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April 30, 2009

Mr. Jerry Wickham  
Alameda County Department of  
Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502-6577

Subject: Fuel Leak Case#RO0458  
Site Located at 3820 Manila Avenue, Oakland, California  
Former Glovatorium Facility

Dear Mr. Wickham:

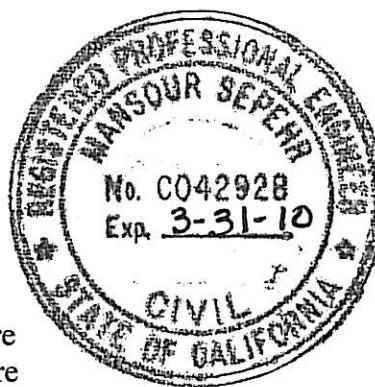
SOMA's "First Semi-Annual 2009 Groundwater Monitoring and Extended MPE Pilot Test Report" for the subject property has been uploaded to the State's GeoTracker database and Alameda County's FTP site for your review.

Thank you for your time in reviewing our report. Please do not hesitate to call me at (925) 734-6400, if you have any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Mansour Sepehr".

Mansour Sepehr, Ph.D., PE  
Principal Hydrogeologist



cc: Mr. Albert M. Cohen, LOEB&LOEB LLP w/enclosure  
Dr. Bruce Page, Bruce W. Page Consulting w/enclosure  
Mr. Peter W. McGaw, ARCHER NORRIS w/enclosure  
Ms. Betty Graham, Regional Water Quality Control Board w/o enclosure  
Mr. Stuart Depper w/enclosure

**First Semi-Annual 2009  
Groundwater Monitoring  
and  
Extended MPE Pilot Test Report  
The Former Glovatorium Facility  
3820 Manila Avenue  
Oakland, California**

**April 30, 2009**

**Project 2511**

**Prepared for:**

**Loeb & Loeb LLP  
10100 Santa Monica Boulevard, Suite 2200  
Los Angeles, California 90067-4164**

## **Perjury Statement**

Stuart Depper  
Name

Responsible Party  
Title

3820 Manila Avenue      Oakland      94609  
Street Address                  City                  Zip

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

  
Signature

4-30-09  
Date

## CERTIFICATION

SOMA Environmental Engineering, Inc. has prepared this report for the Law Offices of Loeb & Loeb LLP, to comply with Alameda County Department of Environmental Health requirements for the groundwater monitoring event, and to provide information necessary to defend claims brought against the owners by Earl Thompson and Grace Johnson.



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Mansour Sepehr, PhD, PE  
Principal Hydrogeologist



## TABLE OF CONTENTS

CERTIFICATION .....	i
TABLE OF CONTENTS.....	ii
LIST OF TABLES.....	iii
LIST OF FIGURES .....	iii
LIST OF APPENDICES .....	iv
1. INTRODUCTION .....	1
1.1 Site Description.....	1
1.2 Background.....	2
1.3 Site Geology and Hydrogeology .....	4
1.4 Previous Activities.....	4
2. RESULTS .....	6
2.1 Groundwater Flow Conditions.....	6
2.2 Groundwater Quality .....	7
2.3 Bioattenuation Parameter Analysis Results .....	9
2.4 Other Parameters .....	11
2.5 Groundwater Storage and Disposal .....	12
3. FREE-PRODUCT REMOVAL ACTIVITIES .....	12
4. MULTI-PHASE EXTRACTION (MPE) PILOT TESTING.....	13
5. FINDINGS OF CURRENT MONITORING EVENT .....	14
5.1 Current Environmental Conditions .....	14
5.2 Recommendations .....	15
6. REFERENCES .....	15

## **LIST OF TABLES**

- Table 1 Construction Data for Temporary Sampling Points and Monitoring Wells
- Table 2 Historical Groundwater Elevation Data (feet)
- Table 3 Historical Analytical Results and Field Measurements for Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples
- Table 4 Historical Analytical Results for Total Petroleum Hydrocarbons, BTEX, and MtBE in Groundwater Samples
- Table 5 Historical Analytical Results for Volatile Organic Compound Analyses in Groundwater Samples
- Table 6 Historical In Situ and Ex Situ Analyses Results for Bioattenuation Parameters in Groundwater Samples
- Table 7 Free-Product Removal Log
- Table 8 MPE Pilot Test: Extraction Data and VOC Mass Removal Rate
- Table 9 MPE Pilot Test: Mass removal

## **LIST OF FIGURES**

- Figure 1 Site vicinity map
- Figure 2 Map showing the approximate locations of groundwater monitoring wells
- Figure 2a Map showing the approximate locations of SOMA monitoring wells, SOMA hydropunches, and inherited monitoring locations within the former Glovatorium building
- Figure 3 Groundwater elevation contour map in feet. February 9, 2009
- Figure 4 Contour map of TPH-ss concentrations in groundwater February 9 and 10, 2009
- Figure 5 Contour map of TPH-g concentrations in groundwater February 9 and 10, 2009
- Figure 6 Contour map of MtBE concentrations in groundwater (EPA Method 8260B). February 9 and 10, 2009
- Figure 7 Map of benzene concentrations in groundwater (EPA Method 8260B). February 9 and 10, 2009

- Figure 8 Contour map of PCE concentrations in groundwater  
February 9 and 10, 2009
- Figure 9 Contour map of TCE concentrations in groundwater  
February 9 and 10, 2009
- Figure 10 Contour map of cis-1,2-dichloroethene concentrations in groundwater  
February 9 and 10, 2009.
- Figure 11 Contour map of trans-1,2-dichloroethene concentrations in groundwater  
February 9 and 10, 2009.
- Figure 12 Contour map of dissolved oxygen concentrations in groundwater  
February 9 and 10, 2009
- Figure 13 Contour map of nitrate concentrations in groundwater  
February 9 and 10, 2009.
- Figure 14 Contour map of dissolved manganese concentrations in groundwater  
February 9 and 10, 2009.
- Figure 15 Contour map of sulfate concentrations in groundwater  
February 9 and 10, 2009.
- Figure 16 Contour map of ferrous iron concentrations in groundwater  
February 9 and 10, 2009.
- Figure 17 Contour map of methane concentrations in groundwater  
February 9 and 10, 2009.
- Figure 18 Free-Product Thickness

## **LIST OF APPENDICES**

- Appendix A SOMA's Groundwater Monitoring Procedures
- Appendix B Field Notes, Field Measured Physical and Chemical Parameter Values
- Appendix C Chain of Custody Forms and Laboratory Reports
- Appendix D MPE Event Field Data Sheets
- Appendix E MPE Event Laboratory Report
- Appendix F Non-Hazardous Waste Manifest for Groundwater Removal

## **1. INTRODUCTION**

SOMA Environmental Engineering, Inc. (SOMA) has prepared this report for the Law Offices of Loeb & Loeb LLP on behalf of their client, the owners of the subject property. The property, the former Glovatorium, is located at 3820 Manila Avenue (formerly known as 3815 Broadway), Oakland, California, as illustrated in Figure 1. The site is located in an area of primarily commercial and residential developments.

This report summarizes results of the groundwater monitoring event conducted at the site on February 9 and 10, 2009 and includes laboratory results for the groundwater samples.

In addition to the above laboratory analyses, the natural attenuation study initiated by Levine-Fricke Recon (LFR) in Third Quarter 2000 was continued during this monitoring event. The objective of the study was to evaluate whether perchloroethylene (PCE) and other volatile organic compounds (VOCs) found in the groundwater were biodegrading. Therefore, groundwater samples collected during this monitoring event were analyzed for common electron acceptors and other geochemical indicators. Results of these analyses are presented in this report.

All activities were performed in accordance with general guidelines of the California Regional Water Quality Control Board (CRWQCB) and the Alameda County Environmental Health Services (ACEHS). Appendix A details procedures followed by SOMA during this monitoring event.

This work is intended to determine the nature and extent of environmental contamination and whether contamination is affecting the neighboring Thompson property. This information is pertinent to the claim Mr. Thompson brought against the Deppers, owners of the Glovatorium. Data gathered by this work may also help determine when releases occurred, significant information that is pertinent to the defense against claims brought by Ms. Johnson, a former owner of the property.

### **1.1 Site Description**

The Site is located between Manila Avenue and Broadway, near the intersection of 38<sup>th</sup> Street in Oakland, California. Surface elevation ranges from approximately 78 to 84 feet above mean sea level.

A 54-inch inside-diameter storm drain culvert passes under the property, from Manila Avenue on the west to 38<sup>th</sup> Street on the south (see Figure 2). The depth of the storm drain invert is approximately 8.5 feet under the sidewalk on the

eastern side of Manila Avenue and approximately 13.2 feet below ground surface (bgs) at the far end, approximately 60 feet south of well GW-4.

A 10-inch-diameter cast iron sanitary sewer conduit runs westerly from the on-site building and discharges into the sanitary sewer line, which runs north to south along Manila Avenue. Figure 2 shows locations of the storm drain and sanitary sewer system.

Six underground storage tanks (USTs) were formerly on the site. Two were located under the sidewalk on 38<sup>th</sup> Street and four inside the building. UST capacities have been variously reported as ranging from 800 gallons to 5,000 gallons. They reportedly contained Stoddard solvent, fuel oil and possibly waste oil. In August 1997, the six USTs were abandoned in place by backfilling with either cement-sand slurry or pea gravel. In addition, there are three USTs owned by Earl Thompson, Sr., under the sidewalk on 38<sup>th</sup> Street (Figure 2).

Surrounding properties are primarily commercial and residential. TOSCO Marketing Company is located north and upgradient of the site, at 40<sup>th</sup> Street and Broadway, and contains a number of groundwater monitoring wells. Figure 2 shows locations of the subject site's main building, UST areas, and on- and off-site groundwater monitoring wells.

## 1.2 Background

Geosolv, LLC (Geosolv) initiated the first soil and groundwater investigation in August 1997. Using the direct push method, Geosolv drilled 14 soil borings to the approximate depths of 10 to 24 feet bgs. Seven borings (B-2, B-3, B-7 through B-10 and B-13; Figure 2) were converted to temporary groundwater monitoring wells, where grab groundwater samples were collected. In September 1998, Geosolv conducted further soil and groundwater investigations by drilling 12 additional soil borings to approximate depths of 19 to 25 feet bgs. All 12 borings were converted to temporary groundwater sampling points, labeled E-15 through E-26. After collection of grab groundwater samples from temporary "E" sampling points, these borings were abandoned and grouted. Figure 2 shows soil boring locations.

In July 1999, an investigation of potential groundwater preferential flow paths was initiated by LFR. LFR drilled 10 soil borings (GW-1 through GW-8, GW-5A, and GW-6A) primarily along the 54-inch-diameter storm drain and sanitary sewer systems, to depths ranging from 8 to 20 feet bgs. During drilling, soil samples were collected from various depth intervals. In August 1999, LFR collected grab groundwater samples from seven of the nine "GW" wells. GW-1 to GW-6A are shown in Figure 2.

LFR conducted the first groundwater monitoring events in January, April, October, and November 2000, and installed four groundwater monitoring wells, LFR-1 through LFR-4, in July and August 2000 (Figure 2).

In January 2001, LFR conducted a second groundwater monitoring event that suggested occurrence of strong anaerobic biodegradation activities and dechlorination of PCE beneath the site. On April 26 and 27, 2001, SOMA began its initial groundwater monitoring events. Results of the Second Quarter 2001 monitoring event indicated occurrence of strong dechlorination of PCE in the subsurface.

SOMA's June 2001 workplan recommended replacement of the existing small-diameter monitoring wells; B-7 and B-10, with larger-diameter wells, to better evaluate bioattenuation parameters. On October 4, 11, and 12, 2001, SOMA installed monitoring wells SOMA-1 through SOMA-5 (Figure 2). During installation, boreholes were continuously logged and soil samples collected at 5-foot depth intervals to delineate vertical extent of soil and groundwater contamination.

Phase I of SOMA's workplan included installing additional groundwater monitoring wells, soil and groundwater sampling, hydraulic testing, and a sensitive receptor survey. Phase II of the workplan included defining site regulatory status by conducting groundwater flow, chemical fate and transport modeling, and a risk-based corrective action (RBCA). SOMA's "Report on Conducting Additional Field Investigation to Evaluate the Site's Conceptual Model," dated January 3, 2002, describes results of investigations conducted in Phase I.

The modeling aspect of Phase II used results collected in Phase I and analytical data from quarterly monitoring events. The main objective of groundwater flow and chemical transport modeling was to predict groundwater chemical concentrations downgradient of the site, beneath the nearest residential neighboring property, in order to assess site regulatory status and restore groundwater quality conditions to acceptable levels specified by the RBCA.

Groundwater flow, chemical transport, and bioattenuation modeling for the site was conducted by SOMA in First Quarter 2003. Modeling results confirmed occurrence of biodegradation beneath the site and indicated that bioattenuation processes could remove PCE in the groundwater in approximately 7 to 10 years, trichloroethylene (TCE) in approximately 3 to 9 years, and cis-1,2-dichloroethene (cis-1,2-DCE) in approximately 4 to 13 years. SOMA's March 7, 2003 report titled "Groundwater Flow, Chemical Transport and Bioattenuation Modeling" describes the study in detail.

Based on approval from ACEHS, groundwater monitoring events have been conducted semi-annually since First Quarter 2003.

### **1.3 Site Geology and Hydrogeology**

The site is located on the alluvial plain between the San Francisco Bay shoreline and the Oakland hills. Surface sediments in the site vicinity consist of Holocene alluvial deposits representative of an alluvial fan depositional environment. These deposits consist of brown, medium-dense sand that fines upward to sandy or silty clay. The pattern of stream channel deposition results in a three-dimensional network of coarse-grained sediments interspersed with finer-grained silts and clays. The individual units tend to be discontinuous lenses aligned parallel to the axis of the former stream flow direction.

The sediments encountered in soil borings are predominantly fine grained, consisting of clay, silty clay, sandy clay, gravelly clay and clayey silt. Discontinuous layers of coarse-grained sediments (clayey sand, silty sand, and clayey gravel) generally also contain relatively high percentages of silt and clay, which tend to reduce their permeability. Based on previous investigations conducted by Geosolv and LFR, a relatively coarse-grained layer of silty sand, clayey sand, and clayey gravel was encountered in soil borings E-23, E-25, E-26, GW-2, GW-3, GW-7, and GW-8 at depths of approximately 4.5 to 14 feet bgs. A discontinuous layer of silty to clayey sand was encountered in borings B-11, E-23, E-25, GW-7 and GW-8 at depths of 17 to 21 feet bgs.

Based on SOMA's October 2001 field investigation, no deeper major water-bearing zone was encountered. However, as lithologic logs of the newly installed groundwater monitoring wells indicate, the water-bearing zone is composed of fine-grained, clayey silt sediments separated by very low-permeability intervening clay layers, which are unsaturated in some locations. For instance, SOMA-5, which has been screened within a significantly thick clay layer beneath the first water-bearing zone, from 21 to 26 feet bgs using the dual tubing method, was a dry well until the First Quarter 2002 sampling event. Due to the presence of unsaturated and low-permeability intervening clay layers between the shallow and deep layers, there is a significant vertical downward gradient between the shallow and deep wells.

Based on quarterly monitoring activities, depths of groundwater have ranged from 4 to 14 feet bgs at gradients ranging from 0.019 ft/ft to 0.035 ft/ft. Groundwater flow has been predominantly northeast to southwest across the site. Slug test results indicate that hydraulic conductivity of the saturated sediments ranges between  $1.2 \times 10^{-4}$  and  $6.9 \times 10^{-4}$  cm/sec. Using the average groundwater flow gradient of 0.027 and aquifer porosity of 0.32, the groundwater flow velocity ranges between 10.5 and 60.1 ft/year.

### **1.4 Previous Activities**

In order to demonstrate the fate and transport of PCE and other VOCs, SOMA conducted groundwater flow and chemical transport modeling and compared

results with those of routine groundwater monitoring data. Results of groundwater fate and transport modeling were used to conduct a human health risk assessment in order to evaluate site cleanup levels. Analysis showed that conditions were conducive to biodegradation and that biodegradation is occurring. In general, PCE trends appeared generally consistent with SOMA's model, indicating that passive remediation has been effective. However, one obstacle to closing the site was the presence of free product (FP). Alameda County environmental regulatory guidelines do not permit closure if FP is present. As a result, over the past several years SOMA has been removing FP from the site. As of October 2008, approximately 1,955 gallons were removed. Levels of FP in the wells had been dropping fairly consistently over the past several years and, as noted above, PCE trends were decreasing, consistent with SOMA's model.

FP or sheen have been reported sporadically in monitoring wells at the site since 1997. Past attempts to delineate the extent and sources of FP have been problematic due to variability and complexity of the subsurface soil and water table characteristics, access limited by buildings, and presence of potential preferential pathways for contaminant migration related to underground storm drain and sanitary sewer lines.

FP was located primarily in the vicinity of SOMA-4 and B-8 (Figure 2). As a result, SOMA instituted an FP removal program for those wells in 2002. By March 2008, 1,895 gallons of FP and contaminated groundwater had been removed from SOMA-4 and B-8. As of summer 2007, FP levels had been reduced significantly and SOMA was optimistic that it would be in a position to request closure. However, during First Quarter 2008 groundwater monitoring, FP was unexpectedly observed for the first time in SOMA-2 and B-10, which are located approximately 40 feet east-southeast and northeast of SOMA-4 and B-8. Approximately 0.71 feet of FP was detected in SOMA-2 and 2.76 feet in B-10. During Second Semi-Annual 2008 groundwater monitoring, FP was observed in well B-10 at 0.17 feet and in wells SOMA-2 and SOMA-4 at 0.60 feet each.

Results from the First Semi-Annual 2008 sampling event showed significant increases in PCE levels in wells with newly discovered FP (B-10 and SOMA-2). SOMA believes that the presence of elevated levels of FP in these wells for the first time contributed to the presence of elevated levels of dissolved solvents at this location. The FP consisted primarily of Stoddard solvent, which has the potential to dissolve PCE and TCE. Thus, it is suspected that FP in the area of SOMA-2 and B-10 caused dissolution and mobilization of residual levels of PCE in the subsurface.

In September-October, 2008, SOMA conducted a 45-day multi-phase extraction (MPE) pilot test at the site. Pilot test results showed MPE technology to be highly effective in removing FP, chemically impacted groundwater and soil vapor from the subsurface. An additional 60 gallons of FP was removed during pilot testing.

Significantly, the pilot test showed that MPE can be effective in removing contamination from the smear zone, thereby eliminating the creation of FP. Therefore, the pilot test was extended based on ACEHS correspondence dated December 5, 2008.

## 2. RESULTS

This section describes results of the current groundwater monitoring event, including groundwater flow conditions, status of groundwater contamination, and occurrence of bioattenuation in the subsurface.

### 2.1 Groundwater Flow Conditions

Table 2 presents groundwater elevations in each well, calculated using depths to water and the elevation at the top of the well casings. Elevations ranged from 59.28 feet in SOMA-5 to 77.23 feet in MW-8. Refer to Table 2 for detailed groundwater elevation trends.

In evaluating the groundwater flow direction and gradient, water level data from all "B" wells (except B-3 and B-8) and from GW-4, SOMA-1, SOMA-3, and SOMA-5 were not utilized for the following reasons:

1. No accurate information about the construction details of the "B" wells installed by Geosolv is available, and water-level data from these wells are questionable. B-3 and B-8 were reconstructed by SOMA into 2-inch wells.
2. GW-4 was installed adjacent to the storm drain system in order to evaluate whether the system is leaking. This well was installed in the shallow formation and may partially penetrate into the underlying water-bearing zone. Therefore, the water level elevation recorded inside GW-4 may not be representative of the underlying water-bearing zone.
3. SOMA-1, SOMA-3 and SOMA-5 have been completed in the deeper layer of the water bearing zone, and due to the strong vertical gradient, the water level elevation in this layer is significantly lower than in the shallow layer.

Figure 3 displays a contour map of groundwater elevations. In general, groundwater flows from northeast to southwest at an average gradient of 0.017 ft/ft. Groundwater flow direction has remained consistent with the previous monitoring event; however, the groundwater gradient has decreased. A capture zone exists around SOMA-4 due to the ongoing operation of MPE on the site.

Field measurements of some physical and chemical parameters of the groundwater samples are presented in detail in Appendix B field notes, and summarized in Table 3 along with their historical values. Water temperatures

ranged from 14.33°C in B-10 to 21.73°C in MW-11. The temperature variation may reflect changes in air temperature during sampling. Measurements of pH ranged from 6.21 in LFR-3 to 7.07 in SOMA-5. Electrical conductivity (EC) ranged from 7 µS/cm in B-10 to 1149 µS/cm in SOMA-3.

## 2.2 Groundwater Quality

Table 4 presents laboratory analysis results for the following: total petroleum hydrocarbons as Stoddard solvents (TPH-ss) and as gasoline (TPH-g); methyl tertiary-butyl ether (MtBE); and benzene, toluene, ethylbenzene, total xylenes (collectively termed BTEX).

Due to drought conditions, SOMA's field crew was unable to obtain sufficient groundwater for sampling and analysis from SOMA-5.

TPH-ss was below the laboratory-reporting limit in GW-2, MW-11, and LFR-3. Detectable TPH-ss levels ranged from 57 µg/L in LFR-1 and SOMA-1 to 860,000 µg/L in SOMA-2. Figure 4 shows the contour map of TPH-ss concentrations in groundwater. TPH-ss in B-10 decreased, while it increased in SOMA-2 significantly since the previous monitoring event (Second Semi-Annual 2008).

TPH-g was below the laboratory-reporting limit in GW-2, MW-11, and LFR-3. Detectable TPH-g concentrations ranged from 67 µg/L in LFR-1 to 1,300,000 µg/L in SOMA-2. Groundwater samples from B-10, GW-3, GW-4, LFR-1, LFR-2, LFR-4, SOMA-1, SOMA-2, SOMA-3, and SOMA-4 exhibited a fuel pattern that did not resemble the standard gasoline pattern. Figure 5 shows the contour map of TPH-g concentrations in groundwater. TPH-g concentrations in wells B-10, GW-3, LFR-2, LFR-4, and SOMA-3 decreased since the previous monitoring event (Second Semi-Annual 2008). In SOMA-2, TPH-g concentration increased significantly since the previous monitoring event (Second Semi-Annual 2008).

MtBE was detected in SOMA-1, SOMA-3, SOMA-4, and LFR-4 at 370 µg/L, 280 µg/L, 18 µg/L, and 2.5 µg/L, respectively and was below the laboratory-reporting limit in all other groundwater samples. However, there is no known on-site source of MtBE. Figure 6 shows the contour map of MtBE concentrations in the groundwater.

In general, BTEX constituents were below laboratory-reporting limits throughout the site, except for LFR-2, LFR-4, and SOMA-4. Toluene, ethylbenzene and total xylenes were below laboratory-reporting limits in LFR-2 and LFR-4 and benzene was detected at low levels. In SOMA-4, benzene and ethylbenzene were below laboratory-reporting limits, toluene and total xylenes were detected at 16 µg/L and 29 µg/L, respectively. Figure 7 shows the map of benzene concentrations in groundwater.

Refer to Table 4 for detailed groundwater concentration trends for total petroleum hydrocarbons, MtBE and BTEX.

Table 5 shows historical concentrations of VOCs in the groundwater. PCE was below the laboratory-reporting limit in groundwater samples from GW-4, MW-11, LFR-2, LFR-4, and SOMA-4. Detectable PCE concentrations ranged from 1.5 µg/L in LFR-3 to 1,200 µg/L in B-10. Figure 8 shows the contour map of PCE concentrations in groundwater. Since the previous monitoring event (Second Semi-Annual 2008), PCE has decreased in SOMA-1, SOMA-2, and SOMA-3.

TCE was below the laboratory-reporting limit in groundwater samples from GW-3, GW-4, MW-11, LFR-2, LFR-3, LFR-4, and SOMA-4. Detectable TCE concentrations ranged from 6.2 µg/L in GW-2 to 1,200 µg/L in B-10. Figure 9 shows the contour map of TCE concentrations in groundwater. Since the previous monitoring event (Second Semi-Annual 2008), TCE has decreased in GW-3, LFR-1, SOMA-1, SOMA-2, SOMA-3 and increased in B-10 and GW-2.

Cis-1,2-DCE was below the laboratory-reporting limit in groundwater samples from GW-2, GW-3, MW-11, and LFR-3. Detectable cis-1,2-DCE concentrations ranged from 0.7 µg/L in LFR-4 to 5,900 µg/L in SOMA-2. Figure 10 shows the contour map of cis-1,2-DCE concentrations in groundwater. Since the previous monitoring event (Second Semi-Annual 2008), cis-1,2-DCE concentrations have decreased significantly in B-10 and SOMA-2.

Trans-1,2-dichloroethene (trans-1,2-DCE) was below the laboratory-reporting limit in all groundwater samples except at LFR-2, SOMA-1, SOMA-3, and SOMA-4. Detectable trans-1,2-DCE concentrations ranged from 2.3 µg/L in LFR-2 to 13 µg/L in SOMA-3. Figure 11 shows the contour map of trans-1,2-DCE concentrations in groundwater.

Vinyl chloride (VC) was below the laboratory-reporting limit throughout the site, except for samples from LFR-2 at 32 µg/L. 1,2-dichloropropane (1,2-DCP) was below the laboratory-reporting limit throughout the site, except for samples from GW-4 and SOMA-1 at 1.7 µg/L and 3.5 µg/L, respectively. Due to generally low or non-detectable levels of these constituents throughout the site, no iso-concentration figures were drawn for VC and 1,2-DCP.

Table 5 shows detailed PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, VC, and 1,2-DCP groundwater concentration trends.

Appendix C includes chain of custody forms and laboratory analytical reports for this groundwater monitoring event.

## 2.3 Bioattenuation Parameter Analysis Results

Results of the bioattenuation study indicated that subsurface conditions are favorable for occurrence of intrinsic bioremediation processes in soil and groundwater. Results of this study indicated that PCE and other dissolved organic compounds are biodegrading beneath the site. For example, PCE levels in LFR-1 have dropped from 2,800 µg/L in 2000 to 100 µg/L during this monitoring event. SOMA's field crew measured bioattenuation parameters *in situ*. Dissolved methane was measured in the laboratory. Field measurements were taken *in situ*, within each well, to avoid introducing oxygen into the groundwater sample, which could result in erroneous readings.

Naturally occurring biological processes can enhance the removal rate of contaminants in the subsurface. During the degradation process, indigenous bacteria in the subsurface utilize energy released from the transfer of electrons to drive redox reactions that remove organic mass from contaminated groundwater. The more positive the redox potential of an electron acceptor, the more energetically favorable is the reaction utilizing that electron acceptor. Based on thermodynamic considerations, the most energetically preferred electron acceptor for redox reactions is dissolved oxygen (DO), followed by nitrate, manganese, ferric iron, sulfate, and carbon dioxide, in descending order of preference. Evaluating distribution of these electron acceptors can provide evidence of where, and to what extent, chlorinated and aliphatic hydrocarbon biodegradation is occurring. Byproducts of biodegradation processes are nitrite, ferrous iron, alkalinity, sulfide, methane, and carbon dioxide. Groundwater samples were tested to evaluate the extent of bioattenuation processes beneath the site. Table 6 summarizes these bioattenuation parameters.

**Dissolved Oxygen:** DO is the most favored electron acceptor used by microbes for biodegrading organic compounds. A DO concentration lower than 0.5 mg/L indicates anaerobic conditions. DO levels ranged from 0.13 mg/L in GW-3, GW-4, and LFR-3 to 0.25 mg/L in MW-11. The contour map of DO concentrations in the groundwater is illustrated in Figure 12.

It should be noted that due to limitations of drilling equipment, SOMA-3 is still a  $\frac{3}{4}$ -inch-diameter well that was installed in the deeper zone, within the suspected chemical source area, which is inside the building. Although DO was measured in SOMA-3 at 0.20 mg/L, results might not be representative of overall subsurface conditions.

**Nitrate:** After DO has been depleted, nitrate may be used as an electron acceptor for anaerobic biodegradation. Nitrate concentrations lower than 1.0 mg/L may indicate that reductive dechlorination is occurring. Nitrate was below the minimum equipment tolerance level in MW-11, LFR-1, LFR-4, SOMA-2, SOMA-3, and SOMA-5 and detectable concentrations ranged from 0.2 mg/L in

LFR-2 to 5.70 mg/L at B-10. The contour map of nitrate concentrations in groundwater is illustrated in Figure 13.

**Manganese:** After DO and nitrate have been depleted, manganese may be used as an electron acceptor for anaerobic biodegradation. Therefore, increased dissolved manganese concentrations in groundwater indicate reductive dechlorination. Soluble manganese was detected in all groundwater samples except those from LFR-3. Detectable manganese concentrations ranged from 0.6 mg/L in MW-11 to 63.4 mg/L in SOMA-5. The contour map of dissolved manganese concentrations in the groundwater is illustrated in Figure 14.

**Sulfate:** After DO, nitrate, and manganese have been depleted, sulfate may be used as an electron acceptor for anaerobic biodegradation. This process is termed sulfate reduction, and results in production of sulfide. Sulfate concentrations lower than 20 mg/L indicate reductive dechlorination (EPA 1998). Sulfate was not detected in LFR-2, LFR-4, and SOMA-5. Detectable sulfate levels ranged from 8 mg/L in GW-4 to the equipment maximum allowable tolerance level of 80 mg/L in B-10, SOMA-2, and SOMA-4. The contour map of sulfate concentrations in the groundwater is illustrated in Figure 15.

**Ferrous Iron:** Increased ferrous iron concentrations often accompany anaerobic degradation. Ferric iron can be used as an electron acceptor during anaerobic biodegradation. During this process, ferric iron is reduced to ferrous iron, which may be soluble in water. Ferrous iron concentrations can thus be used as an indicator of anaerobic biodegradation. Detectable ferrous iron concentrations ranged from 0.02 mg/L in GW-3 and MW-11 to the equipment maximum allowable tolerance level of 3.30 mg/L in GW-4, LFR-2, and SOMA-2. Ferrous iron concentrations were not detected in LFR-1 and LFR-3. The contour map of ferrous iron concentrations in the groundwater is illustrated in Figure 16.

**Methane:** The presence of methane in groundwater indicates strongly reduced conditions and suggests reductive dechlorination by the process of methanogenesis. Methane was below the laboratory-reporting limit in GW-2, GW-3, MW-11, LFR-1, and LFR-3. Detectable methane concentrations ranged from 0.83 mg/L in SOMA-3 to 4.4 mg/L in LFR-4. Higher concentrations of methane indicate conditions conducive to anaerobic biodegradation. The contour map of methane concentrations in groundwater is illustrated in Figure 17.

**Oxygen Reduction Potential (ORP):** The ORP of groundwater is a measure of electron activity and an indicator of the relative tendency of a solution to accept or transfer electrons. ORP may range from greater than 800 mV to less than -400 mV, with lower values expected in areas where anaerobic processes are occurring. ORP measurements obtained in this sampling event ranged from -119.4 mV in SOMA-5 to +34.40 mV in MW-11.

Negative ORP values, detected in B-10, GW-3, GW-4, LFR-2, LFR-3, LFR-4, SOMA-2, SOMA-4, and SOMA-5, indicate that conditions in and near the apparent source area are conducive to anaerobic biodegradation. Positive redox potentials are more energetically favorable in utilizing electron acceptors during chemical reactions. This promotes removal of organic mass from the contaminated groundwater by indigenous bacteria in the subsurface. Refer to Table 6 for detailed bioattenuation parameter trends.

## 2.4 Other Parameters

(See Table 3.)

**Alkalinity:** Alkalinity is a general water quality parameter. High alkalinity levels are a result of interaction between carbon dioxide (a product of several biodegradation processes) and aquifer minerals. Due to the inconclusive data collected during previous groundwater monitoring events in connection with the bioattenuation process, no alkalinity data was collected during the current or previous groundwater monitoring events.

**Chloride:** Chloride is the final product of the reduction of chlorinated solvents, and also a general water quality parameter. Due to the inconclusive data collected during previous groundwater monitoring events in connection with the bioattenuation process, no chloride data was collected during this or previous groundwater monitoring events.

**Carbon Dioxide:** Carbon dioxide is a product of several biodegradation processes. Due to the inconclusive data collected during previous groundwater monitoring events in connection with the bioattenuation process, no carbon dioxide data was collected during recent groundwater monitoring events.

**Iron:** Ferric iron may be used as an electron acceptor during anaerobic biodegradation. During this process, ferric iron is reduced to ferrous iron that may be soluble in water. Ferric iron concentrations may be obtained by subtracting ferrous iron concentrations from total iron concentrations. Total iron was not detected in LFR-1 and LFR-3. Detectable total iron concentrations ranged from 0.10 mg/L in GW-3 to the equipment maximum allowable tolerance level of 3.30 mg/L in B-10, GW-4, LFR-2, LFR-4, SOMA-2, and SOMA-5.

**Nitrite:** Nitrate may reduce to nitrite during the process of anaerobic biodegradation. Nitrite was below the equipment minimal tolerance level in GW-4, LFR-1, LFR-4, SOMA-2, and SOMA-5. Detectable nitrite concentrations ranged from 0.002 in LFR-3 to 0.012 mg/L in B-10.

**Sulfide:** When sulfate is used as an electron acceptor for anaerobic biodegradation it is reduced to sulfide. Due to the inconclusive data collected

during previous groundwater monitoring events in connection with the bioattenuation process, sulfide data was not collected during the current groundwater monitoring event.

**pH, Temperature, and Conductivity:** The pH of groundwater affects activity of microbial populations in the groundwater, with optimal pH values ranging from 6 to 8 standard units for microbes capable of degrading PCE and other chlorinated aliphatic hydrocarbons. Groundwater temperature affects metabolic activity of bacteria, and groundwater conductivity is directly related to the concentration of ions in solution. The pH, temperature, and conductivity values are included in Table 3.

## 2.5 Groundwater Storage and Disposal

Appendix F contains the Non-Hazardous Waste Manifest for removal of purged groundwater from the site. Four 55-gallon drums (approximately 200 gallons of purged groundwater), generated during the previous monitoring event (Second Semi-Annual 2008) and MPE pilot testing were off-hauled to an appropriate disposal facility.

## 3. FREE-PRODUCT REMOVAL ACTIVITIES

Prior to installation of a skimmer pump in SOMA-4 on January 28, 2004, over 9 feet of FP was on the surface of groundwater in this well. On February 6, 2004, SOMA installed a flexible axial peristaltic pump (FAP system) in SOMA-4 to remove FP.

In August 2004, SOMA converted borings B-3 and B-8 into wells for removal of FP from these locations. The FAP system was installed in B-8, in addition to the February 2004 installation in SOMA-4, to remove FP. As of March 2008, approximately 1,895 gallons of FP and contaminated groundwater were removed by the FAP from these two wells; it was transported off-site by NRC. SOMA has been frequently checking levels of, and removing, FP. Table 7 shows field observations for extraction wells SOMA-4, B-8, B-10 and SOMA-2. During the First Semi-Annual 2008 monitoring event, FP was unexpectedly observed in wells B-10 and SOMA-2 at 2.76 feet and 0.71 feet, respectively. During MPE pilot testing (September-October 2008), an additional 60 gallons of FP was removed from the extraction wells.

Figure 18 illustrates historical FP thickness measured in extraction wells. Results of current observations indicate that no FP is present on the site.

#### **4. MULTI-PHASE EXTRACTION (MPE) PILOT TESTING**

Currently, extended MPE pilot testing is being conducted at the site using B-8, B-10, SOMA-4, and SOMA-2. The testing began in September 2008, continued until October 2008, and was resumed on December 17, 2008. The system was shut down during the Christmas and New Year long holiday weekends. During the initial pilot testing from September 2, 2008 to October 24, 2008, 543 lbs of total contaminants measured by PID were removed. Based on laboratory analytical results, total mass removed as TPH-ss during the initial testing was 761 lbs and 26 lbs as chlorinated. The discrepancy between the mass removal calculated from (1) PID measurements and (2) analysis of samples sent to the laboratory is based on the fact that PID results are continuous while samples sent to the lab are discreet.

The total mass of VOCs as TPH-ss removed since December 17, 2008 is 930.9 pounds (as calculated from the analytical results), for an average of 9.5 pounds per day. Table 8 includes the field data while Table 9 includes the estimated mass of chemicals removed during the second pilot testing period.

A majority of the VOCs in the vapor stream is TPH-ss, the remainder is a combination of chlorinated solvents. During the second pilot testing period, the total mass of chlorinated solvents removed was 9.28 pounds (as calculated from the analytical results), for an average removal rate of 0.1 pounds per day (Table 9, Appendix E). During the pilot test samples of soil vapors were collected on January 7 and March 10, 2009. The results of laboratory analysis were used in calculating the mass of chemicals removed during the pilot testing.

There is a discrepancy in mass of VOCs between PID measurements as TPH-ss taken in the field and laboratory analyses of the extracted vapor stream. Although the vapor stream contains various compounds, the vapor stream mass as VOCs will be assumed as TPH-ss since a majority of the vapor stream consists of TPH-ss according to laboratory analytical results. However, the concentrations based on laboratory analysis are representative only of that moment in the pilot test at which the extracted vapor stream was sampled. Since the laboratory analytical results are not representative of the entire length of the pilot test, unlike the PID measurements that are collected continuously over the length of the pilot test where fluctuations in concentrations can be observed and taken into account, the total mass of VOCs (as TPH-ss) removed as measured by PID was also used to estimate mass removals. Based on the PID readings the total mass of TPH-ss removed during this period was 723.3 pounds as presented in Table 8.

During this monitoring event, no FP was observed in the extraction or monitoring wells. The reduction in mass removal rates of TPH-ss and chlorinated solvents observed during the second MPE pilot testing is likely due to rainfall events and increased soil moisture content in the vadose zone. During the second phase of pilot testing over 39,000 gallons of groundwater was extracted in 86 days of

operation and treated with granular activated carbon before being discharged. During the initial MPE pilot testing only 3,900 gallons of groundwater was discharged in 53 days of operation. Ongoing MPE pilot testing is proving successful in removing FP from the smear zone and will continue.

## 5. FINDINGS OF CURRENT MONITORING EVENT

### 5.1 Current Environmental Conditions

Based on data obtained during the First Semi-Annual 2009 groundwater monitoring event, current environmental conditions at the site are as follows:

1. All analyzed constituents in the farthest downgradient well, LFR-3, were below laboratory-reporting limits except for PCE (detected at 1.5 µg/L). The results are consistent with modeling performed by SOMA which predicted that PCE levels would barely reach LFR-3. Furthermore, all analyzed constituents in the farthest upgradient well, MW-11, were below laboratory-reporting limits.
2. Data collected to date regarding distribution of PCE and other VOCs in groundwater demonstrate that PCE has degraded into some of its breakdown products in certain groundwater monitoring wells.
3. Results of this sampling event showed a significant decrease in PCE and TCE levels in B-10 and SOMA-2 since the sampling event of February and March 2008, when FP was discovered for the first time in these wells. Since the previous monitoring event (Second Semi Annual 2008), PCE and TCE have decreased in SOMA-2 and increased slightly in B-10.
4. PCE typically degrades into TCE, then cis-1,2-DCE and then trans-1,2-DCE (at much lower concentrations than cis-1,2-DCE), then to VC, ethane and ethene and, finally, to carbon dioxide, water, and chloride. This sequence of degradation would be anticipated where biological reductive dehalogenation of PCE is occurring. The presence of TCE in B-10, GW-2, LFR-1, SOMA-1, SOMA-2 and SOMA-3 demonstrates that PCE degradation is occurring. The presence of cis-1,2-DCE in B-10, GW-4, LFR-1, LFR-2, LFR-4, SOMA-1, SOMA-2, SOMA-3, and SOMA-4 indicates the occurrence of dechlorination of PCE in the subsurface.
5. Results of DO, nitrate, manganese, sulfate, ferrous iron, methane, and ORP measurements demonstrate that conditions in the apparent source area are conducive to reductive dechlorination processes.
6. In general, the region near B-10, SOMA-2, and SOMA-4 appears to be more impacted by chemicals of potential concern. This is due to the presence of free product in this area. As the field observation indicates using the recent remediation technology (MPE technology) has completely removed residual free product from subsurface in this area. As such, it is

expected that concentration of dissolved phase chemical will reduce due to on-going dehalogenation processes in subsurface. It is expected that the concentration of chemicals of concern will approach to the Environmental Screening Levels (ESLs) as set forth by the Regional Water Quality Control Board, San Francisco bay Region.

7. It appears that using MPE technology has been effective in removing FP from the subsurface.

## 5.2 Recommendations

SOMA has recently submitted a workplan for advancement of soil borings and installation of additional extraction wells. The workplan will be implemented on receipt of written authorization from ACEHS and cost preapproval from the client.

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# **TABLES**

**Table 1**  
**Construction Data for Temporary Sampling Points and Monitoring Wells**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Location	Date Installed	Ground Surface Elevation (feet)	Top of Casing Elevation (feet)	Total Depth (feet)	Screen Interval Depth (feet)	Screen Interval Elevation (feet)
<b>Temporary Sampling Points Installed by Geosolv, LLC</b>						
B-2	19-Aug-97	82.20	82.09	21	5 to 21	77.2 to 61.2
B-3 <sup>1</sup>	19-Aug-97	82.60	82.57	18	5 to 18	77.6 to 64.6
B-7	20-Aug-97	77.33	76.96	17.5	5 to 17.5	72.3 to 59.8
B-8	20-Aug-97	82.06	81.82	24	9 to 24	73.1 to 58.1
B-9	21-Aug-97	77.57	77.37	19.5	4.5 to 19.5	73.1 to 58.1
B-10	21-Aug-97	81.65	81.50	19	4 to 9	77.7 to 62.7
B-13	22-Aug-97	85.12	84.58	20	5 to 20	80.1 to 65.1
<b>Temporary Sampling Points Installed by LFR</b>						
GW-1	16-Jul-99	80.24	79.94	8	3 to 8	77.2 to 72.2
GW-2	16-Jul-99	79.44	79.14	20	10 to 20	69.4 to 59.4
GW-3	15-Jul-99	78.48	77.92	20	10 to 20	68.5 to 58.5
GW-4	16-Jul-99	82.55	82.37	12	7 to 12	75.6 to 70.6
GW-5	15-Jul-99	81.31	81.01	13	8 to 13	73.3 to 68.3
GW-6 <sup>2</sup>	15-Jul-99	81.91	81.65	13.5	7.5 to 13.5	74.4 to 68.4
GW-6A <sup>2</sup>	16-Jul-99	81.93	81.61	15	5 to 15	76.9 to 66.9
GW-7 <sup>2</sup>	15-Jul-99	81.30	NS	20	10 to 20	71.3 to 61.3
GW-8 <sup>2</sup>	16-Jul-99	80.28	80.10	20	10 to 20	70.3 to 60.3
<b>Temporary Sampling Points Installed by TOSCO</b>						
MW-8	unknown	NS	87.44	unknown	unknown	unknown
MW-9	unknown	NS	86.56	unknown	unknown	unknown
MW-11	unknown	NS	84.13	unknown	unknown	unknown
<b>Groundwater Monitoring Wells Installed by LFR</b>						
LFR-1	28-Jul-00	NS	79.97	19	9 to 19	unknown
LFR-2	27-Jul-00	NS	81.89	19	9 to 19	unknown
LFR-3	27-Jul-00	NS	77.96	22	12 to 22	unknown
LFR-4	28-Jul-00	NS	81.65	19	9 to 19	unknown
<b>Groundwater Monitoring Wells Installed by SOMA</b>						
SOMA-1	4-Oct-01	82.31	81.64	40	25 to 40	42.31 to 57.71
SOMA-2	11-Oct-01	81.62	81.39	20	10 to 20	61.62 to 71.62
SOMA-3	11-Oct-01	81.65	81.42	30	21 to 26	60.65 to 71.51
SOMA-4	12-Oct-01	81.51	81.09	20	10 to 20	61.51 to 71.51
SOMA-5	12-Oct-01	61.68	81.50	26	21 to 26	55.68 to 60.68

Notes:

- <sup>1</sup> Top of casing surveyed on south side on January 21, 2000, because the casing was broken.  
<sup>2</sup> GW-7 was abandoned on July 15, 1999, in accordance with LFR's workplan dated May 6, 1999.  
 GW-6 and GW-8 were abandoned on July 26, 2000, in accordance with LFR's workplan dated June 14, 2000.

NS = Not surveyed.

**Table 2**  
**Historical Groundwater Elevation Data (feet)**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Date	B-2	B-3	B-7	B-8	B-9	B-10	B-13
9-Feb-09	<b>73.46</b>	<b>73.72</b>	<b>DRY</b>	<b>70.52</b>	<b>66.72</b>	<b>70.63</b>	<b>DRY</b>
21-Aug-08	71.98	72.65	DRY	68.80	66.64	70.47	DRY
19-Feb-08	78.05	74.51	DRY	68.27	68.33	69.75	64.58
23-Aug-07	70.45	71.54	DRY	64.66	63.89	67.76	75.59
28-Feb-07	78.13	76.18	Dry	70.80	70.14	74.18	75.77
05-Jul-06	74.24	74.86	68.78	62.47	68.81	72.70	75.66
05-Jan-06	79.72	77.85	71.76	74.02	71.28	74.91	NM
05-Jul-05	74.49	75.23	69.05	NM	69.05	72.91	DRY
1-Feb-05	75.67	76.19	72.85	NM	69.76	73.54	75.90
03-Aug-04	73.52	73.46	68.03	73.90	68.22	72.13	75.57
29-Jan-04	74.99	75.31	70.01	NM	69.24	73.07	75.66
29-Jul-03	73.99	73.83	68.53	72.39	68.67	72.58	75.80
18-Feb-03	75.83	75.55	69.94	73.01	70.00	73.87	75.77
22-Oct-02	73.29	73.06	67.98	71.43	68.10	72.09	NM
17-Jul-02	74.02	73.82	NM	72.37	68.59	72.51	NM
16-Apr-02	75.16	75.34	69.41	73.54	69.38	73.21	NM
31-Jan-02	77.35 <sup>(FP)</sup>	77.16 <sup>(FP 0.5)</sup>	70.79	75.03 <sup>(FP 0.5)</sup>	70.43	74.14	77.53 <sup>(FP 0.7)</sup>
18-Oct-01	73.26 <sup>(0.25 FP)</sup>	73.24 <sup>(1' FP)</sup>	67.89	69.51 <sup>(2.1' FP)</sup>	67.98	71.96	DRY
26-Jul-01	73.86	73.17	68.69	70.41	68.73	72.61	DRY
26-Apr-01	75.26	74.00	69.60	73.19	69.80	73.61	
29-Jan-01	74.63	75.06	69.11	74.23	69.33	73.20	
2-Nov-00							
31-Oct-00							
30-Oct-00	74.34	74.84 <sup>(FP)</sup>	69.01	73.32	69.42	73.35	DRY
10-Aug-00							
9-Aug-00	73.9 <sup>(FP)</sup>	74.55 <sup>(FP)</sup>	68.61	72.8 <sup>(FP)</sup>	68.82	72.65	75.23
27-Apr-00	75.41 <sup>(FP)</sup>	75.86 <sup>(FP)</sup>	69.85 <sup>(FP)</sup>	74.14 <sup>(FP)</sup>	69.96	73.70	75.87
25-Jan-00							
24-Jan-00	75.93 <sup>(FP)</sup>	75.83	69.66 <sup>(FP)</sup>	72.84	70.25 <sup>(FP)</sup>	74.15 <sup>(FP)</sup>	76.32
21-Jan-00							
20-Jan-00							
19-Jan-00	73.97 <sup>(FP)</sup>	73.22 <sup>(2)</sup>	68.6 <sup>(FP)</sup>	71.81 <sup>(FP)</sup>	68.91 <sup>(FP)</sup>	73.02 <sup>(FP)</sup>	74.18
27-Aug-99							
18-Feb-98	78.16 <sup>(1)</sup>	78.04 <sup>(1)</sup>	71.57 <sup>(1)</sup>	76.64 <sup>(1)</sup>	71.44 <sup>(1)</sup>	75.13 <sup>(1)</sup>	78.51 <sup>(1)</sup>
26-Oct-97	72.66 <sup>(1)</sup>	73.64 <sup>(1)</sup>	68.09 <sup>(1)</sup>	71.11 <sup>(1)</sup>	68.39 <sup>(1)</sup>	72.26 <sup>(1)</sup>	73.02 <sup>(1)</sup>

**Table 2**  
**Historical Groundwater Elevation Data (feet)**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Date	GW-1	GW-2	GW-3	GW-4	GW-5	GW-6A	GW-8	MW-8	MW-9	MW-11
9-Feb-09	DRY	<b>67.28</b>	<b>68.01</b>	<b>74.87</b>	<b>68.59</b>	<b>67.76</b>	<b>NM</b>	<b>77.23</b>	<b>76.83</b>	<b>71.64</b>
21-Aug-08	DRY	66.59	67.88	DRY	68.88	67.70	NM	76.38	75.94	68.43
19-Feb-08	DRY	60.89	67.15	74.81	69.10	67.94	NM	76.70	76.00	69.82
22-Aug-07	DRY	67.71	DRY	68.54	67.89	NM	75.98	75.15	70.70	
28-Feb-07	72.31	69.95	68.39	74.90	69.73	68.13	NM	79.05	78.64	71.30
05-Jul-06	71.94	69.74	66.49	70.37	68.96	68.01	NM	77.74	77.72	72.47
05-Jan-06	72.13	70.29	68.06	75.08	70.59	69.01	NM	80.66	79.96	71.51
5-Jul-05	DRY	69.38	67.03	73.57	69.53	68.03	NM	77.81	77.73	70.21
1-Feb-05	72.13	68.72	67.91	74.40	69.89	68.04	NM	78.46	78.42	71.68
3-Aug-04	72.13	68.19	67.54	72.54	69.46	67.93	NM	NM	NM	73.22
29-Jan-04	NM	68.37	68.05	74.69	68.71	68.00	NM	77.82	78.76	74.08
29-Jul-03	NM*	68.69	67.67	72.61	68.82	67.97	NM	77.44	77.11	73.78
18-Feb-03	NM*	69.02	68.26	74.75	70.35	67.97	NM	78.82	78.59	74.68
22-Oct-02	NM*	67.92	67.78	71.70	68.67	67.85	NM	76.89	76.51	73.12
17-Jul-02	NM*	68.61	67.78	72.65	68.76	67.95	NM	77.27	77.12	73.90
16-Apr-02	NM	69.76	68.14	74.11	68.68	68.07	NM	77.97	NM	74.98
31-Jan-02	-	69.77	68.28	74.83	68.78	68.06		78.86	79.41	75.48
18-Oct-01	NM	67.91	67.67	74.22	68.41	67.81		76.81	76.46	72.97
26-Jul-01	NM	68.55	67.84	73.85	68.77	68.00		77.40	77.03	73.73
26-Apr-01	NM	69.41	67.93	74.59	68.43	68.43				74.81
29-Jan-01	71.99	68.62	67.89	74.92	68.61	67.90		78.14	77.95	73.79
2-Nov-00								78.38	78.31	
31-Oct-00										
30-Oct-00										
10-Aug-00										
9-Aug-00	DRY	69.11	66.54	DRY	68.71	67.88		77.26	77.14	
27-Apr-00	DRY	70.59	68.16	73.97	68.70	68.00	71.34	79.15	77.25	
25-Jan-00										
24-Jan-00										
21-Jan-00										
20-Jan-00										
19-Jan-00	DRY	68.24	67.86	74.71	68.61	67.63	70.42			
27-Aug-99	DRY	<b>68.46</b>	<b>67.66</b>	<b>NM</b>	<b>68.71</b>	<b>67.71</b>	<b>70.60</b>			
18-Feb-98										
26-Oct-97										

**Table 2**  
**Historical Groundwater Elevation Data (feet)**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Date	LFR-1	LFR-2	LFR-3	LFR-4	SOMA-1	SOMA-2	SOMA-3	SOMA-4	SOMA-5
9-Feb-09	<b>70.42</b>	<b>70.74</b>	<b>66.37</b>	<b>67.51</b>	<b>66.86</b>	<b>70.69</b>	<b>67.97</b>	<b>69.00</b>	<b>59.28</b>
21-Aug-08	69.81	69.57	65.20	66.02	65.63	70.63	67.24	67.27	56.49
19-Feb-08	69.94	70.90	61.64	62.35	61.04	71.39	64.87	64.51	56.51
23-Aug-07	69.64	69.18	60.03	62.52	59.51	69.72	63.23	63.05	DRY
28-Feb-07	70.98	73.41	67.90	69.99	69.10	73.73	70.96	71.63	61.57
05-Jul-06	70.36	71.29	67.60	69.33	68.99	72.59	71.02	71.11	78.70
05-Jan-06	70.97	74.56	69.04	NM	70.11	74.60	71.99	FP	76.78
5-Jul-05	70.26	71.52	67.45	69.31	68.55	72.78	70.65	FP	78.66
1-Feb-05	70.61	72.64	68.09	NM	69.08	73.20	71.05	NM	78.92
3-Aug-04	70.13	70.70	66.42	NM	67.24	69.34	72.03	NM	62.18
28-Jan-04	70.41	NM	67.44	69.13	68.33	70.35	73.00	FP	58.50
29-Jul-03	70.18	70.96	66.71	68.37	67.84	69.84	72.48	FP	57.18
18-Feb-03	70.63	73.08	67.61	69.44	68.77	70.74	73.77	NM	56.59
22-Oct-02	70.00	70.48	66.13	67.85	66.92	69.00	72.01	NM	59.43
17-Jul-02	70.18	70.98	67.67	68.33	67.62	72.40	69.64	NM	59.53
16-Apr-02	70.36	71.71	67.60	69.27	68.85	73.06	70.90	68.56	59.48
31-Jan-02	70.56	71.92	67.72	NM	69.36	73.98	71.46	69.79 <sup>(FP 2.5)</sup>	57.38
18-Oct-01	70.04	70.53	66.09	67.74	67.89	71.86	68.32	69.77	NM
26-Jul-01	70.16	70.92	66.56	68.33					
26-Apr-01	70.23	71.90	67.62	68.87					
29-Jan-01	70.44	72.04	66.96	67.92					
2-Nov-00									
31-Oct-00									
30-Oct-00									
10-Aug-00									
9-Aug-00									
27-Apr-00									
25-Jan-00									
24-Jan-00									
21-Jan-00									
20-Jan-00									
19-Jan-00									
27-Aug-99									
18-Feb-98									
26-Oct-97									

**Notes:**

- 1= Survey elevation and water-level measurement taken at concrete surface. Elevations and water levels without a "1" were measured from top of casing.
- 2= Top of the casing was re-surveyed because it was broken.
- NM: not measured
- FP= Floating product or sheen was observed.
- \* Monitoring well GW-1 was dry

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
**Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
<b>Temporary Sampling Points Installed by Geosolv, LLC</b>												
B-7	11-Aug-00	760	39	202		<1.00	0.05	<0.0005	<0.0005	6.86	17.55	1279
B-7 field	11-Aug-00	760	42	200	14.00	<0.1	<2.0			6.16	16.05	1454
B-7 field	31-Oct-00				17.22	-1.00	-1.00			6.79	13.90	1424
B-7 field	31-Oct-00				12.00	<0.1	<2.0			6.59	16.30	1340
B-7 field	31-Jan-00									6.39	15.97	1400
B-7 field	31-Jan-00											
B-10 field	26-Apr-01				>3.3	0.24				6.59	16.30	1340
B-10	26-Jul-01				15.30	0.02				6.39	15.97	1400
<b>Temporary Sampling Points Installed by LFR</b>												
GW-2	01-Nov-00									6.31	18.97	1218
GW-2 field	30-Jan-01			63						6.82	13.75	846
GW-2 field	31-Jan-01				0.02					6.80	19.50	874
GW-2 field	26-Apr-01				0.03	0.02				6.74	20.30	803
GW-2 field	26-Jul-01				NM	NM	NM	NM	NM	6.84	21.30	786
GW-2 field	19-Oct-01	NM	NM	NM	3.30	0.196	NM	NM	NM	6.83	20.43	380
GW-2 field	10-Feb-09	NM	NM	NM	3.30	0.012	NM	NM	NM	6.89	14.33	7

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
**Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
GW-2 cont.	31-Jan-02	NM	NM	NM	1.05	0.01	NM	NM	NM	6.70	17.70	797
	16,17-Apr-02	NM	NM	0.65	0.02	NM	NM	NM	NM	6.38	17.00	707
	17,18-Jul-02	NM	NM	1.39	0.00	NM	NM	NM	NM	6.35	17.75	798
	23-Oct-02	NM	NM	0.12	0.04	NM	NM	NM	NM	6.73	19.78	670
	19-Feb-03	NM	NM	NM	0.10	0.02	NM	NM	NM	6.86	18.10	607
	29-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	NM	7.26	20.10	651
	29-Jan-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.72	18.00	542
	4-Aug-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.85	19.92	561
	2-Feb-05	NM	NM	NM	0.00	0.00	NM	NM	NM	6.82	18.34	503
	6-Jul-05	NM	NM	NM	0.00	0.00	NM	<0.005	<0.005	6.78	19.07	529
	6-Jan-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.88	17.89	510
	6-Jul-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.99	17.80	657
	28-Feb-07	NM	NM	NM	0.37	0.024	NM	<0.005	<0.005	6.27	16.70	544
	22-Aug-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	20-Feb-08	NM	NM	NM	NM	NM	NM	NM	NM	6.55	22.66	422
	22-Aug-08	NM	NM	NM	0.30	0.032	NM	NM	NM	NM	NM	NM
	9-Feb-09	NM	NM	NM	0.22	0.004	NM	NM	NM	6.59	17.40	614
GW-3 GW-3 field GW-3 field	11-Aug-00	340	25	54		0.05	-1.00	<0.0005	<0.0005	7.05	21.43	860
	11-Aug-00									6.52	18.83	967
	1-Nov-00											
	1-Feb-01			54						6.89	17.29	602
	29-Jan-01				0.00	0.70				5.68	16.20	673
	11-Jun-01				0.14	0.00				6.53	22.25	547
	26-Jul-01				NM	NM	NM	NM	NM	6.84	22.56	590
	19-Oct-01	NM	NM	NM	0.00	NM	NM	NM	NM			
	31-Jan-02	NM	NM	NM	0.14	0.01	NM	NM	NM	6.70	18.40	593
	16,17-Apr-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.64	16.61	526
	17,18-Jul-02	NM	NM	NM	1.08	0.01	NM	NM	NM	6.32	17.10	545
	23-Oct-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.36	19.80	425
	19-Feb-03	NM	NM	NM	0.08	0.01	NM	NM	NM	6.77	17.80	412
	29-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	NM	7.07	19.40	490
	29-Jan-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.65	18.20	450
	3-Aug-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.74	20.20	436
	2-Feb-05	NM	NM	NM	0.00	0.00	NM	NM	NM	6.28	19.39	445
	6-Jul-05	NM	NM	NM	0.00	0.00	NM	<0.005	<0.005	6.90	18.99	415
	6-Jan-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.89	18.75	471
	6-Jul-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.90	17.30	560
	1-Mar-07	NM	NM	NM	0.14	0.010	NM	<0.005	<0.005	6.59	16.15	518
	23-Aug-07	NM	NM	NM	0.07	0.210	NM	<0.005	<0.005	6.58	19.71	412
	20-Feb-08	NM	NM	NM	0.00	0.000	NM	NM	NM	6.62	18.66	275
	22-Aug-08	NM	NM	NM	0.00	0.000	NM	NM	NM	6.10	21.52	463
	9-Feb-09	NM	NM	NM	0.10	0.009	NM	NM	NM	6.38	17.90	440

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
**Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
<b>GW-4</b>	30-Jan-01				2.00	0.04				6.60	13.48	479
	26-Jul-01				11.00	NM				6.45	19.44	827
	19-Oct-01	NM	NM	NM			NM	NM	NM	6.79	18.36	732
	31-Jan-02	NM	NM	NM	12.70	0.01	NM	NM	NM	6.50	12.00	414
	16,17-Apr-02	NM	NM	NM	6.40	0.03	NM	NM	NM	6.34	13.98	467
	17,18-Jul-02	NM	NM	NM	>3.3	0.03	NM	NM	NM	6.49	21.93	572
	23-Oct-02	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	19-Feb-03	NM	NM	NM	3.30	0.00	NM	NM	NM	6.67	13.60	466
	30-Jul-03	NM	NM	NM	3.30	0.00	NM	NM	NM	7.30	18.70	430
	29-Jan-04	NM	NM	NM	3.30	0.00	NM	NM	NM	6.85	13.00	534
	3-Aug-04	NM	NM	NM	3.30	0.00	NM	NM	NM	6.96	22.62	509
	1-Feb-05	NM	NM	NM	3.30	0.00	NM	NM	NM	6.80	13.25	382
	6-Jul-05	NM	NM	NM	3.30	0.028	NM	<0.005	<0.005	6.98	18.71	403
	5-Jan-06	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	6.72	17.98	610
	28-Feb-07	NM	NM	NM	3.30	0.000	NM	<0.01	<0.01	6.70	12.63	369
	22-Aug-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	20-Feb-08	NM	NM	NM	1.18	0.000	NM	NM	NM	6.54	13.42	248
	21-Aug-08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	<b>10-Feb-09</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>3.30</b>	<b>0.000</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>6.45</b>	<b>17.67</b>	<b>487</b>
<b>Monitoring Wells Owned by TOSCO</b>												
<b>MW-11</b> MW-11 field	10-Aug-00	360	110	216	0.13	<0.05 0.04	<0.04 0.00	<0.0005	<0.0005	6.47	21.00	1
	10-Aug-00	300	120	190	<0.05 0.01	<0.1 0.00	<2.0 -1.00			5.83	20.13	1
<b>MW-11</b> MW-11 field	31-Jan-01	330	130	150	<0.05	<0.1	<2.0			6.35	13.67	1
	31-Jan-01				0.01					5.67	18.00	1210
	26-Apr-01				0.00	0.02				6.02	19.85	1120
	26-Jul-01				0.00	NM	NM	NM	NM	6.41	21.25	130
	19-Oct-01	NM	NM	NM	0.00	NM	NM	NM	NM			
	31-Jan-02	NM	NM	NM	0.05	0.04	NM	NM	NM	6.60	18.50	1090
	16,17-Apr-02	NM	NM	NM	0.00	0.00	NM	NM	NM	5.87	18.70	1150
	17,18-Jul-02	NM	NM	NM	0.00	0.02	NM	NM	NM	6.27	18.37	1180
	23-Oct-02	NM	NM	NM	0.00	0.04	NM	NM	NM	6.62	20.81	1220
	18-Feb-03	NM	NM	NM	0.00	0.04	NM	NM	NM	6.49	19.50	1170
	30-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	NM	6.92	19.70	941
	29-Jan-04	NM	NM	NM	0.00	1.80	NM	NM	NM	6.61	19.00	1000
	3-Aug-04	NM	NM	NM	0.00	0.00	NM	NM	NM	8.86	21.70	825
	1-Feb-05	NM	NM	NM	0.00	0.00	NM	NM	NM	6.43	20.55	856
	5-Jul-05	NM	NM	NM	0.13	0.00	NM	<0.005	<0.005	6.16	20.25	1130
	5-Jan-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.39	20.61	817
	5-Jul-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.61	19.10	1120
	28-Feb-07	NM	NM	NM	0.74	0.000	NM	<0.005	<0.005	6.71	16.34	1100
	22-Aug-07	NM	NM	NM	0.01	0.000	NM	<0.005	<0.005	5.46	19.97	865
	19-Feb-08	NM	NM	NM	0.00	0.000	NM	NM	NM	6.51	19.36	1081
	22-Aug-08	NM	NM	NM	0.00	0.000	NM	NM	NM	6.61	22.07	676
	<b>10-Feb-09</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>0.23</b>	<b>0.007</b>	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>6.39</b>	<b>21.73</b>	<b>1130</b>

