/07/14 |
| Diln Fac: | 1.000 | | |

Type: MS Lab ID: QC730505

| Analyte | MSS Result | Spiked | Result | %REC | Limits |
|-----------------|------------|--------|--------|------|--------|
| Gasoline C7-C12 | 21.60 | 2,000 | 1,750 | 86 | 74-120 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 105 | 77-128 |

Type: MSD Lab ID: QC730506

| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|-----------------|--------|--------|------|--------|-----|-----|
| Gasoline C7-C12 | 2,000 | 1,781 | 88 | 74-120 | 2 | 27 |

| Surrogate | %REC | Limits |
|--------------------------|------|--------|
| Bromofluorobenzene (FID) | 106 | 77-128 |

RPD= Relative Percent Difference

| Total Extractable Hydrocarbons | | | |
|--------------------------------|-------------------------------------|-----------|-----------------------------|
| Lab #: | 253989 | Location: | 6501 Shattuck Ave., Oakland |
| Client: | SOMA Environmental Engineering Inc. | Prep: | EPA 3520C |
| Project#: | 5031 | Analysis: | EPA 8015B |
| Matrix: | Water | Sampled: | 03/03/14 |
| Units: | ug/L | Received: | 03/03/14 |
| Diln Fac: | 1.000 | Prepared: | 03/04/14 |
| Batch#: | 208553 | | |

Field ID: MW-1 Analyzed: 03/06/14
 Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 253989-001

| Analyte | Result | RL |
|-------------------|--------|-----|
| Diesel C10-C24 | 60 Y | 50 |
| Motor Oil C24-C36 | ND | 300 |

| Surrogate | %REC | Limits |
|-------------|------|--------|
| o-Terphenyl | 99 | 66-129 |

Field ID: MW-2 Analyzed: 03/06/14
 Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 253989-002

| Analyte | Result | RL |
|-------------------|--------|-----|
| Diesel C10-C24 | ND | 50 |
| Motor Oil C24-C36 | ND | 300 |

| Surrogate | %REC | Limits |
|-------------|------|--------|
| o-Terphenyl | 97 | 66-129 |

Field ID: MW-3 Analyzed: 03/06/14
 Type: SAMPLE Cleanup Method: EPA 3630C
 Lab ID: 253989-003

| Analyte | Result | RL |
|-------------------|--------|-----|
| Diesel C10-C24 | ND | 50 |
| Motor Oil C24-C36 | ND | 300 |

| Surrogate | %REC | Limits |
|-------------|------|--------|
| o-Terphenyl | 100 | 66-129 |

Type: BLANK Analyzed: 03/05/14
 Lab ID: QC729996 Cleanup Method: EPA 3630C

| Analyte | Result | RL |
|-------------------|--------|-----|
| Diesel C10-C24 | ND | 50 |
| Motor Oil C24-C36 | ND | 300 |

| Surrogate | %REC | Limits |
|-------------|------|--------|
| o-Terphenyl | 119 | 66-129 |

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

| Total Extractable Hydrocarbons | | | |
|--------------------------------|-------------------------------------|-----------|-----------------------------|
| Lab #: | 253989 | Location: | 6501 Shattuck Ave., Oakland |
| Client: | SOMA Environmental Engineering Inc. | Prep: | EPA 3520C |
| Project#: | 5031 | Analysis: | EPA 8015B |
| Matrix: | Water | Batch#: | 208553 |
| Units: | ug/L | Prepared: | 03/04/14 |
| Diln Fac: | 1.000 | Analyzed: | 03/05/14 |

Type: BS Cleanup Method: EPA 3630C
 Lab ID: QC729997

| Analyte | Spiked | Result | %REC | Limits |
|----------------|--------|--------|------|--------|
| Diesel C10-C24 | 2,500 | 2,274 | 91 | 61-120 |

