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**Second Semi-Annual 2005  
Groundwater Monitoring Report  
The Former Glovatorium Facility**

**3820 Manila Avenue  
Oakland, California**

August 15, 2005

Project 2511

Prepared for  
**LOEB & LOEB LLP**  
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Prepared by  
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August 10, 2005

Mr. Jerry Wickham  
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Environmental Health  
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Project: 01-2511  
Alameda County  
AUG 22 2005  
Environmental Health

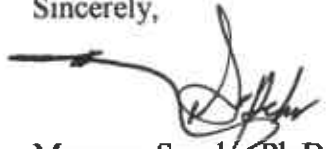
Subject: Site Located at 3820 Manila Avenue, Oakland, California  
Former Glovatorium Facility

Dear Mr. Wickham:

Enclosed for your review is a copy of SOMA's "Second Semi-Annual 2005 Groundwater Monitoring Report" for the subject property.

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,



Mansour Sepela, Ph.D., PE  
Principal Hydrogeologist



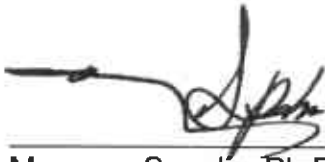
Stuart Depper  
Clean Tech Machinery

Enclosure

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

## Certification

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



Mansour Sepehr, Ph.D., P.E.  
Principal Hydrogeologist



Alameda County  
AUG 22 2005  
Environmental Health

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## 1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) for the Law Offices of LOEB & LOEB LLP on behalf of their client, the owners of the former Glovatorium. The property, the former Glovatorium, is located at 3820 Manila Avenue (formerly known as 3815 Broadway), Oakland, California (the "Site"), as illustrated in Figure 1. The Site is located in an area consisting primarily of commercial and residential uses.

This report summarizes the results of the groundwater monitoring event conducted at the Site on July 5-6, 2005. Included in this report are the laboratory results of the groundwater samples, which were analyzed for:

- Total petroleum hydrocarbons as Stoddard solvents (TPH-ss) and gasoline (TPH-g), using EPA Method 8015;
- Volatile organic compounds (VOCs), such as tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), vinyl chloride, 1,2-dichloropropane and 1,1-dichloroethene, using EPA Method 8260B;
- Benzene, toluene, ethylbenzene, total xylenes (collectively referred to as BTEX), using EPA Method 8260B; and
- Methyl tertiary Butyl Ether (MtBE), using EPA Method 8260B.

In addition to the above laboratory analyses, the natural attenuation study, which was initiated by Levine-Fricke Recon (LFR) in the Third Quarter of 2000, continued during this monitoring event. The objective of the natural attenuation study was to evaluate whether PCE and other 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. The results of these analyses are also described in this report.

These activities were performed in accordance with the general guidelines of the Regional Water Quality Control Board (RWQCB) and the Alameda County Environmental Health Services (ACEHS).

This work is needed to determine the nature and extent of the environmental contamination and whether contamination is affecting the neighboring Thompson property. This information is needed to defend against the claim Mr. Thompson brought against the owners of the Glovatorium, the Deppers. This work may also provide data that can help determine when the releases occurred, which is significant in defending against the claims brought by a former owner of the property, Ms. Johnson.

## 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. The ground surface at the Site is covered with concrete and asphalt and slopes gently southwest, with surface elevations ranging from approximately 78 to 84 feet above mean sea level (msl).

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 GW-4.

In addition to a storm drain system, a 10-inch diameter cast iron sanitary sewer conduit runs in a westerly direction from the on-site building and discharges into the sanitary sewer line, which runs north to south along Manila Avenue. The floor drain inside the building is less than 2 feet bgs. However, the depth of the sanitary sewer line inside the building gradually increases and then slopes more steeply downward near the western wall of the building, where it plunges underneath the 54-inch storm drain (LFR, January 2001). Figure 2 shows the location of the storm drain and sanitary sewer system.

Reportedly, there were six underground storage tanks (USTs) at the Site. Two USTs were located under the sidewalk on 38<sup>th</sup> Street and four USTs were located inside the building. The volumes of the USTs 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, see Figure 2.