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
**Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
<b>Monitoring Wells Installed by LFR</b>												
LFR-1	11-Aug-00	250	110	51		0.02	-1.00	<0.0005	<0.0005	6.97	19.73	936
LFR-1 field	09-Aug-00	240	100	25	<0.05	<0.1	<2			6.38	17.94	697
LFR-1 field/sp	30-Oct-00			0.01/0.01	0.031/0.036	0.001/0.001						
LFR-1-spl	30-Oct-00	220	100	40	<0.05	<0.1	<2					
LFR-1 field	29-Jan-01	150	76	28	<0.05	<0.1	<2			6.82	15.00	870
LFR-1 Dup	29-Jan-01	150	75	26	<0.05	0.00	<0.1	<2			5.76	16.80
	29-Jan-01				0.00						6.48	19.38
	26-Apr-01				0.05						6.73	20.83
	26-Jul-01				0.01							661
	26-Jul-01	NM	NM	NM	0.42	NM	NM	NM	NM	6.50	16.50	879
	31-Jan-02	NM	NM	NM	0.03	0.01	NM	NM	NM	5.88	16.37	1120
	16,17-Apr-02	NM	NM	NM	0.75	0.02	NM	NM	NM	6.40	17.02	832
	17,18-Jul-02	NM	NM	NM	0.22	0.01	NM	NM	NM	6.54	20.09	803
	23-Oct-02	NM	NM	NM	0.30	0.00	NM	NM	NM			
	18-Feb-03	NM	NM	NM	0.40	0.00	NM	NM	NM	6.47	16.90	607
	30-Jul-03	NM	NM	NM	0.02	0.00	NM	NM	NM	6.92	19.20	1330
	29-Jan-04	NM	NM	NM	0.00	5.10	NM	NM	NM	6.62	18.00	830
	4-Aug-04	NM	NM	NM	0.47	0.00	NM	NM	NM	6.39	19.01	1260
	2-Jan-05	NM	NM	NM	0.00	0.00	NM	NM	NM	6.73	17.80	744
	6-Jul-05	NM	NM	NM	0.09	0.002	NM	<0.005	<0.005	6.69	18.26	1360
	6-Jan-06	NM	NM	NM	0.03	0.000	NM	<0.005	<0.005	6.31	19.06	1260
	6-Jul-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.59	17.10	1270
	1-Mar-07	NM	NM	NM	0.45	0.000	NM	<0.005	<0.005	6.15	14.51	787
	23-Aug-07	NM	NM	NM	0.22	0.011	NM	<0.005	<0.005	5.45	19.42	642
	19-Feb-08	NM	NM	NM	0.08	0.000	NM	NM	NM	6.50	17.29	690
	22-Aug-08	NM	NM	NM	0.00	0.000	NM	NM	NM	6.50	21.13	432
	9-Feb-09	NM	NM	NM	0.00	0.000	NM	NM	NM	6.32	16.20	482
LFR-2	11-Aug-00	590	33	174	2.95	-1.00	0.01	<0.0005	0.00	7.15	19.87	1088
LFR-2 field	11-Aug-00	550	40	180	6.20	<0.1	<2			6.19	19.67	1306
LFR-2 field	02-Nov-00				7.45	0.01	0.00					
LFR-2 field	02-Nov-00											
LFR-2 field	30-Jan-01	480	21	130	4.60	<0.1	0.01	<2			6.60	12.73
	30-Jan-01				1.04						5.64	16.40
	27-Apr-01				2.97						6.31	18.66
	26-Jul-01				4.60						6.78	19.56
	18-Oct-01	NM	NM	NM	8.20	NM	NM	NM	NM			109

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
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**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
LFR-2 cont.	31-Jan-02	NM	NM	NM	1.97	0.05	NM	NM	NM	6.50	16.60	644
	16,17-Apr-02	NM	NM	NM	7.60	0.06	NM	NM	NM	6.19	16.43	845
	17,18-Jul-02	NM	NM	NM	8.80	0.00	NM	NM	NM	6.52	16.24	986
	23-Oct-02	NM	NM	NM	3.30	0.06	NM	NM	NM	6.84	18.09	812
	18-Feb-03	NM	NM	NM	3.30	0.00	NM	NM	NM	6.50	16.90	617
	30-Jul-03	NM	NM	NM	3.30	0.00	NM	NM	NM	7.15	17.30	861
	29-Jan-04	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	4-Aug-04	NM	NM	NM	3.30	0.00	NM	NM	NM	6.76	17.39	795
	1-Feb-05	NM	NM	NM	2.25	0.00	NM	NM	NM	6.46	17.68	559
	5-Jul-05	NM	NM	NM	3.30	0.00	NM	<0.005	<0.005	6.56	18.18	712
	5-Jan-06	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	6.58	18.23	721
	6-Jul-06	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	6.91	17.90	679
	28-Feb-07	NM	NM	NM	3.30	0.000	NM	<0.025	<0.025	6.41	16.54	782
	22-Aug-07	NM	NM	NM	3.30	0.000	NM	<0.025	<0.025	6.05	17.60	814
	20-Feb-08	NM	NM	NM	1.77	0.000	NM	NM	NM	6.58	17.52	616
	21-Aug-08	NM	NM	NM	3.30	0.092	NM	NM	NM	6.68	23.60	610
	10-Feb-09	NM	NM	NM	3.30	0.009	NM	NM	NM	6.53	17.41	980
LFR-3 LFR-3 split LFR-3 field LFR-3 field	10-Aug-00	310	85	162	<0.1	0.15	0.04	<0.0005	<0.0005	6.57	19.92	951
	10-Aug-00	300	85	152								
	10-Aug-00											
	01-Nov-00											
	01-Nov-00	350	66	160	<0.05	<0.1	<0.01	<2				
					0.01	0.01	0.00					
	30-Jan-01	250	31	71	<0.05	<0.1	<2					
	30-Jan-01				0.03							
	11-Jun-01				0.01							
	26-Jul-01				0.70	0.03						
	18-Oct-01	NM	NM	NM	0.12	NM	NM	NM	NM	6.16	17.71	1164
	31-Jan-02	NM	NM	NM	0.06	0.02	NM	NM	NM	6.30	19.10	566
	16,17-Apr-02	NM	NM	NM	1.20	0.04	NM	NM	NM	5.78	18.68	566
	17,18-Jul-02	NM	NM	NM	0.08	0.01	NM	NM	NM	6.17	18.42	585
	23-Oct-02	NM	NM	NM	1.35	0.00	NM	NM	NM	6.32	20.65	457
	19-Feb-03	NM	NM	NM	0.74	0.00	NM	NM	NM	6.34	19.30	497
	30-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	NM	6.87	19.80	457
	29-Jan-04	NM	NM	NM	1.70	0.00	NM	NM	NM	6.60	20.00	393
	3-Aug-04	NM	NM	NM	0.34	0.00	NM	NM	NM	6.24	19.96	415
	2-Feb-05	NM	NM	NM	0.12	0.00	NM	NM	NM	6.17	20.06	381
	5-Jul-05	NM	NM	NM	3.30	0.205	NM	<0.005	<0.005	6.39	20.01	463
	9-Dec-05	NM	NM	NM	NM	NM	NM	<0.005	<0.005	NM	NM	NM
	6-Jan-06	NM	NM	NM	2.16	0.001	NM	<0.005	<0.005	6.27	20.42	461
	5-Jul-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.56	20.10	640
	1-Mar-07	NM	NM	NM	1.03	0.005	NM	<0.005	<0.005	6.17	17.44	514
	22-Aug-07	NM	NM	NM	0.84	0.000	NM	<0.005	<0.005	5.45	20.36	547
	20-Feb-08	NM	NM	NM	0.20	0.000	NM	NM	NM	6.38	19.55	607
	22-Aug-08	NM	NM	NM	0.00	0.000	NM	NM	NM	6.63	21.09	406
	9-Feb-09	NM	NM	NM	0.00	0.002	NM	NM	NM	6.21	17.30	453

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
**Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
LFR-4	11-Aug-00	630	71	161				<0.0005	<0.0005	6.90	20.11	1240
LFR-4 FB	10-Aug-00				0.22	0.02	0.00	<0.0005	<0.0005			
LFR-4 field	11-Aug-00				1.00	<0.1	<2					
LFR-4 field	31-Oct-00	490	28	130	0.67	0.02	0.00			6.21	18.11	830
LFR-4 field	31-Oct-00				1.30	<0.1	<2					
LFR-4 field	01-Feb-01	460	25	120	1.43	0.02				6.55	15.28	916
LFR-4 field	01-Feb-01				1.44					5.79	18.30	1060
LFR-4 field	27-Apr-01				0.95	0.00				6.26	19.23	866
LFR-4 field	26-Jul-01											
16,17-Apr-02	NM	NM	NM	5.10	0.03	NM	NM	NM	6.19	18.04	925	
17,18-Jul-02	NM	NM	NM	>3.3	0.01	NM	NM	NM	5.92	17.28	878	
23-Oct-02	NM	NM	NM	3.30	0.00	NM	NM	NM	6.69	19.90	602	
19-Feb-03	NM	NM	NM	3.30	0.00	NM	NM	NM	6.38	19.10	994	
29-Jul-03	NM	NM	NM	3.30	0.00	NM	NM	NM	6.94	19.00	994	
29-Jan-04	NM	NM	NM	0.71	0.00	NM	NM	NM	6.53	19.50	689	
5-Jul-05	NM	NM	NM	3.30	0.00	NM	<0.005	<0.005	6.49	19.20	772	
5-Jan-06	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
5-Jul-06	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	6.75	18.90	912	
1-Mar-07	NM	NM	NM	3.30	0.000	NM	<0.01	<0.01	6.46	15.75	972	
22-Aug-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
19-Feb-08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	
21-Aug-08	NM	NM	NM	3.30	0.00	NM	NM	NM	6.13	21.38	353	
10-Feb-09	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>3.30</b>	<b>0.00</b>	<b>NM</b>	<b>NM</b>	<b>M</b>	<b>6.38</b>	<b>20.16</b>	<b>591</b>	
<b>Monitoring Wells Installed by SOMA</b>												
SOMA-1	19-Oct-01	NM	NM	NM	0.75	NM	NM	NM	6.77	18.15	146	
	31-Jan-02	NM	NM	NM	0.00	0.00	NM	NM	6.70	17.50	1160	
	16,17-Apr-02	NM	NM	NM	0.17	0.03	NM	NM	6.01	17.98	1280	
	17,18-Jul-02	NM	NM	NM	0.11	0.01	NM	NM	6.52	16.21	1270	
	23-Oct-02	NM	NM	NM	0.24	0.01	NM	NM	6.60	17.77	1270	
	19-Feb-03	NM	NM	NM	0.00	0.01	NM	NM	6.33	17.40	1350	
	30-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	6.90	17.80	1300	
	29-Jan-04	NM	NM	NM	2.10	0.00	NM	NM	6.51	17.60	959	
	3-Aug-04	NM	NM	NM	0.00	0.00	NM	NM	6.42	17.89	956	
	1-Feb-05	NM	NM	NM	0.00	0.00	NM	NM	6.26	17.70	985	
	5-Jul-05	NM	NM	NM	0.19	0.00	NM	<0.005	6.36	19.36	1220	
	5-Jan-06	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.54	18.02	926
	5-Jul-06	NM	NM	NM	0.30	0.011	NM	<0.005	<0.005	6.68	18.40	1150
	28-Feb-07	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	6.10	17.17	1140
	22-Aug-07	NM	NM	NM	0.00	0.000	NM	<0.005	<0.005	5.73	17.75	939
	20-Feb-08	NM	NM	NM	0.00	0.006	NM	NM	NM	6.53	17.93	791
	21-Aug-08	NM	NM	NM	0.00	0.000	NM	NM	NM	6.21	19.33	834
	10-Feb-09	<b>NM</b>	<b>NM</b>	<b>NM</b>	<b>0.28</b>	<b>0.011</b>	<b>NM</b>	<b>NM</b>	<b>M</b>	<b>6.42</b>	<b>19.31</b>	<b>779</b>

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
**Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
SOMA-2	19-Oct-01	NM	NM	NM	44.00	NM	NM	NM	NM	6.87	16.93	122
	31-Jan-02	NM	NM	NM	10.50	0.34	NM	NM	NM	6.90	15.20	1140
	16,17-Apr-02	NM	NM	NM	8.70	0.01	NM	NM	NM	6.30	15.25	1170
	17,18-Jul-02	NM	NM	NM	>3.3	0.00	NM	NM	NM	6.86	14.19	1170
	23-Oct-02	NM	NM	NM	3.30	0.00	NM	NM	NM	6.97	16.47	1380
	19-Feb-03	NM	NM	NM	2.93	0.01	NM	NM	NM	6.86	15.70	1420
	29-Jul-03	NM	NM	NM	1.37	0.00	NM	NM	NM	7.91	16.80	1290
	28-Jan-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.65	16.60	835
	4-Aug-04	NM	NM	NM	0.34	0.00	NM	NM	NM	6.78	16.76	1180
	2-Feb-05	NM	NM	NM	3.30	0.00	NM	NM	NM	6.52	15.96	1310
	6-Jul-05	NM	NM	NM	3.30	0.00	NM	<0.005	<0.005	6.64	16.12	1290
	9-Jan-06	NM	NM	NM	3.30	0.001	NM	<0.005	<0.005	6.92	16.30	982
	6-Jul-06	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	7.08	16.00	1170
	1-Mar-07	NM	NM	NM	3.30	0.000	NM	<0.025	<0.025	7.24	10.16	1288
	23-Aug-07	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	6.20	15.98	764
SOMA-3	20-Feb-08	NM	NM	NM	3.30	0.000	NM	NM	NM	6.85	13.37	1434
	21-Aug-08	NM	NM	NM	3.30	0.000	NM	NM	NM	7.19	17.59	834
	10-Feb-09	NM	NM	NM	3.30	0.000	NM	NM	NM	6.86	19.33	912
SOMA-3	19-Oct-01	NM	NM	NM	0.40	NM	NM	NM	NM	6.91	17.09	158
	31-Jan-02	NM	NM	NM	0.78	0.38	NM	NM	NM	6.50	14.90	1320
	16,17-Apr-02	NM	NM	NM	1.03	0.00	NM	NM	NM	6.23	15.83	1260
	17,18-Jul-02	NM	NM	NM	>3.3	0.00	NM	NM	NM	6.77	15.03	1290
	23-Oct-02	NM	NM	NM	3.30	0.03	NM	NM	NM	7.02	16.44	970
	19-Feb-03	NM	NM	NM	3.30	0.00	NM	NM	NM	6.87	15.80	1350
	29-Jul-03	NM	NM	NM	3.30	0.00	NM	NM	NM	7.27	16.20	1200
	29-Jan-04	NM	NM	NM	3.30	0.00	NM	NM	NM	6.75	16.20	925
	4-Aug-04	NM	NM	NM	3.30	0.00	NM	NM	NM	6.79	16.43	956
	2-Feb-05	NM	NM	NM	0.15	0.00	NM	NM	NM	6.62	16.64	968
	6-Jul-05	NM	NM	NM	1.12	0.00	NM	<0.005	<0.005	6.56	16.79	935
	6-Jan-06	NM	NM	NM	0.49	0.000	NM	<0.005	<0.005	6.38	16.84	1120
	6-Jul-06	NM	NM	NM	0.53	0.000	NM	<0.005	<0.005	7.11	16.00	1020
	1-Mar-07	NM	NM	NM	0.69	0.000	NM	<0.005	<0.005	6.78	14.34	528
	23-Aug-07	NM	NM	NM	1.20	0.000	NM	<0.005	<0.005	6.45	17.13	495
	20-Feb-08	NM	NM	NM	3.21	0.158	NM	NM	NM	6.98	14.19	31
	21-Aug-08	NM	NM	NM	0.27	0.000	NM	NM	NM	6.62	19.87	341
	10-Feb-09	NM	NM	NM	0.90	0.008	NM	NM	NM	6.75	16.30	1149
SOMA-4	Oct-19-01	NM	NM	NM	0.26	NM	NM	NM	NM	6.53	16.88	145
	23-Oct-02	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	19-Feb-03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	29-Jul-03	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	5-Jul-05	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	5-Jan-06	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10-Feb-09	NM	NM	NM	3.10	0.003	NM	NM	NM	6.61	19.42	1071

**Table 3**  
**Historical Analytical Results and Field Measurements for**  
**Dissolved Ions and Gas, pH, Temperature, and Electrical Conductivity in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Alkalinity (mg/L)	Chloride (mg/L)	Carbon Dioxide (mg/L)	Total Iron (mg/L)	Nitrite (mg/L)	Sulfide (mg/L)	Ethane (mg/L)	Ethene (mg/L)	pH	Temp (°C)	Electrical Conductivity (µS/cm)
SOMA-5	4-Aug-04	NM	NM	NM	3.30	0.00	NM	NM	NM	7.14	16.98	773
	2-Feb-05	NM	NM	NM	3.30	0.00	NM	NM	NM	7.20	15.99	549
	6-Jul-05	NM	NM	NM	3.30	0.00	NM	<0.005	<0.005	6.75	16.99	1150
	9-Jan-06	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	6.78	16.72	1200
	6-Jul-06	NM	NM	NM	3.30	0.000	NM	<0.005	<0.005	7.81	16.30	454
	1-Mar-07	NM	NM	NM	NM	NM	NM	<0.025	<0.025	NM	NM	NM
	23-Aug-07	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	20-Feb-08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	21-Aug-08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	10-Feb-09	NM	NM	NM	3.30	0.000	NM	NM	NM	7.07	15.80	538

Notes

Samples with "field" in the well ID indicate that the results are from field measurements obtained using a Hach spectrometer or a Hydrolab Quanta flow-through instrument.

since April 2001, field measurements have been performed using a Hach Calorimeter

NM= not measured

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
<b>Temporary Sampling Points Installed by Geosolv, LLC</b>								
B-2	24-Jan-00	20 <sup>J</sup>	31 <sup>YJ</sup>	<0.05	<0.013	<0.013	0.11 <sup>C</sup>	0.22 <sup>C</sup>
B-3	24-Jan-00	4.9 <sup>J</sup>	8.8 <sup>YJ</sup>	<0.01	0.0048	<0.0025	<0.0025	0.0714
B-7	24-Jan-00	19	30 <sup>J</sup>	<0.05	<0.013	0.062	<0.013	0.207
	11-Aug-00	3.7 <sup>J</sup>	6.8 <sup>YHJ</sup>	0.02	0.0077 <sup>J</sup>	0.047 <sup>J</sup>	0.007 <sup>J</sup>	0.065 <sup>CJ</sup>
	31-Oct-00	62 <sup>J</sup>	98 <sup>YHJ</sup>	0.01 <sup>J</sup>	0.0091 <sup>J</sup>	0.061 <sup>J</sup>	<0.0005	0.237 <sup>J</sup>
	27-Jul-01	2.5	5.2 <sup>HY</sup>	0.0057	0.0070	0.051	0.0082	0.0740
	31-Jan-01	5.3	7.9	0.0100	0.0089	0.059	0.0097	0.0870
	26-Apr-01	4.5	8.9 <sup>H</sup>	0.0069	0.0110	0.071	0.077 <sup>C</sup>	0.2080
	B-8	11 <sup>J</sup>	19 <sup>YJ</sup>	<0.01	<0.0025	<0.0025	<0.0025	0.17 <sup>C</sup>
B-9	24-Jan-00	1 <sup>YJ</sup>	1.8 <sup>YHJ</sup>	<0.002	<0.0005	<0.0005	0.01 <sup>C</sup>	0.0089 <sup>C</sup>
B-10	24-Jan-00	2.4 <sup>Y</sup>	4.2	0.0140 <sup>C</sup>	0.0072	0.027	0.025 <sup>C</sup>	0.032
	10-Aug-00	2.8 <sup>Y</sup>	6.1 <sup>Y</sup>	0.1600	0.0073	0.012	<0.005	0.0241
	31-Oct-00	2.2 <sup>YZ</sup>	3.5 <sup>Z</sup>	<0.002	0.0038	0.011	<0.0005	0.0182
	27-Jul-01	1.7	3.6 <sup>H</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	31-Jan-01	2.4 <sup>Z</sup>	3.6 <sup>HYZ</sup>	<0.002	0.0031	0.010	0.00076 <sup>C</sup>	0.0197
	26-Apr-01	2.4 <sup>Z</sup>	4.7 <sup>Z</sup>	0.0025	0.0041	0.013	ND	0.0290
	6-Jul-05	3.4 <sup>H</sup>	4.5 <sup>HY</sup>	<0.1	<0.1	<0.1	<0.1	<0.1
	9-Jan-06	11 <sup>Y</sup>	15	<0.1	<0.1	<0.1	<0.1	<0.1
	6-Jul-06	1.3	2.2 <sup>HY</sup>	<0.1	<0.1	<0.1	<0.1	<0.1
	1-Mar-07	0.5 <sup>L</sup>	0.810 <sup>HY</sup>	<0.1	<0.1	<0.1	<0.1	<0.1
B-13	23-Aug-07	NA	NA	NA	NA	NA	NA	NA
	20-Feb-08	860	1,100 <sup>Y</sup>	<0.25	<0.25	<0.25	<0.25	<0.25
	25-Mar-08	2,000	43 <sup>Yb</sup>	<0.36	<0.36	0.75	0.42	2.12
	21-Aug-08	760	1,200 <sup>Y</sup>	<0.083	<0.083	<0.083	<0.083	<0.083
	<b>10-Feb-09</b>	<b>1.5</b>	<b>2.3<sup>Y</sup></b>	<b>&lt;0.02</b>	<b>&lt;0.02</b>	<b>&lt;0.02</b>	<b>&lt;0.02</b>	<b>&lt;0.02</b>
	24-Jan-00	1.7 <sup>J</sup>	3 <sup>YJ</sup>	<0.01	<0.0025	<0.0025	<0.0025	0.0200
	<b>Temporary Sampling Points Installed by LFR</b>							
GW-2	19-Jul-99	<0.05	<0.05	0.0025	<0.0005	0.00071	<0.0005	0.00074
	20-Jan-00	0.15	0.25 <sup>Y</sup>	0.0044	<0.0005	<0.0005	0.00097 <sup>C</sup>	0.0013
	28-Apr-00	<0.05	0.095 <sup>YZ</sup>	<0.0021	<0.0005	<0.0005	<0.0005	<0.0005
	2-Nov-00	<0.05	<0.05	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005
	1-Feb-01	<0.05	ND	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-01	<0.05	0.086 <sup>YZ</sup>	0.0022	<0.0005	0.0240	<0.0005	<0.0005
	27-Jul-01	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	19-Oct-01	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
<b>GW-2 cont.</b>	31-Jan-02	<0.05	<0.05	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	<0.05	<0.05	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	22-Oct-02	<0.05	<0.05	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	19-Feb-03	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	29-Jul-03	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	28-Jan-04	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	4-Aug-04	0.054 <sup>YZ</sup>	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	2-Feb-05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	6-Jul-05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jan-06	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jul-06	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	28-Feb-07	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	NA	NA	NA	NA	NA	NA	NA
	20-Feb-08	NA	NA	NA	NA	NA	NA	NA
	22-Aug-08	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	<b>9-Feb-09</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>
<b>GW-3</b>	19-Jul-99	0.070 <sup>Z</sup>	0.100 <sup>Z</sup>	<0.0020	<0.0005	<0.0005	<0.0005	0.00064
	20-Jan-00	0.15	0.260 <sup>Y</sup>	<0.0020	<0.0005	<0.0005	<0.0005	0.00130 <sup>C</sup>
	27-Apr-00	0.20 <sup>YZ</sup>	0.380 <sup>YZ</sup>	<0.0020	<0.0005	<0.0005	<0.0005	<0.00050
	27-Apr-00	0.30 <sup>Z</sup>	0.570 <sup>YZ</sup>	<0.0020	<0.0005	<0.0005	<0.0005	<0.00050
	11-Aug-00	<0.05	0.077 <sup>YZ</sup>	<0.0020	<0.0005	<0.0005	<0.0005	0.00051
	2-Nov-00	<0.05	0.050 <sup>YZ</sup>	0.0026	<0.0005	<0.0005	<0.0005	<0.00050
	1-Feb-01	<0.05	<0.05	<.0020	<.0005	<.0005	<.0005	<.00050
	27-Apr-01	<0.05	0.062 <sup>YZ</sup>	0.0056	<0.0005	<0.0005	<0.0005	<0.00050
	27-Jul-01	<0.05	<.05	0.0008	<0.0005	<0.0005	<0.0005	<0.00050
	19-Oct-01	0.054	0.11	<0.0100	<0.0100	<0.0100	<0.0100	<0.02000
	31-Jan-02	<0.05	0.070 <sup>YZ</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.00500 <sup>b</sup>
	16,17-Apr-02	<0.05	0.055 <sup>YZ</sup>	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	0.11 <sup>YZ</sup>	0.140 <sup>YZ</sup>	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071
	19-Feb-03	0.068 <sup>YZ</sup>	0.100 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	29-Jul-03	0.120 <sup>YZ</sup>	0.180 <sup>YZ</sup>	<0.010	<0.010	<0.010	<0.010	<0.010
	28-Jan-04	0.051 <sup>YZ</sup>	0.086 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	3-Aug-04	0.170 <sup>YZ</sup>	0.150 <sup>YZ</sup>	<0.017	<0.017	<0.017	<0.017	<0.017
	2-Feb-05	0.190 <sup>Z</sup>	0.250 <sup>HYZ</sup>	<0.031	<0.031	<0.031	<0.031	<0.031
	6-Jul-05	0.084 <sup>YZ</sup>	0.11 <sup>YZ</sup>	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	6-Jan-06	0.063 <sup>YZ</sup>	0.088 <sup>YZ</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jul-06	0.091 <sup>YZ</sup>	.140 <sup>YZ</sup>	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	1-Mar-07	0.088 <sup>YZ</sup>	0.140 <sup>YZ</sup>	<0.0017	<0.0017	<0.0017	<0.0017	<0.0017
	23-Aug-07	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	20-Feb-08	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-08	0.079 <sup>Y</sup>	0.120 <sup>YZ</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	<b>9-Feb-09</b>	<b>0.070 <sup>Y</sup></b>	<b>0.084 <sup>YZ</sup></b>	<b>&lt;0.0025</b>	<b>&lt;0.0025</b>	<b>&lt;0.0025</b>	<b>&lt;0.0025</b>	<b>&lt;0.0025</b>

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
GW-4	21-Jul-99	6.80 <sup>J</sup>	10 <sup>YHJ</sup>	0.0022	<0.0005	<0.0005	<0.0005	0.0029 <sup>J</sup>
	20-Jan-00	0.97 <sup>J</sup>	1.60 <sup>YJ</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	20-Jan-00	0.85 <sup>J</sup>	1.50 <sup>YJ</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-00	0.31	0.60 <sup>Y</sup>	<0.0020	<0.0005	<0.0005	<0.0005	0.0027
	30-Jan-01	0.39	0.58 <sup>HY</sup>	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.42	0.86 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	19-Oct-01	0.83	1.60	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100
	31-Jan-02	0.92	1.70 <sup>HY</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	0.40	0.67 <sup>HY</sup>	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	0.97	1.7 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	0.55	0.700 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	0.58	0.880 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	0.39	0.580 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	28-Jan-04	0.31	0.520 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	3-Aug-04	0.71	0.640 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	1-Feb-05	0.28	0.370 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	6-Jul-05	0.12	0.16 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jan-06	0.54	0.75 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	28-Feb-07	0.56	0.90 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	NA	NA	NA	NA	NA	NA	NA
	20-Feb-08	0.50	0.63 <sup>Y</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	21-Aug-08	NA	NA	NA	NA	NA	NA	NA
	10-Feb-09	0.49	0.58 <sup>Y</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
GW-5	27-Aug-99	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001
	20-Jan-00	<0.05	0.057 <sup>Y</sup>	0.0007	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-00	0.05 <sup>Y</sup>	0.096 <sup>Y</sup>	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
GW-6A	27-Aug-99	<0.05	0.054 <sup>Y</sup>	0.0089	<0.0005	<0.0005	<0.0005	<0.0005
	27-Aug-99	<0.05	0.057 <sup>Y</sup>	0.0087	<0.0005	<0.0005	<0.0005	<0.0005
	25-Jan-00	<0.05	<0.05	0.0022	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-00	<0.05	0.087 <sup>Y</sup>	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
GW-7	15-Jul-99	NA	NA	<0.0025	0.05 <sup>J</sup>	<0.0005	0.000727	0.00313 <sup>J</sup>
	15-Jul-99	NA	NA	NA	NA	NA	NA	NA
	15-Jul-99	NA	NA	NA	0.0567 <sup>J</sup>	<0.002	<0.002	<0.002
	15-Jul-99	NA	NA	NA	0.0755 <sup>J</sup>	<0.002	<0.002	<0.002
GW-8	19-Jul-99	<0.05	<0.05	0.0078	<0.0005	0.00064	<0.0005	0.00151
	20-Jan-00	0.19	0.33 <sup>Y</sup>	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	20-Jan-00	0.20	0.37 <sup>Y</sup>	<0.002	0.00058	<0.0005	<0.0005	<0.0005
	28-Apr-00	0.064 <sup>YZ</sup>	0.12 <sup>YZ</sup>	0.013	<0.0005	<0.0005	<0.0005	<0.0005

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
<b>Monitoring Wells Owned by TOSCO</b>								
MW-11	25-Jan-00	< 0.05	<0.05	0.0090	<0.0005	<0.0005	<0.0005	<0.0005
	28-Apr-00	<0.05	<0.05	<0.0087	<0.0005	<0.0005	<0.0005	<0.0005
	10-Aug-00	<0.05	<0.05	0.0110	<0.0005	<0.0005	<0.0005	<0.0005
	1-Nov-00	<0.05	<0.05	0.0068	<0.0005	<0.0005	<0.0005	<0.0005
	31-Jan-01	< 0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Jul-01	<0.05	0.10 <sup>YZ</sup>	0.0010	<0.0005	<0.0005	<0.0005	0.0007
	19-Oct-01	<0.05	<0.05	<0.0050	<0.0050	<0.005	<0.005	<0.010
	31-Jan-02	<0.05	0.071 <sup>Y</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>
	16,17-Apr-02	<0.05	<0.05	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	18-Feb-03	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	28-Jan-04	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	3-Aug-04	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	1-Feb-05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	5-Jul-05	<0.05	<0.05	0.0008	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jan-06	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jul-06	<0.05	<0.05	0.001	<0.0005	<0.0005	<0.0005	<0.0005
	28-Feb-07	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	19-Feb-08	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-08	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	10-Feb-09	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
<b>Monitoring Wells Installed by LFR</b>								
LFR-1	9-Aug-00	0.53	1.2	0.0095	<0.0005	<0.0005	<0.0005	<0.0005
Split	30-Oct-00	0.24 <sup>YZ</sup>	0.37 <sup>YZ</sup>	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	30-Oct-00	0.24 <sup>YZ</sup>	0.37 <sup>YZ</sup>	0.0043	<0.0005	<0.0005	<0.0005	<0.0005
LFR-1	29-Jan-01	0.21 <sup>YZ</sup>	0.31 <sup>YZ</sup>	0.0033	<0.0005	<0.0005	<0.0005	<0.0005
	26-Apr-01	0.092	0.18 <sup>YZ</sup>	0.0044	<0.0005	0.002	<0.0005	<0.0005
	27-Jul-01	0.086	0.18 <sup>YZ</sup>	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
	18-Oct-01	0.19	0.38	<0.031	<0.031	<0.031	<0.031	<0.062
	31-Jan-02	0.15 <sup>YZ</sup>	0.27 <sup>YZ</sup>	<0.013 <sup>b</sup>	<0.013 <sup>b</sup>	<0.013 <sup>b</sup>	<0.013 <sup>b</sup>	<0.013 <sup>b</sup>
	16,17-Apr-02	0.10 <sup>YZ</sup>	0.17 <sup>YZ</sup>	< 0.013	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	0.084 <sup>YZ</sup>	0.14 <sup>YZ</sup>	<0.013	<0.013	<0.013	<0.013	<0.013
	22,23-Oct-02	<0.05	0.078 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	18-Feb-03	0.076 <sup>YZ</sup>	0.110 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	<0.05	0.068 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
LFR-1	29-Jan-04	0.060 <sup>YZ</sup>	0.100 <sup>YZ</sup>	<0.0063	<0.0063	<0.0063	<0.0063	<0.0063
	4-Aug-04	<0.05	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	2-Feb-05	<0.05	0.056 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	6-Jul-05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jan-06	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jul-06	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	1-Mar-07	<0.05	0.053 <sup>YZ</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	23-Aug-07	0.070 <sup>YZ</sup>	0.120 <sup>YZ</sup>	0.0008	<0.0005	<0.0005	<0.0005	<0.0005
	19-Feb-08	0.062 <sup>Y</sup>	0.077 <sup>Y</sup>	<0.001	<0.001	<0.001	<0.001	0.0033
	22-Aug-08	<0.05	0.059 <sup>YZ</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	9-Feb-09	0.057 <sup>Y</sup>	0.067 <sup>YZ</sup>	<0.001	<0.001	<0.001	<0.001	<0.001

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
LFR-2	11-Aug-00	0.59	1.10 <sup>YH</sup>	0.0022	0.0018	<0.0005	<0.0005	0.0013 <sup>C</sup>
	2-Nov-00	0.38	0.70 <sup>YH</sup>	0.003	0.0035	0.0011	0.0042	0.01184 <sup>C</sup>
	30-Jan-01	0.36	0.54 <sup>HY</sup>	0.0034	0.00057	<0.0005	<0.0005	<0.0005
	27-Apr-01	0.33	0.66 <sup>HY</sup>	<0.002	<0.0005	0.0013	<0.0005	<0.0005
	27-Apr-01	0.36	0.72 <sup>HY</sup>	<0.002	0.00059	0.0019	<0.0005	0.013
	27-Jul-01	0.33	0.76 <sup>HY</sup>	<0.0005	0.0013	<0.0005	<0.0005	0.0006
	18-Oct-01	0.73	1.50	<0.0071	<0.0071	<0.0071	<0.0071	<0.0142
	31-Jan-02	0.76	1.40 <sup>HY</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>
	16,17-Apr-02	1.10	1.90 <sup>HY</sup>	<0.002	<0.0005	<0.0005	<0.0005	0.019 <sup>C</sup>
	17,18-Jul-02	0.97	1.7 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	3.10	5.000 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	18-Feb-03	1.50	2.300 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	4.10	6.000 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	29-Jan-04	NA	NA	NA	NA	NA	NA	NA
	4-Aug-04	2.50	2.2 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	1-Feb-05	1.10	1.5 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	5-Jul-05	0.95	1.3 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jan-06	4.00	5.6 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jul-06	0.49	0.770 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	28-Feb-07	1.20	1.9 <sup>HY</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	3.70	6.4 <sup>HY</sup>	<0.0005	0.0022	<0.0005	<0.0005	<0.0005
	20-Feb-08	73	92 <sup>Y</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	21-Aug-08	15	23 <sup>Y</sup>	<0.0083	0.0059	0.0017	<0.0005	<0.0005
	<b>10-Feb-09</b>	<b>3.4</b>	<b>4.0 <sup>Y</sup></b>	<b>&lt;0.0017</b>	<b>0.0027</b>	<b>&lt;0.0017</b>	<b>&lt;0.0017</b>	<b>&lt;0.0017</b>
LFR-3 Split	10-Aug-00	<0.05	<0.05	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	10-Aug-00	<0.05	<0.05	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	1-Nov-00	<0.05	<0.05	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	30-Jan-01	<0.05	<0.05	0.0036	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-01	<0.05	<0.05	0.0024	<0.0005	0.0054	<0.0005	<0.0005
	27-Jul-01	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	18-Oct-01	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.01
	31-Jan-02	<0.05	0.067 <sup>Y</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>	<0.005 <sup>b</sup>
	16,17-Apr-02	<0.05	<0.05	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	29-Jan-04	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	3-Aug-04	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	2-Feb-05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
	5-Jul-05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	9-Dec-05	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jan-06	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jul-06	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	1-Mar-07	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	20-Feb-08	<0.05	0.053 <sup>Y</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-08	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	<b>9-Feb-09</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
LFR-4	11-Aug-00	0.22 <sup>Y</sup>	0.41 <sup>Y</sup>	0.0051	0.01100	<0.0005	<0.0005	0.00162 <sup>C</sup>
	31-Oct-00	0.17 <sup>Y</sup>	0.27	0.0065	0.00084	<0.0005	<0.0005	<0.0005
	1-Feb-01	0.16 <sup>Y</sup>	0.22	0.0097	0.00330	<0.0005	<0.0005	<0.0005
	27-Apr-01	0.22 <sup>Y</sup>	0.44	0.0058	0.02700	0.0036	<0.0005	<0.0005
	27-Jul-01	0.091 <sup>Y</sup>	0.19	0.011	0.00090	<0.0005	<0.0005	<0.0005
	31-Jan-02	NA	NA	NA	NA	NA	NA	NA
	16,17-Apr-02	0.40 <sup>Y</sup>	0.67	< 0.005	0.05300	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	0.21 <sup>Y</sup>	0.36 <sup>Y</sup>	0.0075	0.007	<0.005	<0.005	<0.005
	22,23-Oct-02	0.110 <sup>Y</sup>	0.17	0.0080	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	0.490 <sup>Y</sup>	0.740	<0.005	0.055	<0.005	<0.005	<0.005
	30-Jul-03	0.400 <sup>Y</sup>	0.59	<0.005	0.010	<0.005	<0.005	<0.005
	29-Jan-04	0.42 <sup>Y</sup>	0.700 <sup>Y</sup>	<0.005	0.011	<0.005	<0.005	<0.005
	4-Aug-04	NA	NA	NA	NA	NA	NA	NA
	5-Jul-05	0.510 <sup>Y</sup>	0.68	0.0049	0.024	<0.0005	<0.0005	<0.0005
	5-Jul-06	0.650 <sup>Y</sup>	1.10	0.0081	0.059	<0.0005	0.0081	0.006
	1-Mar-07	0.370 <sup>Y</sup>	0.590 <sup>H</sup>	0.006	0.0063	<0.0005	<0.0005	<0.0005
	22-Aug-07	NA	NA	NA	NA	NA	NA	NA
	20-Feb-08	NA	NA	NA	NA	NA	NA	NA
	21-Aug-08	0.990 <sup>Y</sup>	1.50 <sup>Y</sup>	0.0029	0.0009	<0.0005	<0.0005	<0.0005
	10-Feb-09	1.20 <sup>Y</sup>	1.40 <sup>Y</sup>	0.0025	0.0021	<0.0005	<0.0005	<0.0005
<b>Monitoring Wells Installed by SOMA</b>								
SOMA-1	19-Oct-01	0.22	0.44	0.034	<0.0050	<0.0050	<0.0050	<0.0100
	31-Jan-02	0.058	0.100 <sup>HY</sup>	0.110 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	<0.05	0.052 <sup>Y</sup>	0.120	0.0008	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	<0.05	<0.05	0.120	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	<0.05	0.053	0.140	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	<0.05	<0.05	0.150	<0.0071	<0.0071	<0.0071	<0.0071
	30-Jul-03	<0.05	<0.05	0.190	<0.005	<0.005	<0.005	<0.005
	29-Jan-04	<0.05	<0.05	0.190	<0.005	<0.005	<0.005	<0.005
	3-Aug-04	<0.05	<0.05	0.170	<0.013	<0.013	<0.013	<0.013
	1-Feb-05	<0.05	<0.05	0.200	<0.017	<0.017	<0.017	<0.017
	5-Jul-05	<0.05	<0.05	0.210	<0.0017	<0.0017	<0.0017	<0.0017
	5-Jan-06	<0.05	<0.05	0.270	0.0006	<0.0005	<0.0005	<0.0005
	5-Jul-06	<0.05	<0.05	0.310	<0.002	<0.002	<0.002	<0.002
	28-Feb-07	0.050 <sup>YZ</sup>	0.081 <sup>YZ</sup>	0.330	0.0025	<0.002	<0.002	<0.002
	22-Aug-07	<0.05	0.066 <sup>YZ</sup>	0.450	<0.002	<0.002	<0.002	<0.002
	20-Feb-08	<0.05	0.076 <sup>Y</sup>	0.340	<0.002	<0.002	<0.002	0.0084
	21-Aug-08	0.055 <sup>Y</sup>	0.084 <sup>YZ</sup>	0.390	<0.0025	<0.0025	<0.0025	<0.0025
	10-Feb-09	0.057 <sup>Y</sup>	0.086 <sup>YZ</sup>	0.370	<0.0025	<0.0025	<0.0025	<0.0025
SOMA-2	19-Oct-01	1.4	2.8	<0.250	<0.2500	<0.250	<0.250	<0.500
	31-Jan-02	1.3	2.4 <sup>HY</sup>	<0.071 <sup>b</sup>	<0.0710 <sup>b</sup>	<0.071 <sup>b</sup>	<0.071 <sup>b</sup>	<0.071 <sup>b</sup>
	16,17-Apr-02	1.3 <sup>L</sup>	2.2 <sup>H</sup>	< 0.130	0.0067	0.046	0.012	0.044
	17,18-Jul-02	2.6	4.4 <sup>HY</sup>	<0.063	<0.063	<0.063	<0.063	<0.063
	22,23-Oct-02	0.37	0.600 <sup>HY</sup>	0.300	<0.0071	<0.0071	<0.0071	<0.0071
	19-Feb-03	0.30	0.460 <sup>HY</sup>	0.210	<0.017	<0.017	<0.017	<0.017
	29-Jul-03	0.27	0.400 <sup>HY</sup>	0.300	<0.020	<0.020	<0.020	<0.020

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
<b>SOMA-2 cont.</b>	28-Jan-04	0.23	0.38 <sup>HY</sup>	0.270	<0.017	<0.017	<0.017	<0.017
	4-Aug-04	0.31	0.28 <sup>HY</sup>	0.280	<0.031	<0.031	<0.031	<0.031
	2-Feb-05	39	53 <sup>HY</sup>	<0.31	<0.31	<0.31	<0.31	<0.31
	6-Jul-05	5.10	6.8 <sup>HY</sup>	<0.025	<0.025	0.053	<0.025	0.031
	9-Jan-06	67	93 <sup>HY</sup>	<0.042	<0.042	0.054	<0.042	<0.042
	6-Jul-06	25	40 <sup>HY</sup>	<0.042	<0.042	0.061	<0.042	<0.042
	1-Mar-07	18	29 <sup>HY</sup>	<0.042	<0.042	0.055	<0.042	<0.042
	23-Aug-07	75	130 <sup>HY</sup>	<0.042	<0.042	0.081	<0.042	<0.042
	20-Feb-08	3.2	4.0 <sup>Y</sup>	<0.1	<0.1	<0.1	<0.1	<0.1
	25-Mar-08	360.0	270 <sup>Yb</sup>	<0.13	<0.13	0.180	<0.13	0.170
<b>SOMA-3</b>	21-Aug-08	3.8	5.7 <sup>Y</sup>	<0.0063	0.016	0.120	0.014	0.094
	<b>10-Feb-09</b>	<b>860.0</b>	<b>1,300 <sup>Y</sup></b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>
<b>SOMA-3</b>	19-Oct-01	0.42	0.83	0.65	<0.02500	<0.02500	<0.0250	<0.0500
	31-Jan-02	0.23	0.41 <sup>HY</sup>	0.31 <sup>b</sup>	<0.01300 <sup>b</sup>	<0.01300 <sup>b</sup>	<0.0130 <sup>b</sup>	<0.0130 <sup>b</sup>
	16,17-Apr-02	0.61	1.00 <sup>HY</sup>	0.42	0.00078	0.00068	<0.0005	<0.0005
	17,18-Jul-02	0.41	0.69 <sup>HY</sup>	0.38	<0.017	<0.017	<0.017	<0.017
	22,23-Oct-02	3.00	4.700 <sup>HY</sup>	<0.17	<0.170	<0.170	<0.170	<0.170
	19-Feb-03	2.50	3.800 <sup>HY</sup>	<0.13	<0.130	<0.130	<0.130	<0.130
	29-Jul-03	2.10	3.100 <sup>HY</sup>	<0.13	<0.130	<0.130	<0.130	<0.130
	29-Jan-04	4.10	6.8 <sup>HY</sup>	<0.31	<0.310	<0.310	<0.310	<0.310
	4-Aug-04	4.00	3.6 <sup>HY</sup>	<0.50	<0.500	<0.500	<0.500	<0.500
	2-Feb-05	0.27	0.36 <sup>HY</sup>	0.25	<0.063	<0.063	<0.063	<0.063
	6-Jul-05	0.32	0.43 <sup>HY</sup>	0.32	0.0017	<0.0005	<0.0005	0.0016
	6-Jan-06	0.22	0.30 <sup>HY</sup>	0.39	0.0014	<0.0005	<0.0005	0.0012
	6-Jul-06	0.14	0.27 <sup>HY</sup>	0.500	<0.005	<0.005	<0.005	<0.005
	1-Mar-07	0.19	0.31 <sup>HY</sup>	0.490	<0.005	<0.005	<0.005	<0.005
	23-Aug-07	0.97	1.700 <sup>HY</sup>	0.320	<0.005	<0.005	<0.005	<0.005
	20-Feb-08	0.38	0.48 <sup>Y</sup>	<0.031	<0.031	<0.031	<0.031	<0.031
	21-Aug-08	0.40	0.60 <sup>Y</sup>	0.220	<0.013	<0.013	<0.013	<0.013
<b>SOMA-4</b>	<b>10-Feb-09</b>	<b>0.10</b>	<b>0.15 <sup>Y</sup></b>	<b>0.280</b>	<b>&lt;0.013</b>	<b>&lt;0.013</b>	<b>&lt;0.013</b>	<b>&lt;0.013</b>
	19-Oct-01	2.5	5	0.63	<0.13	<0.13	<0.13	<0.26
	31-Jan-02	FP	FP	FP	FP	FP	FP	FP
	16,17-Apr-02	FP	FP	FP	FP	FP	FP	FP
	17,18-Jul-02	FP	FP	FP	FP	FP	FP	FP
	22,23-Oct-02	FP	FP	FP	FP	FP	FP	FP
	18-Feb-03	FP	FP	FP	FP	FP	FP	FP
<b>SOMA-5</b>	29-Jul-03	FP	FP	FP	FP	FP	FP	FP
	<b>10-Feb-09</b>	<b>44</b>	<b>65 <sup>Y</sup></b>	<b>0.018</b>	<b>&lt;0.005</b>	<b>0.016</b>	<b>&lt;0.005</b>	<b>0.029</b>
	4-Aug-04	4.1	3.7 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	2-Feb-05	0.11 <sup>Z</sup>	0.15 <sup>HYZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	6-Jul-05	2.3 <sup>H</sup>	3.1 <sup>HY</sup>	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	9-Jan-06	0.89	1.2 <sup>HY</sup>	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	6-Jul-06	0.450 <sup>YZ</sup>	0.720 <sup>YZ</sup>	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
<b>SOMA-5</b>	1-Mar-07	NA	3.9 <sup>YZ</sup>	0.0052	<0.0005	<0.0005	<0.0005	<0.0005
	23-Aug-07	NA	NA	NA	NA	NA	NA	NA
	20-Feb-08	NA	NA	NA	NA	NA	NA	NA
	21-Aug-08	NA	NA	NA	NA	NA	NA	NA
	<b>10-Feb-09</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

**Table 4**  
**Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE**  
**in Groundwater Samples**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl- benzene (mg/L)	Total Xylenes (mg/L)
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Notes:

b Analysis was carried out past the hold date, no analytical problems were encountered. See narrative for Q1 2008

c Presence of this compound confirmed by second column, however, the confirmation concentration different from reported results by more than a factor of two.

H Heavier hydrocarbons than the standard are present in the sample.

J Result is estimated.

L Lighter hydrocarbons contributed to the quantitation

NA Not analyzed.

During first semi-annual 2009 event SOMA-5 had insufficient groundwater for sampling

Y Sample exhibits fuel pattern which does not resemble standard.

Z Sample exhibits unknown single peak or peaks.

FP: Free product detected in SOMA 4.

TPH, purge = Total petroleum hydrocarbons (purgeable)

Groundwater samples collected from the temporary sampling points are considered grab samples, therefore, the results should be considered estimates of groundwater quality.

**Table 5**  
**Historical Analytical Results For Volatile Organic Compound Analyses in**  
**Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
<b>Temporary Sampling Points Installed by Geosolv, LLC</b>							
B-2	24-Jan-00	<0.0013	<0.0013	0.27	0.001	<0.0013	<0.0013
B-3	24-Jan-00	<0.0020	<0.002	0.61	<0.002	<0.002	<0.002
B-7	24-Jan-00	<0.0036	<0.0036	0.92	0.004	<0.0036	<0.0036
	11-Aug-00	<0.0031	<0.0031	0.86	0.005	<0.0031	<0.0031
	31-Oct-00	<0.0042	<0.0042	0.91	0.004	<0.0042	<0.0042
	27-Jul-01	0.01	0.017	0.86	0.005	<0.0031	<0.0031
	27-Apr-01	<0.0031	<0.0031	1.10	0.007	<0.0031	<0.0031
	31-Jan-01	<0.0042	<0.0042	0.92	0.005	<0.0042	<0.0042
B-8	24-Jan-00	<0.0005	<0.0005	0.035	<0.0005	<0.0005	<0.0005
B-9	24-Jan-00	<0.0005	0.001	0.003	<0.0005	<0.0005	<0.0005
B-10	24-Jan-00	1.20	2.40	14.00	0.090	<0.063	<0.063
	10-Aug-00	2.90	1.60	6.50	0.050	<0.025	<0.025
	31-Oct-00	2.40	1.90	7.10	0.061	<0.025	<0.025
	27-Jul-01	1.70	1.40	7.30	0.043	<0.025	<0.025
	27-Jul-01	0.87	0.81	6.60	0.041	<0.025	<0.025
	31-Jan-01	2.10	1.60	6.60	0.044	<0.025	<0.025
	6-Jul-05	0.59	0.34	12.00	<0.1	<0.1	<0.1
	9-Jan-06	0.14	0.29	13.00	<0.1	<0.1	<0.1
	6-Jul-06	0.37	0.38	14.00	<0.1	<0.1	<0.1
	1-Mar-07	<0.1	<0.1	14.00	0.110	<0.1	<0.1
	23-Aug-07	NA	NA	NA	NA	NA	NA
	20-Feb-08	20.0	9.1	16.0	<0.25	<0.25	<0.25
	25-Mar-08	520.0	70.0	28.0	<0.36	<0.36	<0.36
	21-Aug-08	1.1	0.97	17.0	0.096	<0.083	<0.083
	<b>10-Feb-09</b>	<b>1.2</b>	<b>1.2</b>	<b>2.9</b>	<b>&lt;0.02</b>	<b>&lt;0.02</b>	<b>&lt;0.02</b>
B-13	24-Jan-00	0.020	0.029	0.13	0.005	<0.0005	<0.0005
<b>Temporary Sampling Points Installed by LFR</b>							
GW-2	19-Jul-99	0.014	0.001	<0.0005	<0.0005	<0.0005	<0.0005
	20-Jan-00	0.130	0.019	0.006	<0.0005	<0.0005	<0.0005
	28-Apr-00	0.120	0.016	0.003	<0.0005	<0.0005	<0.0005
	2-Nov-00	0.008	0.001	0.003	<0.0005	<0.0005	<0.0005
	1-Feb-01	0.008	0.001	0.003	<0.0005	<0.0005	<0.0005
	27-Apr-01	0.010	0.002	0.002	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.033	0.004	0.002	<0.0005	<0.0005	<0.0005
GW-2 cont.	19-Oct-01	0.019	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	31-Jan-02	0.0092 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0100 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	0.014	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	17-18-Jul-02	0.014	<0.005	<0.005	<0.005	<0.01	<0.005
	22,23-Oct-02	0.027	<0.005	<0.005	<0.005	<0.010	<0.005
	19-Feb-03	0.057	0.007	<0.005	<0.005	<0.010	<0.005
	29-Jul-03	0.043	<0.005	<0.005	<0.005	<0.010	<0.005
	28-Jan-04	0.057	0.0069	<0.005	<0.005	<0.010	<0.005
	4-Aug-04	0.075	0.0100	<0.005	<0.005	<0.010	<0.005
	2-Feb-05	0.049	0.0066	0.016	<0.005	<0.010	<0.005
	6-Jul-05	0.082	0.0110	0.0009	<0.0005	<0.0005	<0.0005
	6-Jan-06	0.061	0.0079	0.0008	<0.0005	<0.0005	<0.0005
	6-Jul-06	0.0750	0.0095	0.0007	<0.0005	<0.0005	<0.0005
	28-Feb-07	0.082	0.0096	0.0006	<0.0005	<0.0005	<0.0005
	22-Aug-07	NA	NA	NA	NA	NA	NA
	20-Feb-08	NA	NA	NA	NA	NA	NA
	22-Aug-08	0.015	0.003	<0.0005	<0.0005	<0.0005	<0.0005
	<b>9-Feb-09</b>	<b>0.059</b>	<b>0.0062</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>

**Table 5**  
**Historical Analytical Results For Volatile Organic Compound Analyses in**  
**Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
GW-3	19-Jul-99	0.220	<0.001	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	20-Jan-00	0.055	0.001	0.020	< 0.0005	< 0.0005	< 0.0005
	27-Apr-00	0.350	0.002	0.006	< 0.0005	< 0.0005	< 0.0005
	27-Apr-00	0.270	0.002	0.002	< 0.0013	< 0.0013	< 0.0013
	11-Aug-00	0.068	0.003	0.012	< 0.0005	< 0.0005	< 0.0005
	2-Nov-00	0.059	0.001	0.002	< 0.0005	< 0.0005	< 0.0005
	1-Feb-01	0.046	0.001	0.001	< 0.0005	< 0.0005	< 0.0005
	27-Apr-01	0.079	0.001	0.002	< 0.0005	< 0.0005	< 0.0005
	27-Jul-01	0.090	0.001	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	19-Oct-01	0.180	<0.0100	< 0.0100	< 0.0100	< 0.0200	< 0.0100
	31-Jan-02	0.0960 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0100 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	0.160	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	17,18-Jul-02	0.086	<0.005	<0.005	<0.005	<0.01	<0.005
	22,23-Oct-02	0.200	<0.0071	<0.0071	<0.0071	<0.014	<0.0071
	19-Feb-03	0.240	<0.005	0.006	<0.005	<0.010	<0.005
	29-Jul-03	0.430	<0.010	<0.010	<0.010	<0.010	<0.010
	28-Jan-04	0.170	<0.005	<0.005	<0.005	<0.010	<0.005
	3-Aug-04	0.440	<0.017	<0.017	<0.017	<0.033	<0.017
	2-Feb-05	0.360	<0.031	<0.031	<0.031	<0.063	<0.031
	6-Jul-05	0.320	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	6-Jan-06	0.200	0.0008	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jul-06	0.400	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
	1-Mar-07	0.400	0.002	<0.0017	<0.0017	<0.0017	<0.0017
	23-Aug-07	0.150	0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	20-Feb-08	0.082	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-08	0.240	0.0013	<0.0005	<0.0005	<0.0005	<0.0005
	9-Feb-09	0.330	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
GW-4	19-Jul-99	< 0.0005	< 0.0005	0.004	< 0.0005	< 0.0005	0.002
	20-Jan-00	0.001	< 0.0005	0.004	< 0.0005	< 0.0005	0.002
	20-Jan-00	0.001	< 0.0005	0.004	< 0.0005	< 0.0005	0.002
	27-Apr-00	0.002	< 0.0005	0.001	< 0.0005	< 0.0005	0.001
	30-Jan-01	< 0.0005	< 0.0005	0.002	< 0.0005	< 0.0005	0.001
	27-Jul-01	< 0.0005	< 0.0005	0.003	< 0.0005	0.001	0.002
	19-Oct-01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	31-Jan-02	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0100 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	17,18-Jul-02	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005
	22,23-Oct-02	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	19-Feb-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	28-Jan-04	0.0081	<0.005	0.010	<0.005	<0.010	<0.005
	3-Aug-04	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	1-Feb-05	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	6-Jul-05	0.0006	<0.0005	0.0013	<0.0005	<0.0005	0.0011
	5-Jan-06	<0.0005	<0.0005	0.0018	<0.0005	<0.0005	0.0015
	28-Feb-07	0.0006	<0.0005	0.0016	<0.0005	<0.0005	0.0014
	22-Aug-07	NA	NA	NA	NA	NA	NA
	20-Feb-08	<0.0005	<0.0005	0.0010	<0.0005	<0.0005	0.0011
	21-Aug-08	NA	NA	NA	NA	NA	NA
	10-Feb-09	<0.0005	<0.0005	0.0013	<0.0005	<0.0005	0.0017

**Table 5**  
**Historical Analytical Results For Volatile Organic Compound Analyses in**  
**Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
<b>GW-5</b>	27-Aug-99	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	20-Jan-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	27-Apr-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
<b>GW-6A</b> Split	27-Aug-99	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	27-Aug-99	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	25-Jan-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	27-Apr-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
<b>GW-7</b> Split	15-Jul-99	< 0.0005	< 0.0005	0.004	< 0.0005	< 0.0005	0.001
	15-Jul-99	< 0.0020	< 0.0020	0.004	< 0.0020	< 0.0020	< 0.0020
	15-Jul-99	< 0.0020	< 0.0020	0.004	< 0.0020	< 0.0020	< 0.0020
<b>GW-8</b> Split	19-Jul-99	0.024	0.015	0.004	0.002	0.001	< 0.0005
	20-Jan-00	0.150	0.190	0.053	0.012	0.005	< 0.0007
	20-Jan-00	0.150	0.180	0.052	0.011	0.005	< 0.0005
	28-Apr-00	0.120	0.110	0.029	0.005	0.002	< 0.0005
<b>Monitoring wells owned by TOSCO</b>							
<b>MW-11</b>	25-Jan-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	28-Apr-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	10-Aug-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	1-Nov-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	31-Jan-01	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	27-Apr-01	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	27-Jul-01	0.002	0.001	0.006	< 0.0005	< 0.0005	< 0.0005
	19-Oct-01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	31-Jan-02	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0100 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.0050
	17,18-Jul-02	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005
	22,23-Oct-02	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	18-Feb-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	28-Jan-04	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	3-Aug-04	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	1-Feb-05	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	5-Jul-05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jan-06	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jul-06	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	28-Feb-07	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	19-Feb-08	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-08	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	10-Feb-09	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005

**Table 5**  
**Historical Analytical Results For Volatile Organic Compound Analyses in**  
**Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
Monitoring wells installed by LFR							
LFR-1 Split	9-Aug-00	2.80	0.064	0.041	< 0.0083	< 0.0083	< 0.0083
	30-Oct-00	0.82	0.034	0.010	< 0.0031	< 0.0031	< 0.0031
	30-Oct-00	0.87	0.035	0.014	< 0.0031	< 0.0031	< 0.0031
	29-Jan-01	0.77	0.026	0.007	<0.0025	<0.0025	<0.0025
	26-Apr-01	0.44	0.013	0.005	<0.0013	<0.0013	<0.0013
	27-Jul-01	0.38	0.031	0.010	<0.0013	<0.0013	<0.0013
	18-Oct-01	0.78	0.093	<0.0310	<0.0310	<0.0630	<0.0310
	31-Jan-02	0.37 <sup>b</sup>	0.035 <sup>b</sup>	<0.0130 <sup>b</sup>	<0.0130 <sup>b</sup>	<0.0250 <sup>b</sup>	<0.0130 <sup>b</sup>
	16,17-Apr-02	0.38	0.040	<0.0130	<0.0130	<0.0250	<0.0130
	17,18-Jul-02	0.36	0.041	<0.013	<0.013	<0.025	<0.013
	22,23-Oct-02	0.18	0.024	0.007	<0.005	<0.010	<0.005
	18-Feb-03	0.28	0.032	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	0.15	0.027	0.007	<0.005	<0.010	<0.005
	29-Jan-04	0.15	0.023	0.0077	<0.0063	<0.013	<0.0063
	4-Aug-04	0.058	0.016	0.0052	<0.005	<0.010	<0.005
	2-Feb-05	0.089	0.0079	0.0072	<0.005	<0.010	<0.005
	6-Jul-05	0.096	0.0260	0.0049	<0.0005	<0.0005	<0.0005
	6-Jan-06	0.062	0.0076	0.0010	<0.0005	<0.0005	<0.0005
	6-Jul-06	0.0078	0.0410	0.001	<0.0005	<0.0005	<0.0005
	1-Mar-07	0.098	0.0099	0.0017	<0.0005	<0.0005	<0.0005
	23-Aug-07	0.170	0.073	0.036	0.0066	0.0005	<0.0005
	19-Feb-08	0.130	0.051	0.021	0.0048	<0.001	<0.001
	22-Aug-08	0.084	0.047	0.014	0.0039	<0.0005	<0.0005
	9-Feb-09	0.100	0.020	0.0031	<0.001	<0.001	<0.001
LFR-2 split	11-Aug-00	< 0.0005	< 0.0005	0.035	< 0.0005	0.005	< 0.0005
	2-Nov-00	< 0.0005	< 0.0005	0.130	0.001	0.015	0.001
	29-Jan-01	<0.0005	<0.0005	0.006	<0.0005	0.002	<0.0005
	27-Apr-01	0.001	<0.0005	0.006	<0.0005	0.001	<0.0005
	27-Jul-01	0.001	0.001	0.019	<0.0005	<0.0005	<0.0005
	18-Oct-01	<0.0071	<0.0071	0.160	<0.0071	<0.0140	<0.0071
	27-Apr-01	0.001	<0.0005	0.007	<0.0005	0.002	<0.0005
	31-Jan-02	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	0.0069 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0100 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	17,18-Jul-02	<0.005	<0.005	0.012	<0.005	<0.01	<0.005
	22,23-Oct-02	<0.005	<0.005	0.066	<0.005	<0.010	<0.005
	18-Feb-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	<0.005	<0.005	0.011	<0.005	<0.010	<0.005
	4-Aug-04	<0.005	<0.005	0.012	<0.005	<0.010	<0.005
	1-Feb-05	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	5-Jul-05	<0.0005	<0.0005	0.0012	<0.0005	<0.0005	<0.0005
	5-Jan-06	<0.0005	<0.0005	0.0007	<0.0005	<0.0005	<0.0005
	5-Jul-06	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	28-Feb-07	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	<0.0005	<0.0005	0.078	<0.0005	0.0098	<0.0005
	20-Feb-08	<0.0005	<0.0005	0.014	<0.0005	0.004	<0.0005
	21-Aug-08	<0.0083	<0.0005	1.40	0.0083	0.089	0.0009
	10-Feb-09	<0.0017	<0.0017	0.33	0.0023	0.032	<0.0017

**Table 5**  
**Historical Analytical Results For Volatile Organic Compound Analyses in**  
**Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
LFR-3 Split	10-Aug-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	10-Aug-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	1-Nov-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	30-Jan-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-01	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	18-Oct-01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	31-Jan-02	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0100 <sup>b</sup>	<0.0050 <sup>b</sup>
	16,17-Apr-02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	17,18-Jul-02	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005
	22,23-Oct-02	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	19-Feb-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	29-Jan-04	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	3-Aug-04	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	2-Feb-05	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	5-Jul-05	0.011	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	9-Dec-05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	6-Jan-06	0.0031	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	5-Jul-06	0.023	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	1-Mar-07	0.020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-07	0.0039	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	20-Feb-08	0.0020	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	22-Aug-08	0.0013	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	9-Feb-09	<b>0.0015</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>
LFR-4	11-Aug-00	< 0.0005	< 0.0005	0.001	< 0.0005	< 0.0005	< 0.0005
	31-Oct-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	30-Jan-01	<0.0005	<0.0005	0.001	<0.0005	<0.0005	<0.0005
	27-Apr-01	<0.0005	<0.0005	0.002	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.001	<0.0005	0.002	<0.0005	<0.0005	<0.0005
	16,17-Apr-02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	17,18-Jul-02	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005
	22,23-Oct-02	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	19-Feb-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	29-Jan-04	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	4-Aug-04	NA	NA	NA	NA	NA	NA
	5-Jul-05	0.0011	<0.0005	0.0026	<0.0005	<0.0005	<0.0005
	5-Jul-06	<0.0005	<0.0005	0.0022	<0.0005	0.0007	<0.0005
	1-Mar-07	<0.0005	<0.0005	0.0033	<0.0005	0.0006	<0.0005
	22-Aug-07	NA	NA	NA	NA	NA	NA
	20-Feb-08	NA	NA	NA	NA	NA	NA
	21-Aug-08	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	10-Feb-09	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>0.0007</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>

**Table 5**  
**Historical Analytical Results For Volatile Organic Compound Analyses in**  
**Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
Monitoring wells installed by SOMA							
SOMA-1	19-Oct-01	<0.0050	<0.0050	0.014	<0.0050	<0.0100	<0.0050
	31-Jan-02	0.0056 <sup>b</sup>	<0.0050 <sup>b</sup>	0.0070 <sup>b</sup>	<0.0050 <sup>b</sup>	<0.0100 <sup>b</sup>	0.0057 <sup>b</sup>
	16,17-Apr-02	0.006	<0.0050	0.007	<0.0050	<0.0100	<0.0050
	17,18-Jul-02	<0.005	<0.005	0.016	<0.005	<0.01	<0.005
	22,23-Oct-02	0.008	<0.005	0.041	<0.005	<0.010	0.007
	19-Feb-03	0.009	<0.0071	0.016	<0.0071	<0.014	<0.0071
	30-Jul-03	0.016	<0.005	0.042	<0.005	<0.010	0.006
	29-Jan-04	0.019	<0.005	0.044	<0.005	<0.010	0.0059
	3-Aug-04	0.019	<0.013	0.038	<0.013	<0.025	<0.013
	1-Feb-05	0.022	<0.017	0.028	<0.017	<0.033	<0.017
	5-Jul-05	0.041	0.0026	0.051	<0.0017	<0.0017	0.0046
	5-Jan-06	0.019	0.0013	0.028	<0.0005	<0.0005	0.0026
	5-Jul-06	0.037	0.0028	0.057	<0.002	<0.002	0.0037
	28-Feb-07	0.079	0.0062	0.170	<0.002	<0.002	0.0067
	22-Aug-07	0.062	0.0060	0.170	0.0022	<0.002	0.0035
	20-Feb-08	0.075	0.0058	0.180	0.0022	<0.002	0.0025
	21-Aug-08	0.110	0.0085	0.250	<0.0025	<0.0025	0.0031
	<b>10-Feb-09</b>	<b>0.085</b>	<b>0.0067</b>	<b>0.290</b>	<b>0.0028</b>	<b>&lt;0.0025</b>	<b>0.0035</b>
SOMA-2	19-Oct-01	1.400	0.350	5.000	<0.250	<0.500	<0.250
	31-Jan-02	<0.071 <sup>b</sup>	<0.071 <sup>b</sup>	1.8 <sup>b</sup>	<0.071 <sup>b</sup>	<0.140 <sup>b</sup>	<0.071 <sup>b</sup>
	16,17-Apr-02	<0.130	<0.130	2.900	<0.130	<0.250	<0.130
	17,18-Jul-02	<0.063	<0.063	1.600	<0.063	<0.13	<0.063
	22,23-Oct-02	0.017	0.008	0.350	<0.0071	<0.014	<0.0071
	19-Feb-03	<0.017	<0.017	0.790	<0.017	<0.033	<0.017
	29-Jul-03	0.032	<0.020	0.580	<0.040	<0.040	<0.020
	28-Jan-04	0.036	<0.017	0.430	<0.017	<0.033	<0.017
	4-Aug-04	<0.031	<0.031	0.430	<0.031	<0.063	<0.031
	2-Feb-05	<0.310	<0.310	6.100	<0.310	<0.630	<0.310
	6-Jul-05	0.078	0.047	5.200	0.044	<0.025	<0.025
	9-Jan-06	<0.042	<0.042	7.30	0.049	<0.042	<0.042
	6-Jul-06	<0.042	<0.042	5.400	0.046	<0.042	<0.042
	1-Mar-07	<0.042	<0.042	5.100	<0.042	<0.042	<0.042
	23-Aug-07	<0.042	0.110	5.400	0.042	<0.042	<0.042
	20-Feb-08	0.200	0.360	16.00	0.100	<0.100	<0.100
	25-Mar-08	6.400	2.500	20.00	0.130	<0.130	<0.130
	21-Aug-08	0.620	0.870	15.00	0.160	<0.0063	<0.0063
	<b>10-Feb-09</b>	<b>0.170</b>	<b>0.390</b>	<b>5.90</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>	<b>&lt;0.05</b>
SOMA-3	19-Oct-01	0.042	0.057	0.440	<0.025	<0.050	<0.025
	31-Jan-02	0.018 <sup>b</sup>	0.023 <sup>b</sup>	0.38 <sup>b</sup>	<0.013 <sup>b</sup>	<0.025 <sup>b</sup>	<0.013 <sup>b</sup>
	16,17-Apr-02	0.025	0.018	0.36	<0.017	<0.033	<0.017
	17,18-Jul-02	0.027	<0.017	0.44	<0.017	<0.033	<0.017
	22,23-Oct-02	<0.170	<0.170	5.90	<0.170	<0.330	<0.170
	19-Feb-03	<0.130	<0.130	4.10	<0.130	<0.250	<0.130
	29-Jul-03	0.150	0.220	4.70	<0.130	<0.250	<0.130
	29-Jan-04	<0.310	<0.310	7.70	<0.310	<0.630	<0.310
	4-Aug-04	<0.500	<0.500	6.90	<0.500	<1.0	<0.500
	2-Feb-05	<0.063	<0.063	1.10	<0.063	<0.130	<0.063
	6-Jul-05	0.031	0.014	0.89	0.0067	0.0011	0.0032
	6-Jan-06	0.025	0.0094	0.77	0.005	0.001	0.0026
	6-Jul-06	0.015	0.0064	0.370	<0.005	<0.005	<0.005
	1-Mar-07	0.015	<0.005	0.270	<0.005	<0.005	<0.005
	23-Aug-07	0.280	0.060	2.900	0.010	<0.005	<0.005
	20-Feb-08	0.041	0.062	5.300	0.068	<0.031	<0.031
	21-Aug-08	0.160	0.030	2.100	0.019	<0.013	<0.013
	<b>10-Feb-09</b>	<b>0.024</b>	<b>0.014</b>	<b>1.800</b>	<b>0.013</b>	<b>&lt;0.013</b>	<b>&lt;0.013</b>

**Table 5**  
**Historical Analytical Results For Volatile Organic Compound Analyses in**  
**Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
<b>SOMA-4</b>	19-Oct-01	<0.13	<0.13	2.600	<0.13	<0.25	<0.13
	31-Jan-02	FP	FP	FP	FP	FP	FP
	16,17-Apr-02	FP	FP	FP	FP	FP	FP
	17,18-Jul-02	FP	FP	FP	FP	FP	FP
	22,23-Oct-02	FP	FP	FP	FP	FP	FP
	18-Feb-03	FP	FP	FP	FP	FP	FP
	29-Jul-03	FP	FP	FP	FP	FP	FP
	<b>10-Feb-09</b>	<b>&lt;0.005</b>	<b>&lt;0.005</b>	<b>0.830</b>	<b>0.0051</b>	<b>&lt;0.005</b>	<b>&lt;0.005</b>
<b>SOMA-5</b>	4-Aug-04	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	2-Feb-05	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	6-Jul-05	<0.0025	<0.0025	0.0057	<0.0025	<0.0025	<0.0025
	9-Jan-06	<0.0025	0.0067	0.430	0.027	<0.0025	<0.0025
	6-Jul-06	<0.0005	<0.0005	0.0035	<0.0005	<0.0005	<0.0005
	1-Mar-07	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	23-Aug-07	NA	NA	NA	NA	NA	NA
	20-Feb-08	NA	NA	NA	NA	NA	NA
	21-Aug-08	NA	NA	NA	NA	NA	NA
	<b>10-Feb-09</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

Notes:

a: Not detected above the laboratory reporting limits.

b: analysis was carried out past hold date, no analytical problems were encountered

FP: Not Analyzed due to Free Product

NA: Not Analyzed. Well LFR-4 was inaccessible during the Third Quarter 2004 Monitoring Event.