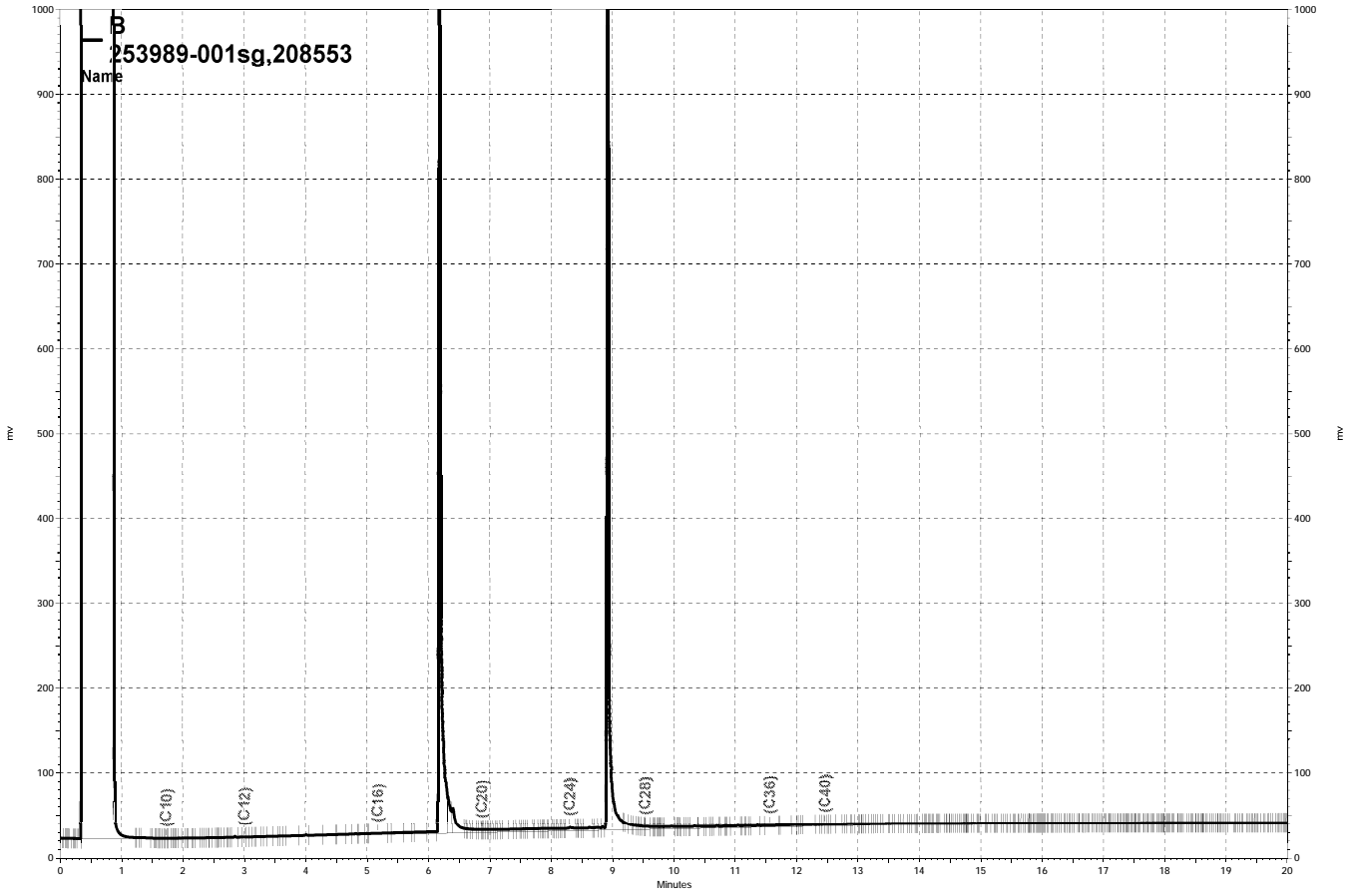
| Surrogate | %REC | Limits |
|-------------|------|--------|
| o-Terphenyl | 104 | 66-129 |

Type: BSD Cleanup Method: EPA 3630C
 Lab ID: QC729998

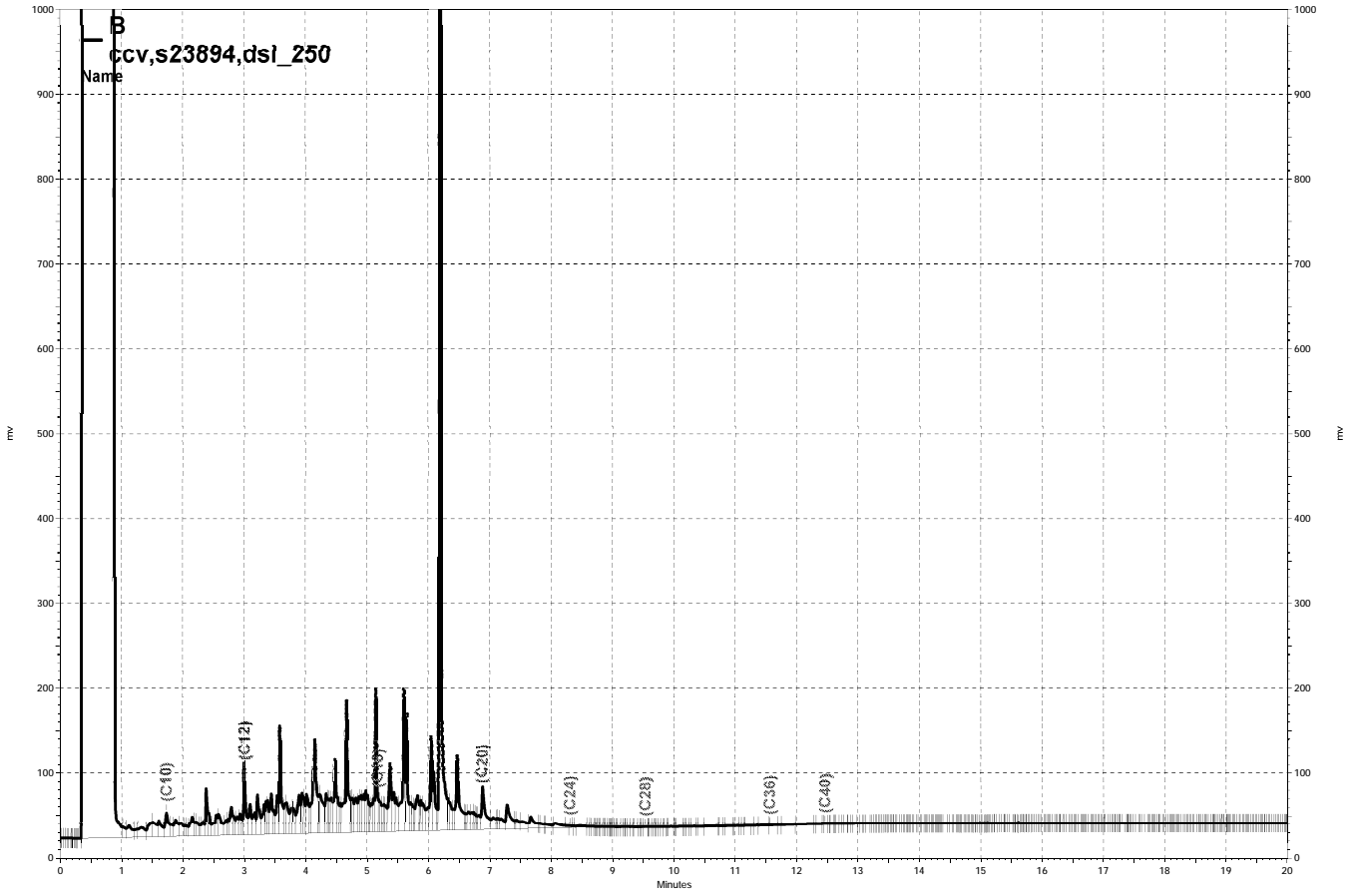
| Analyte | Spiked | Result | %REC | Limits | RPD | Lim |
|----------------|--------|--------|------|--------|-----|-----|
| Diesel C10-C24 | 2,500 | 2,120 | 85 | 61-120 | 7 | 45 |