The surrounding properties are primarily commercial, businesses and residential housing. TOSCO Marketing Company (TOSCO) 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 the location of the main building, fuel tank areas, and the on-site and off-site groundwater monitoring wells. The groundwater monitoring wells are currently monitored on a semi-annual basis. Past groundwater monitoring events have indicated the presence of VOCs and petroleum hydrocarbons in the groundwater beneath the Site. This report includes both the results of the historical groundwater monitoring events and the results of the Second Semi-Annual 2005 groundwater monitoring event.

## 1.2 Background

The following is a brief description of previous site investigations.



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

In July 1999, based on the request of the ACEHS, an investigation of potential groundwater preferential flow paths was initiated by LFR. LFR using a direct push drilling method drilled ten 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 operations, soil samples were collected from various depth intervals. In August 1999, LFR collected grab groundwater samples from seven of the nine "GW" wells. Wells GW-1 to GW-6A are shown in Figure 2.

In January, April, October, and November 2000, LFR conducted groundwater monitoring events at the Site. In July and August 2000, LFR installed four groundwater monitoring wells, namely LFR-1 through LFR-4, as shown in Figure 2, and conducted the Third Quarter 2000 groundwater monitoring event.

This was the first sampling event in which bioattenuation parameters were collected. The measured bioattenuation parameters included: dissolved oxygen (DO), nitrate ( $\text{NO}_3^-$ ), sulfate ( $\text{SO}_4^{2-}$ ), ferrous iron ( $\text{Fe}^{+2}$ ), total iron, methane, oxidation-reduction potential (ORP), alkalinity, chloride, carbon dioxide, nitrite, sulfide, ethene, and ethane. The bioattenuation parameters provided a baseline for these parameters and a means to compare their concentrations at locations within the apparent source area against surrounding up-gradient, down-gradient, and cross-gradient locations.

Well completion details for the LFR wells and the Geosolv sampling points are presented in Table 1.

In January 2001, LFR conducted a groundwater monitoring event that suggested the occurrence of strong anaerobic biodegradation activities and dechlorination of PCE beneath the Site.

On April 26-27, 2001 SOMA conducted a groundwater monitoring event at the Site. This was the first time SOMA performed a monitoring event onsite. The results of the Second Quarter 2001 monitoring event indicated a strong occurrence of the dechlorination process of PCE in the subsurface. In SOMA's

June 2001 workplan, a recommendation was made to replace the existing small diameter monitoring wells, B-7 and B-10, with larger diameter wells, to better evaluate the bioattenuation parameters.

After receiving approval of the workplan on August 27, 2001, SOMA installed five groundwater monitoring wells, SOMA-1 through SOMA-5, at the Site on October 4, 11, and 12, 2001. These wells are shown in Figure 2.

During the installation of the groundwater monitoring wells, boreholes were continuously logged and soil samples were collected at 5-foot depth intervals. The objective of this investigation was to delineate the vertical extent of soil and groundwater contamination and install larger diameter monitoring wells at the suspected chemical source areas, in order to collect more reliable bioattenuation parameters (i. e., DO) in the groundwater.

SOMA's workplan also proposed a two-phase approach for assessing the nature and extent of the soil and groundwater contamination and defining the Site's regulatory status. The first phase included installing additional groundwater monitoring wells, soil and groundwater sampling, conducting hydraulic testing, and a sensitive receptor survey. Phase II of the workplan included defining the Site's 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 the results of the investigations conducted in Phase I. The modeling aspect of Phase II was conducted using the results collected in Phase I and the analytical data from quarterly monitoring events. The main objective of the groundwater flow and chemical transport modeling was to predict groundwater chemical concentrations down-gradient from the Site, beneath the nearest residential neighboring property, in order to assess the Site's regulatory status and restore groundwater quality conditions to an acceptable level per RBCA recommendations.