During First Semi-annual 2009 event SOMA-5 had insufficient groundwater for sampling

**Table 6**  
**Historical In-Situ and Ex-Situ Analyses Results for Bioattenuation Parameters**  
**in Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
<b>B-7</b> B-7-field	11-Aug-00						11.0	193	
	11-Aug-00	0.63			3.0				
	31-Oct-00	0.62	2.6	< 0.10	< 1.0	11.00	2.4		
	31-Oct-00	0.25		0.4	-1.0	15.85		-63	-3
B-7-field B-7 Field B-7 Field	1-Feb-01	0.78	2.2	0.8	<1.0	15.00	13.0		
	31-Jan-01	0.48						28	
	26-Apr-01	0.60	1.7	2.5	5.0	>3.3	7.6	-28	
	26-Jul-01	1.98	7.3	0.0	8.0	11.60	7.0	-40	
<b>B-8 field</b>	31-Jan-01	0.45						58	
<b>B-10</b> B-10-field	10-Aug-00			< 0.05	< 0.05	5.70	10.0	213	
	10-Aug-00	0.44			-1.0	-2.0			
	31-Oct-00	2.40	1.4	< 0.10	< 1.0	5.90	6.7		0.81
	31-Oct-00	0.44		0.0	0.0	7.60		-22	
B-10-field B-10 Field B-10 Field	31-Jan-01	6.40	1.3	< 0.10	<2.0	7.70	24.0		1.3
	31-Jan-01	0.46						64	
	11-Jun-01	0.90	0.0	0	0	1.25	3.9	-8	
	26-Jun-01	1.87	1.3	0	3	6.20	5.6	-22	NM
<b>GW-2-field</b> <b>GW-2</b> GW-2-field	6-Jul-05	9.53	41.1	35	80	3.30	2.2	12	
	9-Jan-06	3.39	13.6	0	0	3.30	10.0	10	
	6-Jul-06	10.62	0.0	0	0	3.30	11	-104	
	1-Mar-07	10.53	1.8	0	0	3.30	0.25	-76.3	
	23-Aug-07	NM	NM	NM	NM	NM	NM	NM	
	20-Feb-08	NM	0.70	7.20	11.00	3.30	6.30	NM	
	25-Mar-08	NM	NM	NM	NM	NM	7.40	NM	
	21-Aug-08	0.25	12.40	12.10	16.00	3.30	2.90	-60.20	
	<b>10-Feb-09</b>	<b>0.18</b>	<b>10.50</b>	<b>5.70</b>	<b>80.00</b>	<b>2.68</b>	<b>2.00</b>	<b>-65.70</b>	
	Not En. Sample							77	
GW-2 field	31-Jan-02	2.80	0.0	0.8	45	0.36	0.0009		
	16,17-Apr-02	1.76	0.0	4.7	70	0.09	0.0069	179	
	17,18-Jul-02	1.39	0.6	0.0	69	0.00	0.0003	198	
	22,23-Oct-02	3.86	0.6	11.5	40	0.07	0.0021	161	
							0.0160	233	NM
							0.0002		

**Table 6**  
**Historical In-Situ and Ex-Situ Analyses Results for Bioattenuation Parameters**  
**in Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
GW-2	19-Feb-03	7.24	0.1	10.3	49	0.03	0.0012	169	
	29-Jul-03	4.21	0.2	0.0	44	0.00	0.0007	47	
	28-Jan-04	6.02	0.0	3.3	56	0.00	0.00046	143	
	4-Aug-04	8.27	0.0	0.0	27	0.00	0.00035	115	
	2-Feb-05	8.41	0.0	0.0	40	0.00	<0.0050	76	
	6-Jul-05	10.90	0.0	5.3	51	0.00	<0.005	90	
	6-Jan-06	8.11	2.4	0.0	44	0.00	<0.005	86	
	6-Jul-06	9.71	0.3	0.0	53	0.00	<0.005	86	
	28-Feb-07	6.51	1.5	14.4	48	0.12	<0.005	33.5	
	22-Aug-07	NM	NM	NM	NM	NM	NM	NM	
GW-3	20-Feb-08	NM	NM	NM	NM	NM	NM	NM	
	22-Aug-08	0.12	0.00	0.00	29.00	0.00	<0.005	114.80	
<b>9-Feb-09</b>		<b>0.14</b>	<b>1.30</b>	<b>3.40</b>	<b>66.00</b>	<b>0.11</b>	<b>&lt;0.005</b>	<b>10.40</b>	
GW-3-field	11-Aug-00						< 0.0005	395	
	11-Aug-00	0.72		1.0	46			81	
	1-Nov-00	7.76							
	29-Jan-01	8.80					0.0120		
	1-Feb-01	8.99						235	
	27-Apr-01	2.90	0.0	0.7	30	0.00	0.0150	212	NM
	26-Jul-01	2.48	0.0	2.4	52	0.12	0.0083	214	
	18-Oct-01	3.76	0.0	5.2	4.9	0.00	0.0041	131	NM
	31-Jan-02	3.70	0.2	1.3	52	0.00	0.0081	163	
	16,17-Apr-02	7.55	0.0	4.2	59	0.00	0.0006	133	
GW-3 field	17,18-Jul-02	3.50	0.0	0.0	47	0.22	0.0100	155	
	22,23-Oct-02	2.19	0.0	1.6	33	0.00	0.0007	178	
	19-Feb-03	5.28	0.4	4.0	43	0.02	0.0007	123	
	29-Jul-03	6.12	0.0	0.0	31	0.00	0.0005	96	
	28-Jan-04	4.21	0.0	0.8	61	0.00	0.00042	141	
	3-Aug-04	10.20	0.0	0.0	41	0.00	0.00028	84	
	2-Feb-05	3.97	0.5	0.0	12	0.00	<0.0050	84	
	6-Jul-05	7.96	2.9	0.5	52	0.00	<0.005	67	
	6-Jan-06	5.22	0.0	0.0	4	0.00	<0.005	61	
	6-Jul-06	5.69	3.1	0.0	31	0.00	<0.005	63	
GW-4-field	1-Mar-07	7.27	0.6	4.3	15	0.00	<0.005	50.4	
	23-Aug-07	4.79	1.9	7.8	33	0.17	<0.005	178.3	
	20-Feb-08	0.22	0.0	35.0	0	0.00	<0.0065	71.1	
	22-Aug-08	0.12	0.3	0.0	4	0.00	<0.005	135.5	
	9-Feb-09	<b>0.13</b>	<b>1.4</b>	<b>2.8</b>	<b>36</b>	<b>0.02</b>	<b>&lt;0.005</b>	<b>-6.1</b>	
GW-4	30-Jan-01	0.83						67	
	26-Jul-01	2.59	0.2	10.5	25	1.29	0.0028	-3	
	18-Oct-01	1.00	0.1	0.0	0	4.80	4.80	-84	NM
	31-Jan-02	0.90	0.8	0.0	0	8.00	3.50	-91	
	16,17-Apr-02	0.41	0.1	5.2	0	5.70	4.70	-2	
GW-4	17,18-Jul-02	2.38	3.0	0.0	0	>3.3	4.60	-68	
	22,23-Oct-02	NM	NM	NM	NM	NM	0.30	NM	
	19-Feb-03	7.76	0.4	5.4	0	3.30	2.30	-57	
	30-Jul-03	5.38	6.1	0.0	0	3.30	1.30	-141	

**Table 6**  
**Historical In-Situ and Ex-Situ Analyses Results for Bioattenuation Parameters**  
**in Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
GW-4	28-Jan-04	2.17	5.9	0.0	0	3.30	0.22	-73	
	3-Aug-04	10.35	0.9	0.0	0	3.30	3.20	-113	
	1-Feb-05	2.97	0.8	0.0	0	1.53	1.20	93	
	6-Jul-05	9.17	1.9	9.8	20	1.07	0.84	128	
	5-Jan-06	7.62	3.4	0.0	0	3.30	3.40	110	
	28-Feb-07	5.26	1.1	0.0	0	3.30	3.90	-119.5	
	22-Aug-07	NM	NM	NM	NM	NM	NM	NM	
	20-Feb-08	0.23	0.60	0.00	0.00	3.30	2.50	-108.70	
	21-Aug-08	NM	NM	NM	NM	NM	NM	NM	
<b>10-Feb-09</b>		<b>0.13</b>	<b>8.00</b>	<b>2.30</b>	<b>8.00</b>	<b>3.30</b>	<b>2.40</b>	<b>-19.40</b>	
MW-11 MW-11-field MW-11-field MW-11-field MW-11 Field MW-11 Field	10-Aug-00	2.52	< 0.010	2.8	63	< 0.1	< 0.0005	476	
	10-Aug-00	4.10		4.1	67				
	1-Nov-00	4.01		15.0	90	< 0.1	0.0000	87	130
	1-Nov-00	3.97		3.3	73	0.00		319	
	31-Jan-01	6.30	< 0.010	27.3	74	0.00			
	26-Apr-01	7.40		15.0	94	< 1.0	0.0001	229	1.1
	26-Jul-01	1.85		6.8	52	0.00	0.0014	233	NM
	18-Oct-01	5.58		0.0	52	0.00	0.0049	155	
	31-Jan-02	4.90		5.2	77	0.00	0.0066	218	
	16,17-Apr-02	3.18		4.1	79	0.00	0.0092	242	
	17,18-Jul-02	2.82		3.7	69	0.00	0.0088	357	
	22,23-Oct-02	4.47		10.1	NM	0.00	0.0025	118	
	18-Feb-03	5.65		2.3	73	0.00	0.0022	304	
	30-Jul-03	3.80		0.0	54	0.00	0.0010	224	
	28-Jan-04	7.32		0.0	80	0.00	0.0200	130	
	3-Aug-04	10.40		0.0	77	0.00	0.0028	185	
	1-Feb-05	6.99		0.0	52	0.00	<0.0050	91	
	5-Jul-05	10.38		1.7	80	0.00	<0.005	125	
	5-Jan-06	6.21		0.0	65	0.00	<0.005	166	
	5-Jul-06	8.35		5.9	80	0.00	<0.005	35	
	28-Feb-07	6.68		0.4	41	0.63	<0.005	12.9	
	22-Aug-07	3.07		3.5	54	0.00	<0.005	237	
	19-Feb-08	0.23		0.8	27	0.00	<0.0065	48	
	22-Aug-08	0.10		1.9	35	0.00	<0.005	67.60	
<b>10-Feb-09</b>		<b>0.25</b>	<b>0.6</b>	<b>0.0</b>	<b>50</b>	<b>0.02</b>	<b>&lt;0.005</b>	<b>34.40</b>	
LFR-1 LFR-1-field LFR-1-field/split LFR-1 split LFR-1-field LFR-1 Dup	9-Aug-00							462	
	11-Aug-00						0.0096		
	9-Aug-00	3.63	0.0	5.5	30				1.5
	30-Oct-00	2.70		39.0	42	< 1.0	0.0004		
	30-Oct-00	2.95		10.3/10.0	29/29	0.01/0.01		77	1
	30-Oct-00	3.40	0.0	40.0	43.0	< 1.0	0.0007		
	29-Jan-01	5.10	<0.01	<0.10	51	<1.0	0.0001		
	29-Jan-01	3.78	0.0		36	0.00		383	0.43
	29-Jan-01	4.60	<0.01	<0.10	50	<1.0	0.0000		0.32
	26-Apr-01	3.20	0.0	12.9	16	0.00	0.0003	224	NM
	26-Jul-01	1.07	0.0	8.0	25	0.01	0.0084	238	

**Table 6**  
**Historical In-Situ and Ex-Situ Analyses Results for Bioattenuation Parameters**  
**in Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
LFR-1 field <b>LFR-1</b>	18-Oct-01	1.03	0.0	6.9	24	0.18	0.0054	119	NM
	31-Jan-02	1.80	0.3	5.5	31	0.00	0.0062	163	
	16,17-Apr-02	1.68	0.3	1.5	38	0.39	0.0030	240	
	17,18-Jul-02	0.00	0.0	6.1	3	0.07	0.0047	209	
	22,23-Oct-02	0.00	0.4	0.0	23	0.15	0.0008	265	
	18-Feb-03	7.76	0.0	4.3	30	0.00	0.0008	260	
	30-Jul-03	0.58	0.3	0.0	10	0.00	0.0004	190	
	29-Jan-04	3.12	0.5	0.0	57	0.00	0.0011	19	
	4-Aug-04	6.26	5.8	0.0	17	0.00	0.0010	62	
	2-Feb-05	5.24	0.0	0.0	1	0.00	0.0120	93	
	6-Jul-05	8.53	0.2	2.5	40	0.00	<0.005	110	
	6-Jan-06	5.43	3.9	0.0	5	0.00	0.025	161	
	6-Jul-06	9.93	0.4	0.0	6	0.00	<0.005	99	
	1-Mar-07	5.00	5.2	4.5	42	0.04	<0.005	62.9	
	23-Aug-07	0.88	2.7	4.7	23	0.15	<0.005	215	
	19-Feb-08	0.20	0.0	0.0	11	0.00	<0.0065	43.9	
	22-Aug-08	0.14	6.7	0.0	0	0.00	0.0059	119.2	
	<b>9-Feb-09</b>	<b>0.14</b>	<b>4.9</b>	<b>0.0</b>	<b>23</b>	<b>0.00</b>	<b>&lt;0.005</b>	<b>12.2</b>	
LFR-2 LFR-2-field LFR-2-field LFR-2 field	11-Aug-00					6.60	270		
	11-Aug-00	0.48		1.5	-1.0	2.70			
	2-Nov-00	2.20	8.8	0.3	5.4	5.30			1200
	2-Nov-00	0.47		0.5	-1.0	6.05			
	30-Jan-01	4.40	8.9	1.0	8.3	4.60	4.60		
	30-Jan-01	0.61	10.7	2.9		1.02			1.1
	27-Apr-01	1.40	0.4	1.6	1.0	2.66	14.00		
	26-Jul-01	0.55	0.2	0.0	0.0	4.50	10.00		NM
	18-Oct-01	0.43	0.0	0.0	0.0	6.50	11.00		NM
	31-Jan-02	1.00	0.0	2.6	19.0	1.81	11.00		
	16,17-Apr-02	0.00	0.0	1.7	0.0	7.20	16.00		
	17,18-Jul-02	0.00	13.9	0.0	0.0	7.20	9.60		
	22,23-Oct-02	0.00	10.7	0.5	0.0	3.30	4.70		
	18-Feb-03	0.42	9.0	0.0	0.0	3.30	9.60		
	30-Jul-03	0.00	3.0	0.0	0.0	3.30	8.70		
	4-Aug-04	4.78	1.6	0.0	0.0	3.30	6.20		
	1-Feb-05	1.77	12.1	0.0	0.0	1.79	11.00		
	5-Jul-05	4.21	18.2	0.0	0.0	3.30	11.00		
	5-Jan-06	3.53	3.8	0.0	3.0	3.30	14.00		
	5-Jul-06	7.70	4.3	0.0	0.0	3.30	10.00		
	28-Feb-07	3.03	4.2	0.0	0.0	3.30	11.00		
	22-Aug-07	0.11	22.7	0.0	0.0	3.30	6.60		
	20-Feb-08	0.20	0.0	0.0	0.0	0.76	4.70		
	21-Aug-08	0.13	21.4	0.0	0.0	3.30	5.80		
	<b>10-Feb-09</b>	<b>0.16</b>	<b>24.0</b>	<b>0.2</b>	<b>0.0</b>	<b>3.30</b>	<b>3.70</b>	<b>-62.2</b>	

**Table 6**  
**Historical In-Situ and Ex-Situ Analyses Results for Bioattenuation Parameters**  
**in Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
LFR-3	10-Aug-00			2.4	64	< 0.1	0.0005	464	
LFR-3 split	10-Aug-00							< 0.0005	
LFR-3-field	10-Aug-00	1.30		2.4	64				
LFR-3-field	1-Nov-00	4.70	0.0	8.8	74	< 1.0	0.0003		
LFR-3-field	1-Nov-00	0.58		1.8	57	0.00		75	
LFR-3-field	31-Jan-01	4.10	<0.01	1.2	58	< 1.0	0.0004		
LFR-3-field	30-Jan-01	1.75		0.0	44	0.00		195	
LFR-3 Field	11-Jun-01	1.00	0.0	0.8	28	0.00	0.0086	201	
LFR-3 Field	26-Jul-01	1.29	0.4	0.0	51	0.60	0.0035	228	
LFR-3 Field	18-Oct-01	0.54	0.0	0.8	30	0.11	0.0093	139	
LFR-3-field	31-Jan-02	0.80	0.4	2.6	32	0.00	0.0072	212	
LFR-3-field	16,17-Apr-02	0.19	0.4	0.0	55	0.79	0.0096	228	
LFR-3-field	17,18-Jul-02	0.00	0.2	1.7	42	0.00	0.0068	166	
LFR-3-field	22,23-Oct-02	0.11	0.5	0.0	36	0.00	0.0035	186	
LFR-3-field	19-Feb-03	1.10	0.5	0.0	19	0.54	0.0069	217	
LFR-3-field	30-Jul-03	0.17	0.1	0.0	21	0.00	0.0069	167	
LFR-3-field	29-Jan-04	1.39	0.0	0.0	0	3.30	0.0011	64	
LFR-3-field	3-Aug-04	5.14	3.9	0.0	8	0.00	0.0054	175	
LFR-3-field	2-Feb-05	2.74	0.0	0.0	0	0.00	<0.005	94	
LFR-3-field	5-Jul-05	7.59	0.5	35.0	80	3.29	<0.005	85	
LFR-3-field	6-Jan-06	3.52	1.8	0.0	23	0.67	<0.005	151	
LFR-3-field	5-Jul-06	5.47	1.1	0.0	40	0.00	<0.005	56	
LFR-3-field	1-Mar-07	3.78	1.6	5.3	12	0.72	<0.005	42.7	
LFR-3-field	22-Aug-07	1.70	4.0	0.0	9	0.44	<0.005	192	
LFR-3-field	20-Feb-08	0.22	6.2	0.0	0	0.00	<0.0065	58.9	
LFR-3-field	22-Aug-08	0.14	1.5	0.0	0	0.00	<0.005	140.4	
LFR-3-field	9-Feb-09	0.13	0.0	2.3	44	0.00	<0.005	-41.0	
LFR-4	11-Aug-00						0.06	402	
LFR-4-field	11-Aug-00	1.13		0.7	1	0.14			
LFR-4-field	31-Oct-00	1.90	2.2	< 0.10	2.9	1.10	3.20		1.1
LFR-4-field	31-Oct-00	0.64		1.0		0.61		-80	
LFR-4-field	1-Feb-01	3.20	2.8	1.5	2.8	1.80	2.20		
LFR-4-field	1-Feb-01	0.55	4.5	8.0	0.0	1.50		59	
LFR-4 Field	27-Apr-01	5.60	0.0	1.7	0.0	1.37	7.00	14	
LFR-4 Field	26-Jul-01	1.65	0.0	0.0	0.0	0.84	1.20	18	
LFR-4-field	16,17-Apr-02	0.00	1.0	2.6	6.0	4.80	12.00	-4	
LFR-4-field	17,18-Jul-02	0.79	6.8	0.0	0.0	>3.3	2.80	3	
LFR-4-field	22,23-Oct-02	0.00	4.0	0.0	0.0	2.55	1.30	-63	
LFR-4-field	19-Feb-03	0.50	6.8	0.0	18	3.30	4.40	-41	
LFR-4-field	30-Jul-03	0.28	5.1	0.0	0.0	3.30	3.90	-49	
LFR-4-field	29-Jan-04	1.64	5.0	0.0	0.0	0.52	4.00	1	
LFR-4-field	4-Aug-04	NM	NM	NM	NM	NM	NM	NM	
LFR-4-field	5-Jul-05	5.22	2.8	0.0	0.0	3.30	5.40	61	
LFR-4-field	5-Jul-06	9.70	5.9	0.0	0.0	3.30	9.20	-98	
LFR-4-field	1-Mar-07	3.97	1.7	0.0	0.0	3.30	3.00	-50	
LFR-4-field	22-Aug-07	NM	NM	NM	NM	NM	NM	NM	
LFR-4-field	19-Feb-08	NM	NM	NM	NM	NM	NM	NM	
LFR-4-field	21-Aug-08	0.14	4.40	0.00	0.00	3.20	6.20	-0.70	
LFR-4-field	10-Feb-09	0.18	28.10	0.00	0.00	2.18	4.40	-30.60	

**Table 6**  
**Historical In-Situ and Ex-Situ Analyses Results for Bioattenuation Parameters**  
**in Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
SOMA-1	18-Oct-01	4.19	0.3	0.2	33	0.52	0.12	151	NM
	31-Jan-02	0.40	0.0	0.0	18	0.00	0.58	141	NM
	16,17-Apr-02	0.00	0.0	0.6	31	0.10	0.82	213	
	17,18-Jul-02	0.00	0.0	1.8	28	0.05	0.44	149	
	22,23-Oct-02	0.00	0.7	0.0	4	0.00	0.68	131	
	18-Feb-03	5.12	0.4	0.0	1	0.00	0.41	258	
	30-Jul-03	0.00	0.4	0.0	1	0.00	0.99	74	
	29-Jan-04	0.29	0.5	0.0	13	0.47	0.85	133	
	3-Aug-04	4.44	0.0	0.0	25	0.00	0.50	152	
	1-Feb-05	1.57	0.1	0.0	0.0	0.00	0.83	137	
	5-Jul-05	7.58	0.5	0.0	16	0.21	1.50	72	
	5-Jan-06	5.82	0.0	0.0	6	0.00	0.60	156	
	5-Jul-06	6.79	1.8	0.0	13	0.00	1.10	66	
	28-Feb-07	2.13	10.1	0.0	12	0.00	2.50	37.3	
	22-Aug-07	0.14	3.3	0.0	9	0.39	0.79	177.0	
SOMA-2	20-Feb-08	0.22	0.2	0.0	0	0.00	0.65	57.1	
	21-Aug-08	0.12	0.1	0.0	0	0.00	0.67	202.7	
	10-Feb-09	<b>0.15</b>	<b>8.0</b>	<b>0.6</b>	<b>22</b>	<b>0.20</b>	<b>1.20</b>	<b>22.7</b>	
SOMA-2	18-Oct-01	0.57	0.0	0.4	0.0	40.00	6.60	-89	NM
	31-Jan-02	0.70	3.8	0.8	0.0	9.00	13.00	103	NM
	16,17-Apr-02	0.00	0.5	0.1	0.0	7.40	14.00	-69	
	17,18-Jul-02	0.00	5.7	0.0	0.0	>3.3	9.40	-87	
	22,23-Oct-02	0.35	1.7	2.8	15	3.30	2.20	-98	
	19-Feb-03	3.17	1.9	1.7	0.0	2.89	2.40	-72	
	30-Jul-03	2.71	1.0	0.0	0.0	0.83	1.00	-53	
	28-Jan-04	4.52	0.2	0.0	0.0	1.46	1.70	-8	
	4-Aug-04	7.06	0.4	0.0	0.0	0.31	1.40	-33	
	2-Feb-05	1.17	8.4	0.0	0.0	3.30	13.00	-95	
	6-Jul-05	5.67	1.1	0.0	0.0	3.30	11.00	-66	
	9-Jan-06	3.01	15.7	5.6	0.0	3.30	15.00	-60	
	6-Jul-06	8.92	7.4	0.0	0.0	3.30	14.00	-85	
	1-Mar-07	6.42	8.7	0.0	0.0	3.30	12.00	-137	
	23-Aug-07	0.43	0.0	0.0	0.0	2.87	8.60	-31.6	
	20-Feb-08	0.25	2.9	0.0	0.0	3.30	11.00	-79.6	
	25-Mar-08	NM	NM	NM	NM	NM	9.10	NM	
	21-Aug-08	0.26	3.10	0.00	0.00	3.30	7.50	-65.40	
	10-Feb-09	<b>0.18</b>	<b>30.30</b>	<b>0.00</b>	<b>80.00</b>	<b>3.30</b>	<b>2.50</b>	<b>-100.60</b>	
SOMA-3	18-Oct-01	1.32	0.0	0.0	33	0.22	1.00	2	NM
	31-Jan-02	1.00	22.0	2.0	54	0.62	0.46	-71	NM
	16,17-Apr-02	2.60	0.0	0.6	42	0.77	0.41	29	
	17,18-Jul-02	0.97	10.9	0.0	23	>3.3	0.94	-51	
	22,23-Oct-02	0.30	2.7	0.1	7	3.26	4.20	-98	
	19-Feb-03	0.18	0.0	0.0	0.0	3.30	9.00	-88	
	30-Jul-03	0.00	2.0	0.0	0.0	3.30	8.70	-106	
	29-Jan-04	2.30	3.5	0.0	0.0	3.30	8.40	-85	
	4-Aug-04	5.35	0.0	0.0	0.0	3.30	6.50	-105	
	2-Feb-05	3.66	0.3	0.0	0.0	0.00	2.70	-73	
	6-Jul-05	9.65	0.7	0.0	0.0	0.77	2.50	84	
	6-Jan-06	2.20	2.9	0.0	0.0	0.40	3.10	86	
	6-Jul-06	10.52	0.5	0.0	0.0	0.37	1.40	-58	
	1-Mar-07	5.03	0.5	0.0	0.0	0.80	1.40	-51.9	
	23-Aug-07	9.68	0.0	0.0	35.0	0.28	2.70	11.8	
	20-Feb-08	0.25	34.2	12.1	49.0	3.30	6.50	59.3	
	21-Aug-08	0.30	0.0	0.0	0.0	0.00	1.60	27.3	
	10-Feb-09	<b>0.20</b>	<b>0.8</b>	<b>0.0</b>	<b>25.0</b>	<b>0.80</b>	<b>0.83</b>	<b>34.2</b>	

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**in Groundwater Samples**  
**at the Former Glovatorium Site**  
**3815 Broadway, Oakland, California**

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
<b>SOMA-4</b>	18-Oct-01	0.83	4.0	22.0	17	0.22	1.20	88	NM
	<b>10-Feb-09</b>	<b>0.17</b>	<b>7.1</b>	<b>0.4</b>	<b>80.0</b>	<b>2.83</b>	<b>2.20</b>	<b>-104.9</b>	
<b>SOMA-5</b>	4-Aug-04	5.65	0.0	0.0	0.0	0.23	1.70	-143	
	2-Feb-05	2.40	1.5	0.0	0.0	3.30	3.00	-81	
	6-Jul-05	8.91	20.9	0.0	0.0	3.30	20.00	-113	
	9-Jan-06	3.24	15.2	0.0	0.0	3.30	10.00	-141	
	6-Jul-06	10.54	0.0	0.0	0.0	0.82	6.90	-129	
	1-Mar-07	NM	NM	NM	NM	NM	NM	NM	
	23-Aug-07	NM	NM	NM	NM	NM	NM	NM	
	20-Feb-08	NM	NM	NM	NM	NM	NM	NM	
	21-Aug-08	NM	NM	NM	NM	NM	NM	NM	
	<b>10-Feb-09</b>	<b>0.18</b>	<b>63.4</b>	<b>0.0</b>	<b>0.0</b>	<b>1.64</b>	<b>NM</b>	<b>-119.4</b>	

Notes:

Samples with "field" in the well number indicate that the results are from field measurements obtained using a Hach spectrophotometer or a Hydrolab Quanta flow-through instrument.

since April 2001, field measurements have been obtained by a Hach Calorimeter

\*) Methane was measured by Microseep Laboratory.

Since the First Quarter 2005, Curtis & Tompkins has analyzed for methane.

NM: Not Measured. Well LFR-4 was inaccessible during the Third Quarter 2004 monitoring event.

During First semi-annual 2009 event SOMA-5 had insufficient groundwater for sampling

**Table 7**  
**Free Product Removal Log**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, CA**

Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>SOMA-4</b>			
<b>2002</b>			
31-Jan-2002	11.30	8.80	2.50
10-Apr-2002	12.45	9.58	2.87
29-Apr-2002	13.00	9.80	3.20
10-Sep-2002	16.75	10.26	6.49
19-Sep-2002	16.32	10.64	5.68
27-Sep-2002	16.59	10.65	5.94
3-Oct-2002	16.95	11.65	5.30
7-Oct-2002	17.40	11.01	6.39
8-Oct-2002	17.11	10.75	6.36
14-Oct-2002	17.51	10.53	6.98
25-Oct-2002	16.90	10.96	5.94
1-Nov-2002	15.59	11.70	3.89
14-Nov-2002	16.24	11.20	5.04
20-Nov-2002	13.44	11.90	1.54
15-Dec-2002	12.73	12.10	0.63
<b>2003</b>			
18-Jul-2003	17.70	7.20	10.50
<b>2004</b>			
28-Jan-2004	12.00	2.90	9.10
<b>2005</b>			
29-Jun-2005	10.40	10.10	0.30
18-Jul-2005	10.35	9.90	0.45
25-Jul-2005	10.75	10.00	0.75
1-Aug-2005	10.87	9.25	1.62
24-Aug-2005	13.47	9.95	3.52
31-Aug-2005	11.15	10.01	1.14
6-Sep-2005	12.98	10.78	2.20
12-Sep-2005	11.15	9.10	2.05
19-Sep-2005	12.90	10.80	2.10
5-Oct-2005	12.80	10.85	1.95
<b>2006</b>			
4-Jan-2006	12.50	8.60	3.90
12-Jan-2006	13.10	10.30	2.80
18-Jan-2006	13.64	10.50	3.14
24-Jan-2006	9.20	9.19	0.01
24-Jan-2006	began extracting free product using GeoTech pump		
26-Jan-2006	9.67	9.66	0.01
13-Feb-2006	10.24	10.23	0.01
27-Feb-2006	9.72	9.70	0.02
10-Mar-2006	8.90	8.70	0.20
20-Mar-2006	7.80	7.70	0.10
30-Mar-2006	8.30	8.20	0.10

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Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>SOMA-4</b>			
<b>2006</b>			
6-Apr-2006	7.01	6.65	0.36
18-Apr-2006		moved GeoTech pump from SOMA-4 to B-8	
1-May-2006	7.60	7.56	0.04
10-May-2006	8.64	8.63	0.01
22-May-2006	8.53	8.40	0.13
1-Jun-2006	8.64	8.61	0.03
7-Jun-2006	8.86	8.82	0.04
19-Jun-2006	9.39	9.38	0.01
27-Jun-2006	10.54	10.46	0.08
13-Jul-2006	10.75	10.15	0.60
24-Jul-2006	11.05	10.16	0.89
3-Aug-2006	12.02	10.32	1.70
14-Aug-2006	13.08	9.88	3.20
14-Aug-2006		began extracting free product using GeoTech pump	
25-Aug-2006	13.95	10.70	3.25
28-Aug-2006	11.50	10.73	0.77
9-Sep-2006	14.23	10.75	3.48
13-Sep-2006	12.95	10.70	2.25
27-Sep-2006	15.78	11.00	4.78
4-Oct-2006	14.61	11.26	3.35
11-Oct-2006	14.25	10.75	3.50
1-Nov-2006	17.23	10.92	6.31
22-Nov-2006	14.98	10.53	4.45
30-Nov-2006	15.16	10.29	4.87
8-Dec-2006	13.54	11.30	2.24
11-Dec-2006	12.24	10.66	1.58
<b>2007</b>			
8-Jan-2007	11.15	10.78	0.37
12-Jan-2007	10.79	10.38	0.41
16-Jan-2007	11.00	11.00	0.00
24-Jan-2007	11.10	10.83	0.27
31-Jan-2007	11.02	10.44	0.58
8-Feb-2007	11.50	10.64	0.86
14-Feb-2007	9.60	9.25	0.35
22-Feb-2007	9.94	9.81	0.13
9-Mar-2007	9.73	9.53	0.20
16-Mar-2007	10.02	10.01	0.01
22-Mar-2007	9.93	9.91	0.02
26-Mar-2007	10.67	10.67	0.00
26-Mar-2007		Stopped extracting free product from well SOMA-4.	

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Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>SOMA-4</b>			
<b>2007</b>			
4-Apr-2007	10.56	10.39	0.17
9-Apr-2007	10.71	10.60	0.11
17-May-2007	16.05	15.32	0.73
21-May-2007	16.06	15.30	0.76
31-May-2007	16.31	15.31	1.00
8-Jun-2007	16.73	16.09	0.64
11-Jun-2007	16.85	16.02	0.83
20-Jun-2007	16.44	15.62	0.82
29-Jun-2007	16.63	15.90	0.73
2-Jul-2007	16.73	16.15	0.58
12-Jul-2007	17.30	16.64	0.66
12-Jul-2007	Installed new GeoTech pump system in SOMA-4 and began extraction of free product from both wells.		
20-Jul-2007	16.94	-	0.00
25-Jul-2007	16.61	16.58	0.03
7-Aug-2007	18.52	18.49	0.03
7-Aug-2007	FP recovery pump in SOMA-4 well not operating due to unknown internal fault; removed and returned to supplier for repair.		
16-Aug-2007	17.65	-	0.00
22-Aug-2007	18.04	-	0.00
30-Aug-2007	18.21	-	0.00
7-Sep-2007	17.96	-	0.00
14-Sep-2007	18.05	-	0.00
21-Sep-2007	17.90	-	-
29-Nov-2007	17.54	-	-
21-Dec-2007	17.04	-	-
<b>2008</b>			
4-Jan-2008	15.94	15.84	0.10
11-Jan-2008	15.23	14.72	0.51
14-Jan-2008	15.48	15.00	0.48
22-Jan-2008	15.79	15.35	0.44
23-Jan-2008	Geopump serviced by EI		
29-Jan-2008	15.66	15.54	0.12
4-Feb-2008	14.75	14.80	0.05
7-Feb-2008	14.95	14.92	0.03
12-Feb-2008	15.75	15.72	0.03
26-Feb-2008	16.19	16.02	0.17

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**Former Glovatorium Site**  
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Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>SOMA-4</b>			
<b>2008</b>			
4-Mar-2008	16.27	16.13	0.14
17-Mar-2008	16.65	16.56	0.09
25-Mar-2008	16.97	16.88	0.09
5-Aug-2008	13.95	13.55	0.40
21-Aug-2008	13.82	13.22	0.60
2-Sep-2008		Begin MPE Pilot Test	
11-Sep-2008	14.00	13.60	0.40
19-Sep-2008	14.25	13.40	0.85
26-Sep-2008	14.01	13.10	0.91
2-Oct-2008	14.00	13.00	1.00
9-Oct-2008	14.00	12.95	1.05
24-Oct-2008	13.20	13.09	0.11
No FP observed since then			
<b>B-8</b>			
<b>2001</b>			
18-Oct-2001	12.31	10.21	2.10
<b>2002</b>			
31-Jan-2002	6.79	6.29	0.50
10-Apr-2002	8.22	8.08	0.14
29-Apr-2002	8.55	8.45	0.10
3-Oct-2002	10.40	9.64	0.76
7-Oct-2002	10.37	8.79	1.58
8-Oct-2002	10.28	9.68	0.60
14-Oct-2002	10.30	9.69	0.61
22-Oct-2002	10.39	9.70	0.69
<b>2003</b>			
18-Jul-2003	9.40	9.17	0.23
<b>2005</b>			
29-Jun-2005	11.50	11.25	0.25
18-Jul-2005	10.90	10.10	0.80
25-Jul-2005	10.92	10.20	0.72
1-Aug-2005	10.85	9.85	1.00
24-Aug-2005	10.35	10.10	0.25
31-Aug-2005	10.48	10.10	0.38
6-Sep-2005	10.86	10.59	0.27
12-Sep-2005	10.59	10.00	0.59
19-Sep-2005	11.20	10.60	0.60
5-Oct-2005	11.30	10.50	0.80
<b>2006</b>			
4-Jan-2006	9.50	8.00	1.50
12-Jan-2006	11.40	10.20	1.20
18-Jan-2006	11.93	11.00	0.93
24-Jan-2006	8.65	8.65	0.00
26-Jan-2006	8.72	8.70	0.02
13-Feb-2006	8.82	8.59	0.23
27-Feb-2006	8.81	8.61	0.20
10-Mar-2006	7.45	6.85	0.60
20-Mar-2006	7.90	7.20	0.70
30-Mar-2006	7.88	7.00	0.88

**Table 7**  
**Free Product Removal Log**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, CA**

Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>B-8</b>			
<b>2006</b>			
6-Apr-2006	7.91	7.90	0.01
18-Apr-2006	began extracting free product using GeoTech pump		
1-May-2006	8.34	8.31	0.03
22-May-2006	9.51	8.92	0.59
1-Jun-2006	9.81	9.30	0.51
7-Jun-2006	10.24	9.51	0.73
14-Jun-2006	10.58	9.73	0.85
27-Jun-2006	9.04	8.92	0.12
27-Jun-2006	removed GeoTech pump from well		
13-Jul-2006	9.61	9.30	0.31
24-Jul-2006	9.70	9.26	0.44
3-Aug-2006	10.01	9.05	0.96
14-Aug-2006	10.41	9.69	0.72
25-Aug-2006	10.60	9.64	0.96
28-Aug-2006	10.62	9.80	0.82
7-Sep-2006	10.68	9.73	0.95
13-Sep-2006	10.65	9.78	0.87
27-Sep-2006	11.03	10.23	0.80
4-Oct-2006	11.00	10.20	0.80
11-Oct-2006	10.68	9.73	0.95
1-Nov-2006	11.39	10.24	1.15
22-Nov-2006	11.53	9.78	1.75
30-Nov-2006	11.64	9.25	2.39
8-Dec-2006	11.53	9.76	1.77
11-Dec-2006	11.44	9.68	1.76
<b>2007</b>			
8-Jan-2007	11.56	9.33	2.23
12-Jan-2007	11.58	9.33	2.25
16-Jan-2007	11.59	9.49	2.10
24-Jan-2007	11.77	9.70	2.07
31-Jan-2007	11.76	9.62	2.14
8-Feb-2007	11.92	9.71	2.21
14-Feb-2007	10.91	7.61	3.30
22-Feb-2007	11.46	8.54	2.92
9-Mar-2007	11.34	8.20	3.14
16-Mar-2007	11.53	8.60	2.93
22-Mar-2007	11.72	8.71	3.01
26-Mar-2007	11.71	8.81	2.90
26-Mar-2007	Started extracting free product from well B-8. Moved GeoTech pump from SOMA-4 to B-8		

**Table 7**  
**Free Product Removal Log**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, CA**

Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>B-8</b>			
4-Apr-2007	10.71	9.67	1.04
9-Apr-2007	10.83	9.91	0.92
17-May-2007	13.98	13.22	0.76
21-May-2007	13.98	13.20	0.78
31-May-2007	14.78	13.90	0.88
8-Jun-2007	15.44	14.72	0.72
11-Jun-2007	15.50	14.80	0.70
20-Jun-2007	15.43	14.80	0.63
29-Jun-2007	15.20	15.15	0.05
2-Jul-2007	15.32	15.29	0.03
12-Jul-2007	16.03	15.92	0.11
20-Jul-2007	15.95	15.85	0.10
25-Jul-2007	15.90	15.82	0.08
7-Aug-2007	17.18	17.12	0.06
16-Aug-2007	16.87	-	0.00
22-Aug-2007	17.16	-	0.00
30-Aug-2007	17.68	-	0.00
7-Sep-2007	17.10	-	0.00
14-Sep-2007	17.09	-	0.00
21-Sep-2007	17.00	-	-
29-Nov-2007	16.47	-	-
21-Dec-2007	14.18	-	-
<b>2008</b>			
4-Jan-2008	13.69	-	-
11-Jan-2008	10.69	10.68	0.01
14-Jan-2008	11.25	11.23	0.02
22-Jan-2008	13.18	-	0.00
23-Jan-2008		Geopump serviced by EI	
29-Jan-2008	10.68	-	0.00
4-Feb-2008	10.09	-	0.00
7-Feb-2008	10.26	10.24	0.02
12-Feb-2008	11.24	11.21	0.03
26-Feb-2008	10.85	NA	0.00
4-Mar-2008	12.97	NA	0.00
17-Mar-2008	14.92	NA	0.00
25-Mar-2008	15.41	NA	NA
5-Aug-2008	13.19	NA	NA
21-Aug-2008	13.02	NA	NA

No FP observed since then

**Table 7**  
**Free Product Removal Log**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, CA**

Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>B-10</b>			
20-Feb-2008	11.75	8.99	2.76
26-Feb-2008	9.94	8.37	1.57
4-Mar-2008	9.23	9.21	0.02
17-Mar-2008	9.9	9.87	0.03
25-Mar-2008	10.15	10.12	0.03
5-Aug-2008	11.03	10.96	0.07
21-Aug-2008	11.03	10.86	0.17
2-Sep-2008		Begin MPE Pilot Test	
3-Sep-2008	11.51	11.33	0.18
11-Sep-2008	13.93	12.55	1.38
19-Sep-2008	12.87	12.10	0.77
24-Oct-2008	11.33	NA	NA
No FP observed since then			
<b>SOMA-2</b>			
20-Feb-2008	10	9.29	0.71
25-Mar-2008	10.67	10.02	0.65
5-Aug-2008	11.38	10.84	0.46
21-Aug-2008	11.36	10.76	0.6
2-Sep-2008		Begin MPE Pilot Test	
3-Sep-2008	11.62	11.3	0.32
5-Sep-2008	11.77	11.42	0.35
24-Sep-2008	12.87	12.25	0.62
30-Sep-2008	12.6	11.9	0.7
6-Oct-2008	12.32	11.66	0.66
16-Oct-2008	12.6	11.85	0.75
24-Oct-2008	11.42	NA	NA
No FP observed since then			

Table 8													
MPE Pilot Test													
Extraction Data and VOC Mass Removal Rate													
3820 Manila Avenue Oakland, California													
WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		MASS REMOVAL		
				minutes	minutes	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
SOMA-4, 2 B-10, 8	START STEADY-STATE	12/17/2008	1300	0									
			1330	30	30	23	690	1.8206	5,769	0.0058	0.9054	0.0302	43
	pause restart	12/18/2008	1430	60	90	23	1,380	3.6412	6,000	0.0060	1.8832	0.0314	45
			0830	1080	1,170	23	24,840	65.5409	6,000	0.0060	33.8978	0.0314	45
	pause restart	12/19/2008	1330	0	1,170								
			1400	30	1,200	23	684	1.8059	10,300	0.0103	1.6034	0.0534	77
	pause restart	12/20/2008	1430	30	1,230	24	722	1.9055	9,600	0.0096	1.5768	0.0526	76
			1530	60	1,290	21	1,288	3.3992	5,375	0.0054	1.5749	0.0262	38
	pause restart	12/21/2008	900	0	1,290								
			1000	60	1,350	20	1,222	3.2247	6,300	0.0063	1.7512	0.0292	42
	pause restart	12/22/2008	1100	60	1,410	20	1,217	3.2124	4,214	0.0042	1.1669	0.0194	28
			1200	60	1,470	20	1,200	3.1662	3,475	0.0035	0.9484	0.0158	23
	pause restart	12/23/2008	1300	60	1,530	19	1,140	3.0079	3,000	0.0030	0.7778	0.0130	19
			1430	90	1,620	20	1,800	4.7493	3,035	0.0030	1.2425	0.0138	20
	pause restart	12/24/2008	1500	30	1,650	19	570	1.5040	2,730	0.0027	0.3539	0.0118	17
			900	3960	5,610	21	83,160	219.4195	1,575	0.0016	29.7895	0.0075	11
	pause restart	12/25/2008	1100	120	5,730	29	3,480	9.1821	1,898	0.0019	1.5023	0.0125	18
			1230	90	5,820	30	2,700	7.1240	2,490	0.0025	1.5291	0.0170	24
	pause restart	12/26/2008	1330	60	5,880	30	1,800	4.7493	2,095	0.0021	0.8577	0.0143	21
			1400	60	5,940	30	1,800	4.7493	1,941	0.0019	0.7946	0.0132	19
	pause restart	12/27/2008	930	1170	7,110	30	35,100	92.6121	1,714	0.0017	13.6831	0.0117	17
			1030	60	7,170	30	1,800	4.7493	2,560	0.0026	1.0480	0.0175	25
	pause restart	12/28/2008	1130	60	7,230	30	1,800	4.7493	1,666	0.0017	0.6820	0.0114	16
			1330	120	7,350	30	3,600	9.4987	1,805	0.0018	1.4779	0.0123	18
	pause restart	12/29/2008	1000	1230	8,580	30	37,135	97.9824	1,844	0.0018	15.5746	0.0127	18
			1200	120	8,700	30	3,616	9.5411	1,680	0.0017	1.3817	0.0115	17
	pause restart	12/30/2008	1000	0	8,700								
			1100	60	8,760	30	1,825	4.8164	1,820	0.0018	0.7556	0.0126	18
	pause restart	12/31/2008	1300	120	8,880	30	3,623	9.5593	1,653	0.0017	1.3621	0.0114	16
			1400	60	8,940	31	1,864	4.9177	1,507	0.0015	0.6388	0.0106	15
	pause restart	1/1/2009	930	1170	10,110	31	36,413	96.0769	1,775	0.0018	14.7003	0.0126	18
			1030	60	10,170	31	1,867	4.9270	1,815	0.0018	0.7708	0.0128	19
	pause restart	1/2/2009	1130	60	10,230	31	1,864	4.9177	1,623	0.0016	0.6880	0.0115	17
			1230	60	10,290	31	1,864	4.9177	1,596	0.0016	0.6766	0.0113	16
	pause restart	1/3/2009	1330	60	10,350	31	1,864	4.9177	1,470	0.0015	0.6231	0.0104	15
			1000	750	11,100	31	23,476	61.9407	1,645	0.0016	8.7831	0.0117	17
	pause restart	1/4/2009	1200	120	11,220	31	3,749	9.8916	1,835	0.0018	1.5646	0.0130	19
			1400	120	11,340	31	3,735	9.8540	1,644	0.0016	1.3964	0.0116	17
	pause restart	1/5/2009	1500	60	11,400	31	1,867	4.9270	1,644	0.0016	0.6982	0.0116	17
					11,400								
	pause restart	1/6/2009	800	0	11,400								
			830	30	11,430	35	1,035	2.7315	2,400	0.0024	0.5651	0.0188	27
	pause restart	1/7/2009	900	30	11,460	33	975	2.5737	2,395	0.0024	0.5313	0.0177	26
			1100	120	11,580	38	4,512	11.9051	1,070	0.0011	1.0981	0.0092	13
B-10													
B-10, SOMA-2													

change out 1  
312.6431  
adsorptive rate  
0.3126431 31.26%

Table 8													
MPE Pilot Test Extraction Data and VOC Mass Removal Rate													
3820 Manila Avenue Oakland, California													
WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		MASS REMOVAL		
				minutes	minutes	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
B-10, SOMA-2, 4			1200	120	13,080	38	4,560	12.0317	5,290	0.0053	5.4864	0.0457	66
					13,080								
			1400	120	13,200	39	4,680	12.3483	7,345	0.0073	7.8182	0.0652	94
			700	1020	14,220	43	43,551	114.9101	7,215	0.0072	71.4664	0.0701	101
			730	30	14,250	43	1,281	3.3797	7,215	0.0072	2.1020	0.0701	101
B-10					14,250								
			930	0	14,250								
			1000	30	14,280	8	235	0.6206	7,390	0.0074	0.3953	0.0132	19
			1030	30	14,310	30	911	2.4036	7,520	0.0075	1.5580	0.0519	75
			1130	60	14,370	30	1,822	4.8071	5,675	0.0057	2.3516	0.0392	56
			1230	60	14,430	35	2,100	5.5401	7,360	0.0074	3.5148	0.0586	84
			1430	120	14,550	38	4,583	12.0916	8,225	0.0082	8.5729	0.0714	103
B-10, 8, SOMA-2, 4			1000	1110	15,660	40	43,954	115.9744	9,725	0.0097	97.2207	0.0876	126
			1200	120	15,780	36	4,320	11.3984	7,180	0.0072	7.0547	0.0588	85
			1400	120	15,900	36	4,371	11.5331	6,885	0.0069	6.8447	0.0570	82
B-8, SOMA-2, 4					15,900								
			1500	60	15,960	23	1,398	3.6883	5,040	0.0050	1.6024	0.0267	38
			1200	1260	17,220	24	30,274	79.8785	7,500	0.0075	51.6414	0.0410	59
			1400	120	17,340	24	2,880	7.5989	5,370	0.0054	3.5175	0.0293	42
			1500	60	17,400	35	2,100	5.5409	4,250	0.0043	2.0299	0.0338	49
B-10			1030	4050	21,450	34	139,607	368.3572	8,690	0.0087	275.9283	0.0681	98
					21,450								
	pause		1300	0	21,450								
	restart		1400	60	21,510	33	1,958	5.1675	1,580	0.0016	0.7038	0.0117	17
			1500	60	21,570	33	1,955	5.1580	1,300	0.0013	0.5780	0.0096	14
			1030	1170	22,740	33	38,120	100.5803	2,250	0.0023	19.5075	0.0167	24
	pause		1130	0	22,740								
	restart		1230	60	22,800	29	1,721	4.5405	600	0.0006	0.2348	0.0039	6
			1400	90	22,890	25	2,288	6.0371	601	0.0006	0.3128	0.0035	5
	pause		930	1170	24,060	25	29,745	78.4825	601	0.0006	4.0659	0.0035	5
	pause				24,060								
B-10, 8, SOMA-2, 4	c/o		1/15/2009	730	24,060								
	restart				24,060								
			1030	0	24,060								
			1100	30	24,090	29	877	2.3132	3,471	0.0035	0.6921	0.0231	33
			1130	30	24,120	29	873	2.3044	2,267	0.0023	0.4503	0.0150	22
			1230	60	24,180	30	1,798	4.7437	2,002	0.0020	0.8186	0.0136	20
			1030	1320	25,500	30	39,553	104.3612	2,911	0.0029	26.1872	0.0198	29
	pause		1100	30	25,530								
	restart		1230	0	25,530								
			1330	60	25,590	20	1,226	3.2345	4,550	0.0046	1.2686	0.0211	30
SOMA-4, B-8,	pause		1/19/2009	1000	26,502	20	18,633	49.1645	4,550	0.0046	19.2828	0.0211	30
	restart		1030	0	26,502								
			1200	90	26,592	23	2,101	5.5429	9,211	0.0092	4.4010	0.0489	70
			1300	60	26,652	25	1,473	3.8878	10,000	0.0100	3.3513	0.0559	80
SOMA-4, 2	pause		1/20/2009	930	27,252	25	14,735	38.8780	10,000	0.0100	33.5128	0.0559	80
	restart			1000	0	27,252							
			1100	60	27,312	25	1,476	3.8952	7,830	0.0078	2.6290	0.0438	63
			1200	60	27,372	25	1,471	3.8805	6,946	0.0069	2.3234	0.0387	56
			1330	90	27,462	17	1,557	4.1082	7,400	0.0074	2.6205	0.0291	42

**Table 8**  
**MPE Pilot Test**  
**Extraction Data and VOC Mass Removal Rate**

3820 Manila Avenue  
 Oakland, California

WELL	COMMENT	DATE	CLOCK	INCREMENTAL	ELAPSED	Q		PID		MASS REMOVAL			
			TIME	TIME	TIME	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
B-10, 8, SOMA-2, 4	pause restart	1/21/2009	930	450	27,912	17	7,650	20.1847	7,400	0.0074	12.8754	0.0286	41
			1100	0	27,912								
			1300	120	28,032	33	3,960	10.4485	4,934	0.0049	4,4439	0.0370	53
		1/22/2009	1000	1260	29,292	33	41,580	109.7098	3,775	0.0038	35,7001	0.0283	41
			1100	60	29,352	33	1,980	5.2243	3,290	0.0033	1,4816	0.0247	36
			1200	60	29,412	35	2,100	5.5409	2,082	0.0021	0.9944	0.0166	24
		1/23/2009	1100	1380	30,792	35	47,748	125.9835	808	0.0008	8,7747	0.0064	9
			1200	60	30,852	39	2,321	6.1241	810	0.0008	0.4276	0.0071	10
		1/26/2009	1000	4200	35,052	39	164,015	432.7568	568	0.0006	21.1885	0.0050	7
			1030	0	35,052								
B-10, 8, SOMA-2, 4	pause restart		1130	90	35,142	38	3,437	9.0687	8,360	0.0084	6,5352	0.0726	105
			1230	60	35,202	38	2,287	6.0343	9,064	0.0091	4,7147	0.0786	113
		1/27/2009	1000	630	35,832	38	23,940	63.1662	9,064	0.0091	49,3528	0.0783	113
			1030	0	35,832								
			1130	60	35,892	38	2,300	6.0689	13,000	0.0130	6,8008	0.1133	163
			0	35,892									
			1200	0	35,892								
			1300	60	35,952	39	2,343	6.1822	11,800	0.0118	6,2883	0.1048	151
			0	35,952									
		1/28/2009	1400	60	36,012	39	2,343	6.1822	9,500	0.0095	5,0626	0.0844	122
			1000	1200	37,212	40	48,000	126.6491	8,669	0.0087	94,6408	0.0789	114
			1100	60	37,272	40	2,400	6.3325	7,980	0.0080	4,3559	0.0726	105
		1/29/2009	730	1230	38,502	42	52,220	137.7844	13,444	0.0134	159,6747	0.1298	187
			0	38,502									
SOMA-2	pause c/o restart		930	0	38,502								
			1030	60	38,562	39	2,348	6.1941	13,600	0.0136	7,2614	0.1210	174
		1/30/2009	930	1380	39,942	38	52,802	139.3187	15,000	0.0150	180,1391	0.1305	188
			0	39,942									
			1030	4440	44,382	17	77,394	204.2045	8,565	0.0086	150,7648	0.0340	49
		2/2/2009	1230	60	44,442	17	1,042	2,7491	15,000	0.0150	3,5546	0.0592	85
			0	44,442									
B-8, SOMA-2, 4			1330	60	44,502	39	2,330	6.1471	15,000	0.0150	7,9483	0.1325	191
			1400	30	44,532	39	1,163	3,0678	15,000	0.0150	3,9667	0.1322	190
		2/3/2009	1500	1500	46,032	39	58,500	154.3536	15,000	0.0150	199,5792	0.1331	192
B-10			0	46,032									
			1600	60	46,092	38	2,280	6.0158	3,918	0.0039	2,0317	0.0339	49
		2/4/2009	1300	1260	47,352	36	45,360	119.6834	775	0.0008	7,9954	0.0063	9
			1400	60	47,412	36	2,160	5.6992	653	0.0007	0,3208	0.0053	8
		2/5/2009	1500	60	47,472	36	2,160	5.6992	627	0.0006	0,3080	0.0051	7
			1330	1350	48,822	36	48,600	128.2322	795	0.0008	8,7876	0.0065	9
			1430	60	48,882	36	2,160	5.6992	672	0.0007	0,3301	0.0055	8
		2/6/2009	730	1020	49,902	36	37,224	98.2166	1,100	0.0011	9,3129	0.0091	13
			0	49,902									
			930	0	49,902								
			1000	30	49,932	35	1,054	2,7807	785	0.0008	0,1882	0.0063	9
			1030	30	49,962	36	1,076	2,8385	617	0.0006	0,1510	0.0050	7
		2/9/2009	1100	1410	51,372	36	50,562	133.4086	572	0.0006	6,5779	0.0047	7
			0	51,372									
		2/11/2009	930	0	51,372								
			1000	30	51,402	36	1,080	2,8496	572	0.0006	0,1405	0.0047	7
			1130	0	51,402								
			1230	60	51,462	37	2,228	5.8785	2,000	0.0020	1,0135	0.0169	24
		2/12/2009	930	1260	52,722	37	46,335	122.2561	429	0.0004	4,5210	0.0036	5
			0	52,722									