| Surrogate | %REC | Limits |
|-------------|------|--------|
| o-Terphenyl | 97 | 66-129 |

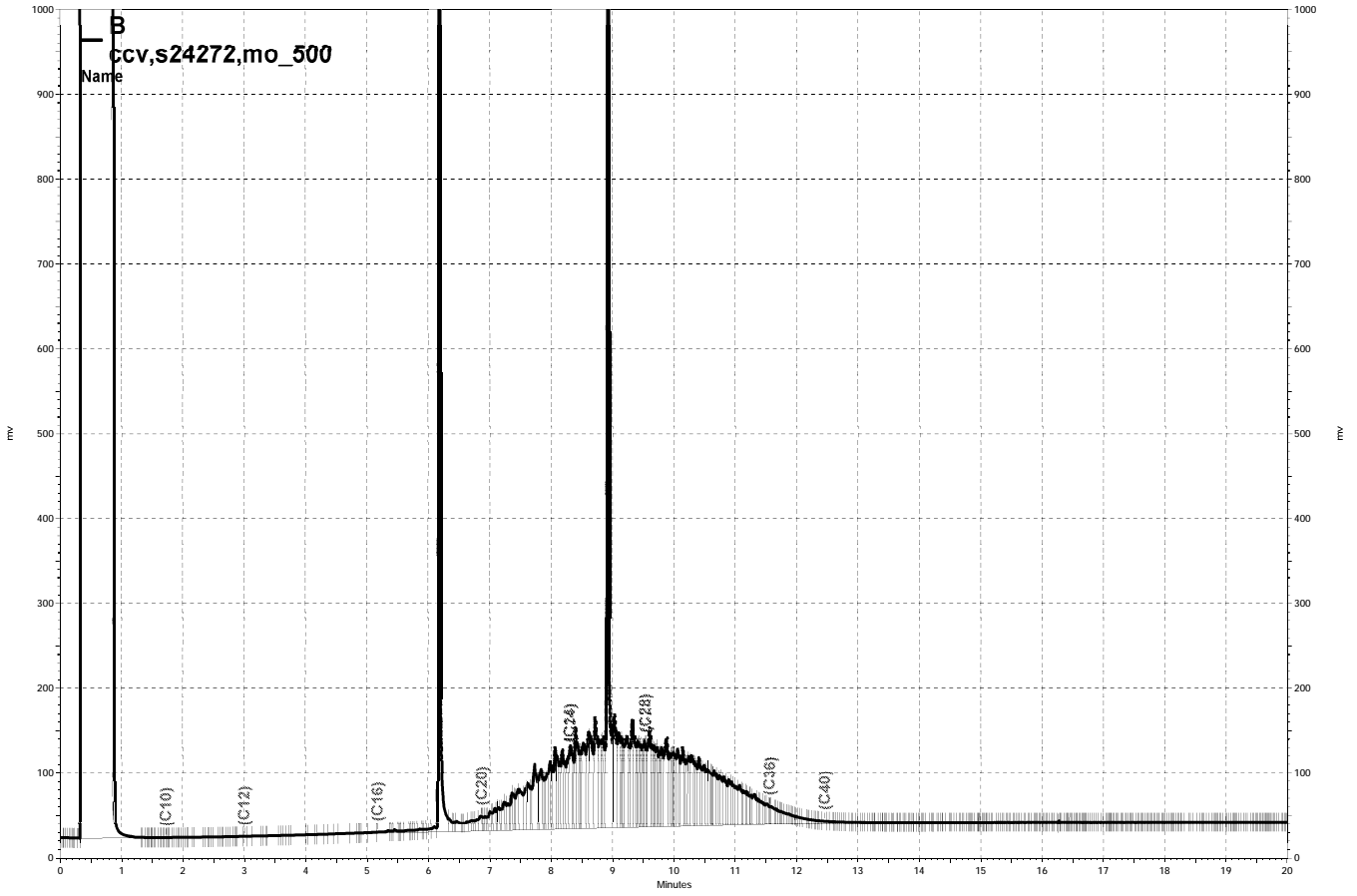
RPD= Relative Percent Difference



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\064b036, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\064b012, B