Table 8													
MPE Pilot Test Extraction Data and VOC Mass Removal Rate													
3820 Manila Avenue Oakland, California													
WELL	COMMENT	DATE	CLOCK TIME	INCREMENTAL TIME	ELAPSED TIME	Q			PID		MASS REMOVAL		
				minutes	minutes	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	mole %	lb VOC mass removal as hexane	lbs/min	lbs/day
B-8, SOMA-2, 4		2/13/2009	1030	60	52,782	26	1,557	4,1087	4,500	0.0045	1,5938	0.0266	38
			900	1350	54,132	31	42,337	111,7075	7,840	0.0078	75,4928	0.0559	81
B-8		2/16/2009	1100	120	54,252	35	4,207	11.1016	4,100	0.0041	3.9235	0.0327	47
	pause restart		1130	1410	55,662	35	49,438	130,4436	500	0.0005	5.6221	0.0040	6
			1230	0	55,662								
			1330	60	55,722	35	2,104	5.5508	1,500	0.0015	0.7177	0.0120	17
SOMA-2		2/17/2009	1000	1230	56,952	35	43,127	113,7912	322	0.0003	3.1584	0.0026	4
			1100	60	57,012	35	2,104	5.5508	255	0.0003	0.1220	0.0020	3
B-10, 8, SOMA-2, 4		2/18/2009	1000	1380	58,392	36	49,392	130,3207	240	0.0002	2.6961	0.0020	3
			1200	0	58,392								
B-10		2/19/2009	1200	120	58,512	31	3,749	9.8916	1,235	0.0012	1.0530	0.0088	13
			1000	1320	59,832	32	42,426	111,9427	775	0.0008	7.4783	0.0057	8
			1100	60	59,892	28	1,686	4.4496	1,750	0.0018	0.6712	0.0112	16
			1200	60	59,952	28	1,686	4.4496	2,082	0.0021	0.7986	0.0133	19
		2/20/2009	1000	1320	61,272	29	38,501	101,5864	2,684	0.0027	23.5031	0.0178	26
			1100	60	61,332	28	1,680	4.4328	3,520	0.0035	1.3450	0.0224	32
			0	61,332								0.2371978	23.72%
			1200	60	61,392	25	1,480	3.9063	2,330	0.0023	0.7846	0.0131	19
B-10		2/23/2009	1000	4200	65,592	25	105,000	277,0449	3,780	0.0038	90.2712	0.0215	31
			0	65,592									
			1200	120	65,712	21	2,520	6.6491	1,385	0.0014	0.7938	0.0066	10
		2/24/2009	1000	1320	67,032	21	27,122	71,5608	242	0.0002	1.4928	0.0011	2
			1100	60	67,092	19	1,141	3.0115	154	0.0002	0.0400	0.0007	1
			1200	60	67,152	19	1,141	3.0115	152	0.0002	0.0395	0.0007	1
		2/25/2009	1000	1320	68,472	17	23,053	60,8252	251	0.0003	1.3160	0.0010	1
			1100	60	68,532	17	1,048	2.7648	787	0.0008	0.1876	0.0031	5
			1200	60	68,592	17	1,046	2.7595	580	0.0006	0.1380	0.0023	3
		2/26/2009	730	1170	69,762	19	22,256	58,7238	270	0.0003	1.3667	0.0012	2
B-10, 8, SOMA-2, 4			0	69,762									
	pause c/o restart		930	0	69,762								
			1030	60	69,822	19	1,148	3.0287	835	0.0008	0.2180	0.0036	5
			1130	60	69,882	32	1,932	5.0980	1,200	0.0012	0.5273	0.0088	13
			0	69,882									
		2/27/2009	1230	1500	71,382	32	48,304	127,4502	222	0.0002	2.4389	0.0016	2
			1330	60	71,442	17	1,046	2.7595	760	0.0008	0.1808	0.0030	4
			1430	60	71,502	17	1,044	2.7543	982	0.0010	0.2331	0.0039	6
		3/2/2009	1030	4080	75,582	21	83,989	221,6065	2,721	0.0027	51.9779	0.0127	18
			1130	60	75,642	17	1,044	2.7543	4,091	0.0041	0.9713	0.0162	23
			1230	60	75,702	18	1,052	2.7754	2,185	0.0022	0.5227	0.0087	13
		3/3/2009	1100	1350	77,052	17	22,950	60,5541	1,611	0.0016	8.4090	0.0062	9
			1200	60	77,112	17	1,020	2.6913	1,020	0.0010	0.2366	0.0039	6
		3/4/2009	1000	1320	78,432	18	23,760	62,6913	1,715	0.0017	9.2678	0.0070	10
			1100	60	78,492	18	1,080	2.8496	2,023	0.0020	0.4969	0.0083	12
			1200	60	78,552	18	1,080	2.8496	1,750	0.0018	0.4299	0.0072	10
		3/5/2009	1000	1320	79,872	16	20,541	54,1972	1,120	0.0011	5.2324	0.0040	6
			1100	60	79,932	16	934	2.4635	790	0.0008	0.1678	0.0028	4
			1200	60	79,992	16	934	2.4635	784	0.0008	0.1665	0.0028	4
		3/6/2009	1030	1350	81,342	16	21,008	55,4290	1,130	0.0011	5.3991	0.0040	6
			1130	60	81,402	16	935	2.4682	828	0.0008	0.1762	0.0029	4
		3/9/2009	1100	1410	82,812	16	21,983	58,0025	841	0.0008	4.2048	0.0030	4

**Table 8**  
**MPE Pilot Test**  
**Extraction Data and VOC Mass Removal Rate**

3820 Manila Avenue  
 Oakland, California

WELL	COMMENT	DATE	CLOCK	INCREMENTAL	ELAPSED	Q		PID		MASS REMOVAL				
			TIME	TIME	TIME	SCFM	ft <sup>3</sup> of extracted air	Moles of extracted air	ppmv as hexane	mole %	lb VOC mass removal as hexane	lbs/min	lbs/day	
SOMA-2, B-10				0	82,812									
		3/10/2009	1200	60	82,872	17	1,048	2.7648	3,754	0.0038	0.8947	0.0149	21	
			1430	1590	84,462	17	27,663	72.9887	3,595	0.0036	22.6184	0.0142	20	
			1530	60	84,522	21	1,235	3.2589	5,233	0.0052	1.4700	0.0245	35	
B-10, SOMA-2, 4				0	84,522									
		3/11/2009	1530	1440	85,962	23	33,549	88.5189	5,054	0.0051	38.5637	0.0268	39	
			1630	60	86,022	25	1,473	3.8878	5,041	0.0050	1.6894	0.0282	41	
SOMA-4			1000	0	86,022									
		3/13/2009	1100	2610	88,632	25	64,217	169.4392	7,362	0.0074	107.5268	0.0412	59	
				0	88,632									
			1200	60	88,692	17	1,044	2.7543	5,644	0.0056	1.3400	0.0223	32	
			1300	60	88,752	16	934	2.4635	5,260	0.0053	1.1170	0.0186	27	
B-8, SOMA-2, 4			3/16/2009	1000	4140	92,892	11	45,815	120.8844	7,345	0.0073	76.5366	0.0185	27
				0	92,892									
			1100	60	92,952	16	939	2.4776	3,510	0.0035	0.7496	0.0125	18	
			1200	60	93,012	16	939	2.4776	2,970	0.0030	0.6343	0.0106	15	
B-8, SOMA-2, 4			3/17/2009	1000	1320	94,332	16	20,541	54.1972	395	0.0004	1.8454	0.0014	2
				0	94,332									
			1100	60	94,392	17	1,042	2.7491	1,586	0.0016	0.3758	0.0063	9	
			1200	60	94,452	21	1,233	3.2528	3,216	0.0032	0.9017	0.0150	22	
SOMA-4			3/18/2009	1000	0	94,452								
			3/19/2009	1000	2760	97,212	27	73,832	194.8084	7,000	0.0070	117.5474	0.0426	61
				0	97,212									
			1100	60	97,272	17	1,036	2.7337	5,070	0.0051	1.1947	0.0199	29	
			1200	60	97,332	17	1,036	2.7337	5,465	0.0055	1.2878	0.0215	31	
			3/20/2009	700	1140	98,472	17	19,909	52.5309	5,344	0.0053	24.1985	0.0212	31
				0	98,472									
			930	0	98,472									
			1030	60	98,532	17	1,046	2.7595	15,000	0.0150	3.5681	0.0595	86	
			1130	60	98,592	17	1,046	2.7595	9,000	0.0090	2.1408	0.0357	51	
			1000	4230	102,822	17	73,874	194.9171	5,025	0.0050	84.4293	0.0200	29	
				60	102,882	25	1,482	3.9100	5,783	0.0058	1.9491	0.0325	47	
			1100	60	102,942	25	1,482	3.9100	5,354	0.0054	1.8045	0.0301	43	
				60	103,002	25	1,500	3.9578	5,000	0.0050	1.7058	0.0284	41	
	TOTAL MEDIAN				103,002	29	2,762,147	7288	2,726	0.0027	2727.97	0.0265	38.14	

Notes

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

1716.7  
 71.529167  
 2,592

#### DERIVATION OF MASS REMOVAL RATE

ppmv as TPHss/1,000,000 = mole %  
 ft<sup>3</sup> of extracted air/(379 ft<sup>3</sup> air/lb-mole air) = moles of extracted air  
 (moles of extracted air)(mole %)(86.2 lb/lb-mole hexane) = lbs of VOC removed as hexane  
 (lbs of VOC mass removed as hexane)

change out 6  
 95.5977  
 adsorptive rate  
 0.0955977 9.56%

**Table 9**

**MPE Pilot Test  
Mass Removal**

Compound	Vapor Sample ID	Collection Date/Time	TPH-ss (ug/m <sup>3</sup> )	Q (CFM)	System Operation Run Time (minutes/days)	Mass Removed (lbs)	Removal Rate (lbs/day)
TPH-ss	Effluent	1/7/09 @ 0700	nd				
TPH-ss	Influent	1/7/09 @ 0720	3,800,000	30	14,250 / 9.9	498.71	10.23
TPH-ss	Effluent	3/10/09 @ 1445	1800 <sup>x</sup>				
TPH-ss	Influent	3/10/09 @ 1450	3,800,000	26	70,212 / 48.76	432.2	8.86
<b>Total for TPH-ss</b>					84,462 / 58.66	930.91	9.545 <sup>a</sup>

Compound	Vapor Sample ID	Collection Date/Time	USEPA TO-15						Q (CFM)	System Operation Run Time (minutes/days)	Mass Removed (lbs)	Mass Removal Rate (lbs/day)	
			Benzene (ug/m <sup>3</sup> )	PCE (ug/m <sup>3</sup> )	TCE (ug/m <sup>3</sup> )	1,1-DCA (ug/m <sup>3</sup> )	cis 1,2-DCE (ug/m <sup>3</sup> )	trans 1,2-DCE (ug/m <sup>3</sup> )	Vinyl Chloride (ug/m <sup>3</sup> )				
Chlorinated VOCs	Effluent	1/7/09 @ 0700	nd	nd	nd	nd	nd	nd	nd	30	14,250 / 9.9	0.98	0.02
Chlorinated VOCs	Influent	1/7/09 @ 0720	nd	nd	nd	nd	7500	nd	nd				
Chlorinated VOCs	Effluent	3/10/09 @ 1445	nd	nd	nd	nd	nd	nd	nd	26	70,212 / 48.76	8.3	0.17
Chlorinated VOCs	Influent	3/10/09 @ 1450	nd	55,000	nd	nd	18,000	nd	nd				
<b>Total for Chlorinated VOCs</b>											84,462 / 58.66	9.28	0.10 <sup>a</sup>

**Notes**

CFM cubic feet per minute  
 lbs/day pounds per day  
 ug/m<sup>3</sup> micrograms per cubic meter  
 PCE tetrachloroethene  
 TCE trichloroethene  
 1,1-DCA 1,1-Dichloroethane  
 cis/trans 1,2-DCE 1,2-Dichloroethene

nd not detected at or above detection limit  
 (a) average value  
 Sample Chromatogram does not resemble Standard solvent standard pattern. Reported value due to individual peaks within standard solvent range

MPE System was shut down on the following 12/18/08  
 12/18/08 to 12/19/08  
 12/24/08 to 12/29/08  
 12/31/08 to 1/5/09  
 1/14/09 to 1/15/09  
 2/9/09 to 2/11/09  
 the system was shut down for 2 to 4 hour intervals for carbon change-outs throughout the Pilot Test

**DERIVATION OF MASS REMOVAL RATE**

$$(\text{ug/m}^3) [(1\text{mg}/1000\text{ug}) (1\text{m}^3/1000 \text{L})] = \text{mg/L}$$

$$(\text{mg/L}) (28.32 \text{ L/1 ft}^3) ([Q] \text{ ft}^3/\text{min}) = \text{mg/min}$$

$$(\text{mg/min}) (1\text{g}/1000\text{mg}) (1\text{kg}/1000\text{g}) (60\text{min}/1\text{hr}) (24\text{hr}/1\text{day}) = \text{kg/day}$$

$$(\text{kg/day}) (2.2\text{lb}/1\text{kg}) = \text{lbs/day}$$

**DERIVATION OF TOTAL MASS REMOVED**

$$\text{Elapsed time of test for analytical period} = \text{days} \text{ (Table 8)}$$

$$(\text{mass removal rate [lbs/day]})(\text{total time of test [days]}) = \text{Total Removed (lbs)}$$

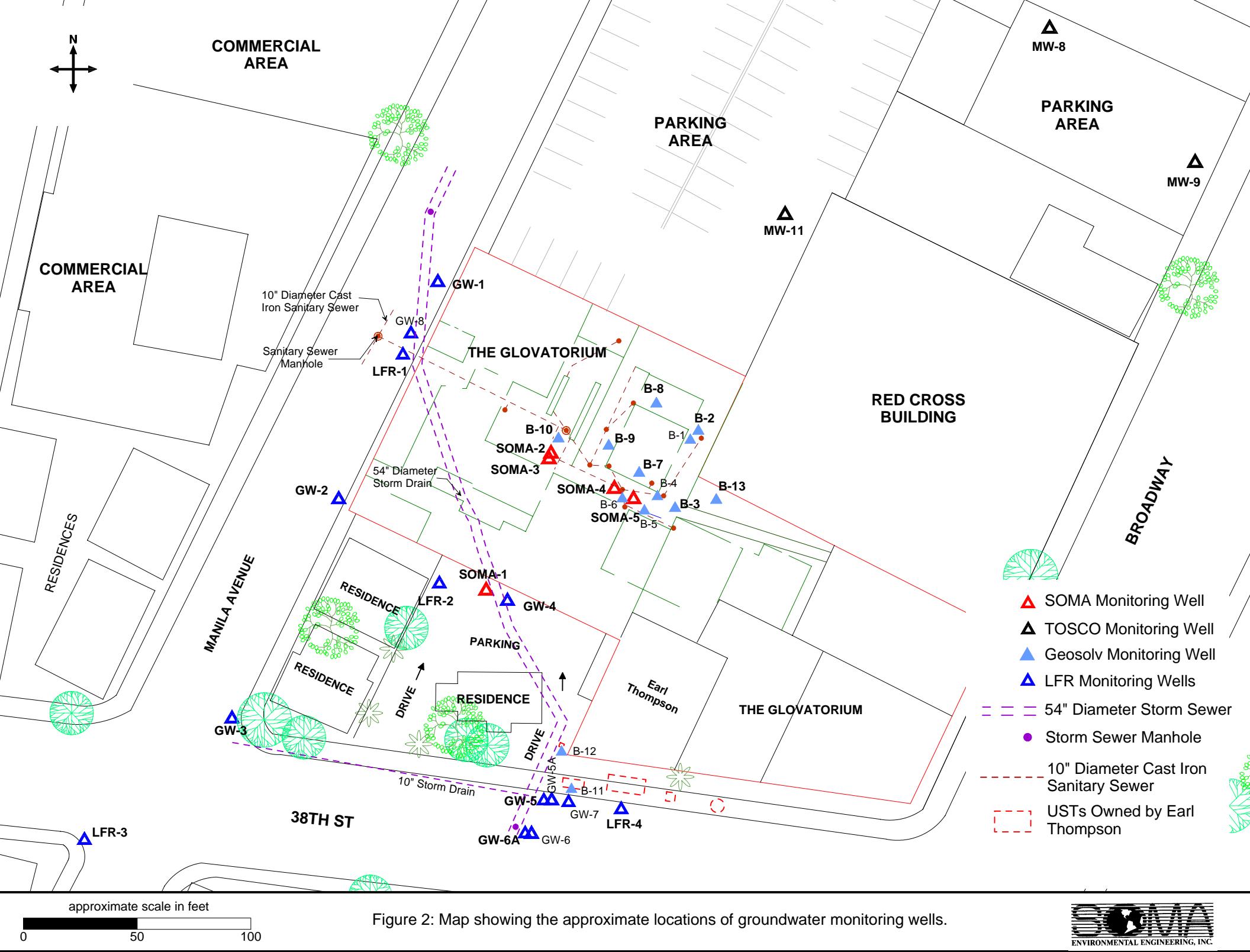
# **FIGURES**

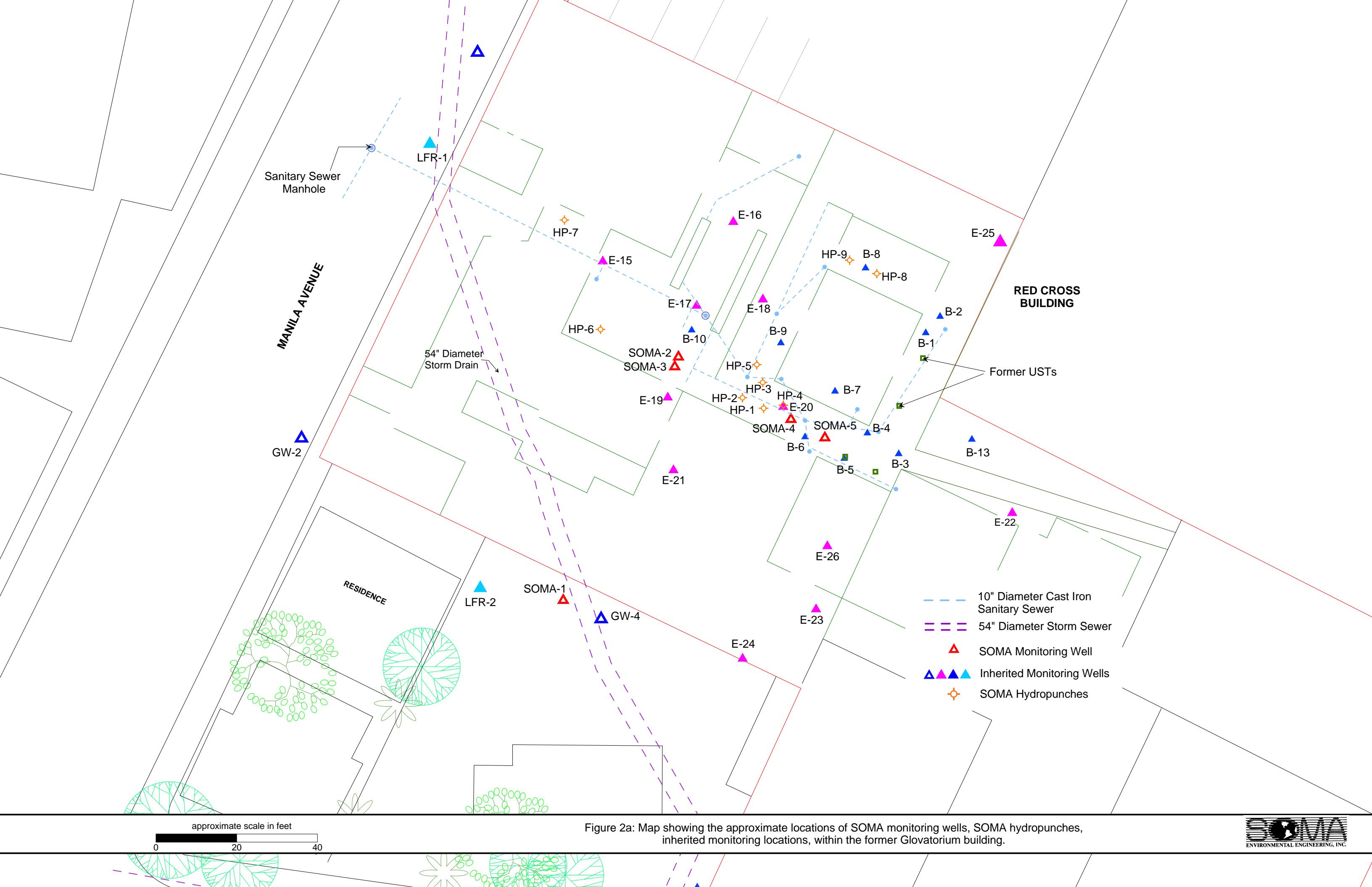


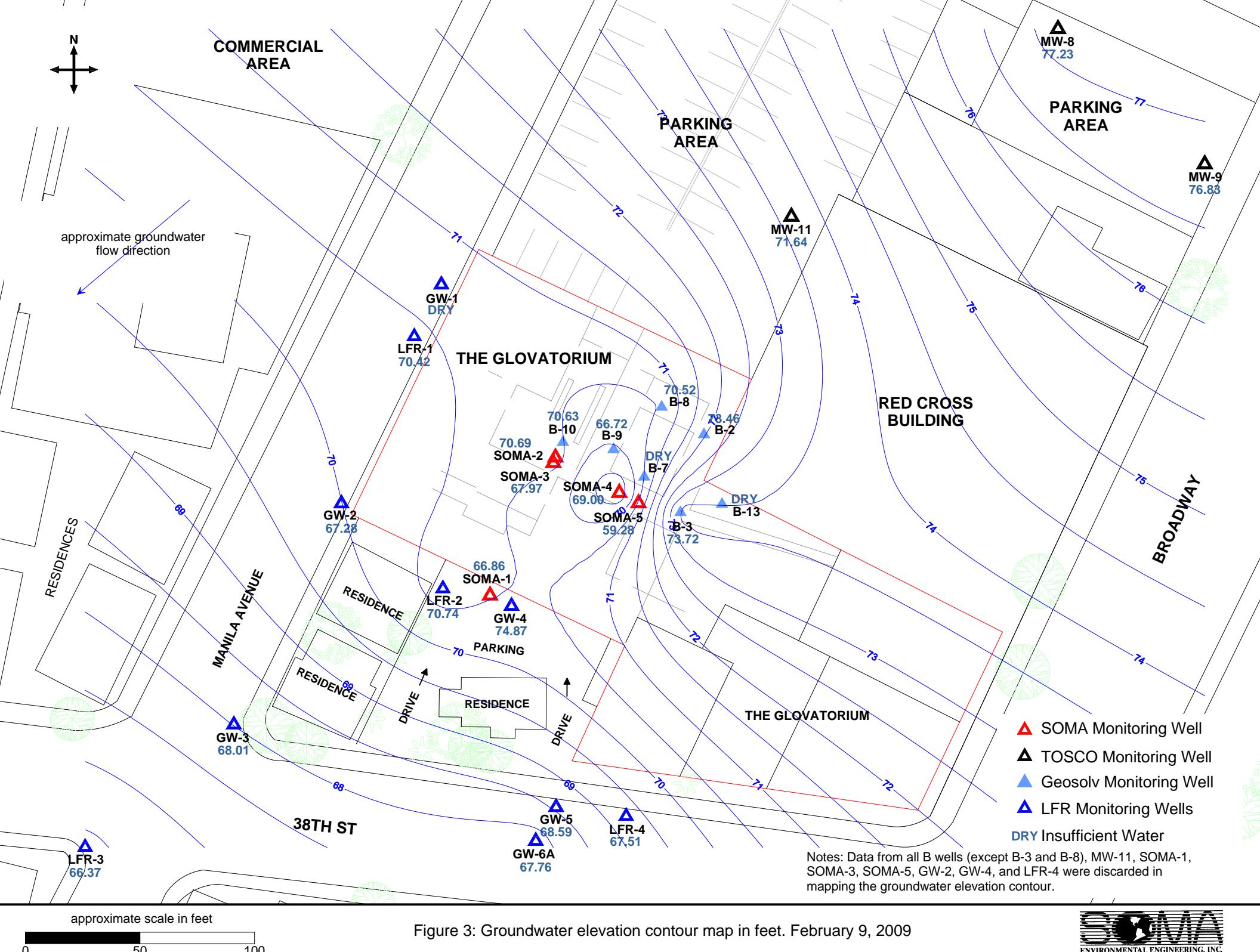
approximate scale in feet

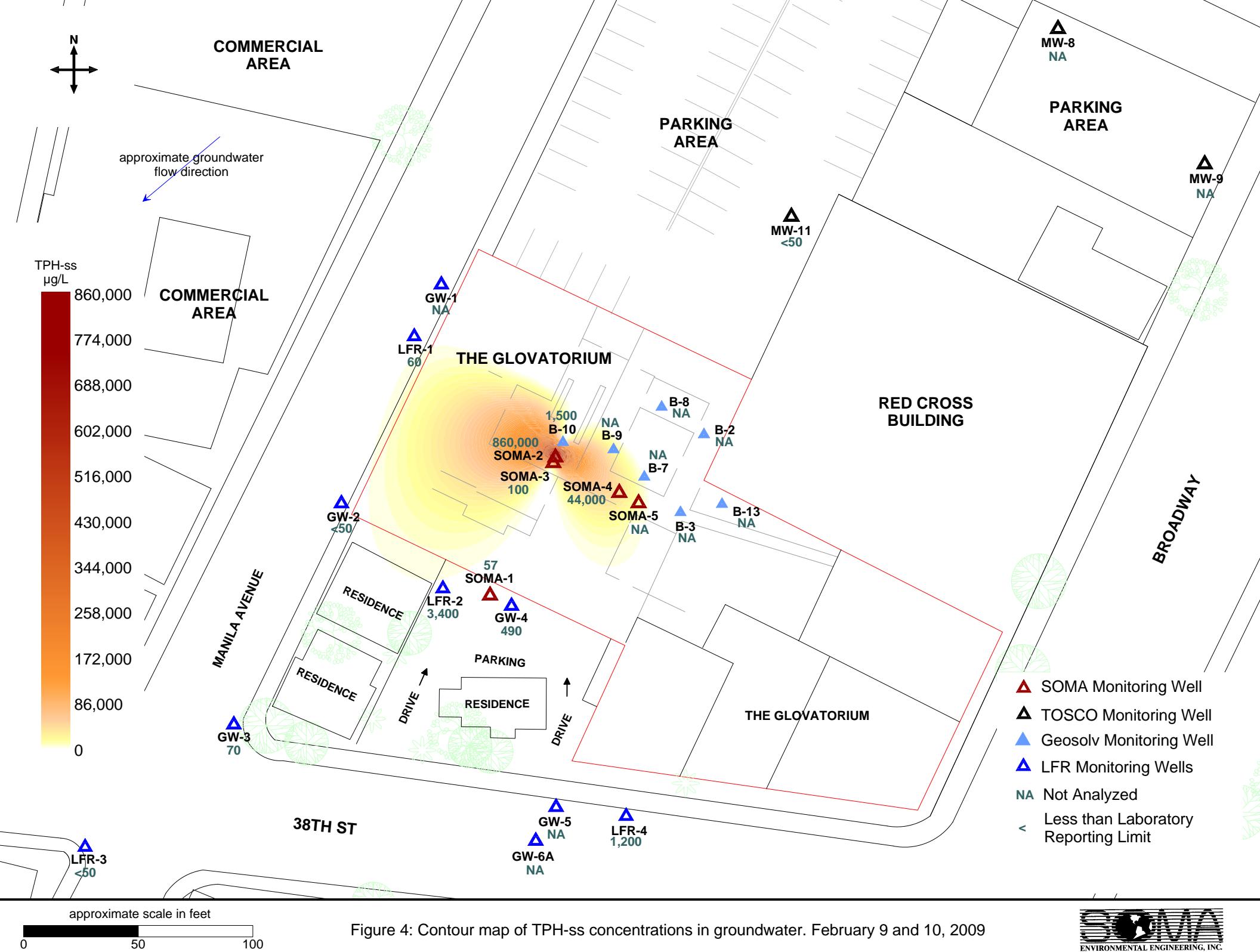


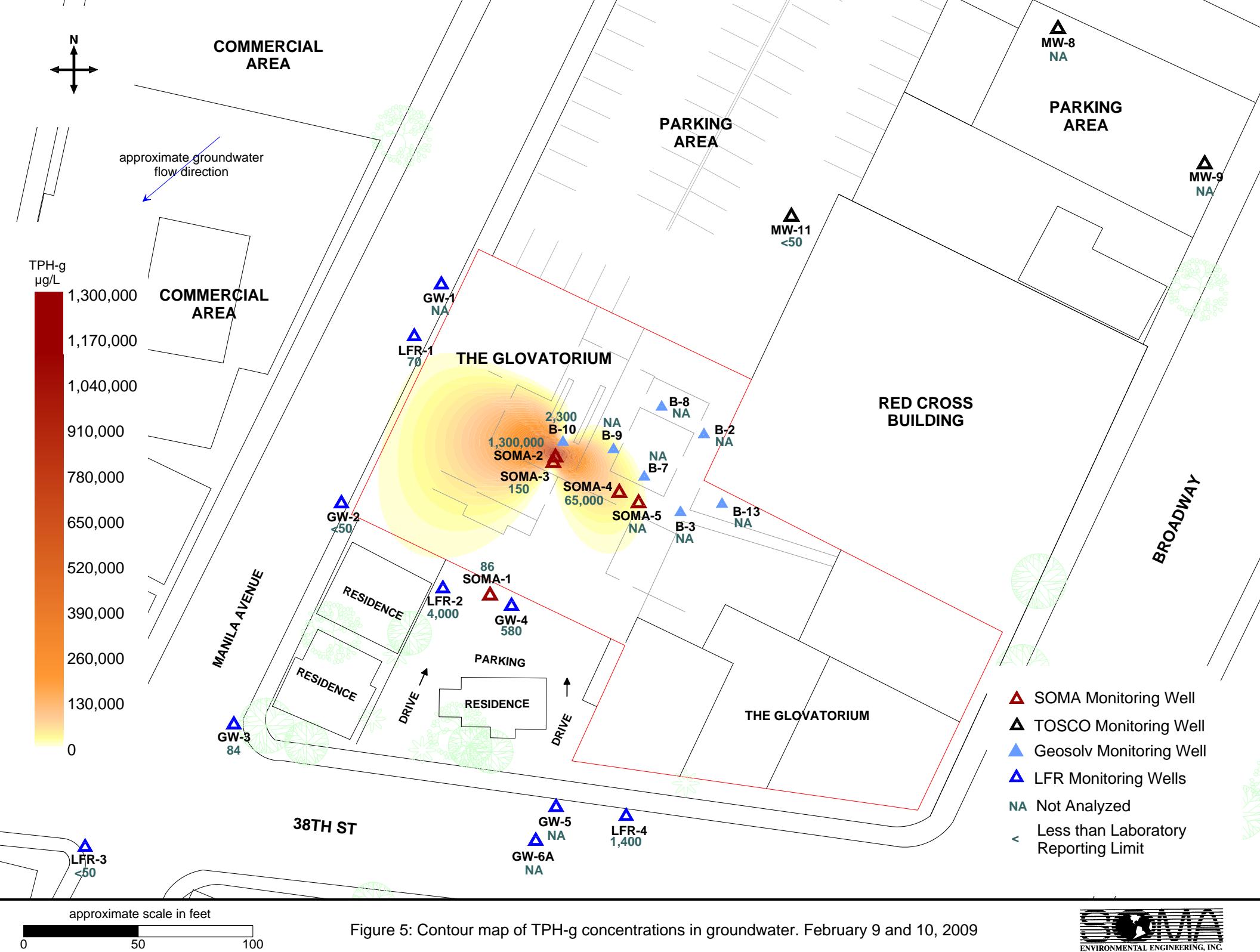
Figure 1: Site vicinity map.











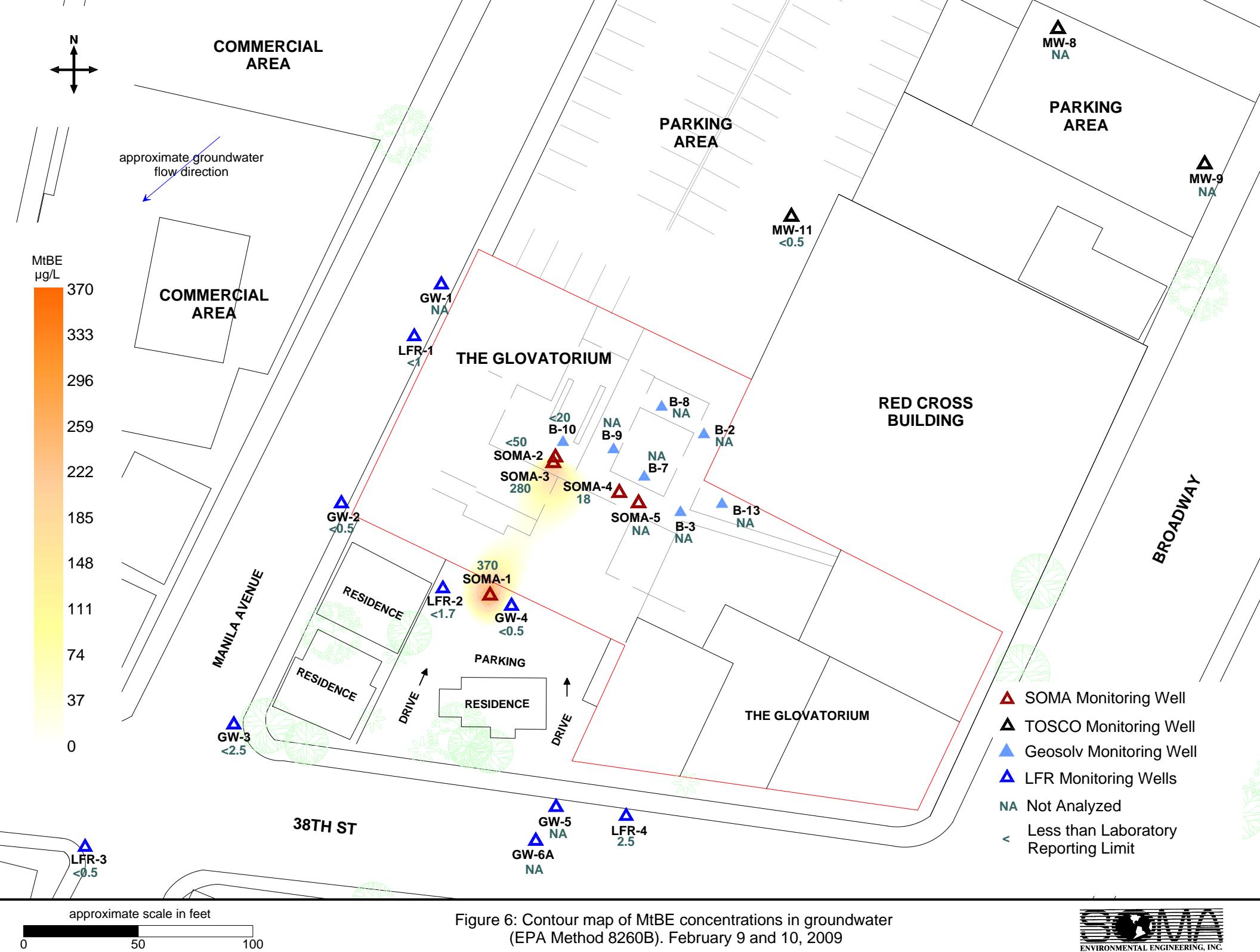
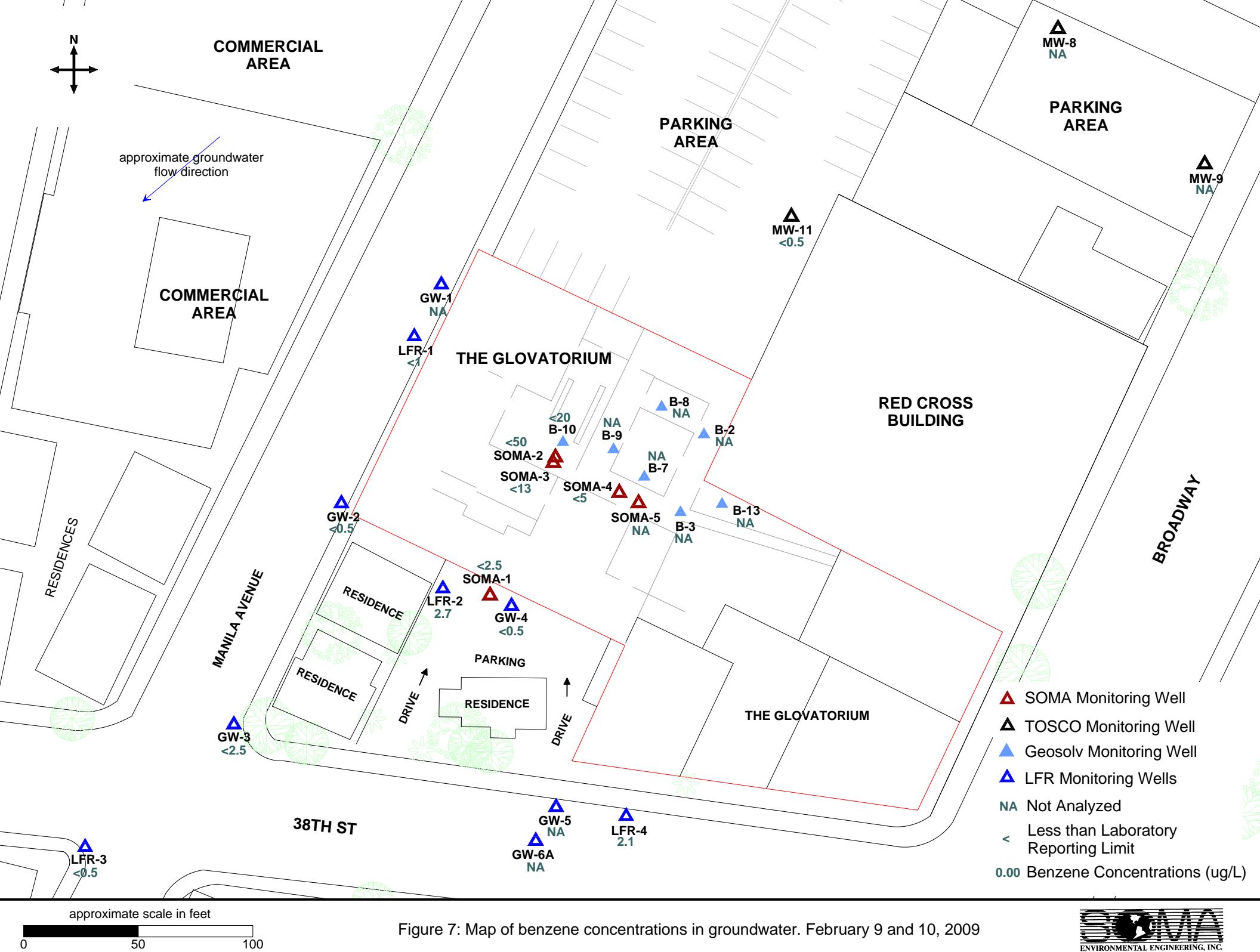
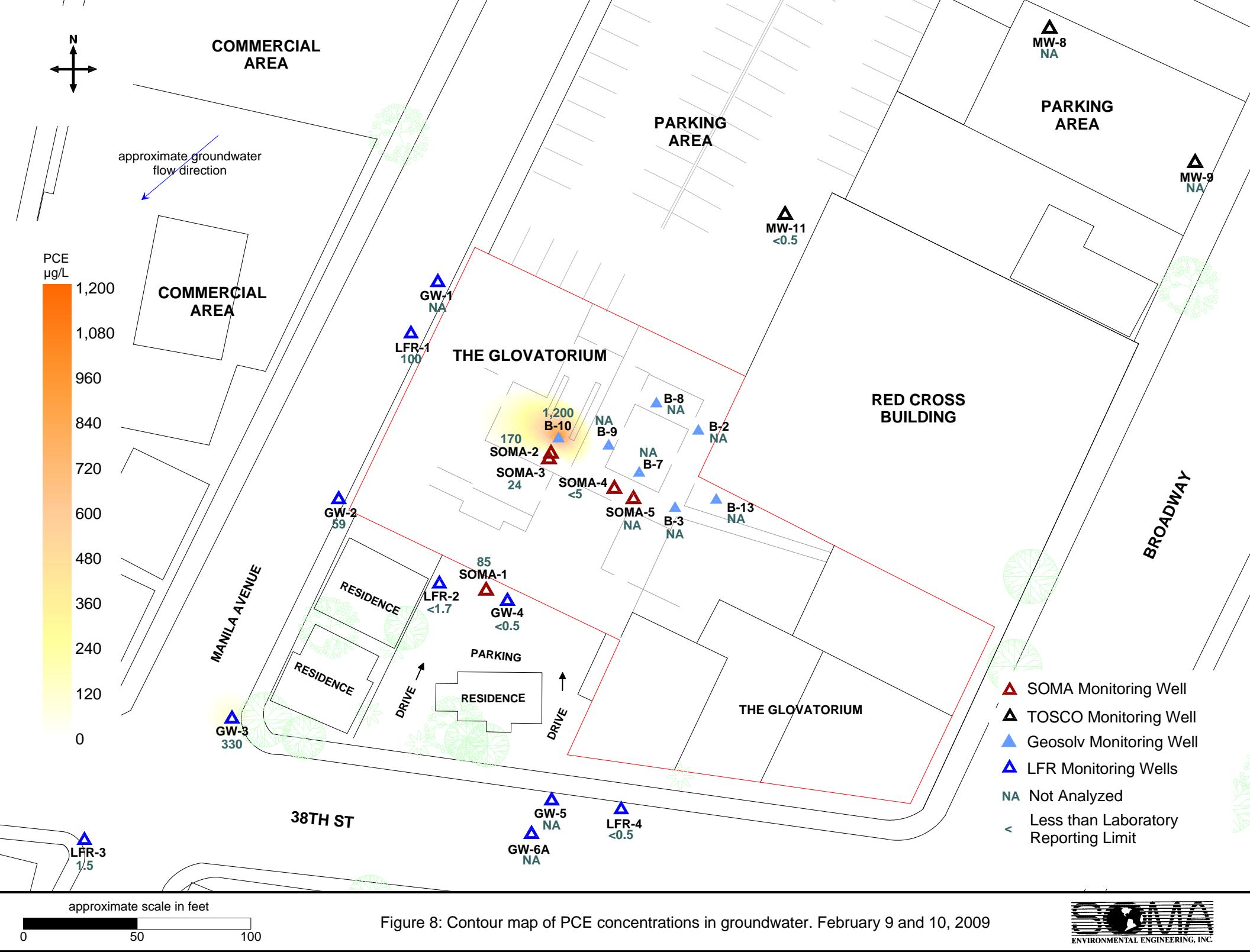
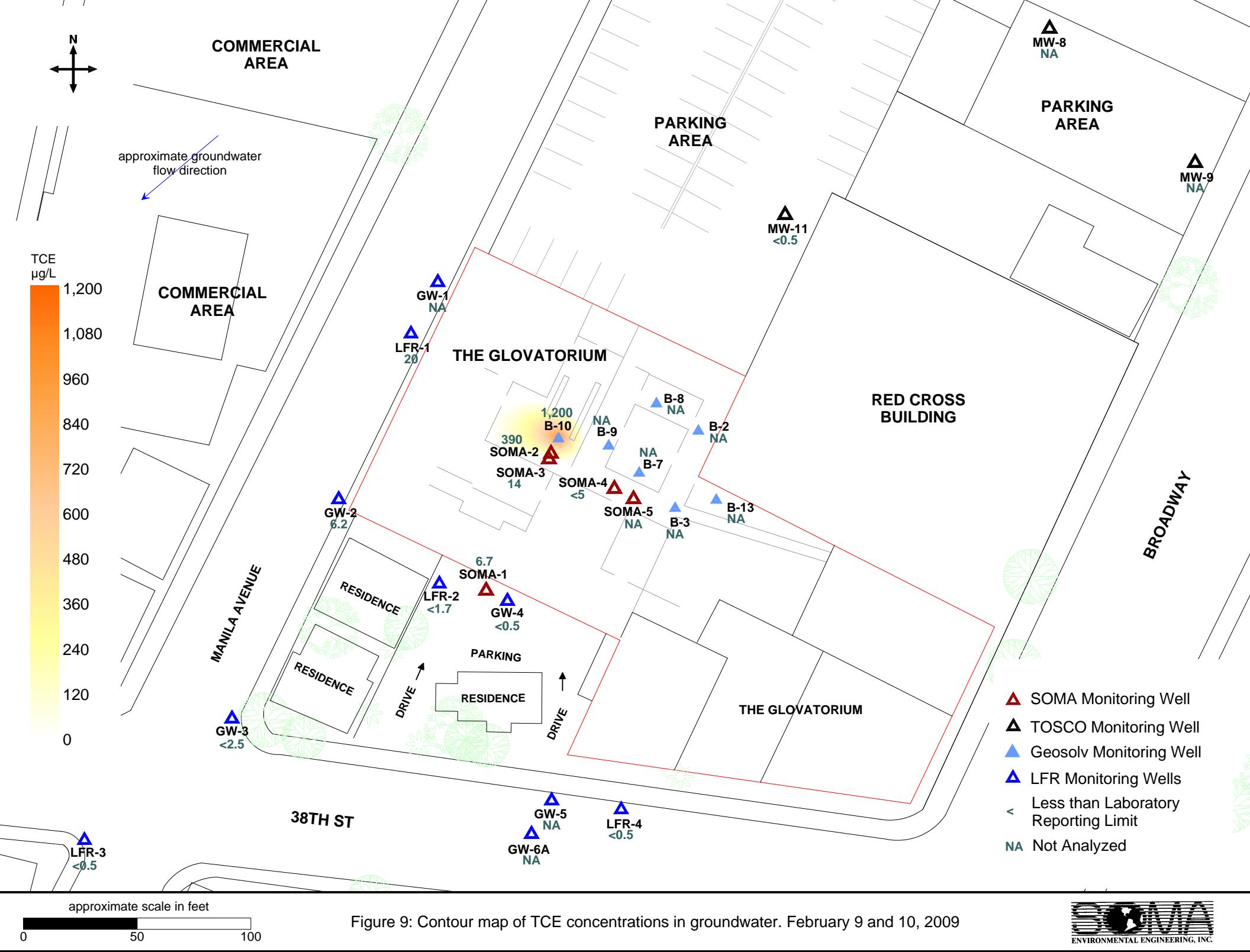


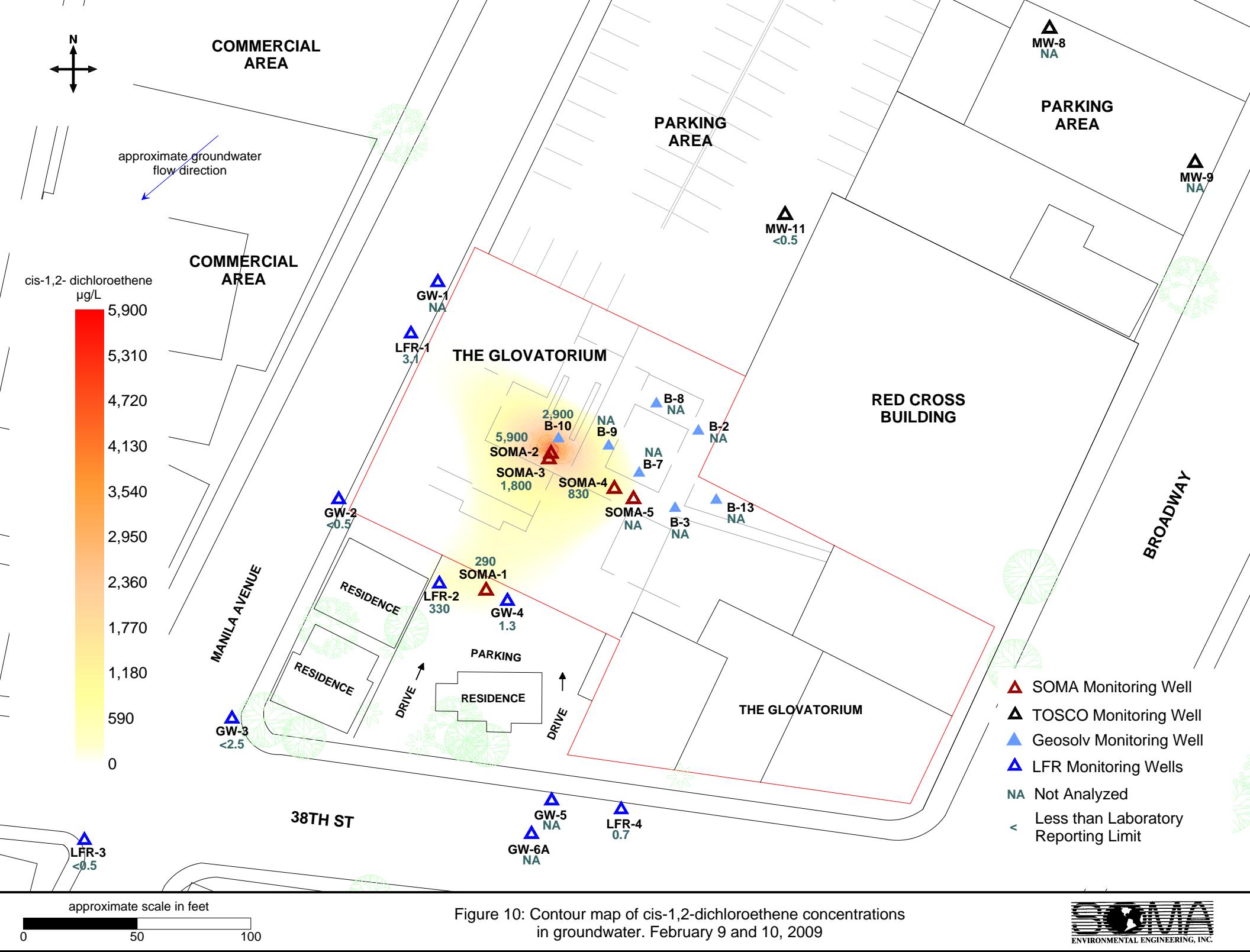
Figure 6: Contour map of MtBE concentrations in groundwater (EPA Method 8260B). February 9 and 10, 2009