— \\Lims\gdrive\ezchrom\Projects\GC15B\Data\064b011, B

Purgeable Organics by GC/MS

| | |
|---|---------------------------------------|
| Lab #: 253989 | Location: 6501 Shattuck Ave., Oakland |
| Client: SOMA Environmental Engineering Inc. | Prep: EPA 5030B |
| Project#: 5031 | Analysis: EPA 8260B |
| Field ID: MW-1 | Batch#: 208532 |
| Lab ID: 253989-001 | Sampled: 03/03/14 |
| Matrix: Water | Received: 03/03/14 |
| Units: ug/L | Analyzed: 03/04/14 |
| Diln Fac: 1.000 | |

| Analyte | Result | RL |
|---------------------------|--------|-----|
| Freon 12 | ND | 1.0 |
| Chloromethane | ND | 1.0 |
| Vinyl Chloride | ND | 0.5 |
| Bromomethane | ND | 1.0 |
| Chloroethane | ND | 1.0 |
| Trichlorofluoromethane | ND | 1.0 |
| Acetone | ND | 10 |
| Freon 113 | ND | 2.0 |
| 1,1-Dichloroethene | ND | 0.5 |
| Methylene Chloride | ND | 10 |
| Carbon Disulfide | ND | 0.5 |
| MTBE | ND | 0.5 |
| trans-1,2-Dichloroethene | ND | 0.5 |
| Vinyl Acetate | ND | 10 |
| 1,1-Dichloroethane | ND | 0.5 |
| 2-Butanone | ND | 10 |
| cis-1,2-Dichloroethene | ND | 0.5 |
| 2,2-Dichloropropane | ND | 0.5 |
| Chloroform | ND | 0.5 |
| Bromochloromethane | ND | 0.5 |
| 1,1,1-Trichloroethane | ND | 0.5 |
| 1,1-Dichloropropene | ND | 0.5 |
| Carbon Tetrachloride | ND | 0.5 |
| 1,2-Dichloroethane | 0.6 | 0.5 |
| Benzene | ND | 0.5 |
| Trichloroethene | ND | 0.5 |
| 1,2-Dichloropropane | ND | 0.5 |
| Bromodichloromethane | ND | 0.5 |
| Dibromomethane | ND | 0.5 |
| 4-Methyl-2-Pentanone | ND | 10 |
| cis-1,3-Dichloropropene | ND | 0.5 |
| Toluene | ND | 0.5 |
| trans-1,3-Dichloropropene | ND | 0.5 |
| 1,1,2-Trichloroethane | ND | 0.5 |
| 2-Hexanone | ND | 10 |
| 1,3-Dichloropropane | ND | 0.5 |
| Tetrachloroethene | ND | 0.5 |

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

| | |
|---|---------------------------------------|
| Lab #: 253989 | Location: 6501 Shattuck Ave., Oakland |
| Client: SOMA Environmental Engineering Inc. | Prep: EPA 5030B |
| Project#: 5031 | Analysis: EPA 8260B |
| Field ID: MW-1 | Batch#: 208532 |
| Lab ID: 253989-001 | Sampled: 03/03/14 |
| Matrix: Water | Received: 03/03/14 |
| Units: ug/L | Analyzed: 03/04/14 |
| Diln Fac: 1.000 | |

| Analyte | Result | RL |
|-----------------------------|--------|-----|
| Dibromochloromethane | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Chlorobenzene | ND | 0.5 |
| 1,1,1,2-Tetrachloroethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |
| Styrene | ND | 0.5 |
| Bromoform | ND | 1.0 |
| Isopropylbenzene | ND | 0.5 |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 |
| 1,2,3-Trichloropropane | ND | 0.5 |
| Propylbenzene | ND | 0.5 |
| Bromobenzene | ND | 0.5 |
| 1,3,5-Trimethylbenzene | ND | 0.5 |
| 2-Chlorotoluene | ND | 0.5 |
| 4-Chlorotoluene | ND | 0.5 |
| tert-Butylbenzene | ND | 0.5 |
| 1,2,4-Trimethylbenzene | ND | 0.5 |
| sec-Butylbenzene | ND | 0.5 |
| para-Isopropyl Toluene | ND | 0.5 |
| 1,3-Dichlorobenzene | ND | 0.5 |
| 1,4-Dichlorobenzene | ND | 0.5 |
| n-Butylbenzene | ND | 0.5 |
| 1,2-Dichlorobenzene | ND | 0.5 |
| 1,2-Dibromo-3-Chloropropane | ND | 2.0 |
| 1,2,4-Trichlorobenzene | ND | 0.5 |
| Hexachlorobutadiene | ND | 2.0 |
| Naphthalene | ND | 2.0 |
| 1,2,3-Trichlorobenzene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 100 | 77-136 |
| 1,2-Dichloroethane-d4 | 98 | 75-139 |
| Toluene-d8 | 101 | 80-120 |
| Bromofluorobenzene | 102 | 80-120 |