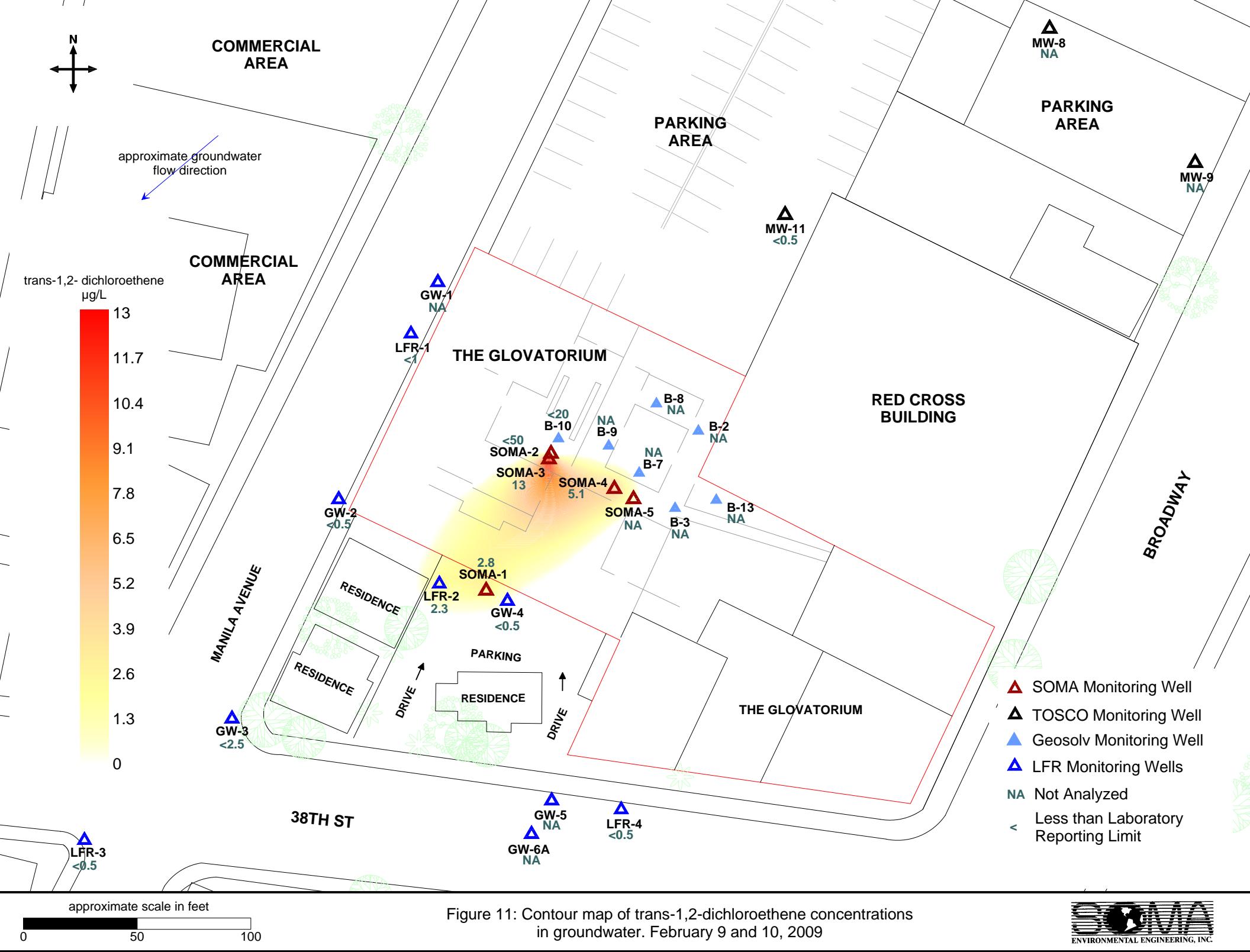


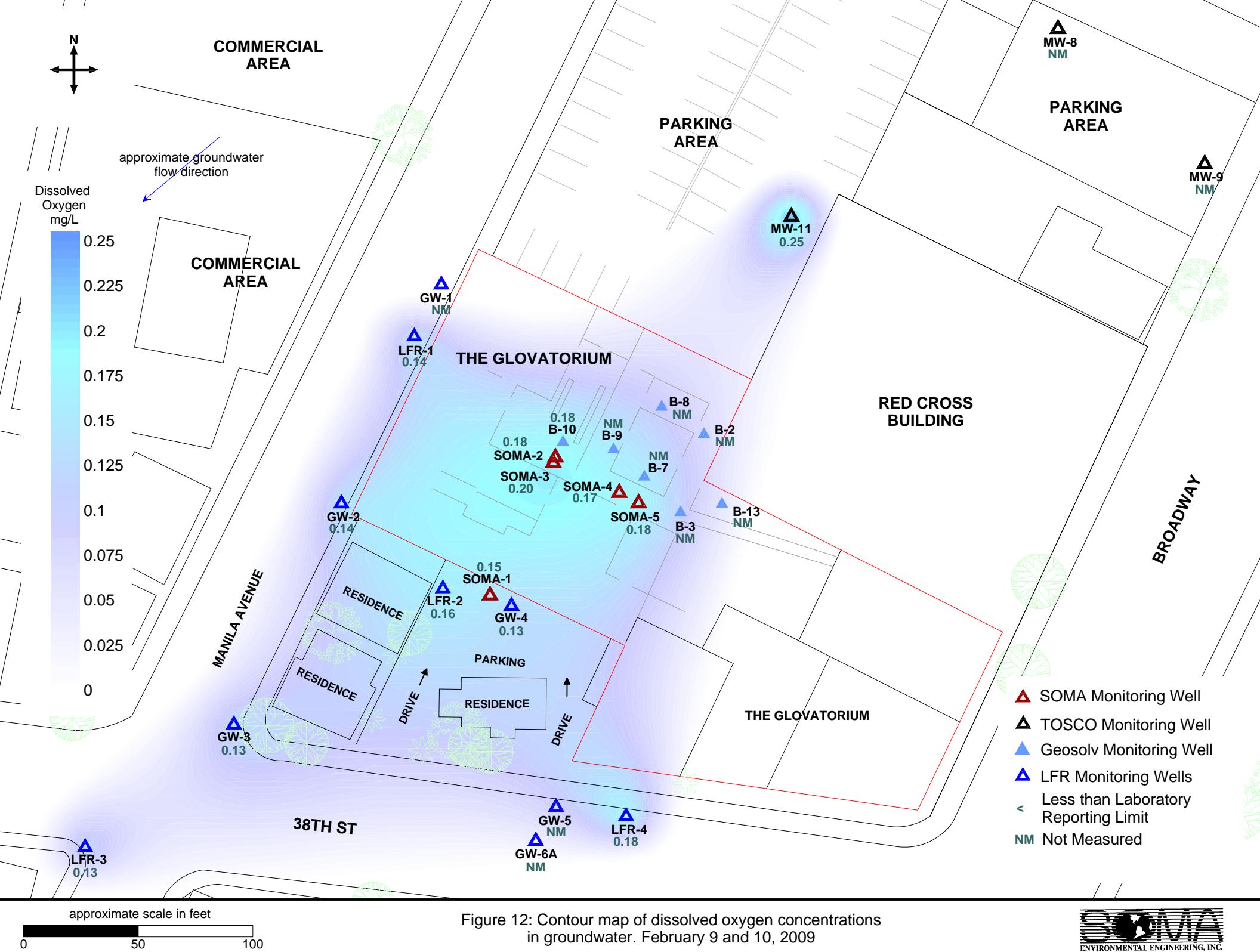


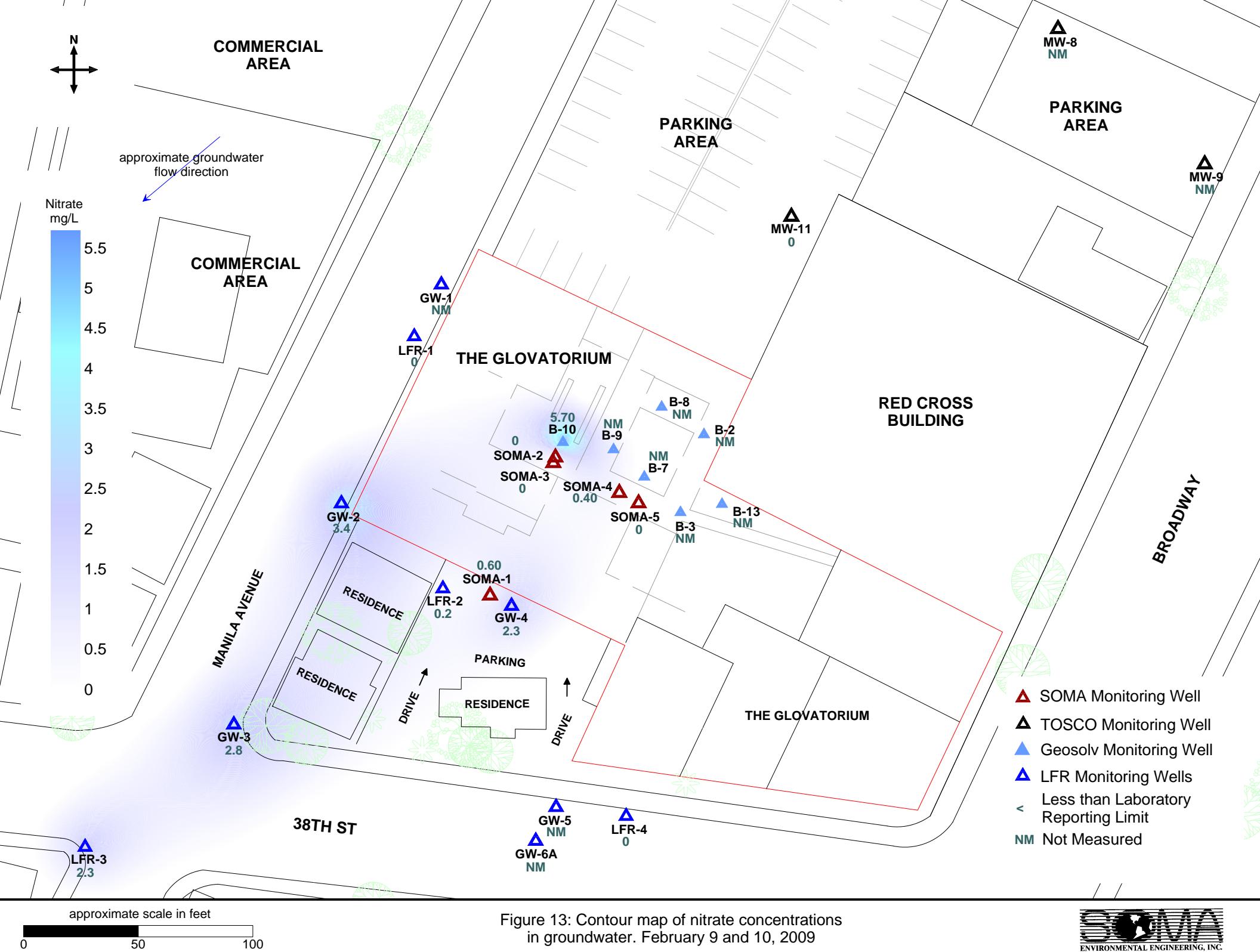


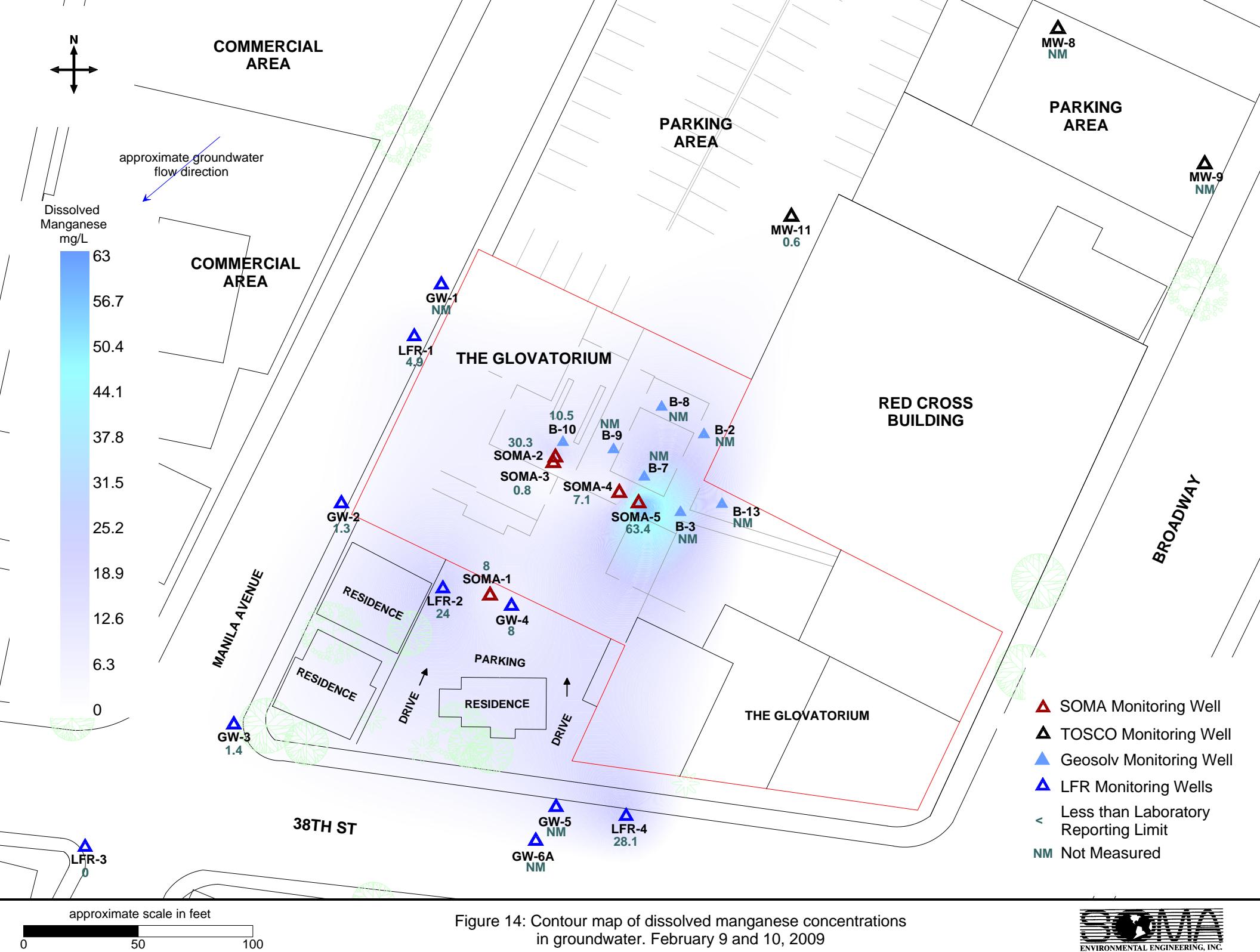


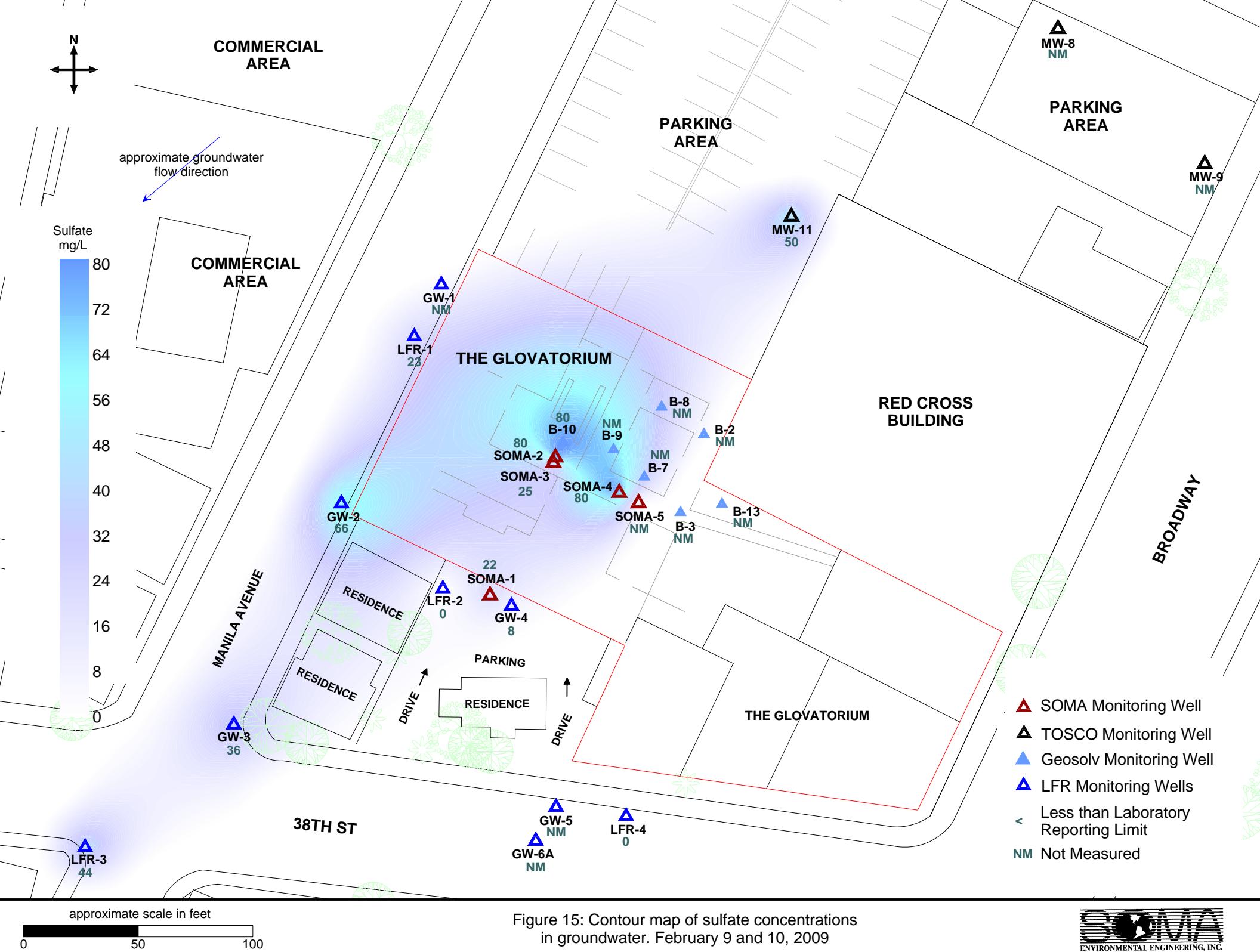


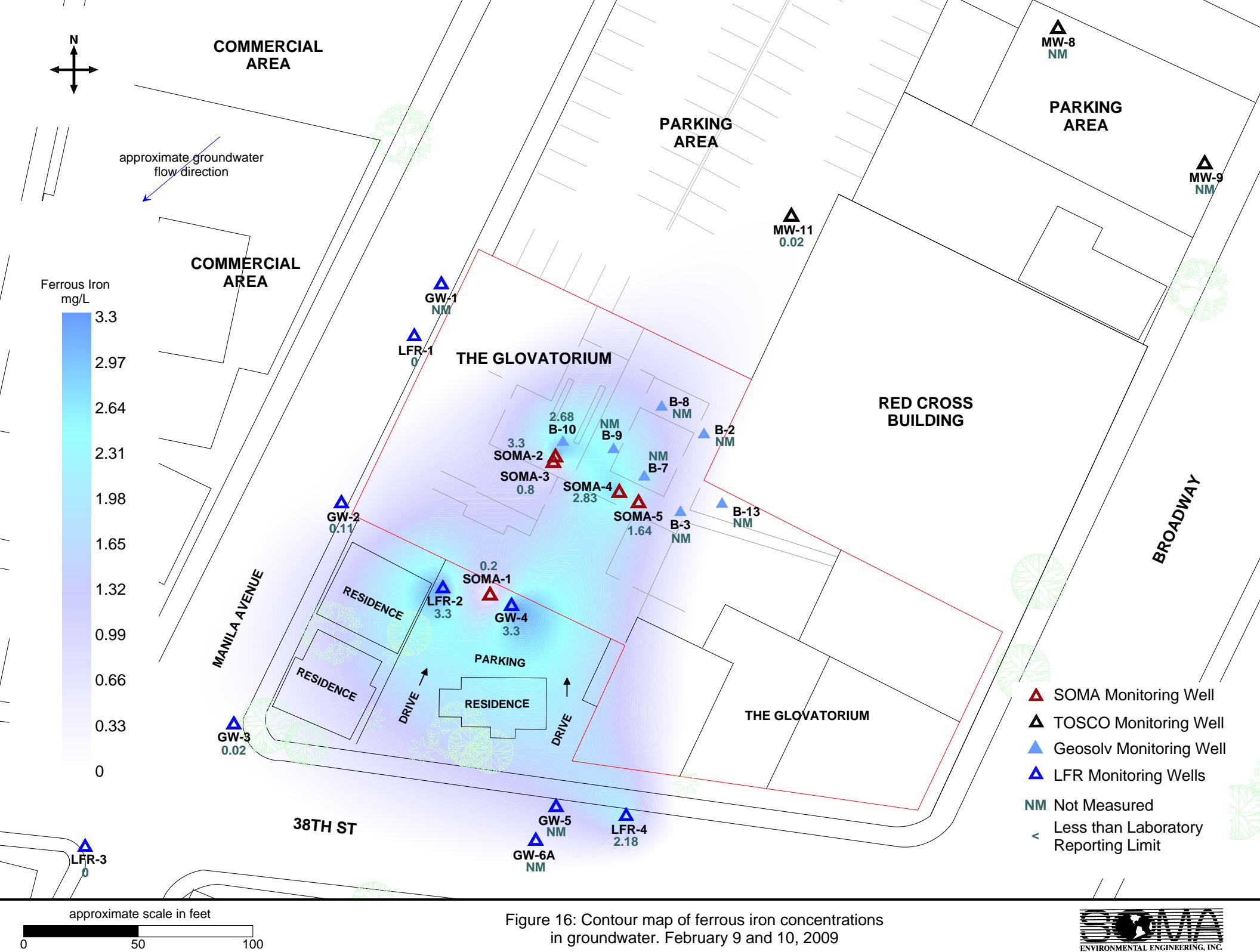














COMMERCIAL AREA

COMMERCIAL AREA

PARKING AREA

PARKING AREA

Methane

mg/L

4.4

3.96

3.52

3.08

2.64

2.2

1.76

1.32

0.88

0.44

0

MANILA AVENUE

38TH ST

RESIDENCE  
RESIDENCE  
DRIVE

THE GLOVATORIUM

RED CROSS  
BUILDING

BROADWAY

approximate groundwater  
flow direction

GW-1

LFR-1

GW-2

LFR-2

GW-3

GW-4

GW-5

GW-6A

LFR-4

NM

<0.005

NM

0.83

2.2

1.2

3.7

NM

NM

NM

NM

NM

NM

NM

2.5

SOMA-2

SOMA-3

SOMA-4

SOMA-5

B-10

B-9

B-7

B-3

B-2

B-13

2.0

2.4

4.4

2.0

NM

2.0

NM

2.0

NM

2.0

NM

2.0

NM

2.0

NM

2.0

NM

2.0

NM

2.0

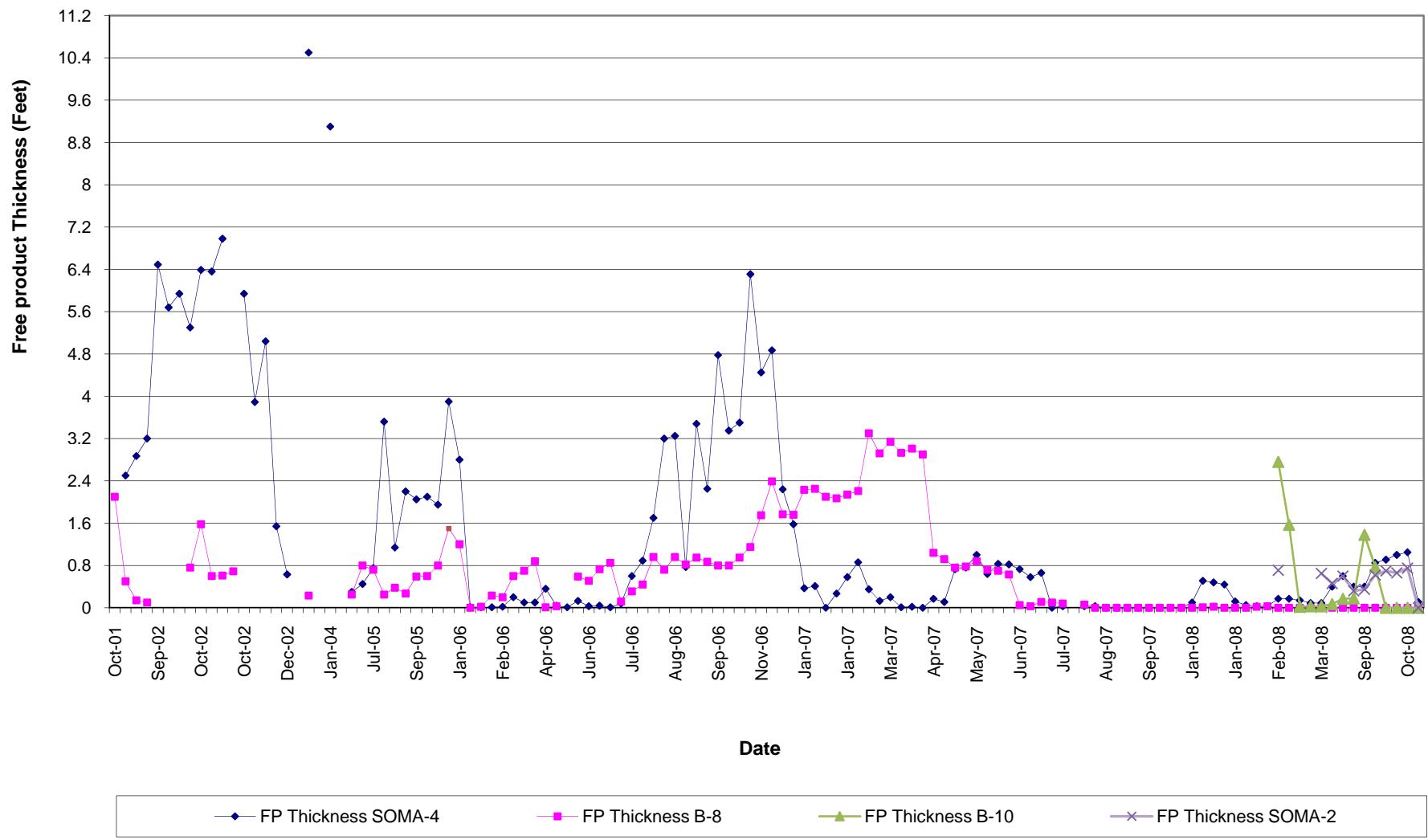
NM



Figure 17: Contour map of methane concentrations  
in groundwater. February 9 and 10, 2009

approximate scale in feet  
0 50 100

**Figure 18**  
**Free Product Thickness**  
**Former Glovatorium Site**  
**3185 Broadway, Oakland, California**



# **APPENDIX A**

## **SOMA's Groundwater Monitoring Procedures**

## **Field Activities**

Field activities were conducted on February 9 and 10, 2009. During this event, 13 monitoring wells were sampled. Depths to groundwater were measured in 25 groundwater monitoring wells and temporary sampling points. SOMA-5 was not sampled due to insufficient water for purging and sampling. Figure 2 shows locations of groundwater monitoring wells and temporary sampling points.

On February 9, 2009, SOMA's field crew measured depths to groundwater in the monitoring wells and temporary groundwater sampling points from the top of the casings to the nearest 0.01 feet using an electrical sounder. The depth to groundwater and top of the casing elevation were used to calculate the Site's groundwater elevation at each sounding location.

Prior to sample collection, each well was purged using a battery-operated, 2-inch-diameter pump (Model ES-60 DC) or a GeoTech pump (for the smaller  $\frac{3}{4}$ -inch diameter temporary wells). During the purging activities, the groundwater was measured for parameters such as DO, pH, temperature, EC, and the ORP using a Hanna HI-9828 multi-parameter instrument. Turbidity was measured using a Hanna HI-98703 portable turbidimeter. The equipment was calibrated at the Site using standard solutions and procedures provided by the manufacturer.

The purging continued until the parameters for pH, temperature, EC, DO, turbidity, and ORP stabilized, or three casing volumes were purged. The groundwater samples were also tested on-site for nitrate, nitrite, sulfate, total iron, ferrous iron and dissolved manganese concentrations, once stabilization occurred, using the Hach Colorimeter (Model 890). The Hach Colorimeter is a microprocessor-controlled photometer suitable for colorimetric testing in the laboratory or the field. The required reagents for each specific test were provided in AccuVac ampules.

Nitrate was measured colorimetrically using Method 8039, the Cadmium Reduction Method. Cadmium metal in the NitraVer 5 Nitrate Reagent reduces nitrates present in the sample to nitrite; the nitrite ion reacts in an acidic medium with sulfanilic acid to form an intermediate diazonium salt, which couples with getistic acid to form an amber-colored product. The intensity of the color is proportional to the nitrate concentration in the sample.

Nitrite was measured colorimetrically using Method 8507, the Diazotization Method. Nitrite in the sample reacts with sulfanilic acid in the NitriVer 3 Nitrite Reagent to form an intermediate diazonium salt. The salt couples with chromotropic acid to produce a pink colored complex. The intensity of the color is proportional to the nitrite concentration in the sample.

Sulfate was measured colorimetrically using Method 8051, the SulfaVer 4 Method. Sulfate ions in the sample react with barium in the SulfaVer 4 Sulfate

Reagent to form insoluble barium sulfate. The intensity of the subsequent color development is proportional to the sulfate concentration.

Ferrous iron was measured colorimetrically using Method 8146 (1,10-phenanthroline Method). The 1,10-phenanthroline indicator in the ferrous iron reagent reacts with  $\text{Fe}^{+2}$  in the sample to form an orange color. The intensity of the orange color is proportional to the iron concentration.

Total iron was measured colorimetrically using Method 8008. The FerroVer Iron Reagent reacts with all soluble and most insoluble forms of iron in the sample to produce soluble ferrous iron. This reacts with the 1,10-phenanthroline indicator in the reagent to form an orange color in proportion to the iron concentration.

Dissolved manganese was measured colorimetrically using Method 8034, the Periodate Oxidation Method. Manganese in the sample is oxidized to the purple permanganate state by sodium periodate, after buffering the sample with citrate. The purple color that develops as a result of this reaction is directly proportional to the manganese concentration.

After purging, a disposable polyethylene bailer was used to collect sufficient samples from each monitoring well for laboratory analyses. The groundwater samples from the smaller diameter  $\frac{3}{4}$ -inch temporary wells were collected using the GeoTech pump and a battery pack. A  $\frac{1}{4}$ -inch poly tube was placed in the temporary well, and groundwater was extracted through the tubing using the GeoTech pump.

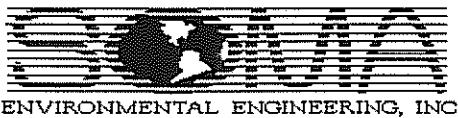
The groundwater sample was transferred to nine 40-mL VOA vials and preserved with hydrochloric acid. The vials were then sealed to prevent the development of air bubbles within the headspace. The VOA vials containing the samples were immediately placed on ice and maintained at  $4^{\circ}\text{C}$  in a cooler. A chain of custody form was written and placed with the samples in the cooler. SOMA's field crew delivered the samples to Curtis & Tompkins, Ltd. Laboratory, in Berkeley, California, upon sampling completion.

### **Laboratory Analysis**

Curtis & Tompkins, Ltd., a state-certified laboratory, analyzed the groundwater samples for TPH-g, TPH-ss, purgeable organics, which included BTEX and MtBE constituents, methane, ethane, and ethene. TPH-g and TPH-ss were prepared using EPA Method 5030B and measured using EPA Method 8015B. Purgeable organics, which included BTEX and MtBE, were prepared using EPA Method 5030B and analyzed using EPA Method 8260B. Methane, ethane, and ethene were analyzed using RSK-175.

# **APPENDIX B**

## **Field Notes, Field Measured Physical and Chemical Parameter Values**



ENVIRONMENTAL ENGINEERING, INC

Well Name: B-2

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 82.09 feet

Depth to Groundwater: 863 feet

Groundwater Elevation: 73.46 feet

Water Column Height: - feet

Purged Volume: - gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

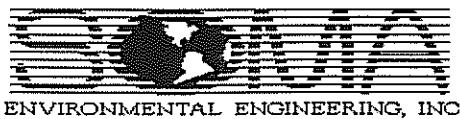
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Sheen: No  Yes  Describe: Unknown  
Odor: No  Yes  Describe: Unknown

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: B-3

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 82.57 feet

Depth to Groundwater: 8.85 feet

Groundwater Elevation: 73.72 feet

Water Column Height: \_\_\_\_\_ feet

Purged Volume: \_\_\_\_\_ gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

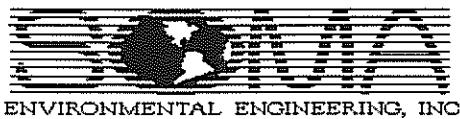
Color: No  Yes  Describe: unknown  
Sheen: No  Yes  Describe: unk  
Odor: No  Yes  Describe: U

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: B-7

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 76.96 feet

Depth to Groundwater: dry feet

Groundwater Elevation: NA feet

Water Column Height: NA feet

Purged Volume: \_\_\_\_\_ gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

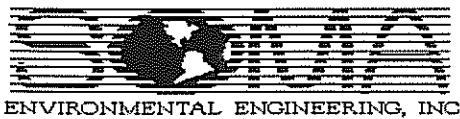
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Sheen: No  Yes  Describe: none  
Odor: No  Yes  Describe: none

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: B-8

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 81.82 feet

Depth to Groundwater: 11.30 feet

Groundwater Elevation: 70.52 feet

Water Column Height: \_\_\_\_\_ feet

Purged Volume: \_\_\_\_\_ gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

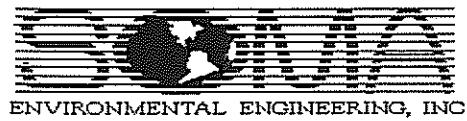
Color: No  Yes  Describe: \_\_\_\_\_  
Sheen: No  Yes  Describe: no sheen  
Odor: No  Yes  Describe: Unknow

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: B-9

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 77.37 feet

Depth to Groundwater: 10.65 feet

Groundwater Elevation: 66.72 feet

Water Column Height: \_\_\_\_\_ feet

Purged Volume: \_\_\_\_\_ gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

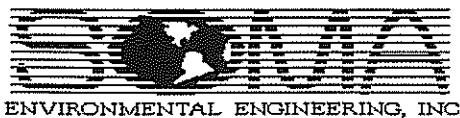
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Sheen: No  Yes  Describe: Unkn  
Odor: No  Yes  Describe: Unkn

**Field Measurements:**

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: B-10  
 Casing Diameter: 3/4 inch  
 Depth of Well: 17.90 feet  
 Top of Casing Elevation: 81.50 feet  
 Depth to Groundwater: 10.87 feet  
 Groundwater Elevation: 70.63 feet  
 Water Column Height: 7.03 feet  
 Purged Volume: 0.25 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 24, 2009  
 Sampler: Lizzie Hightower  
 Eric Grassner-Wollwage

Purging Method: Bailer   
 Sampling Method: Bailer

Pump  Geopump  
 Pump

Color: No   
 Sheen: No   
 Odor: No

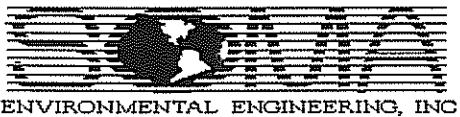
Yes  Describe: Cloudy  
 Yes  Describe:  
 Yes  Describe: Petro odor

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1349	Started purging well						
1350	0.25	6.89	14.33	0.18	7	167	-65.7
1355	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
14:10	2.68	3.30	5.7	0.012	80	10.5

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: B-13

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 84.58 feet

Depth to Groundwater: dry feet

Groundwater Elevation: NA feet

Water Column Height: - feet

Purged Volume: - gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump

Sampling Method: Bailer  Pump

Color: No  Yes  Describe: unknown

Sheen: No  Yes  Describe: no known

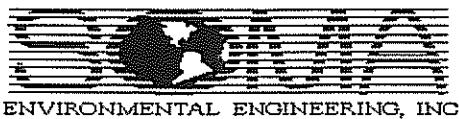
Odor: No  Yes  Describe: none

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: GW-1

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 79.94 feet

Depth to Groundwater: dry feet

Groundwater Elevation: NA feet

Water Column Height: \_\_\_\_\_ feet

Purged Volume: \_\_\_\_\_ gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

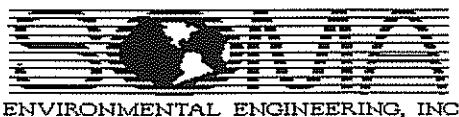
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Sheen: No  Yes  Describe: no  
Odor: No  Yes  Describe: none

## Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: GLJ-2  
Casing Diameter: 3/4 inch  
Depth of Well: 20.00 feet  
Top of Casing Elevation: 79.14 feet  
Depth to Groundwater: 11.86 feet  
Groundwater Elevation: 67.28 feet  
Water Column Height: 8.14 feet  
Purged Volume: 0.25 gallons

Project #: 2511  
Address: 3815 Broadway  
Oakland, California  
Date: February 25, 2009  
Sampler: Lizzie Hightower

*Eric Garner-Hightower  
Jesse Acedillo*

Purging Method: Bailer   
Sampling Method: Bailer

Pump  Geotech  
Pump

Color: No   
Sheen: No   
Odor: No

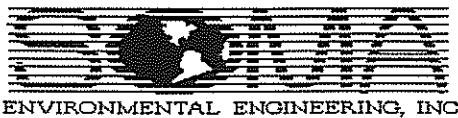
Yes  Describe: \_\_\_\_\_  
Yes  Describe: \_\_\_\_\_  
Yes  Describe: \_\_\_\_\_

## Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1351	Started purging well						
1352	0.25	6.59	17.4	0.14	614	5.53	+10.4
1353	dried						
1358	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
1400	0.11	0.22	3.4	0.004	66	1.3

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: GW-3  
 Casing Diameter: 3/4 inch  
 Depth of Well: 28.00 feet  
 Top of Casing Elevation: 77.92 feet  
 Depth to Groundwater: 9.91 feet  
 Groundwater Elevation: 68.01 feet  
 Water Column Height: 10.09 feet  
 Purged Volume: 0.5 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 25, 2009  
 Sampler: Lizzie Hightower  
 Eric Gassner-Lvollwedge  
 Jesse Aced'lo

Purging Method: Bailer   
 Sampling Method: Bailer

Pump  Geotech  
 Pump

Color: No   
 Sheen: No   
 Odor: No

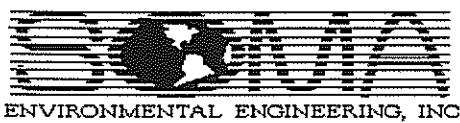
Yes  Describe: \_\_\_\_\_  
 Yes  Describe: \_\_\_\_\_  
 Yes  Describe: \_\_\_\_\_

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1315	started purging well						
1317	0.5	6.58	17.9	0.13	440	1.60	-6.1
1318	drained						
1323	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
1326	0.02	0.10	2.8	0.009	36	1.4

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: GW-4  
 Casing Diameter: 3/4 inch  
 Depth of Well: 12.00 feet  
 Top of Casing Elevation: 82.37 feet  
 Depth to Groundwater: 7.50 feet  
 Groundwater Elevation: 74.87 feet  
 Water Column Height: 4.50 feet  
 Purged Volume: 0.25 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 24-25, 2009  
 Sampler: Lizzie Hightower  
Eric Gassner-Wallwage

Purging Method: Bailer   
 Sampling Method: Bailer

Pump  *geopump*  
 Pump

Color: No   
 Sheen: No   
 Odor: No

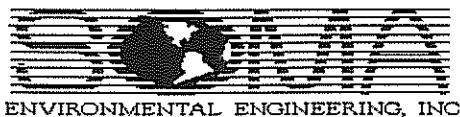
Yes  Describe: \_\_\_\_\_  
 Yes  Describe: \_\_\_\_\_  
 Yes  Describe: \_\_\_\_\_

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
09:41	Started purging well						
09:42	0.25	6.45	17.67	0.13	487	19.4	-19.4
946	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
10:00	3.30	3.30	2.3	0	3	3.0

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: GW-5

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 81.01 feet

Depth to Groundwater: 12.42 feet

Groundwater Elevation: 68.59 feet

Water Column Height: - feet

Purged Volume: - gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

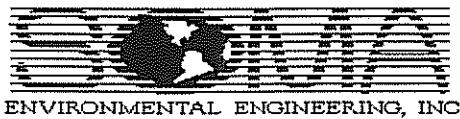
Color: No  Yes  Describe: Unknown  
Sheen: No  Yes  Describe: Unknown  
Odor: No  Yes  Describe: Unknown

## Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: GW-6A

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 81.61 feet

Depth to Groundwater: 13.85 feet

Groundwater Elevation: 67.76 feet

Water Column Height: \_\_\_\_\_ feet

Purged Volume: \_\_\_\_\_ gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

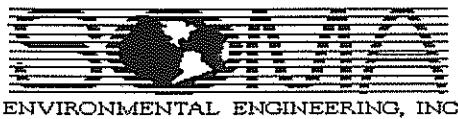
Color: No  Yes  Describe: No color  
Sheen: No  Yes  Describe: No sheen  
Odor: No  Yes  Describe: No odor

## Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: MW-8

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 87.44 feet

Depth to Groundwater: 10.21 feet

Groundwater Elevation: 77.23 feet

Water Column Height: \_\_\_\_\_ feet

Purged Volume: \_\_\_\_\_ gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

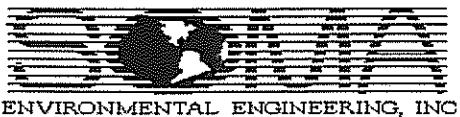
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Sheen: No  Yes  Describe: none  
Odor: No  Yes  Describe: none

**Field Measurements:**

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: MW-9

Casing Diameter: \_\_\_\_\_ inch

Depth of Well: \_\_\_\_\_ feet

Top of Casing Elevation: 86.56 feet

Depth to Groundwater: 9.73 feet

Groundwater Elevation: 76.83 feet

Water Column Height: - feet

Purged Volume: - gallons

Project #: 2511

Address: 3815 Broadway  
Oakland, California

Date: February 9, 2009

Sampler: Jesse Acedillo  
Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

Color: No  Yes  Describe: clear  
Sheen: No  Yes  Describe: none  
Odor: No  Yes  Describe: none

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: MW-11  
 Casing Diameter: 2 inch  
 Depth of Well: 19.00 feet  
 Top of Casing Elevation: 84.13 feet  
 Depth to Groundwater: 12.49 feet  
 Groundwater Elevation: 71.64 feet  
 Water Column Height: 6.51 feet  
 Purged Volume: 3 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 10, 2009  
 Sampler: Lizzie Hightower  
 Eric Gassner-Wollwage

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color:	No <input type="checkbox"/>	Yes <input checked="" type="checkbox"/>	Describe: <u>Cloudy</u>
Sheen:	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	Describe: _____
Odor:	No <input checked="" type="checkbox"/>	Yes <input type="checkbox"/>	Describe: _____

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
11:23	started purging well						
11:28	1	6.57	20.92	0.18	957	49.2	+25.3
11:30	2	6.44	21.64	0.18	982	23.1	+31.6
11:32	3	6.39	21.73	0.25	1130	16.5	+34.4
11:37	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
11:52	0.02	0.23	0	0.007	50	0.6

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: LFR-1  
Casing Diameter: 2 inch  
Depth of Well: 19.00 feet  
Top of Casing Elevation: 79.97 feet  
Depth to Groundwater: 9.55 feet  
Groundwater Elevation: 70.42 feet  
Water Column Height: 9.45 feet  
Purged Volume: 5 gallons

Project #: 2511  
Address: 3815 Broadway  
Oakland, California  
Date: February 25, 2009  
Sampler: Lizzie Hightower

*Eric Gassner-Wallace  
Jesse Acedillo*

Purging Method: Bailer   
Sampling Method: Bailer

Pump  *60 pump*  
Pump

Color: No   
Sheen: No   
Odor: No

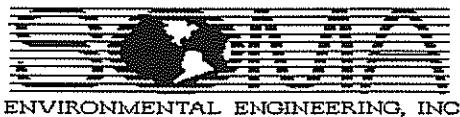
Yes  Describe: \_\_\_\_\_  
Yes  Describe: \_\_\_\_\_  
Yes  Describe: \_\_\_\_\_

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1414	Started purging well						
1416	1	6.53	16.3	0.14	438	2.45	+22.8
1420	3	6.45	15.8	0.13	455	<del>1.55</del>	+19.1
1424	5	6.32	16.2	0.14	482	1.74	+12.2
1429	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
1431	0	0	0	0	23	4.9

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: LFR-2  
 Casing Diameter: 2 inch  
 Depth of Well: 19.00 feet  
 Top of Casing Elevation: 81.89 feet  
 Depth to Groundwater: 11.15 feet  
 Groundwater Elevation: 70.74 feet  
 Water Column Height: 7.85 feet  
 Purged Volume: 4 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 24<sup>th</sup>, 2009  
 Sampler: Lizzie Hightower  
 Eric Gassner-Wollwage

Purging Method: Bailer   
 Sampling Method: Bailer

Pump   
 Pump

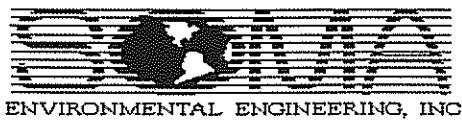
Color:	No <input type="checkbox"/>	Yes <input type="checkbox"/>	Describe: _____
Sheen:	No <input type="checkbox"/>	Yes <input type="checkbox"/>	Describe: _____
Odor:	No <input type="checkbox"/>	Yes <input type="checkbox"/>	Describe: <u>Chemical</u>

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1037	Started purging well						
1038	2	6.55	19.91	0.15	359	2.66	-22.9
1039	4	6.53	17.41	0.16	980	4.87	-622
1041	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
10:56	3.30	3.30	0.2	0.009	0	24.0

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: LFR-3  
 Casing Diameter: 2 inch  
 Depth of Well: 22.00 feet  
 Top of Casing Elevation: 77.96 feet  
 Depth to Groundwater: 11.59 feet  
 Groundwater Elevation: 66.37 feet  
 Water Column Height: 10.41 feet  
 Purged Volume: 5 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 12, 2009  
 Sampler: Lizzie Hightower  
Eric Gassner-Wolffweg  
Jesse Acedillo

Purging Method: Bailer   
 Sampling Method: Bailer

Pump  Geopumps  
 Pump

Color: No   
 Sheen: No   
 Odor: No

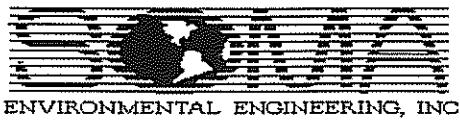
Yes  Describe: \_\_\_\_\_  
 Yes  Describe: \_\_\_\_\_  
 Yes  Describe: \_\_\_\_\_

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
12:24	Started purging well						
12:26	1	6.16	17.5	0.11	391	7.68	-38.9
12:30	3	6.20	17.4	0.12	429	3.26	-40.0
12:34	5	6.21	17.3	0.13	453	4.19	-41.0
12:38	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
12:42	0	0	2.3	0.002	44	0

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: LFR-4  
Casing Diameter: 2 inch  
Depth of Well: 19.30 feet  
Top of Casing Elevation: 81.65 feet  
Depth to Groundwater: 14.14 feet  
Groundwater Elevation: 67.51 feet  
Water Column Height: 5.16 feet  
Purged Volume: 2 gallons

Project #: 2511  
Address: 3815 Broadway  
Oakland, California  
Date: February 10, 2009

Sampler: Lizzie Hightower

Eric Gassner-Wolffwage

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

Color: No  Yes  Describe: Cloudy  
Sheen: No  Yes  Describe: Rainbow Sheen  
Odor: No  Yes  Describe: Petro Odor

## Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
15:59	Started purging well						
16:00	0.5	6.79	17.53	0.19	550	419	-24.6
16:02	1.0	6.39	18.09	0.19	588	343	-29.7
16:03	2.0	6.38	20.16	0.18	591	536	-30.6
16:08	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
16:18	2.18	3.30	0	0	0	28.1

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: SOMA - 1  
Casing Diameter: 4 inch  
Depth of Well: 40.00 feet  
Top of Casing Elevation: 81.64 feet  
Depth to Groundwater: 14.78 feet  
Groundwater Elevation: 66.86 feet  
Water Column Height: 25.22 feet  
Purged Volume: 16 gallons

Project #: 2511  
Address: 3815 Broadway  
Oakland, California  
Date: February 10, 2009

Sampler: Lizzie Hightower  
Eric Gassman

Purging Method: Bailer  Pump   
Sampling Method: Bailer  Pump

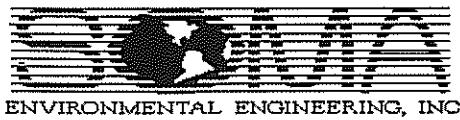
Color: No  Yes  Describe: \_\_\_\_\_  
Sheen: No  Yes  Describe: \_\_\_\_\_  
Odor: No  Yes  Describe: slight chemical

## Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1003	Started purging well						
1004	2	6.41	20.92	0.13	993	7.51	+26
1006	6	6.44	20.97	0.14	1065	6.25	+22.9
1008	10	6.43	18.92	0.15	1106	6.40	+22.6
1011	16	6.42	19.31	0.15	779	5.58	+22.7
1015	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
10:28	0.20	0.28	0.6	0.011	22	8.0

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: SOMA-2  
 Casing Diameter: 2 inch  
 Depth of Well: 20.00 feet  
 Top of Casing Elevation: 81.39 feet  
 Depth to Groundwater: 10.70 feet  
 Groundwater Elevation: 70.69 feet  
 Water Column Height: 9.30 feet  
 Purged Volume: 5 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 24/25, 2009  
 Sampler: Lizzie Hightower

*Enclosed wellage*

Purging Method: Bailer   
 Sampling Method: Bailer

Pump   
 Pump

Color: No   
 Sheen: No   
 Odor: No

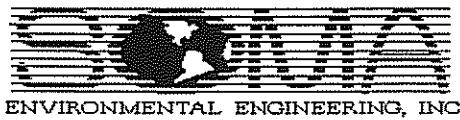
Yes  Describe: Cloudy  
 Yes  Describe:  
 Yes  Describe: Petro Odor

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
14:19	Started purging	6.81					
14:20	2	6.89	19.20	0.18	892	148	-89
14:22	5	6.86	19.33	0.18	912	542	-100/6
14:22	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
14:37	3.30	3.30	0	0	80	30.3

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: SOMA-3  
 Casing Diameter: 3/4 inch  
 Depth of Well: 30.00 feet  
 Top of Casing Elevation: 81.42 feet  
 Depth to Groundwater: 13.45 feet  
 Groundwater Elevation: 67.97 feet  
 Water Column Height: 16.55 feet  
 Purged Volume: 1.5 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 24-25, 2009

Sampler: Lizzie Hightower

*Eric Gassner-Wollwage*

Purging Method: Bailer   
 Sampling Method: Bailer

Pump  *Geotek*  
 Pump

Color: No   
 Sheen: No   
 Odor: No

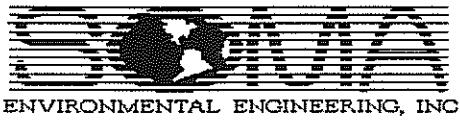
Yes  Describe: \_\_\_\_\_  
 Yes  Describe: \_\_\_\_\_  
 Yes  Describe: *petro* \_\_\_\_\_

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
14:51	Started purging well						
14:56	1	6.78	16.02	0.20	1013	58.2	-38.1
15:02	1.5	6.75	16.30	0.20	1149	45.3	34.2
15:07	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
15:17	0.80	0.90	0 <del>0.008</del>	0.008	25	0.8

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: SOMA-4  
Casing Diameter: 2 inch  
Depth of Well: 19.91 feet  
Top of Casing Elevation: 81.09 feet  
Depth to Groundwater: 12.09 feet  
Groundwater Elevation: 69.00 feet  
Water Column Height: 7.82 feet  
Purged Volume: 4 gallons

Project #: 2511  
Address: 3815 Broadway  
Oakland, California  
Date: February 24/25, 2009  
Sampler: Lizzie Hightower  
*Eric Gassner-Hightower*

Purging Method: Bailer   
Sampling Method: Bailer

Pump   
Pump

Color: No   
Sheen: No   
Odor: No

Yes  Describe: Cloudy  
Yes  Describe:  
Yes  Describe:

## Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
13:00	Started purging well						
13:01	2	6.57	19.36	0.17	1023	158	-78.2
13:02	4	6.61	19.42	0.17	1071	172	-104.9
13:08	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
13:23	2.83	3.10	0.4	0.003	80	7.1

Notes:



ENVIRONMENTAL ENGINEERING, INC.

Well Name: SOMA-5  
 Casing Diameter: 3/4 inch  
 Depth of Well: 25.60 feet  
 Top of Casing Elevation: 81.50 feet  
 Depth to Groundwater: 22.22 feet  
 Groundwater Elevation: 59.28 feet  
 Water Column Height: 3.38 feet  
 Purged Volume: 0.25 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: February 10, 2009  
 Sampler: Lizzie Hightower  
*Eric Gessner-Wolffage*

Purging Method: Bailer   
 Sampling Method: Bailer

Pump  *Step pump*  
 Pump

Color: No   
 Sheen: No   
 Odor: No

Yes  Describe: Slightly Cloudy  
 Yes  Describe:  
 Yes  Describe:

#### Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
12:36	started purging well						
12:37	0.25	7.01	15.8	0.18	538	31.3	-119.4
12:42	ended	Not enough water to sample					

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
12:57	1.69	3.30	0	0	0	63.4

Notes:

# **APPENDIX C**

Chain of Custody Forms and Laboratory Reports

# **CHAIN OF CUSTODY**

Page 1 of 1

## **Curtis & Tompkins, Ltd.**

Analytical Laboratory Since 1878

2323 Fifth Street

Berkeley, CA 94710

(510)486-0900 Phone

(510)486-0532 Fax

**Project No: 2511**

**Project Name:** 3815 Broadway, Oakland, CA

### **Turnaround Time: Standard**

C&T LOGIN # 209945

**Sampler:** Eric Gassner-Wollwage, Jesse Acedillo, Elizabeth Hightower

**Report To:** Joyce Bobek

**Company :** SOMA Environmental

**Telephone:** 925-734-6400

**Fax:** 925-734-6401

Lab No.	Sample ID.	Sampling Date Time	Matrix			Preservative			
			Soil	Water	Waste	# of Containers	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>
1	GW-2	2/9/09 13:58	*			9-40ml VOAs	*		*
2	GW-3	2/9/09 13:23	*			9-40ml VOAs	*		*
3	GW-4	2/10/09 9:46	*			9-40ml VOAs	*		*
4	MW-11	2/10/09 11:37	*			9-40ml VOAs	*		*
5	LFR-1	2/8/09 14:29	*			9-40ml VOAs	*		*
6	LFR-2	2/10/09 10:41	*			9-40ml VOAs	*		*
7	LFR-3	2/9/09 12:38	*			9-40ml VOAs	*		*
8	LFR-4	2/10/09 16:08	*			9-40ml VOAs	*		*
9	SOMA-1	2/10/09 10:15	*			9-40ml VOAs	*		*
10	SOMA-2	2/10/09 14:22	*			9-40ml VOAs	*		*
11	SOMA-3	1/507	*			9-40ml VOAs	*		*
12	SOMA-4	1308	*			9-40ml VOAs	*		*
13	SOMA-5	1242	*			9-40ml VOAs	*		*
14	B-10	1355	*			9-40ml VOAs	*		*

**Notes:**

## EDF Output required

8260B List to include gasoline oxygenates & lead scavengers, BTEX, MtBE

REINQUISHED BY:

REINQUIRIES BY: CS 292 4/1/09 1500  
DATE/TIME

RECEIVED BY:

Pat Murphy 2/11/09 3:45  
DATE/TIME

**DATE/TIME** \_\_\_\_\_ **DATE/TIME** \_\_\_\_\_

DATE/TIME

**DATE/TIME**

## COOLER RECEIPT CHECKLIST



Curtis &amp; Tompkins, Ltd.

Login # 209945 Date Received 2/11/09 Number of coolers 2  
 Client SOMA & ENV. Project 3815 BROADWAY, OAKLAND, CA  
 Date Opened 2/11/09 By (print) M. VILLANUEVA (sign) J. M. J. J.  
 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  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:

Type of ice used:  Wet  Blue/Gel  None Temp(°C) 5.7

Samples Received on ice & cold without a temperature blank

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

8. Were Method 5035 sampling containers present? \_\_\_\_\_ YES  NO

If YES, what time were they transferred to freezer? \_\_\_\_\_

9. Did all bottles arrive unbroken/unopened? \_\_\_\_\_ YES NO  N/A

10. Are samples in the appropriate containers for indicated tests? \_\_\_\_\_ YES NO  N/A

11. Are sample labels present, in good condition and complete? \_\_\_\_\_ YES NO  N/A

12. Do the sample labels agree with custody papers? \_\_\_\_\_ YES NO  N/A

13. Was sufficient amount of sample sent for tests requested? \_\_\_\_\_ YES NO  N/A

14. Are the samples appropriately preserved? \_\_\_\_\_ YES NO N/A  N/A

15. Are bubbles > 6mm absent in VOA samples? \_\_\_\_\_ YES NO N/A  N/A

16. Was the client contacted concerning this sample delivery? \_\_\_\_\_ YES NO  N/A

If YES, Who was called? \_\_\_\_\_ By \_\_\_\_\_ Date: \_\_\_\_\_

## COMMENTS

Sampled #1 - 8-VOAs w/ HCl rec'd  
Sampled #2 - 7-VOAs w/ HCl rec'd



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

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

**Laboratory Job Number 209945  
ANALYTICAL REPORT**

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

Project : 2511  
Location : 3815 Broadway, Oakland  
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
GW-2	209945-001
GW-3	209945-002
GW-4	209945-003
MW-11	209945-004
LFR-1	209945-005
LFR-2	209945-006
LFR-3	209945-007
LFR-4	209945-008
SOMA-1	209945-009
SOMA-2	209945-010
SOMA-3	209945-011
SOMA-4	209945-012
B-10	209945-013

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 signatures. 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: Troy Baker  
Project Manager

Date: 02/23/2009

Signature: Jeanne R. Baker  
Senior Program Manager

Date: 02/23/2009

## CASE NARRATIVE

Laboratory number: **209945**  
Client: **SOMA Environmental Engineering Inc.**  
Project: **2511**  
Location: **3815 Broadway, Oakland**  
Request Date: **02/11/09**  
Samples Received: **02/11/09**

This data package contains sample and QC results for thirteen water samples, requested for the above referenced project on 02/11/09. The samples were received cold and intact.

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

High surrogate recoveries were observed for bromofluorobenzene (FID) in many samples, due to interference from coeluting hydrocarbon peaks. High surrogate recovery was observed for trifluorotoluene (FID) in LFR-4 (lab # 209945-008), due to interference from coeluting hydrocarbon peaks. No other analytical problems were encountered.

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

High RPD was observed for tert-butyl alcohol (TBA) in the BS/BSD for batch 147958; this analyte was not detected at or above the RL in the associated samples. No other analytical problems were encountered.

**Dissolved Gases by GC/FID (RSK-175):**

No analytical problems were encountered.

**Total Volatile Hydrocarbons**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Matrix:	Water	Received:	02/11/09
Units:	ug/L		

Field ID: GW-2 Batch#: 147874  
 Type: SAMPLE Sampled: 02/09/09  
 Lab ID: 209945-001 Analyzed: 02/12/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	88	61-149
Bromofluorobenzene (FID)	92	65-146

Field ID: GW-3 Batch#: 147874  
 Type: SAMPLE Sampled: 02/09/09  
 Lab ID: 209945-002 Analyzed: 02/12/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	84 Y Z	50
Stoddard Solvent C7-C12	70 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	85	61-149
Bromofluorobenzene (FID)	93	65-146

Field ID: GW-4 Batch#: 147874  
 Type: SAMPLE Sampled: 02/10/09  
 Lab ID: 209945-003 Analyzed: 02/12/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	580 Y	50
Stoddard Solvent C7-C12	490	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	61-149
Bromofluorobenzene (FID)	194 *	65-146

\*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit



Curtis &amp; Tompkins, Ltd.

**Total Volatile Hydrocarbons**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B

Matrix: Water  
Units: ug/L

Received: 02/11/09

Field ID: MW-11 Batch#: 147874  
Type: SAMPLE Sampled: 02/10/09  
Lab ID: 209945-004 Analyzed: 02/12/09  
Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	61-149
Bromofluorobenzene (FID)	97	65-146

Field ID: LFR-1 Batch#: 147874  
Type: SAMPLE Sampled: 02/09/09  
Lab ID: 209945-005 Analyzed: 02/13/09  
Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	67 Y Z	50
Stoddard Solvent C7-C12	57 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	61-149
Bromofluorobenzene (FID)	103	65-146

Field ID: LFR-2 Batch#: 147874  
Type: SAMPLE Sampled: 02/10/09  
Lab ID: 209945-006 Analyzed: 02/13/09  
Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	4,000 Y	50
Stoddard Solvent C7-C12	3,400	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	78	61-149
Bromofluorobenzene (FID)	454 *	65-146

\*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit

Page 2 of 5

### Total Volatile Hydrocarbons

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B

Matrix: Water  
Units: ug/L

Received: 02/11/09

Field ID: LFR-3 Batch#: 147874  
 Type: SAMPLE Sampled: 02/09/09  
 Lab ID: 209945-007 Analyzed: 02/13/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	90	61-149
Bromofluorobenzene (FID)	96	65-146

Field ID: LFR-4 Batch#: 147874  
 Type: SAMPLE Sampled: 02/10/09  
 Lab ID: 209945-008 Analyzed: 02/13/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	1,400 Y	50
Stoddard Solvent C7-C12	1,200 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	212 *	61-149
Bromofluorobenzene (FID)	153 *	65-146

Field ID: SOMA-1 Batch#: 148076  
 Type: SAMPLE Sampled: 02/10/09  
 Lab ID: 209945-009 Analyzed: 02/19/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	86 Y Z	50
Stoddard Solvent C7-C12	57 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	83	61-149
Bromofluorobenzene (FID)	82	65-146

\*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit

### Total Volatile Hydrocarbons

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B

Matrix: Water  
Units: ug/L

Received: 02/11/09

Field ID: SOMA-2 Batch#: 148076  
 Type: SAMPLE Sampled: 02/10/09  
 Lab ID: 209945-010 Analyzed: 02/19/09  
 Diln Fac: 200.0

Analyte	Result	RL
Gasoline C7-C12	1,300,000 Y	10,000
Stoddard Solvent C7-C12	860,000	10,000

Surrogate	%REC	Limits
Trifluorotoluene (FID)	82	61-149
Bromofluorobenzene (FID)	387 *	65-146

Field ID: SOMA-3 Batch#: 148076  
 Type: SAMPLE Sampled: 02/10/09  
 Lab ID: 209945-011 Analyzed: 02/19/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	150 Y	50
Stoddard Solvent C7-C12	100	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	82	61-149
Bromofluorobenzene (FID)	97	65-146

Field ID: SOMA-4 Batch#: 148076  
 Type: SAMPLE Sampled: 02/10/09  
 Lab ID: 209945-012 Analyzed: 02/19/09  
 Diln Fac: 20.00

Analyte	Result	RL
Gasoline C7-C12	65,000 Y	1,000
Stoddard Solvent C7-C12	44,000	1,000

Surrogate	%REC	Limits
Trifluorotoluene (FID)	83	61-149
Bromofluorobenzene (FID)	260 *	65-146

\*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit

### Total Volatile Hydrocarbons

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Matrix:	Water	Received:	02/11/09
Units:	ug/L		

Field ID: B-10                          Batch#: 148076  
 Type: SAMPLE                          Sampled: 02/10/09  
 Lab ID: 209945-013                          Analyzed: 02/19/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	2,300 Y	50
Stoddard Solvent C7-C12	1,500	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	61-149
Bromofluorobenzene (FID)	223 *	65-146

Type: BLANK                          Batch#: 147874  
 Lab ID: QC483138                          Analyzed: 02/12/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	84	61-149
Bromofluorobenzene (FID)	83	65-146

Type: BLANK                          Batch#: 148076  
 Lab ID: QC483938                          Analyzed: 02/19/09  
 Diln Fac: 1.000

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	91	61-149
Bromofluorobenzene (FID)	89	65-146

\*= Value outside of QC limits; see narrative

Y= Sample exhibits chromatographic pattern which does not resemble standard

Z= Sample exhibits unknown single peak or peaks

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

**Total Volatile Hydrocarbons**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC483139	Batch#:	147874
Matrix:	Water	Analyzed:	02/12/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	924.1	92	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	61-149
Bromofluorobenzene (FID)	100	65-146

## Batch QC Report

**Total Volatile Hydrocarbons**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	147874
MSS Lab ID:	209910-002	Sampled:	02/10/09
Matrix:	Water	Received:	02/10/09
Units:	ug/L	Analyzed:	02/12/09
Diln Fac:	1.000		

Type: MS Lab ID: QC483140

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	21.97	2,000	1,573	78	65-120
<b>Surrogate</b>					
Trifluorotoluene (FID)	137	61-149			
Bromofluorobenzene (FID)	120	65-146			

Type: MSD Lab ID: QC483141

Analyte	Spiked	Result	%REC	Limits	RPD Lim
Gasoline C7-C12	2,000	1,633	81	65-120	4 20
<b>Surrogate</b>					
Trifluorotoluene (FID)	141	61-149			
Bromofluorobenzene (FID)	121	65-146			

RPD= Relative Percent Difference

**Batch QC Report**
**Total Volatile Hydrocarbons**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC483939	Batch#:	148076
Matrix:	Water	Analyzed:	02/19/09
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	853.1	85	78-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	61-149
Bromofluorobenzene (FID)	96	65-146

## Batch QC Report

**Total Volatile Hydrocarbons**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	148076
MSS Lab ID:	210094-001	Sampled:	02/17/09
Matrix:	Water	Received:	02/18/09
Units:	ug/L	Analyzed:	02/20/09
Diln Fac:	25.00		

Type: MS Lab ID: QC483940

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	61,570	50,000	110,700	98	65-120
<b>Surrogate</b>					
Trifluorotoluene (FID)	123	61-149			
Bromofluorobenzene (FID)	114	65-146			

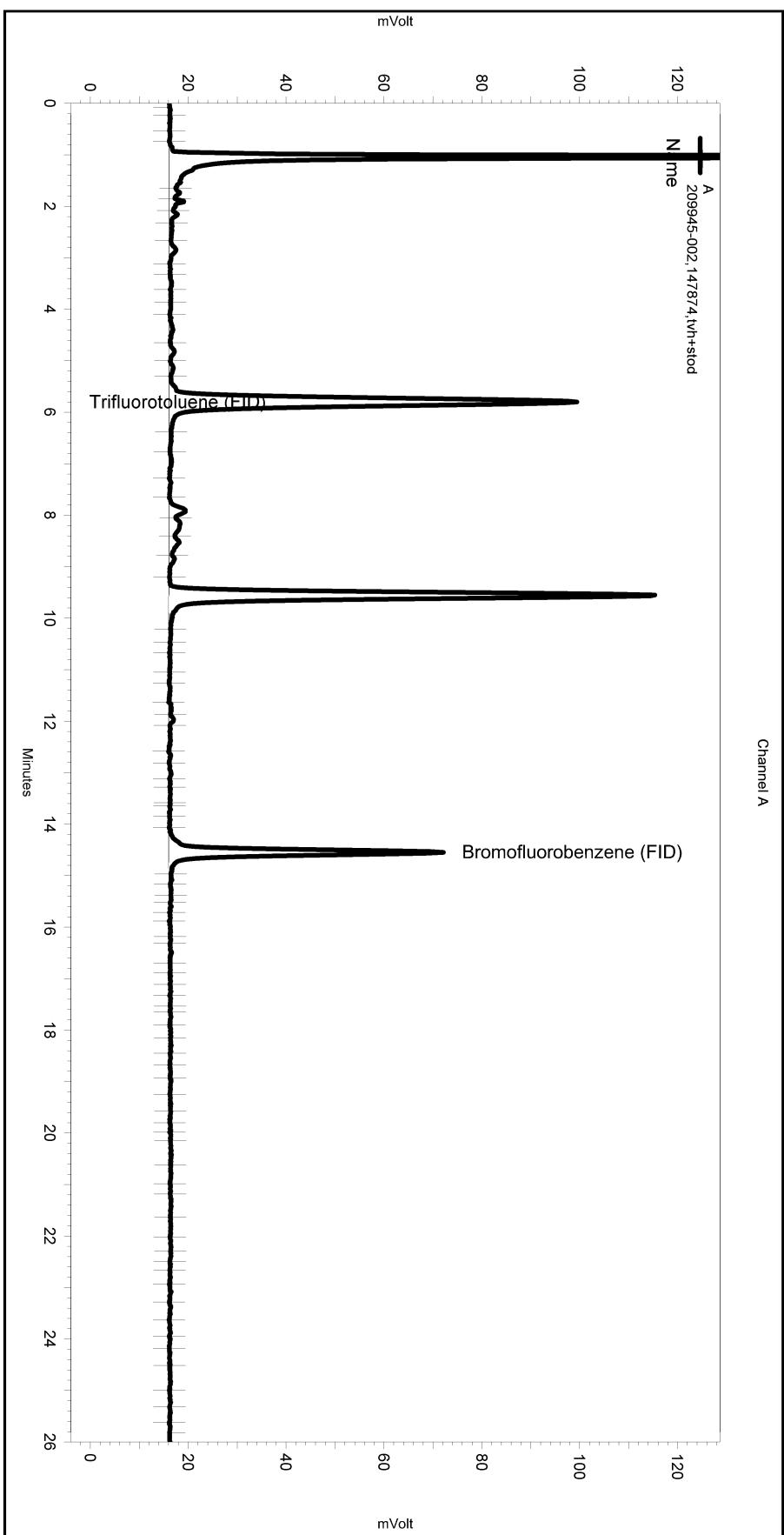
Type: MSD Lab ID: QC484047

Analyte	Spiked	Result	%REC	Limits	RPD Lim
Gasoline C7-C12	50,000	110,900	99	65-120	0 20
<b>Surrogate</b>					
Trifluorotoluene (FID)	106	61-149			
Bromofluorobenzene (FID)	112	65-146			

RPD= Relative Percent Difference

Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\043.seq  
Sample Name: 209945-002,147874,tvh+std  
Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\043\_023  
Instrument: GC04 Vial: N/A Operator: lims2k3\tvh3  
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtxe010.met

Software Version 3.1.7  
Run Date: 2/12/2009 10:17:09 PM  
Analysis Date: 2/12/2009 10:46:37 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: {Data Description}



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Yes	Threshold	0	0	50

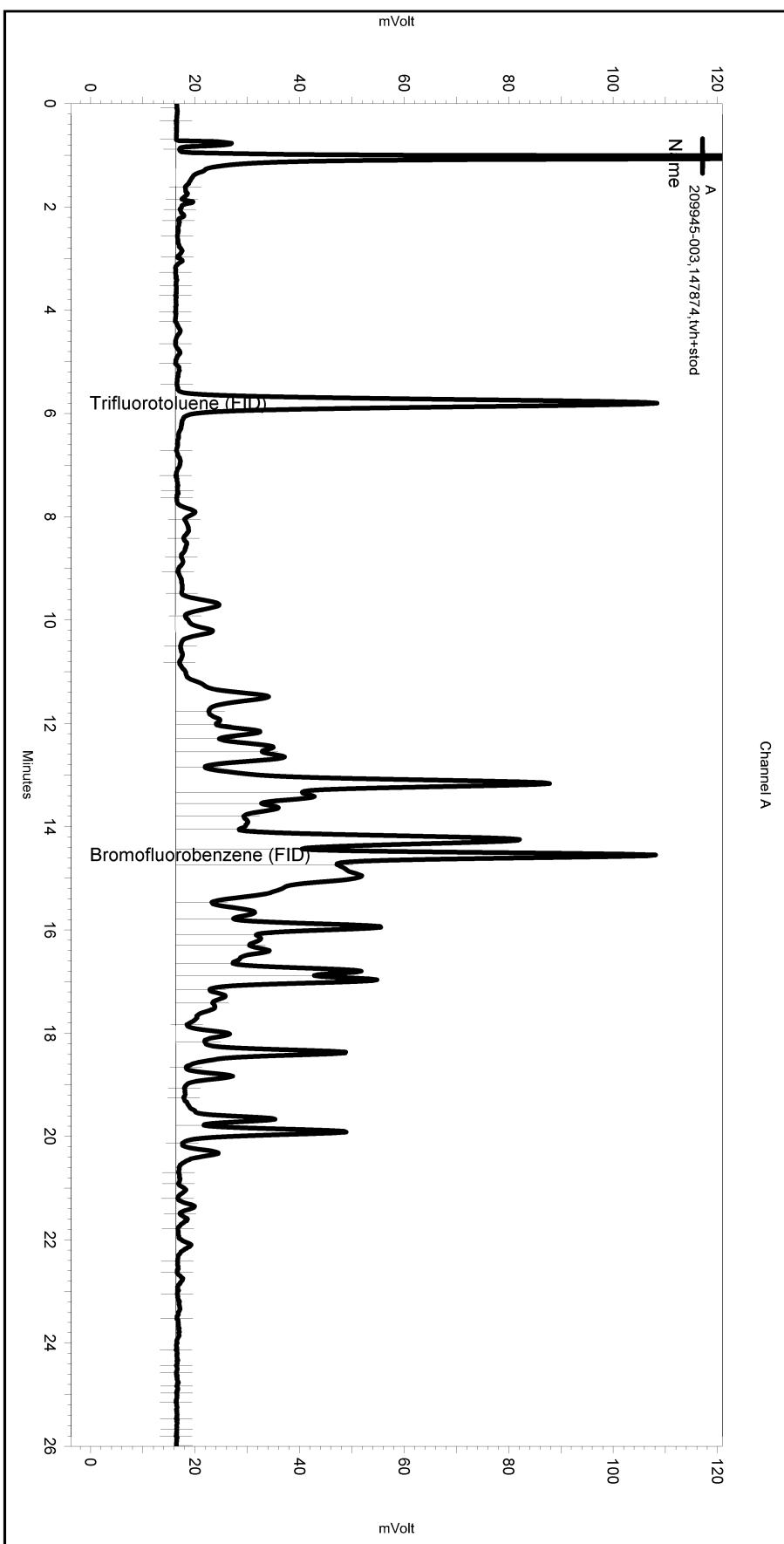
Manual Integration Fixes

Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery  
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Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Data\\043\_024  
Instrument: GC04 Vial: N/A Operator: lims2k3\\tvh3  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Method\\tvhbtxe010.met

Software Version 3.1.7  
Run Date: 2/12/2009 10:54:44 PM  
Analysis Date: 2/12/2009 11:24:14 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: {Data Description}



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Integration Events

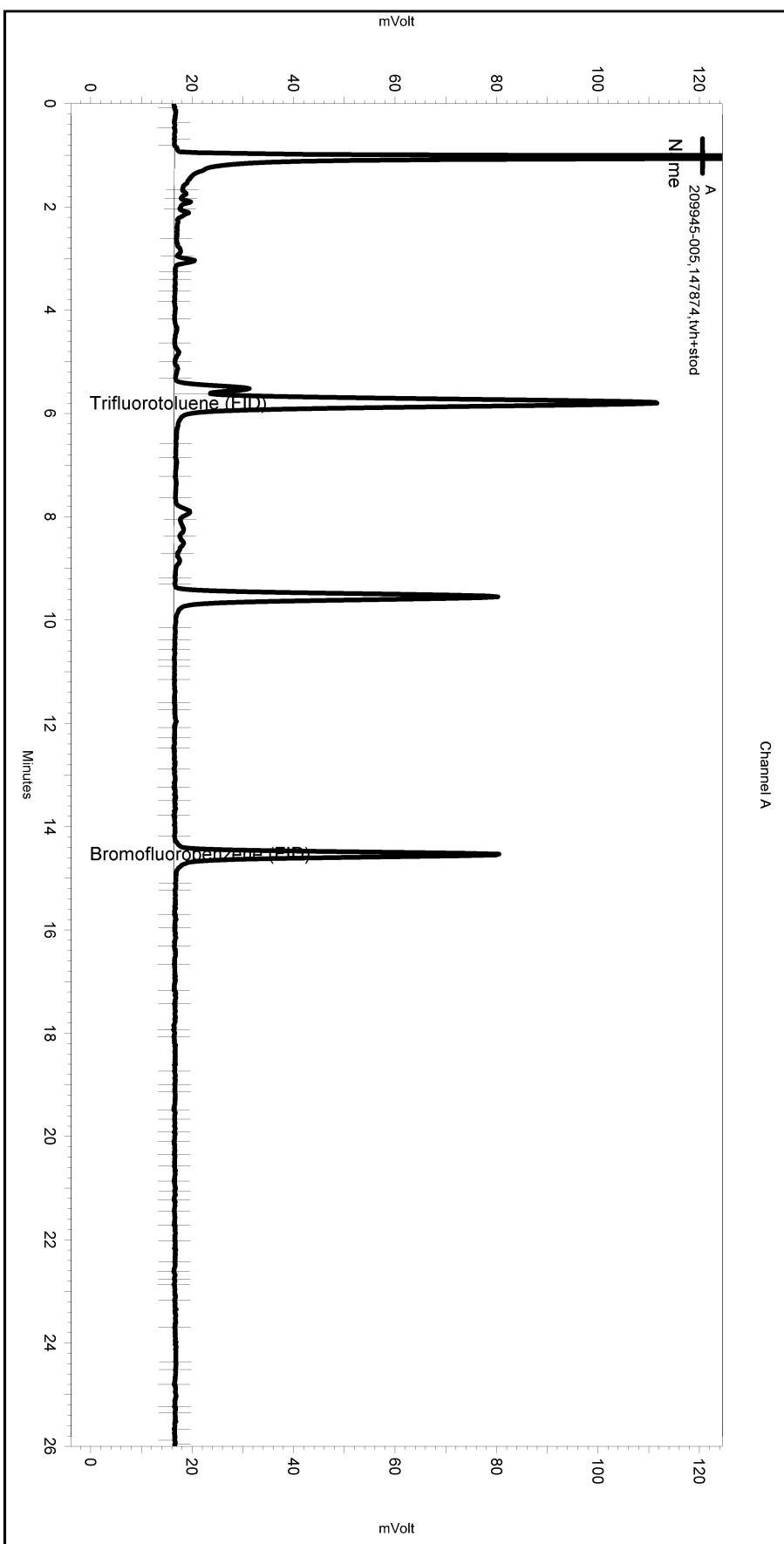
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Manual Integration Fixes

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Sample Name: 209945-005,147874,tvh+stod  
Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Data\\043\_026  
Instrument: GC04 Vial: N/A Operator: lims2k3\\tvh3  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Method\\tvhbtxe010.met

Software Version 3.1.7  
Run Date: 2/13/2009 12:09:53 AM  
Analysis Date: 2/13/2009 12:39:22 AM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: {Data Description}



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Integration Events

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

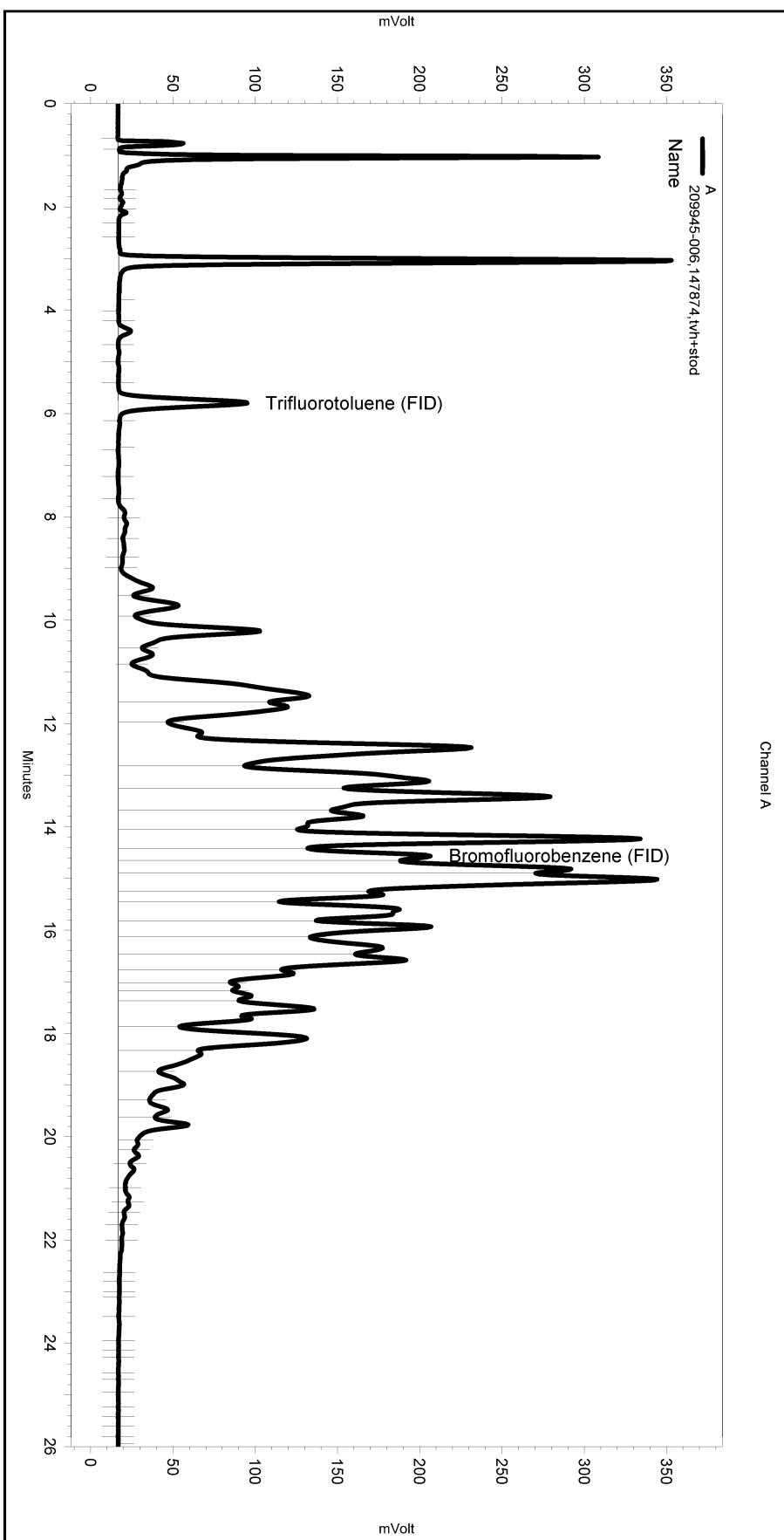
Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sequence File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Sequence\\043.seq  
Sample Name: 209945-006,147874,tvh+stod  
Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Data\\043\_027  
Instrument: GC04 Vial: N/A Operator: lims2k3\\tvh3  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Method\\tvhbtxe010.met

Software Version 3.1.7  
Run Date: 2/13/2009 12:47:27 AM  
Analysis Date: 2/13/2009 1:16:56 AM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: {Data Description}



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#### Integration Events

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

#### Manual Integration Fixes

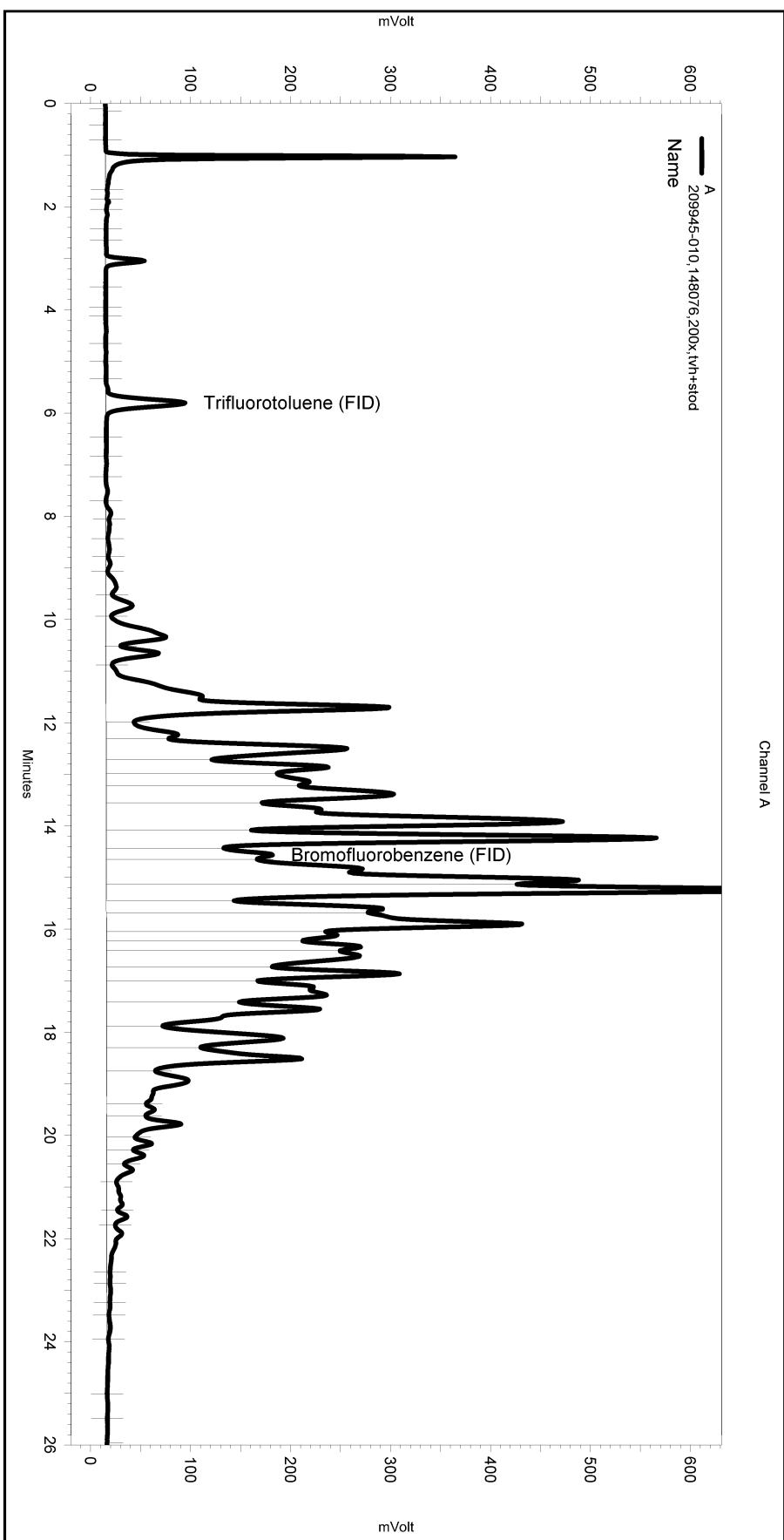
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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sequence File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Sequence\\050.seq  
Sample Name: 209945-010,148076,200x,tvh+stod  
Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Data\\050\_007  
Instrument: GC04 Vial: N/A Operator: lims2k3tvh3  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Method\\tvhbtxe010.met

Software Version 3.1.7  
Run Date: 2/19/2009 12:21:36 PM  
Analysis Date: 2/19/2009 12:51:04 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: F1.3



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Integration Events

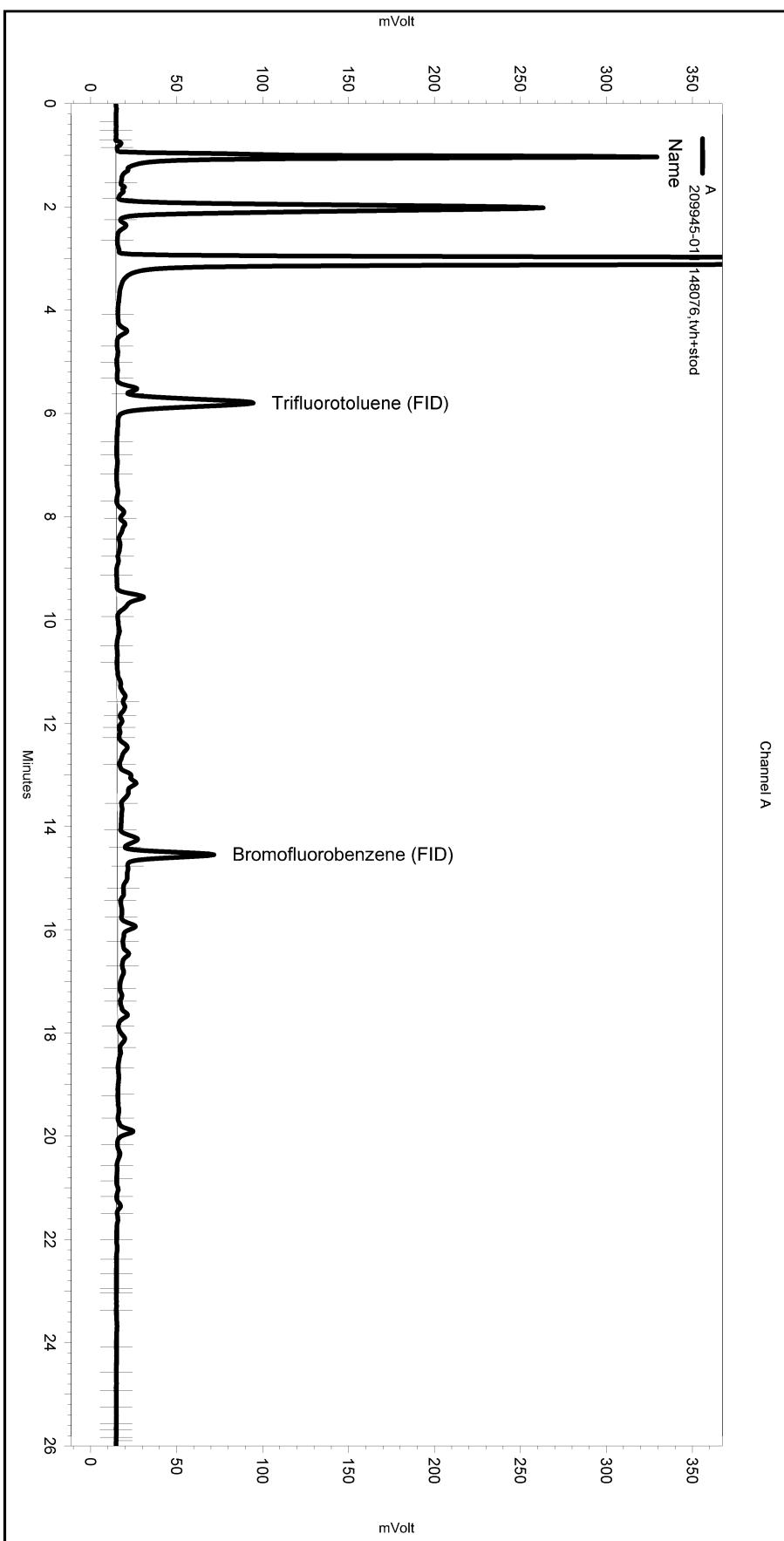
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Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: C:\Documents and Settings\All Users\Application Data\ChromatographySystem\Recovery\				
Data\Instrument.10047\050_007_80EA.tmp				
Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sequence File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Sequence\\050.seq  
Sample Name: 209945-011,148076,tvh+stod  
Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Data\\050\_010  
Instrument: GC04 Vial: N/A Operator: lims2k3\\tvh3  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Method\\tvhbtxe010.met

Software Version 3.1.7  
Run Date: 2/19/2009 2:14:33 PM  
Analysis Date: 2/19/2009 2:44:01 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: F1.3



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#### Integration Events

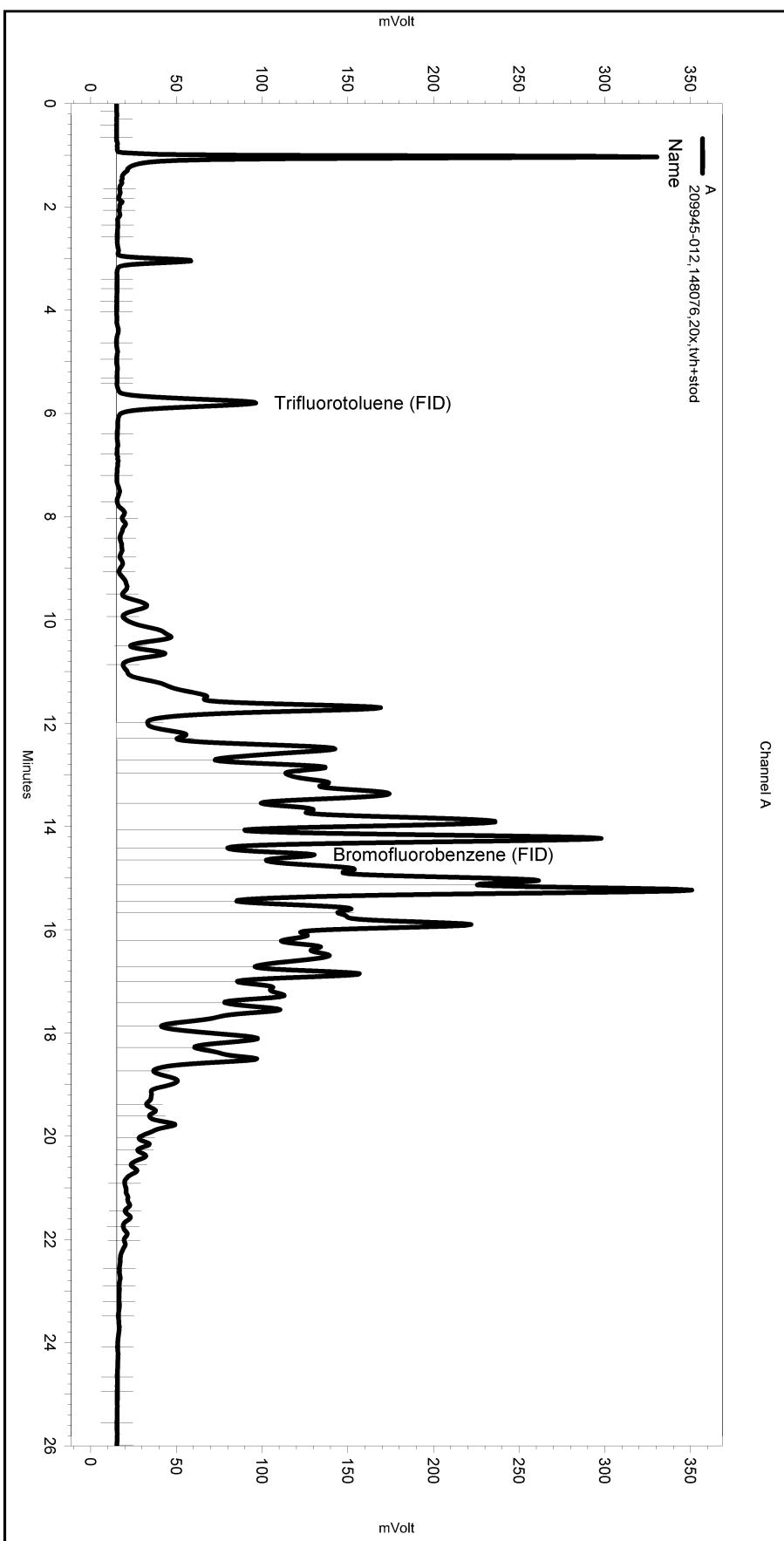
Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Yes	Threshold	0	0	50

#### Manual Integration Fixes

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Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
None				

Sequence File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Sequence\\050.seq  
Sample Name: 209945-012,148076,20x,tvh+stod  
Data File: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Data\\050\_008  
Instrument: GC04 Vial: N/A Operator: lims2k3\\tvh3  
Method Name: \\Lims\\gdrive\\ezchrom\\Projects\\GC04\\Method\\tvhbtxe010.met

Software Version 3.1.7  
Run Date: 2/19/2009 12:59:12 PM  
Analysis Date: 2/19/2009 1:28:42 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: H1.3



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Integration Events

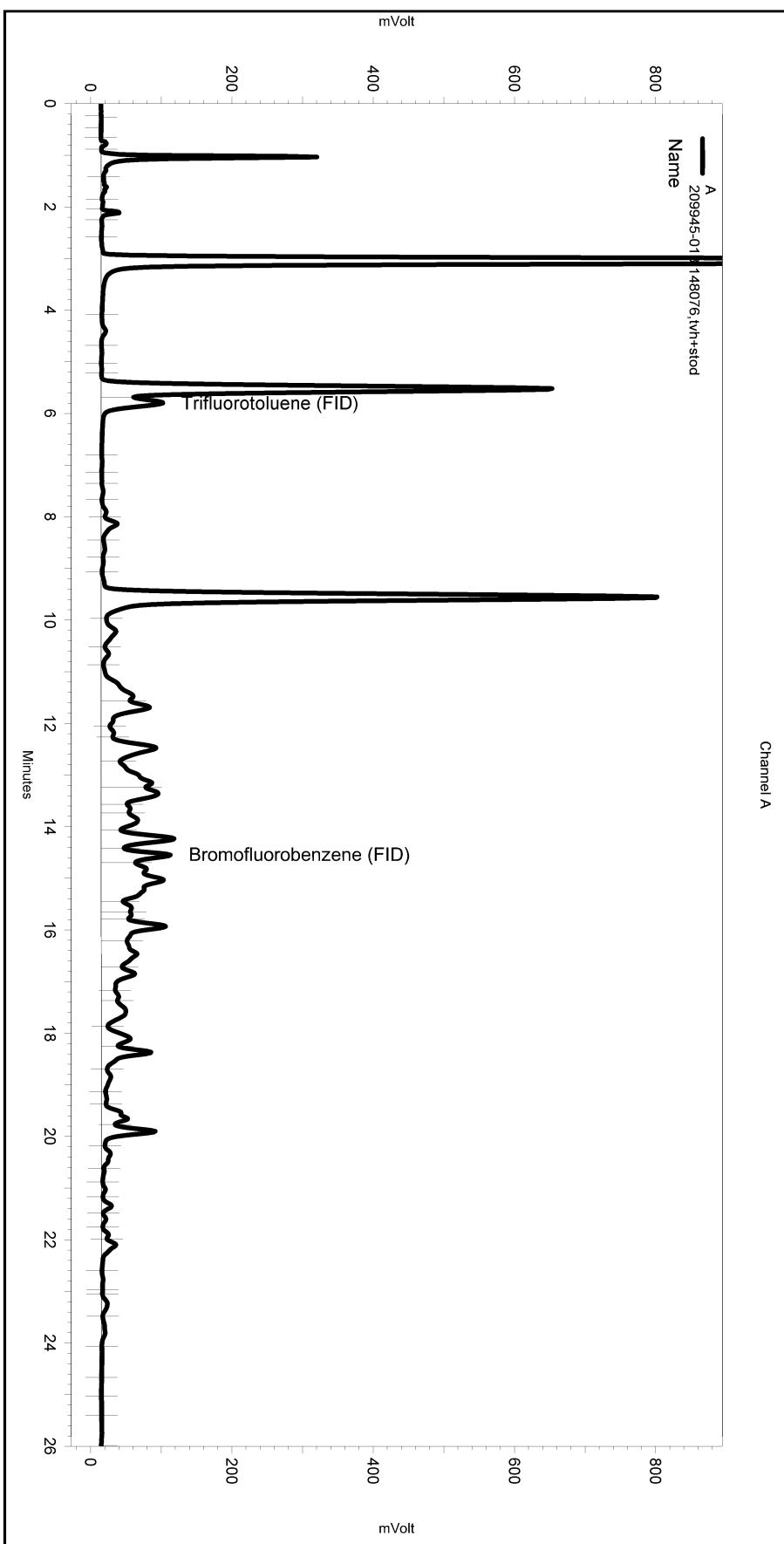
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Yes	Width	0	0	0.2
Yes	Threshold	0	0	50

Manual Integration Fixes

Data File: C:\\Documents and Settings\\All Users\\Application Data\\ChromatographySystem\\Recovery\\Data\\Instrument.10047\\050_008_80EB.tmp				
Enabled	Event Type	Start (Minutes)	Stop (Minutes)	Value
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Sample Name: 209945-013,148076,tvh+std  
Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\050\_011  
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Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtex010.met

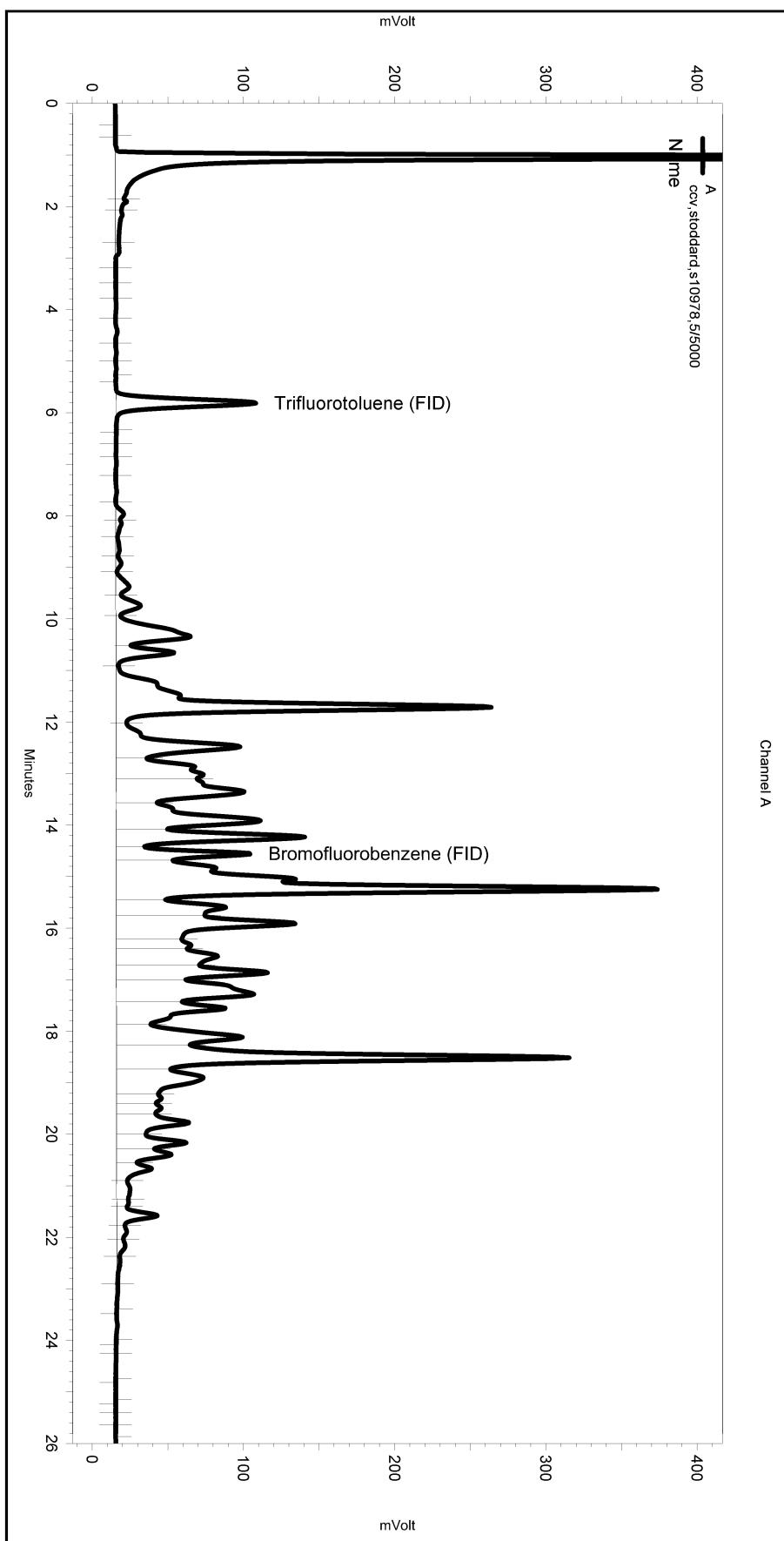
Software Version 3.1.7  
Run Date: 2/19/2009 2:52:14 PM  
Analysis Date: 2/19/2009 3:21:44 PM  
Sample Amount: 5 Multiplier: 5  
Vial & pH or Core ID: F1.3





Sequence File: \\Lims\gdrive\ezchrom\Projects\GC04\Sequence\043.seq  
Sample Name: ccv,stoddard,s10978,5/5000  
Data File: \\Lims\gdrive\ezchrom\Projects\GC04\Data\043\_005  
Instrument: GC04 Vial: N/A Operator: lims2k3\tvh3  
Method Name: \\Lims\gdrive\ezchrom\Projects\GC04\Method\tvhbtex010.met

Software Version 3.1.7  
Run Date: 2/12/2009 10:49:38 AM  
Analysis Date: 2/12/2009 11:19:07 AM  
Sample Amount: 1 Multiplier: 1  
Vial & pH or Core ID: {Data Description}



### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	147912
Lab ID:	209945-001	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/13/09
Diln Fac:	1 000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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	6.2	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	59	0.5
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

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	147912
Lab ID:	209945-001	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/13/09
Diln Fac:	1.000		

Analyte	Result	RL
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	107	80-125
1,2-Dichloroethane-d4	126	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	118	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-3	Batch#:	147912
Lab ID:	209945-002	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	5.000		

Analyte	Result	RL
Freon 12	ND	5.0
tert-Butyl Alcohol (TBA)	ND	50
Chloromethane	ND	5.0
Isopropyl Ether (DIPE)	ND	2.5
Vinyl Chloride	ND	2.5
Bromomethane	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	2.5
Chloroethane	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	2.5
Trichlorofluoromethane	ND	5.0
Acetone	ND	50
Freon 113	ND	10
1,1-Dichloroethene	ND	2.5
Methylene Chloride	ND	50
Carbon Disulfide	ND	2.5
MTBE	ND	2.5
trans-1,2-Dichloroethene	ND	2.5
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	2.5
2-Butanone	ND	50
cis-1,2-Dichloroethene	ND	2.5
2,2-Dichloropropane	ND	2.5
Chloroform	ND	2.5
Bromoform	ND	2.5
Bromochloromethane	ND	2.5
1,1,1-Trichloroethane	ND	2.5
1,1-Dichloropropene	ND	2.5
Carbon Tetrachloride	ND	2.5
1,2-Dichloroethane	ND	2.5
Benzene	ND	2.5
Trichloroethene	ND	2.5
1,2-Dichloropropane	ND	2.5
Bromodichloromethane	ND	2.5
Dibromomethane	ND	2.5
4-Methyl-2-Pentanone	ND	50
cis-1,3-Dichloropropene	ND	2.5
Toluene	ND	2.5
trans-1,3-Dichloropropene	ND	2.5
1,1,2-Trichloroethane	ND	2.5
2-Hexanone	ND	50
1,3-Dichloropropane	ND	2.5
Tetrachloroethene	ND	2.5
Dibromochloromethane	ND	2.5
1,2-Dibromoethane	ND	2.5
Chlorobenzene	ND	2.5
1,1,1,2-Tetrachloroethane	ND	2.5
Ethylbenzene	ND	2.5
m,p-Xylenes	ND	2.5
o-Xylene	ND	2.5
Styrene	ND	2.5
Bromoform	ND	5.0
Isopropylbenzene	ND	2.5
1,1,2,2-Tetrachloroethane	ND	2.5
1,2,3-Trichloropropane	ND	2.5
Propylbenzene	ND	2.5

330

ND= Not Detected

RL= Reporting Limit

### **Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-3	Batch#:	147912
Lab ID:	209945-002	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	5.000		

Analyte	Result	RL
Bromobenzene	ND	2.5
1,3,5-Trimethylbenzene	ND	2.5
2-Chlorotoluene	ND	2.5
4-Chlorotoluene	ND	2.5
tert-Butylbenzene	ND	2.5
1,2,4-Trimethylbenzene	ND	2.5
sec-Butylbenzene	ND	2.5
para-Isopropyl Toluene	ND	2.5
1,3-Dichlorobenzene	ND	2.5
1,4-Dichlorobenzene	ND	2.5
n-Butylbenzene	ND	2.5
1,2-Dichlorobenzene	ND	2.5
1,2-Dibromo-3-Chloropropane	ND	10
1,2,4-Trichlorobenzene	ND	2.5
Hexachlorobutadiene	ND	10
Naphthalene	ND	10
1,2,3-Trichlorobenzene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	112	80-125
1,2-Dichloroethane-d4	128	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	114	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	147945
Lab ID:	209945-003	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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	1.3	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromoform	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	1.7	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
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	2.2	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	2.1	0.5

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	147945
Lab ID:	209945-003	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	1.000		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	3.2	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	13	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	3.7	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	80-125
1,2-Dichloroethane-d4	109	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	116	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	147912
Lab ID:	209945-004	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/13/09
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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
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

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	147912
Lab ID:	209945-004	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/13/09
Diln Fac:	1.000		

Analyte	Result	RL
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	109	80-125
1,2-Dichloroethane-d4	117	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	117	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Batch#:	147912
Lab ID:	209945-005	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	2.000		

Analyte	Result	RL
Freon 12	ND	2.0
tert-Butyl Alcohol (TBA)	ND	20
Chloromethane	ND	2.0
Isopropyl Ether (DIPE)	ND	1.0
Vinyl Chloride	ND	1.0
Bromomethane	ND	2.0
Ethyl tert-Butyl Ether (ETBE)	ND	1.0
Chloroethane	ND	2.0
Methyl tert-Amyl Ether (TAME)	ND	1.0
Trichlorofluoromethane	ND	2.0
Acetone	ND	20
Freon 113	ND	4.0
1,1-Dichloroethene	ND	1.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	1.0
MTBE	ND	1.0
trans-1,2-Dichloroethene	ND	1.0
Vinyl Acetate	ND	20
1,1-Dichloroethane	ND	1.0
2-Butanone	ND	20
cis-1,2-Dichloroethene	3.1	1.0
2,2-Dichloropropane	ND	1.0
Chloroform	ND	1.0
Bromoform	ND	1.0
Bromochloromethane	ND	1.0
1,1,1-Trichloroethane	ND	1.0
1,1-Dichloropropene	ND	1.0
Carbon Tetrachloride	ND	1.0
1,2-Dichloroethane	ND	1.0
Benzene	ND	1.0
Trichloroethene	20	1.0
1,2-Dichloropropane	ND	1.0
Bromodichloromethane	ND	1.0
Dibromomethane	ND	1.0
4-Methyl-2-Pentanone	ND	20
cis-1,3-Dichloropropene	ND	1.0
Toluene	ND	1.0
trans-1,3-Dichloropropene	ND	1.0
1,1,2-Trichloroethane	ND	1.0
2-Hexanone	ND	20
1,3-Dichloropropane	ND	1.0
Tetrachloroethene	100	1.0
Dibromochloromethane	ND	1.0
1,2-Dibromoethane	ND	1.0
Chlorobenzene	ND	1.0
1,1,1,2-Tetrachloroethane	ND	1.0
Ethylbenzene	ND	1.0
m,p-Xylenes	ND	1.0
o-Xylene	ND	1.0
Styrene	ND	1.0
Bromoform	ND	2.0
Isopropylbenzene	ND	1.0
1,1,2,2-Tetrachloroethane	ND	1.0
1,2,3-Trichloropropene	ND	1.0
Propylbenzene	ND	1.0

ND= Not Detected

RL= Reporting Limit

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Batch#:	147912
Lab ID:	209945-005	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	2.000		

Analyte	Result	RL
Bromobenzene	ND	1.0
1,3,5-Trimethylbenzene	ND	1.0
2-Chlorotoluene	ND	1.0
4-Chlorotoluene	ND	1.0
tert-Butylbenzene	ND	1.0
1,2,4-Trimethylbenzene	ND	1.0
sec-Butylbenzene	ND	1.0
para-Isopropyl Toluene	ND	1.0
1,3-Dichlorobenzene	ND	1.0
1,4-Dichlorobenzene	ND	1.0
n-Butylbenzene	ND	1.0
1,2-Dichlorobenzene	ND	1.0
1,2-Dibromo-3-Chloropropane	ND	4.0
1,2,4-Trichlorobenzene	ND	1.0
Hexachlorobutadiene	ND	4.0
Naphthalene	ND	4.0
1,2,3-Trichlorobenzene	ND	1.0

Surrogate	%REC	Limits
Dibromofluoromethane	108	80-125
1,2-Dichloroethane-d4	125	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	117	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	147945
Lab ID:	209945-006	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	3.333		

Analyte	Result	RL
Freon 12	ND	3.3
tert-Butyl Alcohol (TBA)	ND	33
Chloromethane	ND	3.3
Isopropyl Ether (DIPE)	ND	1.7
Vinyl Chloride	32	1.7
Bromomethane	ND	3.3
Ethyl tert-Butyl Ether (ETBE)	ND	1.7
Chloroethane	ND	3.3
Methyl tert-Amyl Ether (TAME)	ND	1.7
Trichlorofluoromethane	ND	3.3
Acetone	ND	33
Freon 113	ND	6.7
1,1-Dichloroethene	ND	1.7
Methylene Chloride	ND	33
Carbon Disulfide	ND	1.7
MTBE	ND	1.7
trans-1,2-Dichloroethene	2.3	1.7
Vinyl Acetate	ND	33
1,1-Dichloroethane	ND	1.7
2-Butanone	ND	33
cis-1,2-Dichloroethene	330	1.7
2,2-Dichloropropane	ND	1.7
Chloroform	ND	1.7
Bromoform	ND	1.7
Bromochloromethane	ND	1.7
1,1,1-Trichloroethane	ND	1.7
1,1-Dichloropropene	ND	1.7
Carbon Tetrachloride	ND	1.7
1,2-Dichloroethane	ND	1.7
Benzene	2.7	1.7
Trichloroethene	ND	1.7
1,2-Dichloropropane	ND	1.7
Bromodichloromethane	ND	1.7
Dibromomethane	ND	1.7
4-Methyl-2-Pentanone	ND	33
cis-1,3-Dichloropropene	ND	1.7
Toluene	ND	1.7
trans-1,3-Dichloropropene	ND	1.7
1,1,2-Trichloroethane	ND	1.7
2-Hexanone	ND	33
1,3-Dichloropropane	ND	1.7
Tetrachloroethene	ND	1.7
Dibromochloromethane	ND	1.7
1,2-Dibromoethane	ND	1.7
Chlorobenzene	ND	1.7
1,1,1,2-Tetrachloroethane	ND	1.7
Ethylbenzene	ND	1.7
m,p-Xylenes	ND	1.7
o-Xylene	ND	1.7
Styrene	ND	1.7
Bromoform	ND	3.3
Isopropylbenzene	ND	1.7
1,1,2,2-Tetrachloroethane	ND	1.7
1,2,3-Trichloropropene	ND	1.7
Propylbenzene	ND	1.7

ND= Not Detected

RL= Reporting Limit

### **Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	147945
Lab ID:	209945-006	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	3.333		

Analyte	Result	RL
Bromobenzene	ND	1.7
1,3,5-Trimethylbenzene	ND	1.7
2-Chlorotoluene	ND	1.7
4-Chlorotoluene	ND	1.7
tert-Butylbenzene	ND	1.7
1,2,4-Trimethylbenzene	ND	1.7
sec-Butylbenzene	ND	1.7
para-Isopropyl Toluene	ND	1.7
1,3-Dichlorobenzene	ND	1.7
1,4-Dichlorobenzene	ND	1.7
n-Butylbenzene	ND	1.7
1,2-Dichlorobenzene	ND	1.7
1,2-Dibromo-3-Chloropropane	ND	6.7
1,2,4-Trichlorobenzene	ND	1.7
Hexachlorobutadiene	ND	6.7
Naphthalene	ND	6.7
1,2,3-Trichlorobenzene	ND	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	97	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	106	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	147912
Lab ID:	209945-007	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/13/09
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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
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
	1.5	

ND= Not Detected

RL= Reporting Limit

### **Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	147912
Lab ID:	209945-007	Sampled:	02/09/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/13/09
Diln Fac:	1.000		

Analyte	Result	RL
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	106	80-125
1,2-Dichloroethane-d4	125	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	117	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	147958
Lab ID:	209945-008	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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	2.5	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	0.7	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromoform	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	2.1	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
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	1.2	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropene	ND	0.5
Propylbenzene	ND	0.5

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	147958
Lab ID:	209945-008	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	1.000		

Analyte	Result	RL
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	0.9	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	1.5	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	80-125
1,2-Dichloroethane-d4	97	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	107	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	147958
Lab ID:	209945-009	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	5.000		

Analyte	Result	RL
Freon 12	ND	5.0
tert-Butyl Alcohol (TBA)	ND	50
Chloromethane	ND	5.0
Isopropyl Ether (DIPE)	5.6	2.5
Vinyl Chloride	ND	2.5
Bromomethane	ND	5.0
Ethyl tert-Butyl Ether (ETBE)	ND	2.5
Chloroethane	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	2.5
Trichlorofluoromethane	ND	5.0
Acetone	ND	50
Freon 113	ND	10
1,1-Dichloroethene	ND	2.5
Methylene Chloride	ND	50
Carbon Disulfide	ND	2.5
MTBE	370	2.5
trans-1,2-Dichloroethene	2.8	2.5
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	2.5
2-Butanone	ND	50
cis-1,2-Dichloroethene	290	2.5
2,2-Dichloropropane	ND	2.5
Chloroform	ND	2.5
Bromoform	ND	2.5
Bromochloromethane	ND	2.5
1,1,1-Trichloroethane	ND	2.5
1,1-Dichloropropene	ND	2.5
Carbon Tetrachloride	ND	2.5
1,2-Dichloroethane	ND	2.5
Benzene	ND	2.5
Trichloroethene	6.7	2.5
1,2-Dichloropropane	3.5	2.5
Bromodichloromethane	ND	2.5
Dibromomethane	ND	2.5
4-Methyl-2-Pentanone	ND	50
cis-1,3-Dichloropropene	ND	2.5
Toluene	ND	2.5
trans-1,3-Dichloropropene	ND	2.5
1,1,2-Trichloroethane	ND	2.5
2-Hexanone	ND	50
1,3-Dichloropropane	ND	2.5
Tetrachloroethene	85	2.5
Dibromochloromethane	ND	2.5
1,2-Dibromoethane	ND	2.5
Chlorobenzene	ND	2.5
1,1,1,2-Tetrachloroethane	ND	2.5
Ethylbenzene	ND	2.5
m,p-Xylenes	ND	2.5
o-Xylene	ND	2.5
Styrene	ND	2.5
Bromoform	ND	5.0
Isopropylbenzene	ND	2.5
1,1,2,2-Tetrachloroethane	ND	2.5
1,2,3-Trichloropropene	ND	2.5
Propylbenzene	ND	2.5

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	147958
Lab ID:	209945-009	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	5.000		

Analyte	Result	RL
Bromobenzene	ND	2.5
1,3,5-Trimethylbenzene	ND	2.5
2-Chlorotoluene	ND	2.5
4-Chlorotoluene	ND	2.5
tert-Butylbenzene	ND	2.5
1,2,4-Trimethylbenzene	ND	2.5
sec-Butylbenzene	ND	2.5
para-Isopropyl Toluene	ND	2.5
1,3-Dichlorobenzene	ND	2.5
1,4-Dichlorobenzene	ND	2.5
n-Butylbenzene	ND	2.5
1,2-Dichlorobenzene	ND	2.5
1,2-Dibromo-3-Chloropropane	ND	10
1,2,4-Trichlorobenzene	ND	2.5
Hexachlorobutadiene	ND	10
Naphthalene	ND	10
1,2,3-Trichlorobenzene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-125
1,2-Dichloroethane-d4	101	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-2	Batch#:	148110
Lab ID:	209945-010	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/21/09
Diln Fac:	100.0		

Analyte	Result	RL
Freon 12	ND	100
tert-Butyl Alcohol (TBA)	ND	1,000
Chloromethane	ND	100
Isopropyl Ether (DIPE)	ND	50
Vinyl Chloride	ND	50
Bromomethane	ND	100
Ethyl tert-Butyl Ether (ETBE)	ND	50
Chloroethane	ND	100
Methyl tert-Amyl Ether (TAME)	ND	50
Trichlorofluoromethane	ND	100
Acetone	ND	1,000
Freon 113	ND	200
1,1-Dichloroethene	ND	50
Methylene Chloride	ND	1,000
Carbon Disulfide	ND	50
MTBE	ND	50
trans-1,2-Dichloroethene	ND	50
Vinyl Acetate	ND	1,000
1,1-Dichloroethane	ND	50
2-Butanone	ND	1,000
cis-1,2-Dichloroethene	5,900	50
2,2-Dichloropropane	ND	50
Chloroform	ND	50
Bromoform	ND	50
Bromochloromethane	ND	50
1,1,1-Trichloroethane	ND	50
1,1-Dichloropropene	ND	50
Carbon Tetrachloride	ND	50
1,2-Dichloroethane	ND	50
Benzene	ND	50
Trichloroethene	390	50
1,2-Dichloropropane	ND	50
Bromodichloromethane	ND	50
Dibromomethane	ND	50
4-Methyl-2-Pentanone	ND	1,000
cis-1,3-Dichloropropene	ND	50
Toluene	ND	50
trans-1,3-Dichloropropene	ND	50
1,1,2-Trichloroethane	ND	50
2-Hexanone	ND	1,000
1,3-Dichloropropane	ND	50
Tetrachloroethene	170	50
Dibromochloromethane	ND	50
1,2-Dibromoethane	ND	50
Chlorobenzene	ND	50
1,1,1,2-Tetrachloroethane	ND	50
Ethylbenzene	ND	50
m,p-Xylenes	ND	50
o-Xylene	ND	50
Styrene	ND	50
Bromoform	ND	100
Isopropylbenzene	ND	50
1,1,2,2-Tetrachloroethane	ND	50
1,2,3-Trichloropropene	ND	50
Propylbenzene	ND	50

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-2	Batch#:	148110
Lab ID:	209945-010	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/21/09
Diln Fac:	100.0		

Analyte	Result	RL
Bromobenzene	ND	50
1,3,5-Trimethylbenzene	73	50
2-Chlorotoluene	ND	50
4-Chlorotoluene	ND	50
tert-Butylbenzene	ND	50
1,2,4-Trimethylbenzene	190	50
sec-Butylbenzene	ND	50
para-Isopropyl Toluene	ND	50
1,3-Dichlorobenzene	ND	50
1,4-Dichlorobenzene	ND	50
n-Butylbenzene	ND	50
1,2-Dichlorobenzene	ND	50
1,2-Dibromo-3-Chloropropane	ND	200
1,2,4-Trichlorobenzene	ND	50
Hexachlorobutadiene	ND	200
Naphthalene	ND	200
1,2,3-Trichlorobenzene	ND	50

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-125
1,2-Dichloroethane-d4	116	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	100	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Batch#:	147957
Lab ID:	209945-011	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	25.00		

Analyte	Result	RL
Freon 12	ND	25
tert-Butyl Alcohol (TBA)	ND	250
Chloromethane	ND	25
Isopropyl Ether (DIPE)	ND	13
Vinyl Chloride	ND	13
Bromomethane	ND	25
Ethyl tert-Butyl Ether (ETBE)	ND	13
Chloroethane	ND	25
Methyl tert-Amyl Ether (TAME)	ND	13
Trichlorofluoromethane	ND	25
Acetone	ND	250
Freon 113	ND	50
1,1-Dichloroethene	ND	13
Methylene Chloride	ND	250
Carbon Disulfide	ND	13
MTBE	280	13
trans-1,2-Dichloroethene	13	13
Vinyl Acetate	ND	250
1,1-Dichloroethane	ND	13
2-Butanone	ND	250
cis-1,2-Dichloroethene	1,800	13
2,2-Dichloropropane	ND	13
Chloroform	ND	13
Bromoform	ND	13
Bromochloromethane	ND	13
1,1,1-Trichloroethane	ND	13
1,1-Dichloropropene	ND	13
Carbon Tetrachloride	ND	13
1,2-Dichloroethane	ND	13
Benzene	ND	13
Trichloroethene	14	13
1,2-Dichloropropane	ND	13
Bromodichloromethane	ND	13
Dibromomethane	ND	13
4-Methyl-2-Pentanone	ND	250
cis-1,3-Dichloropropene	ND	13
Toluene	ND	13
trans-1,3-Dichloropropene	ND	13
1,1,2-Trichloroethane	ND	13
2-Hexanone	ND	250
1,3-Dichloropropane	ND	13
Tetrachloroethene	24	13
Dibromochloromethane	ND	13
1,2-Dibromoethane	ND	13
Chlorobenzene	ND	13
1,1,1,2-Tetrachloroethane	ND	13
Ethylbenzene	ND	13
m,p-Xylenes	ND	13
o-Xylene	ND	13
Styrene	ND	13
Bromoform	ND	25
Isopropylbenzene	ND	13
1,1,2,2-Tetrachloroethane	ND	13
1,2,3-Trichloropropene	ND	13
Propylbenzene	ND	13

ND= Not Detected

RL= Reporting Limit

### **Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Batch#:	147957
Lab ID:	209945-011	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	25.00		

Analyte	Result	RL
Bromobenzene	ND	13
1,3,5-Trimethylbenzene	ND	13
2-Chlorotoluene	ND	13
4-Chlorotoluene	ND	13
tert-Butylbenzene	ND	13
1,2,4-Trimethylbenzene	ND	13
sec-Butylbenzene	ND	13
para-Isopropyl Toluene	ND	13
1,3-Dichlorobenzene	ND	13
1,4-Dichlorobenzene	ND	13
n-Butylbenzene	ND	13
1,2-Dichlorobenzene	ND	13
1,2-Dibromo-3-Chloropropane	ND	50
1,2,4-Trichlorobenzene	ND	13
Hexachlorobutadiene	ND	50
Naphthalene	ND	50
1,2,3-Trichlorobenzene	ND	13

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-125
1,2-Dichloroethane-d4	110	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	102	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-4	Batch#:	148110
Lab ID:	209945-012	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/20/09
Diln Fac:	10.00		

Analyte	Result	RL
Freon 12	ND	10
tert-Butyl Alcohol (TBA)	ND	100
Chloromethane	ND	10
Isopropyl Ether (DIPE)	ND	5.0
Vinyl Chloride	ND	5.0
Bromomethane	ND	10
Ethyl tert-Butyl Ether (ETBE)	ND	5.0
Chloroethane	ND	10
Methyl tert-Amyl Ether (TAME)	ND	5.0
Trichlorofluoromethane	ND	10
Acetone	110	100
Freon 113	ND	20
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	100
Carbon Disulfide	ND	5.0
MTBE	18	5.0
trans-1,2-Dichloroethene	5.1	5.0
Vinyl Acetate	ND	100
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	100
cis-1,2-Dichloroethene	830	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromoform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	100
cis-1,3-Dichloropropene	ND	5.0
Toluene	16	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	100
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	13	5.0
o-Xylene	16	5.0
Styrene	ND	5.0
Bromoform	ND	10
Isopropylbenzene	7.3	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropene	ND	5.0
Propylbenzene	12	5.0

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-4	Batch#:	148110
Lab ID:	209945-012	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/20/09
Diln Fac:	10.00		

Analyte	Result	RL
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	44	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	73	5.0
sec-Butylbenzene	8.8	5.0
para-Isopropyl Toluene	8.7	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	13	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	20
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	20
Naphthalene	23	20
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-125
1,2-Dichloroethane-d4	117	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	104	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	B-10	Batch#:	148110
Lab ID:	209945-013	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/21/09
Diln Fac:	40.00		

Analyte	Result	RL
Freon 12	ND	40
tert-Butyl Alcohol (TBA)	ND	400
Chloromethane	ND	40
Isopropyl Ether (DIPE)	ND	20
Vinyl Chloride	ND	20
Bromomethane	ND	40
Ethyl tert-Butyl Ether (ETBE)	ND	20
Chloroethane	ND	40
Methyl tert-Amyl Ether (TAME)	ND	20
Trichlorofluoromethane	ND	40
Acetone	ND	400
Freon 113	ND	80
1,1-Dichloroethene	ND	20
Methylene Chloride	ND	400
Carbon Disulfide	ND	20
MTBE	ND	20
trans-1,2-Dichloroethene	ND	20
Vinyl Acetate	ND	400
1,1-Dichloroethane	ND	20
2-Butanone	ND	400
cis-1,2-Dichloroethene	2,900	20
2,2-Dichloropropane	ND	20
Chloroform	ND	20
Bromoform	ND	20
Bromochloromethane	ND	20
1,1,1-Trichloroethane	ND	20
1,1-Dichloropropene	ND	20
Carbon Tetrachloride	ND	20
1,2-Dichloroethane	ND	20
Benzene	ND	20
Trichloroethene	1,200	20
1,2-Dichloropropane	ND	20
Bromodichloromethane	ND	20
Dibromomethane	ND	20
4-Methyl-2-Pentanone	ND	400
cis-1,3-Dichloropropene	ND	20
Toluene	ND	20
trans-1,3-Dichloropropene	ND	20
1,1,2-Trichloroethane	ND	20
2-Hexanone	ND	400
1,3-Dichloropropane	ND	20
Tetrachloroethene	1,200	20
Dibromochloromethane	ND	20
1,2-Dibromoethane	ND	20
Chlorobenzene	ND	20
1,1,1,2-Tetrachloroethane	ND	20
Ethylbenzene	ND	20
m,p-Xylenes	ND	20
o-Xylene	ND	20
Styrene	ND	20
Bromoform	ND	40
Isopropylbenzene	ND	20
1,1,2,2-Tetrachloroethane	ND	20
1,2,3-Trichloropropene	ND	20
Propylbenzene	ND	20

ND= Not Detected

RL= Reporting Limit

### Volatile Organics

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	B-10	Batch#:	148110
Lab ID:	209945-013	Sampled:	02/10/09
Matrix:	Water	Received:	02/11/09
Units:	ug/L	Analyzed:	02/21/09
Diln Fac:	40.00		

Analyte	Result	RL
Bromobenzene	ND	20
1,3,5-Trimethylbenzene	ND	20
2-Chlorotoluene	ND	20
4-Chlorotoluene	ND	20
tert-Butylbenzene	ND	20
1,2,4-Trimethylbenzene	ND	20
sec-Butylbenzene	ND	20
para-Isopropyl Toluene	ND	20
1,3-Dichlorobenzene	ND	20
1,4-Dichlorobenzene	ND	20
n-Butylbenzene	ND	20
1,2-Dichlorobenzene	ND	20
1,2-Dibromo-3-Chloropropane	ND	80
1,2,4-Trichlorobenzene	ND	20
Hexachlorobutadiene	ND	80
Naphthalene	ND	80
1,2,3-Trichlorobenzene	ND	20

Surrogate	%REC	Limits
Dibromofluoromethane	107	80-125
1,2-Dichloroethane-d4	114	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	147912
Units:	ug/L	Analyzed:	02/13/09
Diln Fac:	1.000		

Type: BS Lab ID: QC483313

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	81.37	81	59-152
Isopropyl Ether (DIPE)	20.00	14.51	73	67-126
Ethyl tert-Butyl Ether (ETBE)	20.00	17.85	89	69-127
Methyl tert-Amyl Ether (TAME)	20.00	19.66	98	80-122
1,1-Dichloroethene	20.00	18.67	93	73-133
Benzene	20.00	18.54	93	80-120
Trichloroethene	20.00	21.71	109	80-120
Toluene	20.00	19.33	97	80-120
Chlorobenzene	20.00	18.99	95	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-125
1,2-Dichloroethane-d4	90	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	109	80-122

Type: BSD Lab ID: QC483314

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	85.27	85	59-152	5	20
Isopropyl Ether (DIPE)	20.00	14.79	74	67-126	2	20
Ethyl tert-Butyl Ether (ETBE)	20.00	18.30	91	69-127	2	20
Methyl tert-Amyl Ether (TAME)	20.00	18.75	94	80-122	5	20
1,1-Dichloroethene	20.00	18.27	91	73-133	2	20
Benzene	20.00	18.03	90	80-120	3	20
Trichloroethene	20.00	21.35	107	80-120	2	20
Toluene	20.00	19.27	96	80-120	0	20
Chlorobenzene	20.00	18.84	94	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-125
1,2-Dichloroethane-d4	93	80-137
Toluene-d8	94	80-120
Bromofluorobenzene	107	80-122

RPD= Relative Percent Difference

Page 1 of 1

23.0

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483315	Batch#:	147912
Matrix:	Water	Analyzed:	02/13/09
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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
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

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483315	Batch#:	147912
Matrix:	Water	Analyzed:	02/13/09
Units:	ug/L		

Analyte	Result	RL
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	80-125
1,2-Dichloroethane-d4	101	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	110	80-122

ND= Not Detected  
 RL= Reporting Limit

Page 2 of 2

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	147945
Units:	ug/L	Analyzed:	02/14/09
Diln Fac:	1.000		

Type: BS Lab ID: QC483427

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	97.32	97	59-152
Isopropyl Ether (DIPE)	20.00	20.50	103	67-126
Ethyl tert-Butyl Ether (ETBE)	20.00	21.73	109	69-127
Methyl tert-Amyl Ether (TAME)	20.00	20.26	101	80-122
1,1-Dichloroethene	20.00	22.48	112	73-133
Benzene	20.00	19.79	99	80-120
Trichloroethene	20.00	19.09	95	80-120
Toluene	20.00	19.23	96	80-120
Chlorobenzene	20.00	19.44	97	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-125
1,2-Dichloroethane-d4	104	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	104	80-122

Type: BSD Lab ID: QC483428

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	84.97	85	59-152	14	20
Isopropyl Ether (DIPE)	20.00	20.58	103	67-126	0	20
Ethyl tert-Butyl Ether (ETBE)	20.00	20.92	105	69-127	4	20
Methyl tert-Amyl Ether (TAME)	20.00	20.12	101	80-122	1	20
1,1-Dichloroethene	20.00	21.80	109	73-133	3	20
Benzene	20.00	19.79	99	80-120	0	20
Trichloroethene	20.00	19.42	97	80-120	2	20
Toluene	20.00	19.25	96	80-120	0	20
Chlorobenzene	20.00	19.13	96	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	106	80-125
1,2-Dichloroethane-d4	101	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-122

RPD= Relative Percent Difference

Page 1 of 1

25.0

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483429	Batch#:	147945
Matrix:	Water	Analyzed:	02/14/09
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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
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

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**
**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483429	Batch#:	147945
Matrix:	Water	Analyzed:	02/14/09
Units:	ug/L		

Analyte	Result	RL
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	104	80-125
1,2-Dichloroethane-d4	105	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Batch QC Report**
**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	147957
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	1.000		

Type: BS Lab ID: QC483469

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	101.8	102	59-152
Isopropyl Ether (DIPE)	20.00	20.52	103	67-126
Ethyl tert-Butyl Ether (ETBE)	20.00	20.89	104	69-127
Methyl tert-Amyl Ether (TAME)	20.00	20.27	101	80-122
1,1-Dichloroethene	20.00	20.10	100	73-133
Benzene	20.00	19.96	100	80-120
Trichloroethene	20.00	18.79	94	80-120
Toluene	20.00	19.99	100	80-120
Chlorobenzene	20.00	19.94	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	101	80-137
Toluene-d8	95	80-120
Bromofluorobenzene	97	80-122

Type: BSD Lab ID: QC483470

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	87.79	88	59-152	15	20
Isopropyl Ether (DIPE)	20.00	20.61	103	67-126	0	20
Ethyl tert-Butyl Ether (ETBE)	20.00	20.98	105	69-127	0	20
Methyl tert-Amyl Ether (TAME)	20.00	19.50	97	80-122	4	20
1,1-Dichloroethene	20.00	19.99	100	73-133	1	20
Benzene	20.00	19.37	97	80-120	3	20
Trichloroethene	20.00	18.17	91	80-120	3	20
Toluene	20.00	18.42	92	80-120	8	20
Chlorobenzene	20.00	19.60	98	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	98	80-137
Toluene-d8	96	80-120
Bromofluorobenzene	97	80-122

RPD= Relative Percent Difference

Page 1 of 1

27.0

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483471	Batch#:	147957
Matrix:	Water	Analyzed:	02/17/09
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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
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

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**
**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483471	Batch#:	147957
Matrix:	Water	Analyzed:	02/17/09
Units:	ug/L		

Analyte	Result	RL
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	102	80-125
1,2-Dichloroethane-d4	102	80-137
Toluene-d8	97	80-120
Bromofluorobenzene	99	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

**Batch QC Report**
**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	147958
Units:	ug/L	Analyzed:	02/17/09
Diln Fac:	1.000		

Type: BS Lab ID: QC483472

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	89.16	89	59-152
Isopropyl Ether (DIPE)	20.00	19.29	96	67-126
Ethyl tert-Butyl Ether (ETBE)	20.00	20.66	103	69-127
Methyl tert-Amyl Ether (TAME)	20.00	20.36	102	80-122
1,1-Dichloroethene	20.00	22.46	112	73-133
Benzene	20.00	20.36	102	80-120
Trichloroethene	20.00	20.08	100	80-120
Toluene	20.00	19.78	99	80-120
Chlorobenzene	20.00	20.12	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-125
1,2-Dichloroethane-d4	97	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-122