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

| | |
|---|---------------------------------------|
| Lab #: 253989 | Location: 6501 Shattuck Ave., Oakland |
| Client: SOMA Environmental Engineering Inc. | Prep: EPA 5030B |
| Project#: 5031 | Analysis: EPA 8260B |
| Field ID: MW-2 | Batch#: 208532 |
| Lab ID: 253989-002 | Sampled: 03/03/14 |
| Matrix: Water | Received: 03/03/14 |
| Units: ug/L | Analyzed: 03/04/14 |
| Diln Fac: 1.000 | |

| Analyte | Result | RL |
|---------------------------|--------|-----|
| Freon 12 | ND | 1.0 |
| Chloromethane | ND | 1.0 |
| Vinyl Chloride | ND | 0.5 |
| Bromomethane | ND | 1.0 |
| Chloroethane | ND | 1.0 |
| Trichlorofluoromethane | ND | 1.0 |
| Acetone | ND | 10 |
| Freon 113 | ND | 2.0 |
| 1,1-Dichloroethene | ND | 0.5 |
| Methylene Chloride | ND | 10 |
| Carbon Disulfide | ND | 0.5 |
| MTBE | ND | 0.5 |
| trans-1,2-Dichloroethene | ND | 0.5 |
| Vinyl Acetate | ND | 10 |
| 1,1-Dichloroethane | ND | 0.5 |
| 2-Butanone | ND | 10 |
| cis-1,2-Dichloroethene | ND | 0.5 |
| 2,2-Dichloropropane | ND | 0.5 |
| Chloroform | ND | 0.5 |
| Bromochloromethane | ND | 0.5 |
| 1,1,1-Trichloroethane | ND | 0.5 |
| 1,1-Dichloropropene | ND | 0.5 |
| Carbon Tetrachloride | ND | 0.5 |
| 1,2-Dichloroethane | ND | 0.5 |
| Benzene | ND | 0.5 |
| Trichloroethene | ND | 0.5 |
| 1,2-Dichloropropane | ND | 0.5 |
| Bromodichloromethane | ND | 0.5 |
| Dibromomethane | ND | 0.5 |
| 4-Methyl-2-Pentanone | ND | 10 |
| cis-1,3-Dichloropropene | ND | 0.5 |
| Toluene | ND | 0.5 |
| trans-1,3-Dichloropropene | ND | 0.5 |
| 1,1,2-Trichloroethane | ND | 0.5 |
| 2-Hexanone | ND | 10 |
| 1,3-Dichloropropane | ND | 0.5 |
| Tetrachloroethene | ND | 0.5 |

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

| | |
|---|---------------------------------------|
| Lab #: 253989 | Location: 6501 Shattuck Ave., Oakland |
| Client: SOMA Environmental Engineering Inc. | Prep: EPA 5030B |
| Project#: 5031 | Analysis: EPA 8260B |
| Field ID: MW-2 | Batch#: 208532 |
| Lab ID: 253989-002 | Sampled: 03/03/14 |
| Matrix: Water | Received: 03/03/14 |
| Units: ug/L | Analyzed: 03/04/14 |
| Diln Fac: 1.000 | |

| Analyte | Result | RL |
|-----------------------------|--------|-----|
| Dibromochloromethane | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Chlorobenzene | ND | 0.5 |
| 1,1,1,2-Tetrachloroethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |
| Styrene | ND | 0.5 |
| Bromoform | ND | 1.0 |
| Isopropylbenzene | ND | 0.5 |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 |
| 1,2,3-Trichloropropane | ND | 0.5 |
| Propylbenzene | ND | 0.5 |
| Bromobenzene | ND | 0.5 |
| 1,3,5-Trimethylbenzene | ND | 0.5 |
| 2-Chlorotoluene | ND | 0.5 |
| 4-Chlorotoluene | ND | 0.5 |
| tert-Butylbenzene | ND | 0.5 |
| 1,2,4-Trimethylbenzene | ND | 0.5 |
| sec-Butylbenzene | ND | 0.5 |
| para-Isopropyl Toluene | ND | 0.5 |
| 1,3-Dichlorobenzene | ND | 0.5 |
| 1,4-Dichlorobenzene | ND | 0.5 |
| n-Butylbenzene | ND | 0.5 |
| 1,2-Dichlorobenzene | ND | 0.5 |
| 1,2-Dibromo-3-Chloropropane | ND | 2.0 |
| 1,2,4-Trichlorobenzene | ND | 0.5 |
| Hexachlorobutadiene | ND | 2.0 |
| Naphthalene | ND | 2.0 |
| 1,2,3-Trichlorobenzene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 103 | 77-136 |
| 1,2-Dichloroethane-d4 | 99 | 75-139 |
| Toluene-d8 | 101 | 80-120 |
| Bromofluorobenzene | 103 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

| | |
|---|---------------------------------------|
| Lab #: 253989 | Location: 6501 Shattuck Ave., Oakland |
| Client: SOMA Environmental Engineering Inc. | Prep: EPA 5030B |
| Project#: 5031 | Analysis: EPA 8260B |
| Field ID: MW-3 | Batch#: 208532 |
| Lab ID: 253989-003 | Sampled: 03/03/14 |
| Matrix: Water | Received: 03/03/14 |
| Units: ug/L | Analyzed: 03/04/14 |
| Diln Fac: 1.000 | |

| Analyte | Result | RL |
|---------------------------|--------|-----|
| Freon 12 | ND | 1.0 |
| Chloromethane | ND | 1.0 |
| Vinyl Chloride | ND | 0.5 |
| Bromomethane | ND | 1.0 |
| Chloroethane | ND | 1.0 |
| Trichlorofluoromethane | ND | 1.0 |
| Acetone | ND | 10 |
| Freon 113 | ND | 2.0 |
| 1,1-Dichloroethene | ND | 0.5 |
| Methylene Chloride | ND | 10 |
| Carbon Disulfide | ND | 0.5 |
| MTBE | ND | 0.5 |
| trans-1,2-Dichloroethene | ND | 0.5 |
| Vinyl Acetate | ND | 10 |
| 1,1-Dichloroethane | ND | 0.5 |
| 2-Butanone | ND | 10 |
| cis-1,2-Dichloroethene | ND | 0.5 |
| 2,2-Dichloropropane | ND | 0.5 |
| Chloroform | ND | 0.5 |
| Bromochloromethane | ND | 0.5 |
| 1,1,1-Trichloroethane | ND | 0.5 |
| 1,1-Dichloropropene | ND | 0.5 |
| Carbon Tetrachloride | ND | 0.5 |
| 1,2-Dichloroethane | ND | 0.5 |
| Benzene | ND | 0.5 |
| Trichloroethene | ND | 0.5 |
| 1,2-Dichloropropane | ND | 0.5 |
| Bromodichloromethane | ND | 0.5 |
| Dibromomethane | ND | 0.5 |
| 4-Methyl-2-Pentanone | ND | 10 |
| cis-1,3-Dichloropropene | ND | 0.5 |
| Toluene | ND | 0.5 |
| trans-1,3-Dichloropropene | ND | 0.5 |
| 1,1,2-Trichloroethane | ND | 0.5 |
| 2-Hexanone | ND | 10 |
| 1,3-Dichloropropane | ND | 0.5 |
| Tetrachloroethene | ND | 0.5 |

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

| | |
|---|---------------------------------------|
| Lab #: 253989 | Location: 6501 Shattuck Ave., Oakland |
| Client: SOMA Environmental Engineering Inc. | Prep: EPA 5030B |
| Project#: 5031 | Analysis: EPA 8260B |
| Field ID: MW-3 | Batch#: 208532 |
| Lab ID: 253989-003 | Sampled: 03/03/14 |
| Matrix: Water | Received: 03/03/14 |
| Units: ug/L | Analyzed: 03/04/14 |
| Diln Fac: 1.000 | |

| Analyte | Result | RL |
|-----------------------------|--------|-----|
| Dibromochloromethane | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Chlorobenzene | ND | 0.5 |
| 1,1,1,2-Tetrachloroethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |
| Styrene | ND | 0.5 |
| Bromoform | ND | 1.0 |
| Isopropylbenzene | ND | 0.5 |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 |
| 1,2,3-Trichloropropane | ND | 0.5 |
| Propylbenzene | ND | 0.5 |
| Bromobenzene | ND | 0.5 |
| 1,3,5-Trimethylbenzene | ND | 0.5 |
| 2-Chlorotoluene | ND | 0.5 |
| 4-Chlorotoluene | ND | 0.5 |
| tert-Butylbenzene | ND | 0.5 |
| 1,2,4-Trimethylbenzene | ND | 0.5 |
| sec-Butylbenzene | ND | 0.5 |
| para-Isopropyl Toluene | ND | 0.5 |
| 1,3-Dichlorobenzene | ND | 0.5 |
| 1,4-Dichlorobenzene | ND | 0.5 |
| n-Butylbenzene | ND | 0.5 |
| 1,2-Dichlorobenzene | ND | 0.5 |
| 1,2-Dibromo-3-Chloropropane | ND | 2.0 |
| 1,2,4-Trichlorobenzene | ND | 0.5 |
| Hexachlorobutadiene | ND | 2.0 |
| Naphthalene | ND | 2.0 |
| 1,2,3-Trichlorobenzene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|------|--------|
| Dibromofluoromethane | 101 | 77-136 |
| 1,2-Dichloroethane-d4 | 99 | 75-139 |
| Toluene-d8 | 101 | 80-120 |
| Bromofluorobenzene | 102 | 80-120 |