Type: BSD Lab ID: QC483473

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	68.35	68	59-152	26	*
Isopropyl Ether (DIPE)	20.00	18.60	93	67-126	4	20
Ethyl tert-Butyl Ether (ETBE)	20.00	19.43	97	69-127	6	20
Methyl tert-Amyl Ether (TAME)	20.00	19.44	97	80-122	5	20
1,1-Dichloroethene	20.00	22.10	111	73-133	2	20
Benzene	20.00	20.21	101	80-120	1	20
Trichloroethene	20.00	20.23	101	80-120	1	20
Toluene	20.00	20.03	100	80-120	1	20
Chlorobenzene	20.00	20.07	100	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	98	80-125
1,2-Dichloroethane-d4	94	80-137
Toluene-d8	99	80-120
Bromofluorobenzene	99	80-122

\*= Value outside of QC limits; see narrative

RPD= Relative Percent Difference

**Batch QC Report**
**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483474	Batch#:	147958
Matrix:	Water	Analyzed:	02/17/09
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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
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

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**
**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC483474	Batch#:	147958
Matrix:	Water	Analyzed:	02/17/09
Units:	ug/L		

Analyte	Result	RL
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	99	80-125
1,2-Dichloroethane-d4	98	80-137
Toluene-d8	100	80-120
Bromofluorobenzene	98	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	148110
Units:	ug/L	Analyzed:	02/20/09
Diln Fac:	1.000		

Type: BS Lab ID: QC484091

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	100.0	76.45	76	59-152
Isopropyl Ether (DIPE)	20.00	18.56	93	67-126
Ethyl tert-Butyl Ether (ETBE)	20.00	19.62	98	69-127
Methyl tert-Amyl Ether (TAME)	20.00	19.01	95	80-122
1,1-Dichloroethene	20.00	20.80	104	73-133
Benzene	20.00	19.31	97	80-120
Trichloroethene	20.00	18.84	94	80-120
Toluene	20.00	18.69	93	80-120
Chlorobenzene	20.00	19.16	96	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	105	80-137
Toluene-d8	102	80-120
Bromofluorobenzene	101	80-122

Type: BSD Lab ID: QC484092

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)	100.0	83.75	84	59-152	9	20
Isopropyl Ether (DIPE)	20.00	18.42	92	67-126	1	20
Ethyl tert-Butyl Ether (ETBE)	20.00	19.56	98	69-127	0	20
Methyl tert-Amyl Ether (TAME)	20.00	19.54	98	80-122	3	20
1,1-Dichloroethene	20.00	21.03	105	73-133	1	20
Benzene	20.00	19.37	97	80-120	0	20
Trichloroethene	20.00	19.35	97	80-120	3	20
Toluene	20.00	18.95	95	80-120	1	20
Chlorobenzene	20.00	19.50	98	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-125
1,2-Dichloroethane-d4	106	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-122

RPD= Relative Percent Difference

Page 1 of 1

31.0

## Batch QC Report

**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC484206	Batch#:	148110
Matrix:	Water	Analyzed:	02/20/09
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	1.0
tert-Butyl Alcohol (TBA)	ND	10
Chloromethane	ND	1.0
Isopropyl Ether (DIPE)	ND	0.5
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Ethyl tert-Butyl Ether (ETBE)	ND	0.5
Chloroethane	ND	1.0
Methyl tert-Amyl Ether (TAME)	ND	0.5
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
Bromoform	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
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

ND= Not Detected

RL= Reporting Limit

**Batch QC Report**
**Volatile Organics**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC484206	Batch#:	148110
Matrix:	Water	Analyzed:	02/20/09
Units:	ug/L		

Analyte	Result	RL
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	102	80-125
1,2-Dichloroethane-d4	109	80-137
Toluene-d8	101	80-120
Bromofluorobenzene	103	80-122

ND= Not Detected  
 RL= Reporting Limit  
 Page 2 of 2

### Dissolved Gases

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2511	Analysis:	RSK-175
Analyte:	Methane	Units:	mg/L
Matrix:	Water	Received:	02/11/09

Field ID	Type	Lab ID	Result	RL	Diln Fac	Batch#	Sampled	Analyzed
GW-2	SAMPLE	209945-001	ND	0.0050	1.000	147933	02/09/09	02/13/09
GW-3	SAMPLE	209945-002	ND	0.0050	1.000	147933	02/09/09	02/13/09
GW-4	SAMPLE	209945-003	2.4	0.0050	1.000	147933	02/10/09	02/13/09
MW-11	SAMPLE	209945-004	ND	0.0050	1.000	147933	02/10/09	02/13/09
LFR-1	SAMPLE	209945-005	ND	0.0050	1.000	147933	02/09/09	02/13/09
LFR-2	SAMPLE	209945-006	3.7	0.025	5.000	147981	02/10/09	02/17/09
LFR-3	SAMPLE	209945-007	ND	0.0050	1.000	147933	02/09/09	02/13/09
LFR-4	SAMPLE	209945-008	4.4	0.025	5.000	147981	02/10/09	02/17/09
SOMA-1	SAMPLE	209945-009	1.2	0.0050	1.000	147933	02/10/09	02/13/09
SOMA-2	SAMPLE	209945-010	2.5	0.0050	1.000	147933	02/10/09	02/13/09
SOMA-3	SAMPLE	209945-011	0.83	0.0050	1.000	147933	02/10/09	02/13/09
SOMA-4	SAMPLE	209945-012	2.2	0.0050	1.000	147933	02/10/09	02/13/09
B-10	SAMPLE	209945-013	2.0	0.0050	1.000	147933	02/10/09	02/13/09
	BLANK	QC483390	ND	0.0050	1.000	147933		02/13/09
	BLANK	QC483570	ND	0.0050	1.000	147981		02/17/09

ND= Not Detected

RL= Reporting Limit

## Batch QC Report

**Dissolved Gases**

Lab #:	209945	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2511	Analysis:	RSK-175
Analyte:	Methane	Units:	mg/L
Matrix:	Water	Diln Fac:	1.000

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim	Batch#	Analyzed
BS	QC483388	0.6544	0.5736	88	80-120			147933	02/13/09
BSD	QC483389	0.6544	0.6508	99	80-120	13	20	147933	02/13/09
BS	QC483568	0.6544	0.6057	93	80-120			147981	02/17/09
BSD	QC483569	0.6544	0.6705	102	80-120	10	20	147981	02/17/09

RPD= Relative Percent Difference

# **APPENDIX D**

## **MPE Event Field Data Sheets**



SITE ADDRESS: 3820 Manila Ave, Oakland, California  
PROJECT #: 2514

MTS OPERATIONAL DATA																	
DATE	TIME	PUMP TEMPERATURE (F)	CONDENSER TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	CASING VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	PITOT TUBE Δ PRESSURE (IN H2O)	PUMP OUTLET (Psi)	TOTAL FLOW RATE (SCFM)	DILUTION FLOW RATE (SCFM)	WELL FLOW RATE (SCFM)	EFFLUENT TEMPERATURE (F)	INFILUNT CONCENTRATION (PPMV)	MID EFFLUENT CONCENTRATION (PPMV)	END EFFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	POWER USAGE (KWH)
12/17/2008	700	carbon change out, prep. system and extraction wells to continue pilot test															
	1300	begin extraction from SOMA-2, SOMA-4, B-8, and B-10															205
	1330	166	56	23	-	25.75	0.17	1.7	23	0	6	54	5,769	4.1	3.5	3,904	
	1430	166	58	23	-	25.75	0.17	1.7	23	0	6	62	6,000	4.0	2.4	3,967	
12/18/2008	1000	system down upon arrival, main timer = 1253.1, approximate shut down at 0800,															
		inspection revealed - magnetic contactor connected to xfer pump short circuited, temporary alternate route created until repair/replacement of contactor															
	1330	restart system															4,461
	1400	168	62	23		25.75	0.17	1.7	23	0	6	60	10,300	3.0	0.0	4,502	
	1430	168	64	23		25.75	0.19	1.7	24	0	6	64	9,600	3.6	2.0	4,502	
	1530	168	60	23.5		26	0.15	1.4	21	0	5	66	5,375	3.0	1.0	4,522	
		shutdown system to replace magnetic contactor, system remaining off overnight to allow groundwater to recharge, insufficient water being extracted to allow xfer pump to run															
12/19/2008	900	restart system after inspection of treatment system															
	1000	168	59	24		26.25	0.135	1.6	20	0	5	60	6,300	3.4	1.6	4,620	
	1100	168	59	24		26.25	0.135	1.6	20	0	5	64	4,214	2.8	1.9	4,620	
	1200	168	57	24		26.25	0.135	1.6	20	0	5	66	3,475	2.9	1.7	4,620	
	1300	166	57	24.5		26.5	0.12	1.4	19	0	5	66	3,000	2.5	1.0	4,620	
	1430	166	59	24		26.5	0.13	1.6	20	0	5	70	3,035	0.7	1.1	4,620	
	1500	166	59	23		26.5	0.12	1.5	19	0	5	70	2,730	2	3	4,620	
12/22/2008	900	166	51	24		26	0.15	1.6	21	0	5	62	1,575	0.0	0.0	4,620	
	1100	166	58	22		25	0.28	2	29	0	7	64	1,898	0.0	0.0	4,620	
	1230	166	59	22		25	0.3	2.2	30	0	8	64	2,490	0.0	0.0	4,620	
	1330	166	62	22		25	0.3	2.2	30	0	8	66	2,095	0.0	0	4,620	
	1400	166	60	22		25	0.3	2.2	30	0	8	66	1,941	0.0	0	4,620	
12/23/2008	930	166	57	22		25	0.3	2.2	30	0	8	64	1,714	0.0	0	4,620	227
	1030	166	57	22		25	0.3	2.2	30	0	8	62	2,560	0.0	0.0	4,620	
	1130	166	59	22		25	0.3	2.2	30	0	8	64	1,666	0.0	0	4,620	
	1330	166	59	22		25	0.3	2.2	30	0	8	66	1,805	0.0	0.0	4,620	
12/24/2008	1000	166	59	22		25	0.3	2.2	30	0	8	66	1,844	0.0	0.0	4,620	
	1200	166	59	22		25	0.3	2.2	30	0	8	68	1,680	0.0	0.0	4,620	
		shutdown system due to rain and expected rain over weekend															



SITE ADDRESS: 3820 Manila Ave, Oakland, California  
PROJECT #: 2514

MTS OPERATIONAL DATA																	
DATE	TIME	PUMP TEMPERATURE (F)	CONDENSER TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	CASING VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	PITOT TUBE Δ PRESSURE (IN H2O)	PUMP OUTLET (Psi)	TOTAL FLOW RATE (SCFM)	DILUTION FLOW RATE (SCFM)	WELL FLOW RATE (SCFM)	EFFLUENT TEMPERATURE (F)	INFILUNT CONCENTRATION (PPMV)	MID EFFLUENT CONCENTRATION (PPMV)	END EFFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	POWER USAGE (KWH)
12/29/2008	1000	restarted system after initial inspection of system and wells															232
	1100	168	61	22		25	0.3	2.2	30	0	8	58	1,820	0.0	0.0	4,640	
	1300	168	63	22		25	0.3	2.2	30	0	8	66	1,653	0.0	0.0	4,958	
	1400	168	63	22		25	0.32	2.2	31	0	8	70	1,507	0.0	0.0	4,958	
12/30/2008	930	168	56	22		25	0.32	2.2	31	0	8	68	1,775	0.0	0.0	5,414	
	1030	168	61	22		25	0.32	2.2	31	0	8	68	1,815	0.0	0.0	5,414	
	1130	168	61	22		25	0.32	2.2	31	0	8	70	1,623	0.0	0.0	5,414	
	1230	168	61	22		25	0.32	2.2	31	0	8	70	1,596	0.0	0.0	5,414	
	1330	168	61	22		25	0.32	2.2	31	0	8	70	1,470	0.0	0.0	5,414	
12/31/2008	1000	168	53	22		25	0.32	2.2	31	0	8	62	1,645	1.0	0.0	5,577	
	1200	168	58	22		25	0.32	2.2	31	0	8	64	1,835	0.0	0.0	5,577	
	1400	168	60	22		25	0.32	2.2	31	0	8	68	1,644	0.0	0.0	5,632	
	1500	shut down system for holiday and long weekend															
1/5/2009	800	restart system, extraction from only B-10															
	830	168	56	21.75		24.5	0.38	2.3	35	0	9	50	2,400	0.0	0.0	5,632	
	900	168	56	21.25		24.25	0.34	2.5	33	0	8	54	2,395	1.0	1.0	5,632	
	1100	168	56	21		24	0.46	2.5	38	0	9	60	1,070	0.0	0.0	5,632	
	extraction from B-10 and SOMA-2 began and continued overnight																
1/6/2009	1000	168	58	21		24.25	0.48	2.6	38	0	10	66	6,250	5.0	3.0	5,632	
	1200	168	58	21		24.25	0.48	2.6	38	0	10	66	5,290	1.0	0.0	5,632	
	extraction from B-10, SOMA-2, and SOMA-4 began and continued overnight																
	1400	168	64	20		24	0.5	2.6	39	0	10	68	7,345	0.0	0.0	6,374	
1/7/2009	700	168	59	20		24	0.6	2.8	43	0	11	66	7,215	30.0	1.0	6,988	
	730	shut down system for carbon change out of 1000 lb vessel on vapor side															
	930	restart system with extraction from B-10 only															252
	1030	168	58	23.5		25.5	0.3	2.2	30	0	8	60	7,520	2.0	8.0	6,988	
	1130	168	56	23.5		25.5	0.3	2	30	0	8	60	5,675	3.0	3.0	7,045	
	extraction from B-10, B-8, SOMA-4, and SOMA-2																
	1230	168	63	21		24.5	0.4	2.3	35	0	9	62	7,360	1.0	2.0	7,096	
	1430	168	63	20.5		24.5	0.48	2.4	38	0	10	66	8,225	1.0	1.0	7,157	
1/8/2009	1000	168	62	20.5		24	0.52	2.5	40	0	10	70	9,725	0.0	0.0	7,988	
	1200	168	61	21		25	0.42	2.3	36	0	9	70	7,180	0.0	0.0	8,034	
	1400	168	61	21.5		24.5	0.44	2.3	36	0	9	70	6,885	0.0	0.0	8,034	
	1500	168	58	24		26	0.18	1.4	23	0	6	70	5,040	0.0	0.0	8,034	



SITE ADDRESS: 3820 Manila Ave, Oakland, California  
PROJECT #: 2514

MTS OPERATIONAL DATA																	
DATE	TIME	PUMP TEMPERATURE (F)	CONDENSER TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	CASING VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	PITOT TUBE Δ PRESSURE (IN H2O)	PUMP OUTLET (Psi)	TOTAL FLOW RATE (SCFM)	DILUTION FLOW RATE (SCFM)	WELL FLOW RATE (SCFM)	EFFLUENT TEMPERATURE (F)	INFILUNT CONCENTRATION (PPMV)	MID EFFLUENT CONCENTRATION (PPMV)	END EFFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	POWER USAGE (KWH)
1/9/2009	1200	168	60	24		26.25	0.19	1.4	24	0	6	66	7,500	83.0	0.0	8,260	
	1400	168	63	2.4		26.25	0.19	2.2	24	0	6	70	5,370	100.0	0.0	8,260	
	1500	168	63	22		25	0.4	2.4	35	0	9	70	4,250	142.0	0.0	8,299	
1/12/2009	1030	168	69	22		25	0.4	2.4	34	0	9	78	8,690	400.0	20.0	9,025	
	pause operation to change out 55 gallon polishing vapor drum																
	1300	restart operation w/ only extraction from B-10															
	1400	168	74	22		25	0.36	2.3	33	0	8	80	1,580	100.0	2.0	9,029	
	1500	168	74	22		25	0.36	2.3	33	0	8	82	1,300	101.0	0.0	9,029	
1/13/2009	1030	168	72	22		25	0.36	2.3	33	0	8	82	2,250	310.0	40.0	9,029	
	pause operation to change out 55 gallon polishing vapor drum																
	1130	restart operation w/ only extraction from B-10															
	1230	168	74	23		25.75	0.28	1.8	29	0	7	84	600	44	0	9,029	
	1400	168	75	24		26	0.22	1.7	25	0	6	84	601	56	0	9,029	
1/14/2009	930	system down upon arrival; main timer = 1644.9; approximate shut down at 0930; pressure, temp., or power issues, will observe closely															
	1030	system remains shut down overnight to allow system to reset/cool down															
1/15/2009	730	change out of 1000 lb vessel for vapor and removal of 2 55 gal vapor drums and drop off of 2 new 55 gal vapor drums															
	1030	restart system with extraction from B-10, B-8, SOMA-2, SOMA-4															
	1100	168	69	23		25.5	0.28	2	29	0	7	64	3,471	0	0	9,029	
	1130	168	73	23	25.50		2		78	0	19	68	2,267	0	0	9,029	
	1230	168	74	23		25.5	0.3	2	30	0	7	74	2,002	0	0	9,029	
1/16/2009	1030	168	66	23		25.5	0.3	2	30	0	7	74	2,911	0	0	9,195	
	1100	system shut down due to pressure, temp., or power issue - under observation															
	1230	restart system with extraction from B-10, B-8, SOMA-2, SOMA-4															
	1330	168	75	25		27	0.14	2	20	0	5	76	4,550	0	0	9,242	
1/19/2009	1000	system down upon arrival; main timer = 1687.2; approximate shut down at 0500 on 1/17/9; pressure, temp., or power issue under observation															
	1030	restart system with extraction from SOMA-4, B-8															
	1200	168	71	23.5		26	0.18	1.6	23	0	6	68	9,211	0	0	9,514	
	1300	168	73	23.5		26	0.2	1.6	25	0	6	70	10,000	1	0	9,570	
1/20/2009	930	system shut down upon arrival; main timer = 1700; approximate shut down at 2300 1/19/9															
	1000	restart system with extraction from SOMA-4, B-10															
	1100	168	67	23		26	0.2	1.6	25	0	6	68	7,830	0	0	10,019	
	1200	168	71	23		26	0.2	1.6	25	0	6	72	6,946	1	0	10,075	
	1330	168	73	24		27	0.1	1.3	17	0	4	74	7,400	0	0	10,075	
1/21/2009	930	system shut down upon arrival; main timer = 1710; approximate shut down at 2000 1/20/9															
	1100	inspection revealed: pressure sensor damage - internal part, diaphragm torn; pressure sensor repaired and system restarted															
	1300	168	64	22		25	0.36	2	33	0	8	72	4,934	0	0	10,299	
1/22/2009	1000	168	59	22		25	0.36	2.2	33	0	8	72	3,775	4	0	10,299	
	1100	166	59	22		25	0.36	2.2	33	0	8	72	3,290	11	0	10,299	
	1200	168	61	22		25	0.4	2.2	35	0	9	72	2,082	16	0	10,299	



SITE ADDRESS: 3820 Manila Ave, Oakland, California  
PROJECT #: 2514

MTS OPERATIONAL DATA																	
DATE	TIME	PUMP TEMPERATURE (F)	CONDENSER TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	CASING VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	PITOT TUBE Δ PRESSURE (IN H2O)	PUMP OUTLET (Psi)	TOTAL FLOW RATE (SCFM)	DILUTION FLOW RATE (SCFM)	WELL FLOW RATE (SCFM)	EFFLUENT TEMPERATURE (F)	INFILUNT CONCENTRATION (PPMV)	MID EFFLUENT CONCENTRATION (PPMV)	END EFFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	POWER USAGE (KWH)
1/23/2009	1100	166	62	22		25	0.4	2.2	35	0	9	74	808	45	0	10,299	
	1200	166	63	21.5		24.25	0.5	2.5	39	0	10	74	810	46	0	10,299	
1/26/2009	1000	166	55	21.5		24.25	0.5	2.3	39	0	10	64	568	45	0	10,299	
	extraction from B-10, B-8, SOMA-2, and SOMA-4 began																
	1130	166	61	20		24	0.48	2.4	38	0	10	66	8,360	67	0	10,731	
	1230	166	63	20.25		24.25	0.48	2.4	38	0	10	68	9,064	92	2	10,805	
1/27/2009	1000	system down upon arrival; main timer = 1843.4 H @ ~ 2300															
	1030	xfer pum shorted causing wires to burn; repaired and rewired xfer pump; restarted system															
	1130	166	64	20.25		24.25	0.48	2.4	38	0	10	62	13,000	787	0	11,532	
	shutdown system because xfer pump short circuit and overheat causing xfer pump failure; rerouted effluent piping to GAC																
	1200	restart system															
	1300	168	66	20.5		24.5	0.5	2.4	39	0	10	64	11,800	1,555	1	11,565	
	added 2nd 55 gal carbon drum because exceeding air permit discharge conditions																
	1400	168	65	20.5		24.5	0.5	2.4	39	0	10	64	9,500	0	0	11,624	
1/28/2009	1000	168	65	20.5		24.5	0.52	2.6	40	0	10	68	8,669	0	0	12,517	
	1100	168	65	20		24	0.52	2.6	40	0	10	70	7,980	0	0	12,595	
1/29/2009	730	168	64	20		24	0.6	2.8	42	0	11	72	13,444	80	0	13,373	
	carbon change out of 1000 lb vapor vessel															345	
	930	restart system															
	1030	168	68	20.5		24.5	0.5	2.4	39	0	10	62	13,600	2	0	13,430	
1/30/2009	930	168	65	20.5		24.5	0.48	2.6	38	0	10	64	15,000	0	0	14,313	
	extraction from SOMA-2 only																
	1030	168	61	25		27	0.1	0.4	17	0	4	66	8,565	3	0	14,342	
2/2/2009	1230	168	67	24.5		27	0.1	1.2	17	0	4	70	15,000	0	0	14,992	
	extraction from SOMA-2, SOMA-4, and B-8																
	1330	168	74	20.5		24.5	0.5	2.4	39	0	10	70	15,000	0	0	15,021	
	1400	168	72	20		24	0.5	2.6	39	0	10	72	15,000	0	0	15,050	
2/3/2009	1500	168	76	20.5		24	0.5	2.6	38	0	10	80	15,000	120	30	15,962	
	extraction from B-10 only																
	1600	168	71	22		24.5	0.5	2.4	38	0	10	80	3,918	0	0	15,962	
2/4/2009	1300	168	65	22		24.5	0.44	2.4	36	0	9	72	775	0	0	15,989	
	1400	168	65	22		24.5	0.44	2.4	36	0	9	72	653	0	0	15,989	
	1500	168	67	22		24.5	0.44	2.4	36	0	9	72	627	0	0	15,989	
2/5/2009	1330	168	65	22		24.5	0.44	2.4	36	0	9	70	795	0	0	15,989	
	1430	168	65	22		24.5	0.44	2.4	36	0	9	70	672	0	0	15,989	
2/6/2009	730	168	61	22		24.5	0.44	2.4	36	0	9	68	1,100	20	0	15,989	
	carbon change out of 1000 lb vapor vessel															388	
	930	restart system															
	1000	168	61	21		24	0.4	2.4	35	0	9	58	785	0	0	15,989	
	1030	168	63	21		24	0.42	2.4	36	0	9	62	617	0	0	15,989	



SITE ADDRESS: 3820 Manila Ave, Oakland, California  
PROJECT #: 2514

MTS OPERATIONAL DATA																	
DATE	TIME	PUMP TEMPERATURE (F)	CONDENSER TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	CASING VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	PITOT TUBE Δ PRESSURE (IN H2O)	PUMP OUTLET (Psi)	TOTAL FLOW RATE (SCFM)	DILUTION FLOW RATE (SCFM)	WELL FLOW RATE (SCFM)	EFFLUENT TEMPERATURE (F)	INFILUNT CONCENTRATION (PPMV)	MID EFFLUENT CONCENTRATION (PPMV)	END EFFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	POWER USAGE (KWH)
2/9/2009	1100	168	55	21.5		24	0.42	2.4	36	0	9	62	572	0	0	15,989	
		shut down system for ground water monitoring															397
2/11/2009	930	restart system with SOMA-2, SOMA-4, B-8, and B-10															
	1000	system shut down, transfer pump failed															
	1130	restart system with extraction from B-10 only, reroute piping to allow discharge of water															
	1230	168	63	21.5		24	0.44	2.4	37	0	9	50	2,000	0	0	15,989	
2/12/2009	930	168	55	21.5		24.5	0.44	2.4	37	0	9	60	429	0	0	15,989	
		closed B-10; extraction from SOMA-2, SOMA-4, and B-8							0	0	0						15,989
	1030	168	60	22		26	0.22	1.8	26	0	6	62	4,500	0	0	16,213	
2/13/2009	900	168	60	21		24	0.32	2.2	31	0	8	60	7,840	0	0	16,213	
		extraction from B-8 only															
	1100	168	58	22		24	0.4	2.4	35	0	9	60	4,100	0	0	16,213	
2/16/2009	1130	168	60	22		24	0.4	2.4	35	0	9	60	500	2	0	16,213	
		shut down system to install new motor for transfer pump															411
	1230	restart system; extraction from B-8 only															
	1330	168	62	22		24	0.4	2.4	35	0	9	60	1,500	0	0	16,213	
2/17/2009	1000	168	58	22		24	0.4	2.4	35	0	9	60	322	0	0	16,213	
	1100	168	57	22		24	0.4	2.4	35	0	9	60	255	0	0	16,213	
2/18/2009	1000	168	59	22.5		24.5	0.42	2.4	36	0	9	64	240	14	7	16,213	
		extraction from SOMA-2 only															
	1200	168	64	23		25	0.32	2.2	31	0	8	64	1,235	10	0	16,213	
2/19/2009	1000	168	59	24		26	0.34	2.2	32	0	8	66	775	4	0	18,332	
		extraction from SOMA-2, SOMA-4, B-10, and B-8															
	1100	168	65	22.5		25.5	0.26	2	28	0	7	66	1,750	7	0	18,358	
	1200	168	65	22.5		25.5	0.26	2	28	0	7	66	2,082	10	0	18,417	
2/20/2009	1000	168	64	22.5		25.5	0.28	2	29	0	7	66	2,684	40	0	19,272	
	1100	168	65	22.5		25.5	0.26	2	28	0	7	70	3,520	99	10	19,320	
		change out of 55 gal vapor drum for polishing															19,320
	1200	168	67	22.5		25.5	0.2	2	25	0	6	65	2,330	33	0	19,346	
2/23/2009	1000	168	68	22.5		25.5	0.2	2	25	0	6	70	3,780	101	8	19,346	
		change out of 55 gal vapor drum for polishing; extraction from B-10 only															
	1200	168	64	24		26	0.14	2	21	0	5	64	1,385	101	0	19,346	
2/24/2009	1000	168	60	25		27	0.14	2	21	0	5	70	242	94	0	21,299	
	1100	168	62	25		27	0.12	1.6	19	0	5	70	154	88	0	21,302	
	1200	168	63	25		27	0.12	1.6	19	0	5	70	152	94	0	21,302	
2/25/2009	1000	168	61	25		27	0.1	1.6	17	0	4	64	251	83	0	21,302	
	1100	168	64	25		27	0.1	1.6	17	0	4	66	787	143	0	21,302	
	1200	168	66	25		27	0.1	1.6	17	0	4	66	580	150	0	21,302	



SITE ADDRESS: 3820 Manila Ave, Oakland, California  
PROJECT #: 2514

MTS OPERATIONAL DATA																	
DATE	TIME	PUMP TEMPERATURE (F)	CONDENSER TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	CASING VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	PITOT TUBE Δ PRESSURE (IN H2O)	PUMP OUTLET (Psi)	TOTAL FLOW RATE (SCFM)	DILUTION FLOW RATE (SCFM)	WELL FLOW RATE (SCFM)	EFFLUENT TEMPERATURE (F)	INFILUNT CONCENTRATION (PPMV)	MID EFFLUENT CONCENTRATION (PPMV)	END EFFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	POWER USAGE (KWH)
2/26/2009	730	168	59	25		27	0.12	1.6	19	0	5	70	270	245	0	21,302	
		carbon change out of 1000 lb vapor vessel															476
	930	restart system															
	1030	168	62	24.5		26.5	0.12	1.4	19	0	5	64	835	0	0	21,302	
	1130	168	67	22		25	0.34	2.4	32	0	8	64	1,200	0	0	21,302	
		extraction from SOMA-2, SOMA-4, B-10, and B-8															
2/27/2009	1230	168	62	22		25	0.34	2.4	32	0	8	64	222	0	0	21,387	
	1330	168	63	24.5		27	0.1	1.4	17	0	4	66	760	0	0	21,505	
	1430	168	64	24.5		27	0.1	1.4	17	0	4	68	982	0	0	21,595	
3/2/2009	1030	168	65	23		26	0.14	1.4	21	0	5	68	2,721	32	0	21,595	
	1130	168	62	24		27	0.1	1	17	0	4	68	4,091	100	21	21,595	
	1230	168	61	25		27	0.1	1	18	0	4	60	2,185	180	0	21,595	
3/3/2009	1100	168	60	25		27	0.1	1	17	0	4	62	1,611	6	1	21,595	
	1200	168	60	25		27	0.1	1	17	0	4	62	1,020	2	0	21,595	
3/4/2009	1000	168	61	25		27	0.1	1	18	0	4	60	1,715	1	0	21,595	
	1100	168	62	25		27	0.1	1	18	0	4	60	2,023	1	0	21,595	
	1200	168	62	25		27	0.1	1	18	0	4	60	1,750	40	0	21,595	
3/5/2009	1000	168	60	25		27	0.08	1.4	16	0	4	68	1,120	0	0	21,595	
	1100	168	61	25		27	0.08	1.4	16	0	4	68	790	0	0	21,595	
	1200	168	61	25		27	0.08	1.4	16	0	4	68	784	0	0	21,595	
3/6/2009	1030	168	58	25		27	0.08	1.4	16	0	4	68	1,130	0	0	21,595	
	1130	168	62	25		27	0.08	1.4	16	0	4	66	828	0	0	21,595	
3/9/2009	1100	168	52	25		27	0.08	1.2	16	0	4	66	841	0	0	27,066	
		extraction from SOMA-2 and B-10															
	1200	168	59	24		26.8	0.1	1.8	17	0	4	64	3,754	0	0	27,107	
3/10/2009	1430	168	62	24.5		26.5	0.1	1.6	17	0	4	68	3,595	0	0	27,863	
	1530	168	67	23		26	0.14	1.6	21	0	5	68	5,233	0	0	27,913	
		extraction from SOMA-2, SOMA-4, and B-10															
3/11/2009	1530	168	68	23		26	0.18	1.8	23	0	6	70	5,054	0	0	29,562	
	1630	168	68	23		26	0.2	1.8	25	0	6	70	5,041	0	0	29,602	
3/12/2009	1000	system ok														31,885	
3/13/2009	1100	170	66	23		26	0.2	1.8	25	0	6	68	7,362	0	0	31,885	
		extraction from SOMA-4 only															
	1200	170	66	25		27	0.1	1.2	17	0	4	68	5,644	0	0	31,944	
	1300	168	63	25.5		27.5	0.08	1.2	16	0	4	68	5,260	0	0	31,944	
3/16/2009	1000	168	63	26		27.5	0.04	1.6	11	0	3	62	7,345	0	0	33,184	
		extraction from SOMA-2, SOMA-4, and B-8															
	1100	168	65	25		27	0.08	1.8	16	0	4	62	3,510	0	0	33,179	
	1200	168	66	25		27	0.08	1.4	16	0	4	62	2,970	0	0	33,179	



SITE ADDRESS: 3820 Manila Ave, Oakland, California  
PROJECT #: 2514

MTS OPERATIONAL DATA																	
DATE	TIME	PUMP TEMPERATURE (F)	CONDENSER TEMPERATURE (F)	STINGER VACUUM (IN-Hg)	CASING VACUUM (IN-Hg)	PUMP VACUUM (IN-Hg)	PITOT TUBE Δ PRESSURE (IN H2O)	PUMP OUTLET (Psi)	TOTAL FLOW RATE (SCFM)	DILUTION FLOW RATE (SCFM)	WELL FLOW RATE (SCFM)	EFFLUENT TEMPERATURE (F)	INFLUENT CONCENTRATION (PPMV)	MID EFFLUENT CONCENTRATION (PPMV)	END EFFLUENT CONCENTRATION (PPMV)	WATER TOTALIZER	POWER USAGE (KWH)
3/17/2009	1000	168	65	25		27	0.08	1.4	16	0	4	68	395	0	0	33,298	
		extraction from SOMA-2, SOMA-4, and B-8															
	1100	168	68	24.5		27	0.1	1.6	17	0	4	70	1,586	0	0	33,383	
	1200	168	70	24.5		26.5	0.14	1.6	21	0	5	70	3,216	0	0	33,471	
3/18/2009	1000	system ok							0	0	0					33,471	
3/19/2009	1000	168	69	23		26	0.24	2	27	0	7	76	7,100	30	15	35,947	
		extraction from SOMA-4 only															
	1100	168	69	25		27	0.1	1.2	17	0	4	76	5,070	0	0	35,975	
	1200	168	69	25		27	0.1	1.2	17	0	4	76	5,465	0	0	36,003	
3/20/2009	700	168	62	25		27	0.1	1.2	17	0	4	64	5,344	0	0	36,472	
		carbon change out of 1000 lb vapor vessel															
	930	restart system														36,472	
	1030	168	65	25		27	0.1	1.4	17	0	4	66	15,000	0	0	36,545	
	1130	168	68	25		27	0.1	1.4	17	0	4	66	9,000	0	0	36,577	
3/23/2009	1000	168	55	25		27	0.1	1.4	17	0	4	64	5,025	2	0	38,962	
	1100	168	61	23		26	0.2	1.8	25	0	6	64	5,783	3	1	39,057	
	1200	168	63	23		26	0.2	1.8	25	0	6	64	5,354	0	0	39,137	

# **APPENDIX E**

## **MPE Event Laboratory Report**



January 20, 2009

Joyce Bobek  
Soma Environmental Engineering, Inc.  
6620 Owens Dr. Suite A  
Pleasanton, CA 94588  
TEL: (925) 734-6400  
FAX (925) 734-6401

RE: 2514/3815 Broadway, Oakland

Order No.: 0901027

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 3 samples on 1/9/2009 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

  
Catie S. Bobek  
Laboratory Director

1/20/09  
Date



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at [www.torrentlab.com](http://www.torrentlab.com) email: [analysis@torrentlab.com](mailto:analysis@torrentlab.com)

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 1/9/2009

**Date Reported:** 1/20/2009

**Client Sample ID:** Effluent-Composite  
**Sample Location:** 3815 Broadway, Oakland  
**Sample Matrix:** SOIL VAPOR  
**Date/Time Sampled** 1/7/2009 7:00:00 AM

**Lab Sample ID:** 0901027-001

**Date Prepared:**

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	1/10/2009	1.99	5	10	ND	µg/m³	R18395
1,1,1,2-Tetrachloroethane	TO-15	1/10/2009	3.44	5	17	ND	µg/m³	R18395
1,1,1-Trichloroethane	TO-15	1/10/2009	2.73	5	14	ND	µg/m³	R18395
1,1,2,2-Tetrachloroethane	TO-15	1/10/2009	3.44	5	17	ND	µg/m³	R18395
1,1,2-Trichloroethane	TO-15	1/10/2009	2.73	5	14	ND	µg/m³	R18395
1,1-Dichloroethane	TO-15	1/10/2009	2.03	5	10	ND	µg/m³	R18395
1,2,4-Trichlorobenzene	TO-15	1/10/2009	3.56	5	18	ND	µg/m³	R18395
1,2,4-Trimethylbenzene	TO-15	1/10/2009	2.46	5	12	ND	µg/m³	R18395
1,2-Dibromoethane(Ethylene dibromide)	TO-15	1/10/2009	3.84	5	19	ND	µg/m³	R18395
1,2-Dichlorobenzene	TO-15	1/10/2009	3.01	5	15	ND	µg/m³	R18395
1,2-Dichloroethane	TO-15	1/10/2009	2.03	5	10	ND	µg/m³	R18395
1,2-Dichloropropane	TO-15	1/10/2009	2.31	5	12	ND	µg/m³	R18395
1,3,5-Trimethylbenzene	TO-15	1/10/2009	2.46	5	12	ND	µg/m³	R18395
1,3-Butadiene	TO-15	1/10/2009	4.44	5	22	ND	µg/m³	R18395
1,3-Dichlorobenzene	TO-15	1/10/2009	3.01	5	15	ND	µg/m³	R18395
1,4-Dichlorobenzene	TO-15	1/10/2009	3.01	5	15	ND	µg/m³	R18395
1,4-Dioxane	TO-15	1/10/2009	1.8	5	9.0	ND	µg/m³	R18395
2-Butanone (MEK)	TO-15	1/10/2009	1.48	5	7.4	ND	µg/m³	R18395
2-Hexanone	TO-15	1/10/2009	2.05	5	10	ND	µg/m³	R18395
4-Ethyl Toluene	TO-15	1/10/2009	2.46	5	12	ND	µg/m³	R18395
4-Methyl-2-Pentanone (MIBK)	TO-15	1/10/2009	2.05	5	10	ND	µg/m³	R18395
Acetone	TO-15	1/10/2009	9.52	5	48	ND	µg/m³	R18395
Benzene	TO-15	1/10/2009	1.6	5	8.0	ND	µg/m³	R18395
Bromodichloromethane	TO-15	1/10/2009	3.35	5	17	ND	µg/m³	R18395
Bromoform	TO-15	1/10/2009	5.17	5	26	ND	µg/m³	R18395
Bromomethane	TO-15	1/10/2009	1.94	5	9.7	ND	µg/m³	R18395
Carbon Disulfide	TO-15	1/10/2009	1.56	5	7.8	ND	µg/m³	R18395
Carbon Tetrachloride	TO-15	1/10/2009	3.15	5	16	ND	µg/m³	R18395
Chlorobenzene	TO-15	1/10/2009	2.3	5	12	ND	µg/m³	R18395
Chloroethane	TO-15	1/10/2009	1.32	5	6.6	ND	µg/m³	R18395
Chloroform	TO-15	1/10/2009	2.44	5	12	ND	µg/m³	R18395
Chloromethane	TO-15	1/10/2009	1.04	5	5.2	ND	µg/m³	R18395
cis-1,2-dichloroethene	TO-15	1/10/2009	1.98	5	9.9	ND	µg/m³	R18395
cis-1,3-Dichloropropene	TO-15	1/10/2009	2.27	5	11	ND	µg/m³	R18395
Dibromochloromethane	TO-15	1/10/2009	4.26	5	21	ND	µg/m³	R18395
Dichlorodifluoromethane	TO-15	1/10/2009	2.48	5	12	ND	µg/m³	R18395

These analyses were performed according to State of California Environmental Laboratory Accreditation program, Certificate # 1991

Page 1 of 7

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 1/9/2009  
**Date Reported:** 1/20/2009

<b>Client Sample ID:</b>	Effluent-Composite	<b>Lab Sample ID:</b>	0901027-001
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL VAPOR		
<b>Date/Time Sampled</b>	1/7/2009 7:00:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Diisopropyl ether (DIPE)	TO-15	1/10/2009	2.09	5	10	ND	µg/m³	R18395
Ethyl Acetate	TO-15	1/10/2009	1.8	5	9.0	ND	µg/m³	R18395
Ethyl Benzene	TO-15	1/10/2009	2.17	5	11	ND	µg/m³	R18395
Ethyl tert-butyl ether (ETBE)	TO-15	1/10/2009	2.09	5	10	ND	µg/m³	R18395
Freon 113	TO-15	1/10/2009	3.83	5	19	ND	µg/m³	R18395
Hexachlorobutadiene	TO-15	1/10/2009	5.34	5	27	ND	µg/m³	R18395
Hexane	TO-15	1/10/2009	14.1	5	70	ND	µg/m³	R18395
Isopropanol	TO-15	1/10/2009	16.4	5	82	ND	µg/m³	R18395
m,p-Xylene	TO-15	1/10/2009	2.05	5	10	ND	µg/m³	R18395
Methylene Chloride	TO-15	1/10/2009	3.61	5	18	ND	µg/m³	R18395
MTBE	TO-15	1/10/2009	1.81	5	9.0	63	µg/m³	R18395
Naphthalene	TO-15	1/10/2009	2.62	5	13	ND	µg/m³	R18395
o-xylene	TO-15	1/10/2009	2.17	5	11	ND	µg/m³	R18395
Styrene	TO-15	1/10/2009	2.13	5	11	ND	µg/m³	R18395
t-Butyl alcohol (t-Butanol)	TO-15	1/10/2009	6.06	5	30	ND	µg/m³	R18395
tert-Amyl methyl ether (TAME)	TO-15	1/10/2009	2.09	5	10	ND	µg/m³	R18395
Tetrachloroethene	TO-15	1/10/2009	3.39	5	17	ND	µg/m³	R18395
Toluene	TO-15	1/10/2009	1.89	5	9.4	ND	µg/m³	R18395
trans-1,2-Dichloroethene	TO-15	1/10/2009	1.98	5	9.9	ND	µg/m³	R18395
Trichloroethene	TO-15	1/10/2009	2.69	5	13	ND	µg/m³	R18395
Trichlorofluoromethane	TO-15	1/10/2009	2.48	5	12	ND	µg/m³	R18395
Vinyl Acetate	TO-15	1/10/2009	1.76	5	8.8	ND	µg/m³	R18395
Vinyl Chloride	TO-15	1/10/2009	1.28	5	6.4	ND	µg/m³	R18395
Surr: 4-Bromofluorobenzene	TO-15	1/10/2009	0	5	65-135	99.7	%REC	R18395
Gasoline	TO-3(MOD)	1/9/2009	352	10	3500	ND	µg/m³	G18395
Stoddard Solvent (C7-C12)	TO-3(MOD)	1/9/2009	352	10	3500	ND	µg/m³	G18395

**Report prepared for:** Joyce Bobek

Soma Environmental Engineering, Inc.

**Date Received:** 1/9/2009

**Date Reported:** 1/20/2009

<b>Client Sample ID:</b>	Midpoint-Composite	<b>Lab Sample ID:</b>	0901027-002
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL VAPOR		
<b>Date/Time Sampled</b>	1/7/2009 7:10:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	1/10/2009	1.99	5	10	ND	µg/m³	R18395
1,1,1,2-Tetrachloroethane	TO-15	1/10/2009	3.44	5	17	ND	µg/m³	R18395
1,1,1-Trichloroethane	TO-15	1/10/2009	2.73	5	14	ND	µg/m³	R18395
1,1,2,2-Tetrachloroethane	TO-15	1/10/2009	3.44	5	17	ND	µg/m³	R18395
1,1,2-Trichloroethane	TO-15	1/10/2009	2.73	5	14	ND	µg/m³	R18395
1,1-Dichloroethane	TO-15	1/10/2009	2.03	5	10	ND	µg/m³	R18395
1,2,4-Trichlorobenzene	TO-15	1/10/2009	3.56	5	18	ND	µg/m³	R18395
1,2,4-Trimethylbenzene	TO-15	1/10/2009	2.46	5	12	ND	µg/m³	R18395
1,2-Dibromoethane(Ethylene dibromide)	TO-15	1/10/2009	3.84	5	19	ND	µg/m³	R18395
1,2-Dichlorobenzene	TO-15	1/10/2009	3.01	5	15	ND	µg/m³	R18395
1,2-Dichloroethane	TO-15	1/10/2009	2.03	5	10	ND	µg/m³	R18395
1,2-Dichloropropane	TO-15	1/10/2009	2.31	5	12	ND	µg/m³	R18395
1,3,5-Trimethylbenzene	TO-15	1/10/2009	2.46	5	12	ND	µg/m³	R18395
1,3-Butadiene	TO-15	1/10/2009	4.44	5	22	ND	µg/m³	R18395
1,3-Dichlorobenzene	TO-15	1/10/2009	3.01	5	15	ND	µg/m³	R18395
1,4-Dichlorobenzene	TO-15	1/10/2009	3.01	5	15	ND	µg/m³	R18395
1,4-Dioxane	TO-15	1/10/2009	1.8	5	9.0	ND	µg/m³	R18395
2-Butanone (MEK)	TO-15	1/10/2009	1.48	5	7.4	ND	µg/m³	R18395
2-Hexanone	TO-15	1/10/2009	2.05	5	10	ND	µg/m³	R18395
4-Ethyl Toluene	TO-15	1/10/2009	2.46	5	12	ND	µg/m³	R18395
4-Methyl-2-Pentanone (MIBK)	TO-15	1/10/2009	2.05	5	10	ND	µg/m³	R18395
Acetone	TO-15	1/10/2009	9.52	5	48	ND	µg/m³	R18395
Benzene	TO-15	1/10/2009	1.6	5	8.0	ND	µg/m³	R18395
Bromodichloromethane	TO-15	1/10/2009	3.35	5	17	ND	µg/m³	R18395
Bromoform	TO-15	1/10/2009	5.17	5	26	ND	µg/m³	R18395
Bromomethane	TO-15	1/10/2009	1.94	5	9.7	ND	µg/m³	R18395
Carbon Disulfide	TO-15	1/10/2009	1.56	5	7.8	ND	µg/m³	R18395
Carbon Tetrachloride	TO-15	1/10/2009	3.15	5	16	ND	µg/m³	R18395
Chlorobenzene	TO-15	1/10/2009	2.3	5	12	ND	µg/m³	R18395
Chloroethane	TO-15	1/10/2009	1.32	5	6.6	ND	µg/m³	R18395
Chloroform	TO-15	1/10/2009	2.44	5	12	ND	µg/m³	R18395
Chloromethane	TO-15	1/10/2009	1.04	5	5.2	ND	µg/m³	R18395
cis-1,2-dichloroethene	TO-15	1/10/2009	1.98	5	9.9	1400	µg/m³	R18395
cis-1,3-Dichloropropene	TO-15	1/10/2009	2.27	5	11	ND	µg/m³	R18395
Dibromochloromethane	TO-15	1/10/2009	4.26	5	21	ND	µg/m³	R18395
Dichlorodifluoromethane	TO-15	1/10/2009	2.48	5	12	ND	µg/m³	R18395
Diisopropyl ether (DIPE)	TO-15	1/10/2009	2.09	5	10	ND	µg/m³	R18395
Ethyl Acetate	TO-15	1/10/2009	1.8	5	9.0	ND	µg/m³	R18395
Ethyl Benzene	TO-15	1/10/2009	2.17	5	11	ND	µg/m³	R18395
Ethyl tert-butyl ether (ETBE)	TO-15	1/10/2009	2.09	5	10	ND	µg/m³	R18395
Freon 113	TO-15	1/10/2009	3.83	5	19	36	µg/m³	R18395
Hexachlorobutadiene	TO-15	1/10/2009	5.34	5	27	ND	µg/m³	R18395
Hexane	TO-15	1/10/2009	14.1	5	70	ND	µg/m³	R18395

These analyses were performed according to State  
of California Environmental Laboratory  
Accreditation program, Certificate # 1991

Page 3 of 7

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 1/9/2009  
**Date Reported:** 1/20/2009

<b>Client Sample ID:</b>	Midpoint-Composite	<b>Lab Sample ID:</b>	0901027-002
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL VAPOR		
<b>Date/Time Sampled</b>	1/7/2009 7:10:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Isopropanol	TO-15	1/10/2009	16.4	5	82	ND	µg/m³	R18395
m,p-Xylene	TO-15	1/10/2009	2.05	5	10	ND	µg/m³	R18395
Methylene Chloride	TO-15	1/10/2009	3.61	5	18	ND	µg/m³	R18395
MTBE	TO-15	1/10/2009	1.81	5	9.0	26	µg/m³	R18395
Naphthalene	TO-15	1/10/2009	2.62	5	13	ND	µg/m³	R18395
o-xylene	TO-15	1/10/2009	2.17	5	11	ND	µg/m³	R18395
Styrene	TO-15	1/10/2009	2.13	5	11	ND	µg/m³	R18395
t-Butyl alcohol (t-Butanol)	TO-15	1/10/2009	6.06	5	30	ND	µg/m³	R18395
tert-Amyl methyl ether (TAME)	TO-15	1/10/2009	2.09	5	10	ND	µg/m³	R18395
Tetrachloroethene	TO-15	1/10/2009	3.39	5	17	ND	µg/m³	R18395
Toluene	TO-15	1/10/2009	1.89	5	9.4	ND	µg/m³	R18395
trans-1,2-Dichloroethene	TO-15	1/10/2009	1.98	5	9.9	ND	µg/m³	R18395
Trichloroethene	TO-15	1/10/2009	2.69	5	13	ND	µg/m³	R18395
Trichlorofluoromethane	TO-15	1/10/2009	2.48	5	12	ND	µg/m³	R18395
Vinyl Acetate	TO-15	1/10/2009	1.76	5	8.8	ND	µg/m³	R18395
Vinyl Chloride	TO-15	1/10/2009	1.28	5	6.4	ND	µg/m³	R18395
Surr: 4-Bromofluorobenzene	TO-15	1/10/2009	0	5	65-135	102	%REC	R18395
Gasoline	TO-3(MOD)	1/9/2009	352	10	3500	ND	µg/m³	G18395
Stoddard Solvent (C7-C12)	TO-3(MOD)	1/9/2009	352	10	3500	18000	µg/m³	G18395

Note: Result reported as a Stoddard Solvent as hydrocarbons responded within Stoddard Solvent range and pattern best matches Stoddard Solvent.

**Report prepared for:** Joyce Bobek

Soma Environmental Engineering, Inc.

**Date Received:** 1/9/2009

**Date Reported:** 1/20/2009

<b>Client Sample ID:</b>	Influent-Composite	<b>Lab Sample ID:</b>	0901027-003
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL VAPOR		
<b>Date/Time Sampled</b>	1/7/2009 7:20:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	1/12/2009	1.99	1000	2000	ND	µg/m³	S18395
1,1,1,2-Tetrachloroethane	TO-15	1/12/2009	3.44	1000	3400	ND	µg/m³	S18395
1,1,1-Trichloroethane	TO-15	1/12/2009	2.73	1000	2700	ND	µg/m³	S18395
1,1,2,2-Tetrachloroethane	TO-15	1/12/2009	3.44	1000	3400	ND	µg/m³	S18395
1,1,2-Trichloroethane	TO-15	1/12/2009	2.73	1000	2700	ND	µg/m³	S18395
1,1-Dichloroethane	TO-15	1/12/2009	2.03	1000	2000	ND	µg/m³	S18395
1,2,4-Trichlorobenzene	TO-15	1/12/2009	3.56	1000	3600	ND	µg/m³	S18395
1,2,4-Trimethylbenzene	TO-15	1/12/2009	2.46	1000	2500	ND	µg/m³	S18395
1,2-Dibromoethane(Ethylene dibromide)	TO-15	1/12/2009	3.84	1000	3800	ND	µg/m³	S18395
1,2-Dichlorobenzene	TO-15	1/12/2009	3.01	1000	3000	ND	µg/m³	S18395
1,2-Dichloroethane	TO-15	1/12/2009	2.03	1000	2000	ND	µg/m³	S18395
1,2-Dichloropropane	TO-15	1/12/2009	2.31	1000	2300	ND	µg/m³	S18395
1,3,5-Trimethylbenzene	TO-15	1/12/2009	2.46	1000	2500	ND	µg/m³	S18395
1,3-Butadiene	TO-15	1/12/2009	4.44	1000	4400	ND	µg/m³	S18395
1,3-Dichlorobenzene	TO-15	1/12/2009	3.01	1000	3000	ND	µg/m³	S18395
1,4-Dichlorobenzene	TO-15	1/12/2009	3.01	1000	3000	ND	µg/m³	S18395
1,4-Dioxane	TO-15	1/12/2009	1.8	1000	1800	ND	µg/m³	S18395
2-Butanone (MEK)	TO-15	1/12/2009	1.48	1000	1500	ND	µg/m³	S18395
2-Hexanone	TO-15	1/12/2009	2.05	1000	2000	ND	µg/m³	S18395
4-Ethyl Toluene	TO-15	1/12/2009	2.46	1000	2500	ND	µg/m³	S18395
4-Methyl-2-Pentanone (MIBK)	TO-15	1/12/2009	2.05	1000	2000	ND	µg/m³	S18395
Acetone	TO-15	1/12/2009	9.52	1000	9500	ND	µg/m³	S18395
Benzene	TO-15	1/12/2009	1.6	1000	1600	ND	µg/m³	S18395
Bromodichloromethane	TO-15	1/12/2009	3.35	1000	3400	ND	µg/m³	S18395
Bromoform	TO-15	1/12/2009	5.17	1000	5200	ND	µg/m³	S18395
Bromomethane	TO-15	1/12/2009	1.94	1000	1900	ND	µg/m³	S18395
Carbon Disulfide	TO-15	1/12/2009	1.56	1000	1600	ND	µg/m³	S18395
Carbon Tetrachloride	TO-15	1/12/2009	3.15	1000	3200	ND	µg/m³	S18395
Chlorobenzene	TO-15	1/12/2009	2.3	1000	2300	ND	µg/m³	S18395
Chloroethane	TO-15	1/12/2009	1.32	1000	1300	ND	µg/m³	S18395
Chloroform	TO-15	1/12/2009	2.44	1000	2400	ND	µg/m³	S18395
Chloromethane	TO-15	1/12/2009	1.04	1000	1000	ND	µg/m³	S18395
cis-1,2-dichloroethene	TO-15	1/12/2009	1.98	1000	2000	7500	µg/m³	S18395
cis-1,3-Dichloropropene	TO-15	1/12/2009	2.27	1000	2300	ND	µg/m³	S18395
Dibromochloromethane	TO-15	1/12/2009	4.26	1000	4300	ND	µg/m³	S18395
Dichlorodifluoromethane	TO-15	1/12/2009	2.48	1000	2500	ND	µg/m³	S18395
Diisopropyl ether (DIPE)	TO-15	1/12/2009	2.09	1000	2100	ND	µg/m³	S18395
Ethyl Acetate	TO-15	1/12/2009	1.8	1000	1800	ND	µg/m³	S18395
Ethyl Benzene	TO-15	1/12/2009	2.17	1000	2200	ND	µg/m³	S18395
Ethyl tert-butyl ether (ETBE)	TO-15	1/12/2009	2.09	1000	2100	ND	µg/m³	S18395
Freon 113	TO-15	1/12/2009	3.83	1000	3800	ND	µg/m³	S18395
Hexachlorobutadiene	TO-15	1/12/2009	5.34	1000	5300	ND	µg/m³	S18395
Hexane	TO-15	1/12/2009	14.1	1000	14000	ND	µg/m³	S18395

These analyses were performed according to State  
of California Environmental Laboratory  
Accreditation program, Certificate # 1991

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 1/9/2009  
**Date Reported:** 1/20/2009

<b>Client Sample ID:</b>	Influent-Composite	<b>Lab Sample ID:</b>	0901027-003
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	SOIL VAPOR		
<b>Date/Time Sampled</b>	1/7/2009 7:20:00 AM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Isopropanol	TO-15	1/12/2009	16.4	1000	16000	ND	µg/m³	S18395
m,p-Xylene	TO-15	1/12/2009	2.05	1000	2000	ND	µg/m³	S18395
Methylene Chloride	TO-15	1/12/2009	3.61	1000	3600	ND	µg/m³	S18395
MTBE	TO-15	1/12/2009	1.81	1000	1800	5400	µg/m³	S18395
Naphthalene	TO-15	1/12/2009	2.62	1000	2600	ND	µg/m³	S18395
o-xylene	TO-15	1/12/2009	2.17	1000	2200	ND	µg/m³	S18395
Styrene	TO-15	1/12/2009	2.13	1000	2100	ND	µg/m³	S18395
t-Butyl alcohol (t-Butanol)	TO-15	1/12/2009	6.06	1000	6100	ND	µg/m³	S18395
tert-Amyl methyl ether (TAME)	TO-15	1/12/2009	2.09	1000	2100	ND	µg/m³	S18395
Tetrachloroethene	TO-15	1/12/2009	3.39	1000	3400	ND	µg/m³	S18395
Toluene	TO-15	1/12/2009	1.89	1000	1900	ND	µg/m³	S18395
trans-1,2-Dichloroethene	TO-15	1/12/2009	1.98	1000	2000	ND	µg/m³	S18395
Trichloroethene	TO-15	1/12/2009	2.69	1000	2700	ND	µg/m³	S18395
Trichlorofluoromethane	TO-15	1/12/2009	2.48	1000	2500	ND	µg/m³	S18395
Vinyl Acetate	TO-15	1/12/2009	1.76	1000	1800	ND	µg/m³	S18395
Vinyl Chloride	TO-15	1/12/2009	1.28	1000	1300	ND	µg/m³	S18395
Surr: 4-Bromofluorobenzene	TO-15	1/12/2009	0	1000	65-135	89.0	%REC	S18395
Gasoline	TO-3(MOD)	1/9/2009	352	500	180000	ND	µg/m³	G18395
Stoddard Solvent (C7-C12)	TO-3(MOD)	1/9/2009	352	500	180000	3800000	µg/m³	G18395

Note: Result reported as a Stoddard Solvent as hydrocarbons responded within Stoddard Solvent range and pattern best matches Stoddard Solvent.

**Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
a	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

**ANALYTICAL QC SUMMARY REPORT****BatchID: G18395**

Sample ID	<b>MB-G-G18395</b>	SampType:	<b>MBLK</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>1/9/2009</b>	RunNo:	<b>18395</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G18395</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>1/9/2009</b>	SeqNo:	<b>264700</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline		ND	100								
Sample ID	<b>LCSG-G18395</b>	SampType:	<b>LCS</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>1/9/2009</b>	RunNo:	<b>18395</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G18395</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>1/9/2009</b>	SeqNo:	<b>264701</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline		528.9	100	500	0	106	50	150			
Sample ID	<b>LCSDG-G18395</b>	SampType:	<b>LCSD</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>1/9/2009</b>	RunNo:	<b>18395</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G18395</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>1/9/2009</b>	SeqNo:	<b>264702</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline		467.6	100	500	0	93.5	50	150	528.9	12.3	30

**Qualifiers:** E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R18395

Sample ID	MB-R18395	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/10/2009	RunNo:	18395		
Client ID:	ZZZZZ	Batch ID:	R18395	TestNo:	TO-15			Analysis Date:	1/10/2009	SeqNo:	264672		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		ND			0.50								
1,1,1,2-Tetrachloroethane		ND			0.50								
1,1,1-Trichloroethane		ND			0.50								
1,1,2,2-Tetrachloroethane		ND			0.50								
1,1,2-Trichloroethane		ND			0.50								
1,1-Dichloroethane		ND			0.50								
1,2,4-Trichlorobenzene		ND			0.50								
1,2,4-Trimethylbenzene		ND			0.50								
1,2-Dibromoethane(Ethylene dibromide)		ND			0.50								
1,2-Dichlorobenzene		ND			0.50								
1,2-Dichloroethane		ND			0.50								
1,2-Dichloropropane		ND			0.50								
1,3,5-Trimethylbenzene		ND			0.50								
1,3-Butadiene		ND			2.0								
1,3-Dichlorobenzene		ND			0.50								
1,4-Dichlorobenzene		ND			0.50								
1,4-Dioxane		ND			0.50								
2-Butanone (MEK)		ND			0.50								
2-Hexanone		ND			0.50								
4-Ethyl Toluene		ND			0.50								
4-Methyl-2-Pentanone (MIBK)		ND			0.50								
Acetone		ND			4.0								
Benzene		ND			0.50								
Bromodichloromethane		ND			0.50								
Bromoform		ND			0.50								
Bromomethane		ND			0.50								
Carbon Disulfide		ND			0.50								
Carbon Tetrachloride		ND			0.50								
Chlorobenzene		ND			0.50								
Chloroethane		ND			0.50								
Chloroform		ND			0.50								

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

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S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R18395

Sample ID	MB-R18395	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/10/2009	RunNo:	18395		
Client ID:	ZZZZZ	Batch ID:	R18395	TestNo:	TO-15			Analysis Date:	1/10/2009	SeqNo:	264672		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		ND		0.50									
cis-1,2-dichloroethene		ND		0.50									
cis-1,3-Dichloropropene		ND		0.50									
Dibromochloromethane		ND		0.50									
Dichlorodifluoromethane		ND		0.50									
Diisopropyl ether (DIPE)		ND		0.50									
Ethyl Acetate		ND		0.50									
Ethyl Benzene		ND		0.50									
Ethyl tert-butyl ether (ETBE)		ND		0.50									
Freon 113		ND		0.50									
Hexachlorobutadiene		ND		0.50									
Hexane		ND		2.0									
Isopropanol		ND		4.0									
m,p-Xylene		ND		0.50									
Methylene Chloride		ND		1.0									
MTBE		ND		0.50									
Naphthalene		ND		0.50									
o-xylene		ND		0.50									
Styrene		ND		0.50									
t-Butyl alcohol (t-Butanol)		ND		2.0									
tert-Amyl methyl ether (TAME)		ND		0.50									
Tetrachloroethene		ND		0.50									
Toluene		ND		0.50									
trans-1,2-Dichloroethene		ND		0.50									
Trichloroethene		ND		0.50									
Trichlorofluoromethane		ND		0.50									
Vinyl Acetate		ND		0.50									
Vinyl Chloride		ND		0.50									
Surr: 4-Bromofluorobenzene		18.87		0	20	0	94.4	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R18395**

Sample ID	LCS-R18395	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/10/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	R18395	TestNo:	TO-15				Analysis Date:	1/10/2009	SeqNo:	264673
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		19.45	0.50	20	0	97.3	65	135				
1,1,1,2-Tetrachloroethane		18.27	0.50	20	0	91.4	65	135				
1,1,1-Trichloroethane		19.80	0.50	20	0	99.0	65	135				
1,1,2,2-Tetrachloroethane		19.00	0.50	20	0	95.0	65	135				
1,1,2-Trichloroethane		18.69	0.50	20	0	93.4	65	135				
1,1-Dichloroethane		20.74	0.50	20	0	104	65	135				
1,2,4-Trichlorobenzene		16.27	0.50	20	0	81.4	65	135				
1,2,4-Trimethylbenzene		18.71	0.50	20	0	93.6	65	135				
1,2-Dibromoethane(Ethylene dibromide)		18.13	0.50	20	0	90.7	65	135				
1,2-Dichlorobenzene		19.08	0.50	20	0	95.4	65	135				
1,2-Dichloroethane		18.79	0.50	20	0	94.0	65	135				
1,2-Dichloropropane		21.40	0.50	20	0	107	65	135				
1,3,5-Trimethylbenzene		19.40	0.50	20	0	97.0	65	135				
1,3-Butadiene		18.72	2.0	20	0	93.6	65	135				
1,3-Dichlorobenzene		17.08	0.50	20	0	85.4	65	135				
1,4-Dichlorobenzene		18.17	0.50	20	0	90.8	65	135				
1,4-Dioxane		16.60	0.50	20	0	83.0	65	135				
2-Butanone (MEK)		19.19	0.50	20	0	96.0	65	135				
2-Hexanone		15.45	0.50	20	0	77.2	65	135				
4-Ethyl Toluene		16.24	0.50	20	0	81.2	65	135				
4-Methyl-2-Pentanone (MIBK)		17.13	0.50	20	0	85.7	65	135				
Acetone		22.72	4.0	20	0	114	65	135				
Benzene		21.16	0.50	20	0	106	65	135				
Bromodichloromethane		19.11	0.50	20	0	95.6	65	135				
Bromoform		16.73	0.50	20	0	83.6	65	135				
Bromomethane		18.56	0.50	20	0	92.8	65	135				
Carbon Disulfide		18.95	0.50	20	0	94.8	65	135				
Carbon Tetrachloride		18.94	0.50	20	0	94.7	65	135				
Chlorobenzene		21.12	0.50	20	0	106	65	135				
Chloroethane		18.07	0.50	20	0	90.4	65	135				
Chloroform		19.83	0.50	20	0	99.2	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R18395**

Sample ID	LCS-R18395	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/10/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	R18395	TestNo:	TO-15				Analysis Date:	1/10/2009	SeqNo:	264673
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		18.67	0.50	20	0	93.4	65	135				
cis-1,2-dichloroethene		20.34	0.50	20	0	102	65	135				
cis-1,3-Dichloropropene		19.87	0.50	20	0	99.4	65	135				
Dibromochloromethane		17.35	0.50	20	0	86.8	65	135				
Diisopropyl ether (DIPE)		19.05	0.50	20	0	95.2	65	135				
Ethyl Acetate		18.58	0.50	20	0	92.9	65	135				
Ethyl Benzene		19.74	0.50	20	0	98.7	65	135				
Ethyl tert-butyl ether (ETBE)		18.03	0.50	20	0	90.2	65	135				
Freon 113		18.31	0.50	20	0	91.6	65	135				
Hexachlorobutadiene		15.71	0.50	20	0	78.6	65	135				
Hexane		19.36	2.0	20	0	96.8	65	135				
Isopropanol		19.41	4.0	20	0	97.0	65	135				
m,p-Xylene		38.49	0.50	40	0	96.2	65	135				
Methylene Chloride		19.57	1.0	20	0	97.8	65	135				
MTBE		17.20	0.50	20	0	86.0	65	135				
Naphthalene		16.44	0.50	20	0	82.2	65	135				
o-xylene		19.05	0.50	20	0	95.2	65	135				
Styrene		18.68	0.50	20	0	93.4	65	135				
t-Butyl alcohol (t-Butanol)		15.34	2.0	20	0	76.7	65	135				
tert-Amyl methyl ether (TAME)		14.65	0.50	20	0	73.2	65	135				
Tetrachloroethene		18.23	0.50	20	0	91.2	65	135				
Toluene		19.30	0.50	20	0	96.5	65	135				
trans-1,2-Dichloroethene		20.44	0.50	20	0	102	65	135				
Trichloroethene		19.71	0.50	20	0	98.6	65	135				
Trichlorofluoromethane		20.45	0.50	20	0	102	65	135				
Vinyl Acetate		21.11	0.50	20	0	106	65	135				
Vinyl Chloride		19.14	0.50	20	0	95.7	65	135				
Surr: 4-Bromofluorobenzene		19.31	0	20	0	96.6	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R18395**

Sample ID	LCSD-R18395	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/10/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	R18395	TestNo:	TO-15	Analysis Date:			1/10/2009	SeqNo:	264676	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		18.38	0.50	20	0	91.9	65	135	19.45	5.66	30	
1,1,1,2-Tetrachloroethane		18.62	0.50	20	0	93.1	65	135	18.27	1.90	30	
1,1,1-Trichloroethane		19.09	0.50	20	0	95.4	65	135	19.8	3.65	30	
1,1,2,2-Tetrachloroethane		19.41	0.50	20	0	97.0	65	135	19	2.13	30	
1,1,2-Trichloroethane		19.40	0.50	20	0	97.0	65	135	18.69	3.73	30	
1,1-Dichloroethane		21.08	0.50	20	0	105	65	135	20.74	1.63	30	
1,2,4-Trichlorobenzene		16.49	0.50	20	0	82.5	65	135	16.27	1.34	30	
1,2,4-Trimethylbenzene		19.12	0.50	20	0	95.6	65	135	18.71	2.17	30	
1,2-Dibromoethane(Ethylene dibromide)		18.82	0.50	20	0	94.1	65	135	18.13	3.73	30	
1,2-Dichlorobenzene		19.41	0.50	20	0	97.0	65	135	19.08	1.71	30	
1,2-Dichloroethane		15.43	0.50	20	0	77.2	65	135	18.79	19.6	30	
1,2-Dichloropropane		21.26	0.50	20	0	106	65	135	21.4	0.656	30	
1,3,5-Trimethylbenzene		19.55	0.50	20	0	97.8	65	135	19.4	0.770	30	
1,3-Butadiene		21.00	2.0	20	0	105	65	135	18.72	11.5	30	
1,3-Dichlorobenzene		19.03	0.50	20	0	95.2	65	135	17.08	10.8	30	
1,4-Dichlorobenzene		18.66	0.50	20	0	93.3	65	135	18.17	2.66	30	
1,4-Dioxane		15.50	0.50	20	0	77.5	65	135	16.6	6.85	30	
2-Butanone (MEK)		19.26	0.50	20	0	96.3	65	135	19.19	0.364	30	
2-Hexanone		15.37	0.50	20	0	76.8	65	135	15.45	0.519	30	
4-Ethyl Toluene		16.38	0.50	20	0	81.9	65	135	16.24	0.858	30	
4-Methyl-2-Pentanone (MIBK)		16.71	0.50	20	0	83.6	65	135	17.13	2.48	30	
Acetone		23.65	4.0	20	0	118	65	135	22.72	4.01	30	
Benzene		21.51	0.50	20	0	108	65	135	21.16	1.64	30	
Bromodichloromethane		18.35	0.50	20	0	91.8	65	135	19.11	4.06	30	
Bromoform		17.09	0.50	20	0	85.4	65	135	16.73	2.13	30	
Bromomethane		19.72	0.50	20	0	98.6	65	135	18.56	6.06	30	
Carbon Disulfide		19.80	0.50	20	0	99.0	65	135	18.95	4.39	30	
Carbon Tetrachloride		18.89	0.50	20	0	94.4	65	135	18.94	0.264	30	
Chlorobenzene		21.65	0.50	20	0	108	65	135	21.12	2.48	30	
Chloroethane		18.66	0.50	20	0	93.3	65	135	18.07	3.21	30	
Chloroform		20.25	0.50	20	0	101	65	135	19.83	2.10	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R18395**

Sample ID	LCSD-R18395	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/10/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	R18395	TestNo:	TO-15	Analysis Date:			1/10/2009	SeqNo:	264676	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		18.78	0.50	20	0	93.9	65	135	18.67	0.587	30	
cis-1,2-dichloroethene		20.97	0.50	20	0	105	65	135	20.34	3.05	30	
cis-1,3-Dichloropropene		18.86	0.50	20	0	94.3	65	135	19.87	5.22	30	
Dibromochloromethane		18.01	0.50	20	0	90.0	65	135	17.35	3.73	30	
Diisopropyl ether (DIPE)		19.20	0.50	20	0	96.0	65	135	19.05	0.784	30	
Ethyl Acetate		18.38	0.50	20	0	91.9	65	135	18.58	1.08	30	
Ethyl Benzene		19.93	0.50	20	0	99.7	65	135	19.74	0.958	30	
Ethyl tert-butyl ether (ETBE)		19.00	0.50	20	0	95.0	65	135	18.03	5.24	30	
Freon 113		19.09	0.50	20	0	95.4	65	135	18.31	4.17	30	
Hexachlorobutadiene		15.66	0.50	20	0	78.3	65	135	15.71	0.319	30	
Hexane		19.70	2.0	20	0	98.5	65	135	19.36	1.74	30	
Isopropanol		18.96	4.0	20	0	94.8	65	135	19.41	2.35	30	
m,p-Xylene		39.58	0.50	40	0	99.0	65	135	38.49	2.79	30	
Methylene Chloride		20.23	1.0	20	0	101	65	135	19.57	3.32	30	
MTBE		17.80	0.50	20	0	89.0	65	135	17.2	3.43	30	
Naphthalene		16.72	0.50	20	0	83.6	65	135	16.44	1.69	30	
o-xylene		19.56	0.50	20	0	97.8	65	135	19.05	2.64	30	
Styrene		18.61	0.50	20	0	93.0	65	135	18.68	0.375	30	
t-Butyl alcohol (t-Butanol)		16.15	2.0	20	0	80.8	65	135	15.34	5.14	30	
tert-Amyl methyl ether (TAME)		15.00	0.50	20	0	75.0	65	135	14.65	2.36	30	
Tetrachloroethene		19.25	0.50	20	0	96.2	65	135	18.23	5.44	30	
Toluene		18.27	0.50	20	0	91.4	65	135	19.3	5.48	30	
trans-1,2-Dichloroethene		20.07	0.50	20	0	100	65	135	20.44	1.83	30	
Trichloroethene		19.26	0.50	20	0	96.3	65	135	19.71	2.31	30	
Trichlorofluoromethane		21.04	0.50	20	0	105	65	135	20.45	2.84	30	
Vinyl Acetate		20.71	0.50	20	0	104	65	135	21.11	1.91	30	
Vinyl Chloride		22.09	0.50	20	0	110	65	135	19.14	14.3	30	
Surr: 4-Bromofluorobenzene		19.79	0	20	0	99.0	65	135	0	0	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** S18395

Sample ID	MB-S18395	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/12/2009	RunNo:	18395		
Client ID:	ZZZZZ	Batch ID:	S18395	TestNo:	TO-15			Analysis Date:	1/12/2009	SeqNo:	264943		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		ND			0.50								
1,1,1,2-Tetrachloroethane		ND			0.50								
1,1,1-Trichloroethane		ND			0.50								
1,1,2,2-Tetrachloroethane		ND			0.50								
1,1,2-Trichloroethane		ND			0.50								
1,1-Dichloroethane		ND			0.50								
1,2,4-Trichlorobenzene		ND			0.50								
1,2,4-Trimethylbenzene		ND			0.50								
1,2-Dibromoethane(Ethylene dibromide)		ND			0.50								
1,2-Dichlorobenzene		ND			0.50								
1,2-Dichloroethane		ND			0.50								
1,2-Dichloropropane		ND			0.50								
1,3,5-Trimethylbenzene		ND			0.50								
1,3-Butadiene		ND			2.0								
1,3-Dichlorobenzene		ND			0.50								
1,4-Dichlorobenzene		ND			0.50								
1,4-Dioxane		ND			0.50								
2-Butanone (MEK)		ND			0.50								
2-Hexanone		ND			0.50								
4-Ethyl Toluene		ND			0.50								
4-Methyl-2-Pentanone (MIBK)		ND			0.50								
Acetone		ND			4.0								
Benzene		ND			0.50								
Bromodichloromethane		ND			0.50								
Bromoform		ND			0.50								
Bromomethane		ND			0.50								
Carbon Disulfide		ND			0.50								
Carbon Tetrachloride		ND			0.50								
Chlorobenzene		ND			0.50								
Chloroethane		ND			0.50								
Chloroform		ND			0.50								

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

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**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** S18395

Sample ID	MB-S18395	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/12/2009	RunNo:	18395		
Client ID:	ZZZZZ	Batch ID:	S18395	TestNo:	TO-15			Analysis Date:	1/12/2009	SeqNo:	264943		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		ND		0.50									
cis-1,2-dichloroethene		ND		0.50									
cis-1,3-Dichloropropene		ND		0.50									
Dibromochloromethane		ND		0.50									
Dichlorodifluoromethane		ND		0.50									
Diisopropyl ether (DIPE)		ND		0.50									
Ethyl Acetate		ND		0.50									
Ethyl Benzene		ND		0.50									
Ethyl tert-butyl ether (ETBE)		ND		0.50									
Freon 113		ND		0.50									
Hexachlorobutadiene		ND		0.50									
Hexane		ND		2.0									
Isopropanol		ND		4.0									
m,p-Xylene		ND		0.50									
Methylene Chloride		ND		1.0									
MTBE		ND		0.50									
Naphthalene		ND		0.50									
o-xylene		ND		0.50									
Styrene		ND		0.50									
t-Butyl alcohol (t-Butanol)		ND		2.0									
tert-Amyl methyl ether (TAME)		ND		0.50									
Tetrachloroethene		ND		0.50									
Toluene		ND		0.50									
trans-1,2-Dichloroethene		ND		0.50									
Trichloroethene		ND		0.50									
Trichlorofluoromethane		ND		0.50									
Vinyl Acetate		ND		0.50									
Vinyl Chloride		ND		0.50									
Surr: 4-Bromofluorobenzene		18.56		0	20	0	92.8	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

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R RPD outside accepted recovery limits

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S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** S18395

Sample ID	LCS-S18395	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/12/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	S18395	TestNo:	TO-15			Analysis Date:	1/12/2009	SeqNo:	264944	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		22.52	0.50	20	0	113	65	135				
1,1,1,2-Tetrachloroethane		16.92	0.50	20	0	84.6	65	135				
1,1,1-Trichloroethane		20.98	0.50	20	0	105	65	135				
1,1,2,2-Tetrachloroethane		18.38	0.50	20	0	91.9	65	135				
1,1,2-Trichloroethane		18.72	0.50	20	0	93.6	65	135				
1,1-Dichloroethane		22.52	0.50	20	0	113	65	135				
1,2,4-Trichlorobenzene		15.29	0.50	20	0	76.5	65	135				
1,2,4-Trimethylbenzene		17.53	0.50	20	0	87.6	65	135				
1,2-Dibromoethane(Ethylene dibromide)		18.39	0.50	20	0	92.0	65	135				
1,2-Dichlorobenzene		18.36	0.50	20	0	91.8	65	135				
1,2-Dichloroethane		17.52	0.50	20	0	87.6	65	135				
1,2-Dichloropropane		20.13	0.50	20	0	101	65	135				
1,3,5-Trimethylbenzene		18.16	0.50	20	0	90.8	65	135				
1,3-Butadiene		21.01	2.0	20	0	105	65	135				
1,3-Dichlorobenzene		18.38	0.50	20	0	91.9	65	135				
1,4-Dichlorobenzene		18.90	0.50	20	0	94.5	65	135				
1,4-Dioxane		15.43	0.50	20	0	77.2	65	135				
2-Butanone (MEK)		16.68	0.50	20	0	83.4	65	135				
2-Hexanone		14.50	0.50	20	0	72.5	65	135				
4-Ethyl Toluene		17.26	0.50	20	0	86.3	65	135				
4-Methyl-2-Pentanone (MIBK)		15.75	0.50	20	0	78.8	65	135				
Acetone		22.91	4.0	20	0	115	65	135				
Benzene		22.20	0.50	20	0	111	65	135				
Bromodichloromethane		18.30	0.50	20	0	91.5	65	135				
Bromoform		15.78	0.50	20	0	78.9	65	135				
Bromomethane		23.08	0.50	20	0	115	65	135				
Carbon Disulfide		22.68	0.50	20	0	113	65	135				
Carbon Tetrachloride		20.63	0.50	20	0	103	65	135				
Chlorobenzene		20.85	0.50	20	0	104	65	135				
Chloroethane		21.23	0.50	20	0	106	65	135				
Chloroform		21.68	0.50	20	0	108	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

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R RPD outside accepted recovery limits

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S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** S18395

Sample ID	LCS-S18395	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/12/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	S18395	TestNo:	TO-15			Analysis Date:	1/12/2009	SeqNo:	264944	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		22.11	0.50	20	0	111	65	135				
cis-1,2-dichloroethene		21.88	0.50	20	0	109	65	135				
cis-1,3-Dichloropropene		17.89	0.50	20	0	89.4	65	135				
Dibromochloromethane		18.39	0.50	20	0	92.0	65	135				
Diisopropyl ether (DIPE)		18.60	0.50	20	0	93.0	65	135				
Ethyl Acetate		17.73	0.50	20	0	88.6	65	135				
Ethyl Benzene		19.05	0.50	20	0	95.2	65	135				
Ethyl tert-butyl ether (ETBE)		21.24	0.50	20	0	106	65	135				
Freon 113		20.41	0.50	20	0	102	65	135				
Hexachlorobutadiene		14.05	0.50	20	0	70.2	65	135				
Hexane		20.86	2.0	20	0	104	65	135				
Isopropanol		18.45	4.0	20	0	92.2	65	135				
m,p-Xylene		37.95	0.50	40	0	94.9	65	135				
Methylene Chloride		21.92	1.0	20	0	110	65	135				
MTBE		20.95	0.50	20	0	105	65	135				
Naphthalene		15.14	0.50	20	0	75.7	65	135				
o-xylene		18.63	0.50	20	0	93.2	65	135				
Styrene		18.37	0.50	20	0	91.8	65	135				
t-Butyl alcohol (t-Butanol)		19.13	2.0	20	0	95.7	65	135				
tert-Amyl methyl ether (TAME)		16.50	0.50	20	0	82.5	65	135				
Tetrachloroethene		18.67	0.50	20	0	93.4	65	135				
Toluene		17.10	0.50	20	0	85.5	65	135				
trans-1,2-Dichloroethene		22.40	0.50	20	0	112	65	135				
Trichloroethene		19.13	0.50	20	0	95.7	65	135				
Trichlorofluoromethane		21.19	0.50	20	0	106	65	135				
Vinyl Acetate		21.17	0.50	20	0	106	65	135				
Vinyl Chloride		24.55	0.50	20	0	123	65	135				
Surr: 4-Bromofluorobenzene		17.50	0	20	0	87.5	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** S18395

Sample ID	LCSD-S18395	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/12/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	S18395	TestNo:	TO-15			Analysis Date:	1/12/2009	SeqNo:	264945	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		21.16	0.50	20	0	106	65	135	22.52	6.23	30	
1,1,1,2-Tetrachloroethane		17.38	0.50	20	0	86.9	65	135	16.92	2.68	30	
1,1,1-Trichloroethane		21.37	0.50	20	0	107	65	135	20.98	1.84	30	
1,1,2,2-Tetrachloroethane		18.12	0.50	20	0	90.6	65	135	18.38	1.42	30	
1,1,2-Trichloroethane		17.89	0.50	20	0	89.4	65	135	18.72	4.53	30	
1,1-Dichloroethane		21.96	0.50	20	0	110	65	135	22.52	2.52	30	
1,2,4-Trichlorobenzene		15.00	0.50	20	0	75.0	65	135	15.29	1.91	30	
1,2,4-Trimethylbenzene		17.87	0.50	20	0	89.4	65	135	17.53	1.92	30	
1,2-Dibromoethane(Ethylene dibromide)		18.25	0.50	20	0	91.2	65	135	18.39	0.764	30	
1,2-Dichlorobenzene		17.83	0.50	20	0	89.2	65	135	18.36	2.93	30	
1,2-Dichloroethane		18.87	0.50	20	0	94.4	65	135	17.52	7.42	30	
1,2-Dichloropropane		19.81	0.50	20	0	99.0	65	135	20.13	1.60	30	
1,3,5-Trimethylbenzene		17.90	0.50	20	0	89.5	65	135	18.16	1.44	30	
1,3-Butadiene		19.89	2.0	20	0	99.4	65	135	21.01	5.48	30	
1,3-Dichlorobenzene		18.19	0.50	20	0	91.0	65	135	18.38	1.04	30	
1,4-Dichlorobenzene		18.67	0.50	20	0	93.4	65	135	18.9	1.22	30	
1,4-Dioxane		17.20	0.50	20	0	86.0	65	135	15.43	10.8	30	
2-Butanone (MEK)		18.72	0.50	20	0	93.6	65	135	16.68	11.5	30	
2-Hexanone		14.22	0.50	20	0	71.1	65	135	14.5	1.95	30	
4-Ethyl Toluene		17.13	0.50	20	0	85.7	65	135	17.26	0.756	30	
4-Methyl-2-Pentanone (MIBK)		16.03	0.50	20	0	80.2	65	135	15.75	1.76	30	
Acetone		22.96	4.0	20	0	115	65	135	22.91	0.218	30	
Benzene		21.93	0.50	20	0	110	65	135	22.2	1.22	30	
Bromodichloromethane		18.36	0.50	20	0	91.8	65	135	18.3	0.327	30	
Bromoform		15.90	0.50	20	0	79.5	65	135	15.78	0.758	30	
Bromomethane		21.21	0.50	20	0	106	65	135	23.08	8.44	30	
Carbon Disulfide		17.84	0.50	20	0	89.2	65	135	22.68	23.9	30	
Carbon Tetrachloride		20.71	0.50	20	0	104	65	135	20.63	0.387	30	
Chlorobenzene		20.51	0.50	20	0	103	65	135	20.85	1.64	30	
Chloroethane		17.65	0.50	20	0	88.2	65	135	21.23	18.4	30	
Chloroform		18.28	0.50	20	0	91.4	65	135	21.68	17.0	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0901027  
**Project:** 2514/3815 Broadway, Oakland

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** S18395

Sample ID	LCSD-S18395	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	1/12/2009	RunNo:	18395	
Client ID:	ZZZZZ	Batch ID:	S18395	TestNo:	TO-15			Analysis Date:	1/12/2009	SeqNo:	264945	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		18.51	0.50	20	0	92.6	65	135	22.11	17.7	30	
cis-1,2-dichloroethene		21.01	0.50	20	0	105	65	135	21.88	4.06	30	
cis-1,3-Dichloropropene		18.14	0.50	20	0	90.7	65	135	17.89	1.39	30	
Dibromochloromethane		17.97	0.50	20	0	89.8	65	135	18.39	2.31	30	
Diisopropyl ether (DIPE)		19.48	0.50	20	0	97.4	65	135	18.6	4.62	30	
Ethyl Acetate		17.58	0.50	20	0	87.9	65	135	17.73	0.850	30	
Ethyl Benzene		19.16	0.50	20	0	95.8	65	135	19.05	0.576	30	
Ethyl tert-butyl ether (ETBE)		20.83	0.50	20	0	104	65	135	21.24	1.95	30	
Freon 113		20.65	0.50	20	0	103	65	135	20.41	1.17	30	
Hexachlorobutadiene		14.68	0.50	20	0	73.4	65	135	14.05	4.39	30	
Hexane		19.93	2.0	20	0	99.7	65	135	20.86	4.56	30	
Isopropanol		18.31	4.0	20	0	91.6	65	135	18.45	0.762	30	
m,p-Xylene		38.18	0.50	40	0	95.4	65	135	37.95	0.604	30	
Methylene Chloride		20.67	1.0	20	0	103	65	135	21.92	5.87	30	
MTBE		21.09	0.50	20	0	105	65	135	20.95	0.666	30	
Naphthalene		15.26	0.50	20	0	76.3	65	135	15.14	0.789	30	
o-xylene		18.93	0.50	20	0	94.6	65	135	18.63	1.60	30	
Styrene		18.44	0.50	20	0	92.2	65	135	18.37	0.380	30	
t-Butyl alcohol (t-Butanol)		19.28	2.0	20	0	96.4	65	135	19.13	0.781	30	
tert-Amyl methyl ether (TAME)		17.17	0.50	20	0	85.8	65	135	16.5	3.98	30	
Tetrachloroethene		18.14	0.50	20	0	90.7	65	135	18.67	2.88	30	
Toluene		18.41	0.50	20	0	92.0	65	135	17.1	7.38	30	
trans-1,2-Dichloroethene		21.33	0.50	20	0	107	65	135	22.4	4.89	30	
Trichloroethene		19.13	0.50	20	0	95.7	65	135	19.13	0	30	
Trichlorofluoromethane		19.64	0.50	20	0	98.2	65	135	21.19	7.59	30	
Vinyl Acetate		20.04	0.50	20	0	100	65	135	21.17	5.48	30	
Vinyl Chloride		22.93	0.50	20	0	115	65	135	24.55	6.82	30	
Surr: 4-Bromofluorobenzene		18.04	0	20	0	90.2	65	135	0	0	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits



483 Sinclair Frontage Road  
Milpitas, CA 95035  
Phone: 408.263.5258   
FAX: 408.263.8293  
www.torrentlab.com

# CHAIN OF CUSTODY

**[NOTE: SHADED AREAS ARE FOR TORRENT LAB USE ONLY.]**

LAB WORK ORDER NO

0901027

Company Name: <b>SOMA Environmental Engineering, Inc.</b>			Location of Sampling: <b>3815 Broadway, Oakland</b>		
Address: <b>6620 Owens Drive, Suite A</b>			Purpose: <b>soil vapor extraction pilot test</b>		
City: <b>Pleasanton</b>	State: <b>CA</b>	Zip Code: <b>94588</b>	Special Instructions / Comments: <b>dry cleaning site</b>		
Telephone: <b>925-734-6400</b>	FAX: <b>925-734-6401</b>				
REPORT TO: <b>Joyce Bobek</b>	SAMPLER: <b>Jesse Acedillo</b>	P.O. #: <b>2514</b>			EMAIL: <b>jbobek@somaenv.com</b>

**TURNAROUND TIME:**

- 10 Work Days    3 Work Days    Noon - Nxt Day  
 7 Work Days    2 Work Days    2 - 8 Hours  
 5 Work Days    1 Work Day    Other

**SAMPLE TYPE:**

- Storm Water    Air  
 Waste Water    Other  
 Ground Water   *Soil Vapor*  
 Soil

**REPORT FORMAT:**

- QC Level IV  
 EDF  
 Excel / EDD

TO-3, TPH-gas, ss

TO-15 - full list

ANALYSIS REQUESTED

LAB ID	CLIENT'S SAMPLE I.D.	DATE / TIME SAMPLED	MATRIX	# OF CONT	CONT TYPE	REMARKS	
001A	Effluent - Composite	1/7/09 @ 0700	air	1	tedlar	✓	✓
002A	Midpoint - Composite	1/7/09 @ 0710	air	1	tedlar	✓	✓
003A	Influent - Composite	1/7/09 @ 0720	air	1	tedlar	✓	✓

1 Relinquished By: <i>Jesse Acedillo</i> Print: <b>Jesse Acedillo</b>	Date: <b>1/9/09</b>	Time: <b>0830</b>	Received By: <i>Joyce Bobek</i> Print: <b>Joyce Bobek</b>	Date: <b>1/9/09</b>	Time: <b>0830</b>
2 Relinquished By: <i>Joyce Bobek</i> Print: <b>Joyce Bobek</b>	Date: <b>1/1/09</b>	Time: <b>11:25</b>	Received By: <i>C Moore</i> Print: <b>C Moore</b>	Date: <b>1/5/09</b>	Time: <b>11:25</b>

Were Samples Received in Good Condition?  Yes  No   Samples on Ice?  Yes  No   Method of Shipment \_\_\_\_\_   Sample seals intact?  Yes  No  N/A

NOTE: Samples are discarded by the laboratory 30 days from date of receipt unless other arrangements are made.

Log In By: *C Moore*

Date: **1/9**

Log In Reviewed By: *Ray Kaur*

Date: **1/9/09**

Page **1** of **1**

1:31pm

H.S.



March 23, 2009

Joyce Bobek  
Soma Environmental Engineering, Inc.  
6620 Owens Dr. Suite A  
Pleasanton, CA 94588  
TEL: (925) 734-6400  
FAX (925) 734-6401

RE: 2515

Order No.: 0903076

Dear Joyce Bobek:

Torrent Laboratory, Inc. received 2 samples on 3/13/2009 for the analyses presented in the following report.

All data for associated QC met EPA or laboratory specification(s) except where noted in the case narrative.

Reported data is applicable for only the samples received as part of the order number referenced above.

Torrent Laboratory, Inc, is certified by the State of California, ELAP #1991. If you have any questions regarding these tests results, please feel free to contact the Project Management Team at (408)263-5258;ext: 204.

Sincerely,

  
Butch Glazier  
Laboratory Director

3/23/09  
Date



# TORRENT LABORATORY, INC.

483 Sinclair Frontage Road • Milpitas, CA • Phone: (408) 263-5258 • Fax: (408) 263-8293

Visit us at [www.torrentlab.com](http://www.torrentlab.com) email: [analysis@torrentlab.com](mailto:analysis@torrentlab.com)

Report prepared for: Joyce Bobek  
Soma Environmental Engineering, Inc.

Date Received: 3/13/2009

Date Reported: 3/23/2009

**Client Sample ID:** SOMA-2 EFF      **Lab Sample ID:** 0903076-001  
**Sample Location:** 3815 Broadway, Oakland      **Date Prepared:**  
**Sample Matrix:** AIR  
**Date/Time Sampled** 3/10/2009 2:45:00 PM

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	3/13/2009	1.99	2.5	5.0	ND	µg/m³	R18963
1,1,1,2-Tetrachloroethane	TO-15	3/13/2009	3.44	2.5	8.6	ND	µg/m³	R18963
1,1,1-Trichloroethane	TO-15	3/13/2009	2.73	2.5	6.8	ND	µg/m³	R18963
1,1,2,2-Tetrachloroethane	TO-15	3/13/2009	3.44	2.5	8.6	ND	µg/m³	R18963
1,1,2-Trichloroethane	TO-15	3/13/2009	2.73	2.5	6.8	ND	µg/m³	R18963
1,1-Dichloroethane	TO-15	3/13/2009	2.03	2.5	5.1	ND	µg/m³	R18963
1,1-Difluoroethane	TO-15	3/13/2009	27	2.5	68	ND	µg/m³	R18963
1,2,4-Trichlorobenzene	TO-15	3/13/2009	3.56	2.5	8.9	ND	µg/m³	R18963
1,2,4-Trimethylbenzene	TO-15	3/13/2009	2.46	2.5	6.2	ND	µg/m³	R18963
1,2-Dibromoethane(Ethylene dibromide)	TO-15	3/13/2009	3.84	2.5	9.6	ND	µg/m³	R18963
1,2-Dichlorobenzene	TO-15	3/13/2009	3.01	2.5	7.5	ND	µg/m³	R18963
1,2-Dichloroethane	TO-15	3/13/2009	2.03	2.5	5.1	ND	µg/m³	R18963
1,2-Dichloropropane	TO-15	3/13/2009	2.31	2.5	5.8	ND	µg/m³	R18963
1,3,5-Trimethylbenzene	TO-15	3/13/2009	2.46	2.5	6.2	ND	µg/m³	R18963
1,3-Butadiene	TO-15	3/13/2009	4.44	2.5	11	ND	µg/m³	R18963
1,3-Dichlorobenzene	TO-15	3/13/2009	3.01	2.5	7.5	ND	µg/m³	R18963
1,4-Dichlorobenzene	TO-15	3/13/2009	3.01	2.5	7.5	ND	µg/m³	R18963
1,4-Dioxane	TO-15	3/13/2009	1.8	2.5	4.5	ND	µg/m³	R18963
2-Butanone (MEK)	TO-15	3/13/2009	1.48	2.5	3.7	39	µg/m³	R18963
2-Hexanone	TO-15	3/13/2009	2.05	2.5	5.1	ND	µg/m³	R18963
4-Ethyl Toluene	TO-15	3/13/2009	2.46	2.5	6.2	ND	µg/m³	R18963
4-Methyl-2-Pentanone (MIBK)	TO-15	3/13/2009	2.05	2.5	5.1	ND	µg/m³	R18963
Acetone	TO-15	3/13/2009	9.52	2.5	24	82	µg/m³	R18963
Benzene	TO-15	3/13/2009	1.6	2.5	4.0	ND	µg/m³	R18963
Bromodichloromethane	TO-15	3/13/2009	3.35	2.5	8.4	ND	µg/m³	R18963
Bromoform	TO-15	3/13/2009	5.17	2.5	13	ND	µg/m³	R18963
Bromomethane	TO-15	3/13/2009	1.94	2.5	4.8	ND	µg/m³	R18963
Carbon Disulfide	TO-15	3/13/2009	1.56	2.5	3.9	ND	µg/m³	R18963
Carbon Tetrachloride	TO-15	3/13/2009	3.15	2.5	7.9	ND	µg/m³	R18963
Chlorobenzene	TO-15	3/13/2009	2.3	2.5	5.8	ND	µg/m³	R18963
Chloroethane	TO-15	3/13/2009	1.32	2.5	3.3	ND	µg/m³	R18963
Chloroform	TO-15	3/13/2009	2.44	2.5	6.1	ND	µg/m³	R18963
Chloromethane	TO-15	3/13/2009	1.04	2.5	2.6	ND	µg/m³	R18963
cis-1,2-dichloroethene	TO-15	3/13/2009	1.98	2.5	5.0	ND	µg/m³	R18963
cis-1,3-Dichloropropene	TO-15	3/13/2009	2.27	2.5	5.7	ND	µg/m³	R18963
Dibromochloromethane	TO-15	3/13/2009	4.26	2.5	11	ND	µg/m³	R18963

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 3/13/2009  
**Date Reported:** 3/23/2009

<b>Client Sample ID:</b>	SOMA-2 EFF	<b>Lab Sample ID:</b>	0903076-001
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	AIR		
<b>Date/Time Sampled</b>	3/10/2009 2:45:00 PM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Dichlorodifluoromethane	TO-15	3/13/2009	2.48	2.5	6.2	ND	µg/m³	R18963
Diisopropyl ether (DIPE)	TO-15	3/13/2009	2.09	2.5	5.2	ND	µg/m³	R18963
Ethyl Acetate	TO-15	3/13/2009	1.8	2.5	4.5	ND	µg/m³	R18963
Ethyl Benzene	TO-15	3/13/2009	2.17	2.5	5.4	ND	µg/m³	R18963
Ethyl tert-butyl ether (ETBE)	TO-15	3/13/2009	2.09	2.5	5.2	ND	µg/m³	R18963
Freon 113	TO-15	3/13/2009	3.83	2.5	9.6	ND	µg/m³	R18963
Hexachlorobutadiene	TO-15	3/13/2009	5.34	2.5	13	ND	µg/m³	R18963
Hexane	TO-15	3/13/2009	14.1	2.5	35	ND	µg/m³	R18963
Isopropanol	TO-15	3/13/2009	16.4	2.5	41	ND	µg/m³	R18963
m,p-Xylene	TO-15	3/13/2009	2.05	2.5	5.1	ND	µg/m³	R18963
Methylene Chloride	TO-15	3/13/2009	3.61	2.5	9.0	ND	µg/m³	R18963
MTBE	TO-15	3/13/2009	1.81	2.5	4.5	ND	µg/m³	R18963
Naphthalene	TO-15	3/13/2009	2.62	2.5	6.6	ND	µg/m³	R18963
o-xylene	TO-15	3/13/2009	2.17	2.5	5.4	ND	µg/m³	R18963
Styrene	TO-15	3/13/2009	2.13	2.5	5.3	ND	µg/m³	R18963
t-Butyl alcohol (t-Butanol)	TO-15	3/13/2009	6.06	2.5	15	ND	µg/m³	R18963
tert-Amyl methyl ether (TAME)	TO-15	3/13/2009	2.09	2.5	5.2	ND	µg/m³	R18963
Tetrachloroethene	TO-15	3/13/2009	3.39	2.5	8.5	ND	µg/m³	R18963
Toluene	TO-15	3/13/2009	1.89	2.5	4.7	6.6	µg/m³	R18963
trans-1,2-Dichloroethene	TO-15	3/13/2009	1.98	2.5	5.0	ND	µg/m³	R18963
Trichloroethene	TO-15	3/13/2009	2.69	2.5	6.7	ND	µg/m³	R18963
Trichlorofluoromethane	TO-15	3/13/2009	2.48	2.5	6.2	ND	µg/m³	R18963
Vinyl Acetate	TO-15	3/13/2009	1.76	2.5	4.4	ND	µg/m³	R18963
Vinyl Chloride	TO-15	3/13/2009	1.28	2.5	3.2	ND	µg/m³	R18963
Surr: 4-Bromofluorobenzene	TO-15	3/13/2009	0	2.5	65-135	87.6	%REC	R18963
Gasoline	TO-3(MOD)	3/13/2009	352	5	1800	ND	µg/m³	G18963
Stoddard Solvent (C7-C12)	TO-3(MOD)	3/13/2009	352	5	1800	1800x	µg/m³	G18963

Note: x - Sample chromatogram does not resemble Stoddard solvent standard pattern. Reported value due to individual peaks within Stoddard solvent range.

**Report prepared for:** Joyce Bobek

Soma Environmental Engineering, Inc.

**Date Received:** 3/13/2009

**Date Reported:** 3/23/2009

<b>Client Sample ID:</b>	SOMA-2 INF	<b>Lab Sample ID:</b>	0903076-002
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	AIR		
<b>Date/Time Sampled</b>	3/10/2009 2:50:00 PM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
1,1 - Dichloroethene	TO-15	3/13/2009	1.99	2500	5000	ND	µg/m³	R18963
1,1,1,2-Tetrachloroethane	TO-15	3/13/2009	3.44	2500	8600	ND	µg/m³	R18963
1,1,1-Trichloroethane	TO-15	3/13/2009	2.73	2500	6800	ND	µg/m³	R18963
1,1,2,2-Tetrachloroethane	TO-15	3/13/2009	3.44	2500	8600	ND	µg/m³	R18963
1,1,2-Trichloroethane	TO-15	3/13/2009	2.73	2500	6800	ND	µg/m³	R18963
1,1-Dichloroethane	TO-15	3/13/2009	2.03	2500	5100	ND	µg/m³	R18963
1,1-Difluoroethane	TO-15	3/13/2009	27	2500	68000	ND	µg/m³	R18963
1,2,4-Trichlorobenzene	TO-15	3/13/2009	3.56	2500	8900	ND	µg/m³	R18963
1,2,4-Trimethylbenzene	TO-15	3/13/2009	2.46	2500	6200	ND	µg/m³	R18963
1,2-Dibromoethane(Ethylene dibromide)	TO-15	3/13/2009	3.84	2500	9600	ND	µg/m³	R18963
1,2-Dichlorobenzene	TO-15	3/13/2009	3.01	2500	7500	ND	µg/m³	R18963
1,2-Dichloroethane	TO-15	3/13/2009	2.03	2500	5100	ND	µg/m³	R18963
1,2-Dichloropropane	TO-15	3/13/2009	2.31	2500	5800	ND	µg/m³	R18963
1,3,5-Trimethylbenzene	TO-15	3/13/2009	2.46	2500	6200	ND	µg/m³	R18963
1,3-Butadiene	TO-15	3/13/2009	4.44	2500	11000	ND	µg/m³	R18963
1,3-Dichlorobenzene	TO-15	3/13/2009	3.01	2500	7500	ND	µg/m³	R18963
1,4-Dichlorobenzene	TO-15	3/13/2009	3.01	2500	7500	ND	µg/m³	R18963
1,4-Dioxane	TO-15	3/13/2009	1.8	2500	4500	ND	µg/m³	R18963
2-Butanone (MEK)	TO-15	3/13/2009	1.48	2500	3700	ND	µg/m³	R18963
2-Hexanone	TO-15	3/13/2009	2.05	2500	5100	ND	µg/m³	R18963
4-Ethyl Toluene	TO-15	3/13/2009	2.46	2500	6200	ND	µg/m³	R18963
4-Methyl-2-Pentanone (MIBK)	TO-15	3/13/2009	2.05	2500	5100	ND	µg/m³	R18963
Acetone	TO-15	3/13/2009	9.52	2500	24000	ND	µg/m³	R18963
Benzene	TO-15	3/13/2009	1.6	2500	4000	ND	µg/m³	R18963
Bromodichloromethane	TO-15	3/13/2009	3.35	2500	8400	ND	µg/m³	R18963
Bromoform	TO-15	3/13/2009	5.17	2500	13000	ND	µg/m³	R18963
Bromomethane	TO-15	3/13/2009	1.94	2500	4800	ND	µg/m³	R18963
Carbon Disulfide	TO-15	3/13/2009	1.56	2500	3900	ND	µg/m³	R18963
Carbon Tetrachloride	TO-15	3/13/2009	3.15	2500	7900	ND	µg/m³	R18963
Chlorobenzene	TO-15	3/13/2009	2.3	2500	5800	ND	µg/m³	R18963
Chloroethane	TO-15	3/13/2009	1.32	2500	3300	ND	µg/m³	R18963
Chloroform	TO-15	3/13/2009	2.44	2500	6100	ND	µg/m³	R18963
Chloromethane	TO-15	3/13/2009	1.04	2500	2600	ND	µg/m³	R18963
cis-1,2-dichloroethene	TO-15	3/13/2009	1.98	2500	5000	18000	µg/m³	R18963
cis-1,3-Dichloropropene	TO-15	3/13/2009	2.27	2500	5700	ND	µg/m³	R18963
Dibromochloromethane	TO-15	3/13/2009	4.26	2500	11000	ND	µg/m³	R18963
Dichlorodifluoromethane	TO-15	3/13/2009	2.48	2500	6200	ND	µg/m³	R18963
Diisopropyl ether (DIPE)	TO-15	3/13/2009	2.09	2500	5200	ND	µg/m³	R18963
Ethyl Acetate	TO-15	3/13/2009	1.8	2500	4500	ND	µg/m³	R18963
Ethyl Benzene	TO-15	3/13/2009	2.17	2500	5400	ND	µg/m³	R18963
Ethyl tert-butyl ether (ETBE)	TO-15	3/13/2009	2.09	2500	5200	ND	µg/m³	R18963
Freon 113	TO-15	3/13/2009	3.83	2500	9600	ND	µg/m³	R18963
Hexachlorobutadiene	TO-15	3/13/2009	5.34	2500	13000	ND	µg/m³	R18963

These analyses were performed according to State  
of California Environmental Laboratory  
Accreditation program, Certificate # 1991

**Report prepared for:** Joyce Bobek  
Soma Environmental Engineering, Inc.

**Date Received:** 3/13/2009  
**Date Reported:** 3/23/2009

<b>Client Sample ID:</b>	SOMA-2 INF	<b>Lab Sample ID:</b>	0903076-002
<b>Sample Location:</b>	3815 Broadway, Oakland	<b>Date Prepared:</b>	
<b>Sample Matrix:</b>	AIR		
<b>Date/Time Sampled</b>	3/10/2009 2:50:00 PM		

Parameters	Analysis Method	Date Analyzed	RL	Dilution Factor	MRL	Result	Units	Analytical Batch
Hexane	TO-15	3/13/2009	14.1	2500	35000	ND	µg/m³	R18963
Isopropanol	TO-15	3/13/2009	16.4	2500	41000	ND	µg/m³	R18963
m,p-Xylene	TO-15	3/13/2009	2.05	2500	5100	ND	µg/m³	R18963
Methylene Chloride	TO-15	3/13/2009	3.61	2500	9000	ND	µg/m³	R18963
MTBE	TO-15	3/13/2009	1.81	2500	4500	ND	µg/m³	R18963
Naphthalene	TO-15	3/13/2009	2.62	2500	6600	ND	µg/m³	R18963
o-xylene	TO-15	3/13/2009	2.17	2500	5400	ND	µg/m³	R18963
Styrene	TO-15	3/13/2009	2.13	2500	5300	ND	µg/m³	R18963
t-Butyl alcohol (t-Butanol)	TO-15	3/13/2009	6.06	2500	15000	ND	µg/m³	R18963
tert-Amyl methyl ether (TAME)	TO-15	3/13/2009	2.09	2500	5200	ND	µg/m³	R18963
Tetrachloroethene	TO-15	3/13/2009	3.39	2500	8500	55000	µg/m³	R18963
Toluene	TO-15	3/13/2009	1.89	2500	4700	ND	µg/m³	R18963
trans-1,2-Dichloroethene	TO-15	3/13/2009	1.98	2500	5000	ND	µg/m³	R18963
Trichloroethene	TO-15	3/13/2009	2.69	2500	6700	ND	µg/m³	R18963
Trichlorofluoromethane	TO-15	3/13/2009	2.48	2500	6200	ND	µg/m³	R18963
Vinyl Acetate	TO-15	3/13/2009	1.76	2500	4400	ND	µg/m³	R18963
Vinyl Chloride	TO-15	3/13/2009	1.28	2500	3200	ND	µg/m³	R18963
Surr: 4-Bromofluorobenzene	TO-15	3/13/2009	0	2500	65-135	87.7	%REC	R18963
Note: The reporting limits were raised due suppression of the internal standards used for peak quantitation. Suppression due to the high concentration of heavy end hydrocarbons within range quantified as Stoddard solvent (see TO-3 data).								
Gasoline	TO-3(MOD)	3/13/2009	352	500	180000	ND	µg/m³	G18963
Stoddard Solvent (C7-C12)	TO-3(MOD)	3/13/2009	352	500	180000	3800000	µg/m³	G18963

**Definitions, legends and Notes**

Note	Description
ug/kg	Microgram per kilogram (ppb, part per billion).
ug/L	Microgram per liter (ppb, part per billion).
mg/kg	Milligram per kilogram (ppm, part per million).
mg/L	Milligram per liter (ppm, part per million).
LCS/LCSD	Laboratory control sample/laboratory control sample duplicate.
MDL	Method detection limit.
MRL	Modified reporting limit. When sample is subject to dilution, reporting limit times dilution factor yields MRL.
MS/MSD	Matrix spike/matrix spike duplicate.
N/A	Not applicable.
ND	Not detected at or above detection limit.
NR	Not reported.
QC	Quality Control.
RL	Reporting limit.
% RPD	Percent relative difference.
a	pH was measured immediately upon the receipt of the sample, but it was still done outside the holding time.
sub	Analyzed by subcontracting laboratory, Lab Certificate #

CLIENT: Soma Environmental Engineering, Inc.

Work Order: 0903076

Project: 2515

**ANALYTICAL QC SUMMARY REPORT****BatchID: G18963**

Sample ID	<b>LCS-G-G18963</b>	SampType:	<b>LCS</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>3/13/2009</b>	RunNo:	<b>18963</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G18963</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>3/13/2009</b>	SeqNo:	<b>273657</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD Limit Qual
Gasoline		470.1	100	500	0	94.0	50	150			
Sample ID	<b>LCSD-G-G18963</b>	SampType:	<b>LCSD</b>	TestCode:	<b>TO-3Gas (MO)</b>	Units:	<b>ppbv</b>	Prep Date:	<b>3/13/2009</b>	RunNo:	<b>18963</b>
Client ID:	<b>ZZZZZ</b>	Batch ID:	<b>G18963</b>	TestNo:	<b>TO-3(MOD)</b>			Analysis Date:	<b>3/13/2009</b>	SeqNo:	<b>273658</b>
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD Limit Qual
Gasoline		475.5	100	500	0	95.1	50	150	470.1	1.14	30

Qualifiers: E Value above quantitation range  
 ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
 S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0903076  
**Project:** 2515

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R18963

Sample ID	MB-R18963	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	3/12/2009	RunNo:	18963		
Client ID:	ZZZZZ	Batch ID:	R18963	TestNo:	TO-15			Analysis Date:	3/12/2009	SeqNo:	273400		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		ND			0.50								
1,1,1,2-Tetrachloroethane		ND			0.50								
1,1,1-Trichloroethane		ND			0.50								
1,1,2,2-Tetrachloroethane		ND			0.50								
1,1,2-Trichloroethane		ND			0.50								
1,1-Dichloroethane		ND			0.50								
1,2,4-Trichlorobenzene		ND			0.50								
1,2,4-Trimethylbenzene		ND			0.50								
1,2-Dibromoethane(Ethylene dibromide)		ND			0.50								
1,2-Dichlorobenzene		ND			0.50								
1,2-Dichloroethane		ND			0.50								
1,2-Dichloropropane		ND			0.50								
1,3,5-Trimethylbenzene		ND			0.50								
1,3-Butadiene		ND			2.0								
1,3-Dichlorobenzene		ND			0.50								
1,4-Dichlorobenzene		ND			0.50								
1,4-Dioxane		ND			0.50								
2-Butanone (MEK)		ND			0.50								
2-Hexanone		ND			0.50								
4-Ethyl Toluene		ND			0.50								
4-Methyl-2-Pentanone (MIBK)		ND			0.50								
Acetone		ND			4.0								
Benzene		ND			0.50								
Bromodichloromethane		ND			0.50								
Bromoform		ND			0.50								
Bromomethane		ND			0.50								
Carbon Disulfide		ND			0.50								
Carbon Tetrachloride		ND			0.50								
Chlorobenzene		ND			0.50								
Chloroethane		ND			0.50								
Chloroform		ND			0.50								

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0903076  
**Project:** 2515

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R18963

Sample ID	MB-R18963	SampType:	MBLK	TestCode:	TO-15	Units:	ppbv	Prep Date:	3/12/2009	RunNo:	18963		
Client ID:	ZZZZZ	Batch ID:	R18963	TestNo:	TO-15			Analysis Date:	3/12/2009	SeqNo:	273400		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		ND		0.50									
cis-1,2-dichloroethene		ND		0.50									
cis-1,3-Dichloropropene		ND		0.50									
Dibromochloromethane		ND		0.50									
Dichlorodifluoromethane		ND		0.50									
Diisopropyl ether (DIPE)		ND		0.50									
Ethyl Acetate		ND		0.50									
Ethyl Benzene		ND		0.50									
Ethyl tert-butyl ether (ETBE)		ND		0.50									
Freon 113		ND		0.50									
Hexachlorobutadiene		ND		0.50									
Hexane		ND		2.0									
Isopropanol		ND		4.0									
m,p-Xylene		ND		0.50									
Methylene Chloride		ND		1.0									
MTBE		ND		0.50									
Naphthalene		ND		0.50									
o-xylene		ND		0.50									
Styrene		ND		0.50									
t-Butyl alcohol (t-Butanol)		ND		2.0									
tert-Amyl methyl ether (TAME)		ND		0.50									
Tetrachloroethene		ND		0.50									
Toluene		ND		0.50									
trans-1,2-Dichloroethene		ND		0.50									
Trichloroethene		ND		0.50									
Trichlorofluoromethane		ND		0.50									
Vinyl Acetate		ND		0.50									
Vinyl Chloride		ND		0.50									
Surr: 4-Bromofluorobenzene		17.82		0	20	0	89.1	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0903076  
**Project:** 2515

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R18963

Sample ID	LCS-R18963	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	3/12/2009	RunNo:	18963	
Client ID:	ZZZZZ	Batch ID:	R18963	TestNo:	TO-15			Analysis Date:	3/12/2009	SeqNo:	273401	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		22.17	0.50	20	0	111	65	135				
1,1,1,2-Tetrachloroethane		20.48	0.50	20	0	102	65	135				
1,1,1-Trichloroethane		20.30	0.50	20	0	102	65	135				
1,1,2,2-Tetrachloroethane		21.40	0.50	20	0	107	65	135				
1,1,2-Trichloroethane		21.31	0.50	20	0	107	65	135				
1,1-Dichloroethane		21.14	0.50	20	0	106	65	135				
1,2,4-Trichlorobenzene		21.58	0.50	20	0	108	65	135				
1,2,4-Trimethylbenzene		20.33	0.50	20	0	102	65	135				
1,2-Dibromoethane(Ethylene dibromide)		19.56	0.50	20	0	97.8	65	135				
1,2-Dichlorobenzene		21.99	0.50	20	0	110	65	135				
1,2-Dichloroethane		19.72	0.50	20	0	98.6	65	135				
1,2-Dichloropropane		20.32	0.50	20	0	102	65	135				
1,3,5-Trimethylbenzene		20.67	0.50	20	0	103	65	135				
1,3-Butadiene		21.82	2.0	20	0	109	65	135				
1,3-Dichlorobenzene		21.86	0.50	20	0	109	65	135				
1,4-Dichlorobenzene		21.42	0.50	20	0	107	65	135				
1,4-Dioxane		19.46	0.50	20	0	97.3	65	135				
2-Butanone (MEK)		21.39	0.50	20	0	107	65	135				
2-Hexanone		19.80	0.50	20	0	99.0	65	135				
4-Ethyl Toluene		20.97	0.50	20	0	105	65	135				
4-Methyl-2-Pentanone (MIBK)		20.07	0.50	20	0	100	65	135				
Acetone		19.30	4.0	20	0	96.5	65	135				
Benzene		21.62	0.50	20	0	108	65	135				
Bromodichloromethane		20.51	0.50	20	0	103	65	135				
Bromoform		20.45	0.50	20	0	102	65	135				
Bromomethane		20.78	0.50	20	0	104	65	135				
Carbon Disulfide		21.22	0.50	20	0	106	65	135				
Carbon Tetrachloride		21.43	0.50	20	0	107	65	135				
Chlorobenzene		21.06	0.50	20	0	105	65	135				
Chloroethane		22.87	0.50	20	0	114	65	135				
Chloroform		21.24	0.50	20	0	106	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0903076  
**Project:** 2515

## ANALYTICAL QC SUMMARY REPORT

**BatchID:** R18963

Sample ID	LCS-R18963	SampType:	LCS	TestCode:	TO-15	Units:	ppbv	Prep Date:	3/12/2009	RunNo:	18963	
Client ID:	ZZZZZ	Batch ID:	R18963	TestNo:	TO-15			Analysis Date:	3/12/2009	SeqNo:	273401	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		24.78	0.50	20	0	124	65	135				
cis-1,2-dichloroethene		22.67	0.50	20	0	113	65	135				
cis-1,3-Dichloropropene		20.40	0.50	20	0	102	65	135				
Dibromochloromethane		20.34	0.50	20	0	102	65	135				
Dichlorodifluoromethane		15.36	0.50	20	0	76.8	65	135				
Diisopropyl ether (DIPE)		22.26	0.50	20	0	111	65	135				
Ethyl Acetate		21.08	0.50	20	0	105	65	135				
Ethyl Benzene		19.58	0.50	20	0	97.9	65	135				
Ethyl tert-butyl ether (ETBE)		22.40	0.50	20	0	112	65	135				
Freon 113		20.53	0.50	20	0	103	65	135				
Hexachlorobutadiene		20.94	0.50	20	0	105	65	135				
Hexane		22.44	2.0	20	0	112	65	135				
Isopropanol		23.01	4.0	20	0	115	65	135				
m,p-Xylene		41.02	0.50	40	0	103	65	135				
Methylene Chloride		22.20	1.0	20	0	111	65	135				
MTBE		21.42	0.50	20	0	107	65	135				
Naphthalene		19.89	0.50	20	0	99.4	65	135				
o-xylene		20.59	0.50	20	0	103	65	135				
Styrene		20.11	0.50	20	0	101	65	135				
t-Butyl alcohol (t-Butanol)		24.02	2.0	20	0	120	65	135				
tert-Amyl methyl ether (TAME)		21.20	0.50	20	0	106	65	135				
Tetrachloroethene		20.98	0.50	20	0	105	65	135				
Toluene		20.99	0.50	20	0	105	65	135				
trans-1,2-Dichloroethene		23.40	0.50	20	0	117	65	135				
Trichloroethene		21.80	0.50	20	0	109	65	135				
Trichlorofluoromethane		25.23	0.50	20	0	126	65	135				
Vinyl Acetate		19.08	0.50	20	0	95.4	65	135				
Vinyl Chloride		20.35	0.50	20	0	102	65	135				
Surr: 4-Bromofluorobenzene		21.19	0	20	0	106	65	135				

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0903076  
**Project:** 2515

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R18963**

Sample ID	LCSD-R18963	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	3/12/2009	RunNo:	18963	
Client ID:	ZZZZZ	Batch ID:	R18963	TestNo:	TO-15	Analysis Date:			3/12/2009	SeqNo:	273402	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1 - Dichloroethene		21.68	0.50	20	0	108	65	135	22.17	2.23	30	
1,1,1,2-Tetrachloroethane		20.59	0.50	20	0	103	65	135	20.48	0.536	30	
1,1,1-Trichloroethane		21.50	0.50	20	0	108	65	135	20.3	5.74	30	
1,1,2,2-Tetrachloroethane		21.75	0.50	20	0	109	65	135	21.4	1.62	30	
1,1,2-Trichloroethane		22.38	0.50	20	0	112	65	135	21.31	4.90	30	
1,1-Dichloroethane		21.73	0.50	20	0	109	65	135	21.14	2.75	30	
1,2,4-Trichlorobenzene		21.95	0.50	20	0	110	65	135	21.58	1.70	30	
1,2,4-Trimethylbenzene		20.89	0.50	20	0	104	65	135	20.33	2.72	30	
1,2-Dibromoethane(Ethylene dibromide)		19.86	0.50	20	0	99.3	65	135	19.56	1.52	30	
1,2-Dichlorobenzene		22.16	0.50	20	0	111	65	135	21.99	0.770	30	
1,2-Dichloroethane		20.12	0.50	20	0	101	65	135	19.72	2.01	30	
1,2-Dichloropropane		21.26	0.50	20	0	106	65	135	20.32	4.52	30	
1,3,5-Trimethylbenzene		21.02	0.50	20	0	105	65	135	20.67	1.68	30	
1,3-Butadiene		22.54	2.0	20	0	113	65	135	21.82	3.25	30	
1,3-Dichlorobenzene		21.92	0.50	20	0	110	65	135	21.86	0.274	30	
1,4-Dichlorobenzene		22.01	0.50	20	0	110	65	135	21.42	2.72	30	
1,4-Dioxane		20.43	0.50	20	0	102	65	135	19.46	4.86	30	
2-Butanone (MEK)		21.66	0.50	20	0	108	65	135	21.39	1.25	30	
2-Hexanone		20.87	0.50	20	0	104	65	135	19.8	5.26	30	
4-Ethyl Toluene		21.14	0.50	20	0	106	65	135	20.97	0.807	30	
4-Methyl-2-Pentanone (MIBK)		19.88	0.50	20	0	99.4	65	135	20.07	0.951	30	
Acetone		20.65	4.0	20	0	103	65	135	19.3	6.76	30	
Benzene		22.18	0.50	20	0	111	65	135	21.62	2.56	30	
Bromodichloromethane		20.84	0.50	20	0	104	65	135	20.51	1.60	30	
Bromoform		20.61	0.50	20	0	103	65	135	20.45	0.779	30	
Bromomethane		20.34	0.50	20	0	102	65	135	20.78	2.14	30	
Carbon Disulfide		21.75	0.50	20	0	109	65	135	21.22	2.47	30	
Carbon Tetrachloride		22.14	0.50	20	0	111	65	135	21.43	3.26	30	
Chlorobenzene		22.12	0.50	20	0	111	65	135	21.06	4.91	30	
Chloroethane		23.44	0.50	20	0	117	65	135	22.87	2.46	30	
Chloroform		20.14	0.50	20	0	101	65	135	21.24	5.32	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

J Analyte detected below quantitation limits  
S Spike Recovery outside accepted recovery limits

**CLIENT:** Soma Environmental Engineering, Inc.  
**Work Order:** 0903076  
**Project:** 2515

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R18963**

Sample ID	LCSD-R18963	SampType:	LCSD	TestCode:	TO-15	Units:	ppbv	Prep Date:	3/12/2009	RunNo:	18963	
Client ID:	ZZZZZ	Batch ID:	R18963	TestNo:	TO-15	Analysis Date:			3/12/2009	SeqNo:	273402	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloromethane		24.90	0.50	20	0	125	65	135	24.78	0.483	30	
cis-1,2-dichloroethene		22.87	0.50	20	0	114	65	135	22.67	0.878	30	
cis-1,3-Dichloropropene		21.45	0.50	20	0	107	65	135	20.4	5.02	30	
Dibromochloromethane		21.08	0.50	20	0	105	65	135	20.34	3.57	30	
Dichlorodifluoromethane		15.54	0.50	20	0	77.7	65	135	15.36	1.17	30	
Diisopropyl ether (DIPE)		23.49	0.50	20	0	117	65	135	22.26	5.38	30	
Ethyl Acetate		21.00	0.50	20	0	105	65	135	21.08	0.380	30	
Ethyl Benzene		20.22	0.50	20	0	101	65	135	19.58	3.22	30	
Ethyl tert-butyl ether (ETBE)		23.00	0.50	20	0	115	65	135	22.4	2.64	30	
Freon 113		21.21	0.50	20	0	106	65	135	20.53	3.26	30	
Hexachlorobutadiene		21.37	0.50	20	0	107	65	135	20.94	2.03	30	
Hexane		22.89	2.0	20	0	114	65	135	22.44	1.99	30	
Isopropanol		23.45	4.0	20	0	117	65	135	23.01	1.89	30	
m,p-Xylene		40.62	0.50	40	0	102	65	135	41.02	0.980	30	
Methylene Chloride		21.92	1.0	20	0	110	65	135	22.2	1.27	30	
MTBE		21.89	0.50	20	0	109	65	135	21.42	2.17	30	
Naphthalene		20.66	0.50	20	0	103	65	135	19.89	3.80	30	
o-xylene		20.84	0.50	20	0	104	65	135	20.59	1.21	30	
Styrene		20.34	0.50	20	0	102	65	135	20.11	1.14	30	
t-Butyl alcohol (t-Butanol)		23.61	2.0	20	0	118	65	135	24.02	1.72	30	
tert-Amyl methyl ether (TAME)		21.57	0.50	20	0	108	65	135	21.2	1.73	30	
Tetrachloroethene		21.37	0.50	20	0	107	65	135	20.98	1.84	30	
Toluene		21.54	0.50	20	0	108	65	135	20.99	2.59	30	
trans-1,2-Dichloroethene		22.03	0.50	20	0	110	65	135	23.4	6.03	30	
Trichloroethene		21.73	0.50	20	0	109	65	135	21.8	0.322	30	
Trichlorofluoromethane		26.26	0.50	20	0	131	65	135	25.23	4.00	30	
Vinyl Acetate		20.83	0.50	20	0	104	65	135	19.08	8.77	30	
Vinyl Chloride		23.88	0.50	20	0	119	65	135	20.35	16.0	30	
Surr: 4-Bromofluorobenzene		20.90	0	20	0	104	65	135	0	0	30	

**Qualifiers:** E Value above quantitation range  
ND Not Detected at the Reporting Limit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

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S Spike Recovery outside accepted recovery limits



# **APPENDIX F**

## **Non-Hazardous Waste Manifest for Groundwater Removal**

GENERATOR	NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number	39013-06	
	5. Generator's Name and Mailing Address <b>MARTHA DEPPER</b> 31 MUTH DR ORINDA CA 94563		Generator's Site Address (if different than mailing address) <b>MARTHA DEPPER</b> 3820 MANILA AVE OAKLAND CA 94609				
	Generator's Phone:						
	6. Transporter 1 Company Name <b>NRC ENVIRONMENTAL SERVICES INC.</b>		U.S. EPA ID Number <b>CAR000003301414</b>				
	7. Transporter 2 Company Name		U.S. EPA ID Number				
	8. Designated Facility Name and Site Address <b>Crosby &amp; Overton, Inc.</b> 1630 W. 17th Street Long Beach CA 90813		U.S. EPA ID Number <b>CAD028408018</b>				
	Facility's Phone: 562-432-6445						
	9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.	
	1. NON-HAZARDOUS WASTE LIQUID (PURGE WATER) (PROFILE# 61545)		No.	Type	14	DM	200
	2.						
	3.						
	4.						
	13. Special Handling Instructions and Additional Information WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT. JOB#/PO#: 39013 CONSULTANT: SGMA ENVIRONMENTAL, 6620 OWENS DRIVE, SUITE A, PLEASANTON, CA. NRCES, 1605 TERRY POINT, ALAMEDA, CA 94501						
	D4677						
	14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.						
	Generator's/Officer's Printed/Typed Name <b>Elizabeth Hightower for SGMA</b>		Signature <b>E. Hightower</b>		Month	Day	Year
					12	08	08
	15. International Shipments		<input type="checkbox"/> Import to U.S.	<input type="checkbox"/> Export from U.S.	Port of entry/exit:		
Transporter Signature (for exports only):		Data leaving U.S.:					
16. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name <b>Gary Scott</b>		Signature <b>Gary Scott</b>		Month	Day	Year	
				12	08	08	
17. Discrepancy							
17a. Discrepancy Indication Space		<input type="checkbox"/> Quantity	<input type="checkbox"/> Type	<input type="checkbox"/> Residue	<input type="checkbox"/> Partial Rejection	<input type="checkbox"/> Full Rejection	
Manifest Reference Number:							
17b. Alternate Facility (or Generator)		U.S. EPA ID Number					
Facility's Phone:							
17c. Signature of Alternate Facility (or Generator)							
135							
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a							
Printed/Typed Name <b>Laura Christensen</b>		Signature <b>Laura Christensen</b>		Month	Day	Year	
				12	15	08	