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

| Purgeable Organics by GC/MS | | | |
|------------------------------------|-------------------------------------|-----------|-----------------------------|
| Lab #: | 253989 | Location: | 6501 Shattuck Ave., Oakland |
| Client: | SOMA Environmental Engineering Inc. | Prep: | EPA 5030B |
| Project#: | 5031 | Analysis: | EPA 8260B |
| Type: | BLANK | Diln Fac: | 1.000 |
| Lab ID: | QC729918 | Batch#: | 208532 |
| Matrix: | Water | Analyzed: | 03/04/14 |
| Units: | ug/L | | |

| Analyte | Result | RL |
|---------------------------|---------------|-----------|
| Freon 12 | ND | 1.0 |
| Chloromethane | ND | 1.0 |
| Vinyl Chloride | ND | 0.5 |
| Bromomethane | ND | 1.0 |
| Chloroethane | ND | 1.0 |
| Trichlorofluoromethane | ND | 1.0 |
| Acetone | ND | 10 |
| Freon 113 | ND | 2.0 |
| 1,1-Dichloroethene | ND | 0.5 |
| Methylene Chloride | ND | 10 |
| Carbon Disulfide | ND | 0.5 |
| MTBE | ND | 0.5 |
| trans-1,2-Dichloroethene | ND | 0.5 |
| Vinyl Acetate | ND | 10 |
| 1,1-Dichloroethane | ND | 0.5 |
| 2-Butanone | ND | 10 |
| cis-1,2-Dichloroethene | ND | 0.5 |
| 2,2-Dichloropropane | ND | 0.5 |
| Chloroform | ND | 0.5 |
| Bromochloromethane | ND | 0.5 |
| 1,1,1-Trichloroethane | ND | 0.5 |
| 1,1-Dichloropropene | ND | 0.5 |
| Carbon Tetrachloride | ND | 0.5 |
| 1,2-Dichloroethane | ND | 0.5 |
| Benzene | ND | 0.5 |
| Trichloroethene | ND | 0.5 |
| 1,2-Dichloropropane | ND | 0.5 |
| Bromodichloromethane | ND | 0.5 |
| Dibromomethane | ND | 0.5 |
| 4-Methyl-2-Pentanone | ND | 10 |
| cis-1,3-Dichloropropene | ND | 0.5 |
| Toluene | ND | 0.5 |
| trans-1,3-Dichloropropene | ND | 0.5 |
| 1,1,2-Trichloroethane | ND | 0.5 |
| 2-Hexanone | ND | 10 |
| 1,3-Dichloropropane | ND | 0.5 |
| Tetrachloroethene | ND | 0.5 |

ND= Not Detected

RL= Reporting Limit

Batch QC Report

| Purgeable Organics by GC/MS | | | |
|------------------------------------|-------------------------------------|-----------|-----------------------------|
| Lab #: | 253989 | Location: | 6501 Shattuck Ave., Oakland |
| Client: | SOMA Environmental Engineering Inc. | Prep: | EPA 5030B |
| Project#: | 5031 | Analysis: | EPA 8260B |
| Type: | BLANK | Diln Fac: | 1.000 |
| Lab ID: | QC729918 | Batch#: | 208532 |
| Matrix: | Water | Analyzed: | 03/04/14 |
| Units: | ug/L | | |

| Analyte | Result | RL |
|-----------------------------|---------------|-----------|
| Dibromochloromethane | ND | 0.5 |
| 1,2-Dibromoethane | ND | 0.5 |
| Chlorobenzene | ND | 0.5 |
| 1,1,1,2-Tetrachloroethane | ND | 0.5 |
| Ethylbenzene | ND | 0.5 |
| m,p-Xylenes | ND | 0.5 |
| o-Xylene | ND | 0.5 |
| Styrene | ND | 0.5 |
| Bromoform | ND | 1.0 |
| Isopropylbenzene | ND | 0.5 |
| 1,1,2,2-Tetrachloroethane | ND | 0.5 |
| 1,2,3-Trichloropropane | ND | 0.5 |
| Propylbenzene | ND | 0.5 |
| Bromobenzene | ND | 0.5 |
| 1,3,5-Trimethylbenzene | ND | 0.5 |
| 2-Chlorotoluene | ND | 0.5 |
| 4-Chlorotoluene | ND | 0.5 |
| tert-Butylbenzene | ND | 0.5 |
| 1,2,4-Trimethylbenzene | ND | 0.5 |
| sec-Butylbenzene | ND | 0.5 |
| para-Isopropyl Toluene | ND | 0.5 |
| 1,3-Dichlorobenzene | ND | 0.5 |
| 1,4-Dichlorobenzene | ND | 0.5 |
| n-Butylbenzene | ND | 0.5 |
| 1,2-Dichlorobenzene | ND | 0.5 |
| 1,2-Dibromo-3-Chloropropane | ND | 2.0 |
| 1,2,4-Trichlorobenzene | ND | 0.5 |
| Hexachlorobutadiene | ND | 2.0 |
| Naphthalene | ND | 2.0 |
| 1,2,3-Trichlorobenzene | ND | 0.5 |

| Surrogate | %REC | Limits |
|-----------------------|-------------|---------------|
| Dibromofluoromethane | 98 | 77-136 |
| 1,2-Dichloroethane-d4 | 95 | 75-139 |
| Toluene-d8 | 100 | 80-120 |
| Bromofluorobenzene | 101 | 80-120 |

ND= Not Detected

RL= Reporting Limit

Appendix D

Non-Hazardous Waste Manifest

NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

| | | | | | |
|---|--|--|---|---------------------------|--------------------|
| NON-HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | | Manifest Document No. | 2. Page 1 of 1 |
| 3. Generator's Name and Mailing Address | | EAST BAY SMOG CENTER 6501 SHATTUCK AVE OAKLAND, CA | | SOMA ENV | |
| 4. Generator's Phone () | | | | | |
| 5. Transporter 1 Company Name | | 6. US EPA ID Number | | A. State Transporter's ID | |
| INSTRAT INC | | | | B. Transporter 1 Phone | |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | | C. State Transporter's ID | |
| | | | | D. Transporter 2 Phone | |
| 9. Designated Facility Name and Site Address | | 10. US EPA ID Number | | E. State Facility's ID | |
| INSTRAT, INC. 1105 AIRPORT RD. RID VISTA, CA 94571 | | | | F. Facility's Phone | |
| | | | | (707) 374-3834 | |
| 11. WASTE DESCRIPTION | | | 12. Containers | | 13. Total Quantity |
| | | | No. | Type | 14. Unit Wt./Vol. |
| a. NON-HAZ MONITORING WELL WATER | | | 1 | DRM | 50 GAL |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| G. Additional Descriptions for Materials Listed Above | | | H. Handling Codes for Wastes Listed Above | | |
| GRAY, FINES, NO ODOR | | | | | |
| 15. Special Handling Instructions and Additional Information | | | | | |
| | | | | | |
| 16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations. | | | | | |
| Printed/Typed Name | | | Signature | | Date |
| | | | | | Month Day Year |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | | | | |
| Printed/Typed Name | | | Signature | | Date |
| PATRICK McLaughlin | | | <i>P. McLaughlin</i> | | Month Day Year |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | | | | |
| Printed/Typed Name | | | Signature | | Date |
| | | | | | Month Day Year |
| 19. Discrepancy Indication Space | | | | | |
| 20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19. | | | | | |
| Printed/Typed Name | | | Signature | | Date |
| MICHAEL WHITEHEAD | | | <i>Michael Whitehead</i> | | Month Day Year |
| | | | | | 2 14 14 |

NON-HAZARDOUS WASTE

GENERATOR
TRANSPORTER
FACILITY



NON-HAZARDOUS WASTE MANIFEST

Please print or type (Form designed for use on elite (12 pitch) typewriter)

| | | | | | |
|---|--|---|------|--|-------------------|
| NON-HAZARDOUS WASTE MANIFEST | | 1. Generator's US EPA ID No. | | Manifest Document No. SOM14-016 | 2. Page 1 of 1 |
| 3. Generator's Name and Mailing Address EAST BAY Smog Center 6501 SHATTICK Ave OAKLAND CA | | SOMA ENV | | | |
| 4. Generator's Phone () | | 6. US EPA ID Number | | A. State Transporter's ID | |
| 5. Transporter 1 Company Name INSTRAT INC | | | | B. Transporter 1 Phone | |
| 7. Transporter 2 Company Name | | 8. US EPA ID Number | | C. State Transporter's ID | |
| | | | | D. Transporter 2 Phone | |
| 9. Designated Facility Name and Site Address INSTRAT, INC. 1105 GARFORD RD. RIO VISTA, CA 94571 | | 10. US EPA ID Number | | E. State Facility's ID | |
| | | | | F. Facility's Phone (707) 874-9834 | |
| 11. WASTE DESCRIPTION | | 12. Containers | | 13. Total Quantity | 14. Unit Wt./Vol. |
| | | No. | Type | | |
| a. NON HAZARDOUS Purge WATER | | 1 | DRM | 30 | gal |
| b. | | | | | |
| c. | | | | | |
| d. | | | | | |
| G. Additional Descriptions for Materials Listed Above | | H. Handling Codes for Wastes Listed Above | | | |
| 15. Special Handling Instructions and Additional Information | | | | | |
| <p>16. GENERATOR'S CERTIFICATION: I hereby certify that the contents of this shipment are fully and accurately described and are in all respects in proper condition for transport. The materials described on this manifest are not subject to federal hazardous waste regulations.</p> | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| | | | | Month Day Year | |
| 17. Transporter 1 Acknowledgement of Receipt of Materials | | | | | |
| Printed/Typed Name Patrick McHughli | | Signature <i>[Signature]</i> | | Date | |
| | | | | Month Day Year 3 20 14 | |
| 18. Transporter 2 Acknowledgement of Receipt of Materials | | | | | |
| Printed/Typed Name | | Signature | | Date | |
| | | | | Month Day Year | |
| 19. Discrepancy Indication Space | | | | | |
| 20. Facility Owner or Operator; Certification of receipt of the waste materials covered by this manifest, except as noted in item 19. | | | | | |
| Printed/Typed Name MICHAEL WHITEHEAD | | Signature <i>[Signature]</i> | | Date | |
| | | | | Month Day Year 3 20 14 | |

NON-HAZARDOUS WASTE GENERATOR