Groundwater flow, chemical transport, and bioattenuation modeling for the Site was conducted by SOMA in the first quarter of 2003. The modeling results confirmed the occurrence of biodegradation beneath the Site and indicated that the bioattenuation processes would be able to remove PCE in the groundwater in approximately seven to ten years, TCE in approximately three to nine years, and cis-1,2-DCE in approximately four to thirteen years. SOMA's March 7, 2003 report, entitled "Groundwater Flow, Chemical Transport and Bioattenuation Modeling", describes the details of this study.

In the First Quarter 2003, SOMA recommended that groundwater monitoring be conducted on a semi-annual basis instead of a quarterly basis. SOMA's recommendation was approved by the ACEHS.

### 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's vicinity consist of Holocene alluvial deposits that are 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.

According to LFR, sediments encountered in soil borings at the Site are typical of those encountered in an alluvial fan depositional environment. The sediments 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 the October 2001 results of the field investigation conducted by SOMA, no major water-bearing zone at a deeper depth was encountered. However, as the lithological 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 in some locations are unsaturated. 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 permeable intervening clay layers between the shallow and deep layers, there is a significant vertical downward gradient between the shallow and deep wells.

According to the results of historical groundwater monitoring activities, groundwater occurs at 4 to 14 feet bgs. Based on the current and previous groundwater monitoring reports, groundwater flows from the northeast to the southwest with an approximate groundwater flow gradient of 0.019 ft/ft to 0.035 ft/ft. The results of the slug tests indicated that the hydraulic conductivity of the saturated sediments ranges between  $1.2 \times 10^{-4}$  and  $6.9 \times 10^{-4}$  cm/sec, which is equivalent to 0.34 ft/day to 1.95 ft/day. 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.

## 2.0 FIELD ACTIVITIES

Field activities were conducted on July 5 and 6, 2005. During this event, 13 monitoring wells were sampled. Depths to groundwater were measured in 23 groundwater monitoring wells and temporary sampling points. Due to the presence of floating product in SOMA-4, this well was not sampled. Well GW-1 and temporary borehole B-13 could not be properly gauged, due to the dry conditions observed at these locations. Figure 2 shows the location of the groundwater monitoring wells and temporary sampling points. Appendix A includes SOMA's site-specific field activities during this groundwater monitoring event.

On July 5, 2005, SOMA's field crew measured the 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 collecting samples, each well was purged using a battery operated 2-inch diameter pump (Model ES-60 DC) or a GeoTech pump (for the smaller  $\frac{3}{4}$ " diameter temporary wells). Groundwater parameters such as pH, temperature, electric conductivity (EC), DO and ORP were measured in-situ using a Horiba, Model U-22 multi-parameter meter during the purging of the wells. 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  $Fe^{+2}$  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 3/4" temporary wells were collected using the GeoTech pump. A 1/4" 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 7-(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°C in a cooler. A chain of custody (COC) 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, on July 6, 2005.

## **2.1 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, and Methane. 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 was analyzed using RSK-175.

### 3.0 Results

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

#### 3.1 Groundwater Flow Condition

Table 2 presents the calculated groundwater elevations in each well. Depths to water and the elevation at the top of the well casings were used to calculate the groundwater elevations. As shown in Table 2, groundwater elevations ranged from 67.03 feet in GW-3 to 78.66 feet in SOMA-5.

Table 2 also shows the historical water level elevations in different groundwater monitoring wells and sampling points. Since the previous monitoring event, for the wells that were sounded in the First Quarter 2005, groundwater elevations have decreased throughout the Site, with the exception well GW-2. The groundwater elevation in well GW-2 increased, since the previous monitoring event. Monitoring well LFR-4 was last sounded in January 2004. The groundwater elevation in well LFR-4 slightly increased since that time period. The deviation in groundwater elevations can be attributed to the local recharge rate in each well and seasonal fluctuations.

In evaluating the groundwater flow direction and gradient, water level data from all "B" wells, GW-4, SOMA-1, SOMA-2, SOMA-3, SOMA-4, and SOMA-5 were not utilized for the following reasons:

1. No accurate information about the construction details of the "B" wells, which were installed by Geosolv, is available; therefore water level data from these wells are questionable.
2. GW-4 was installed adjacent to the storm drain system in order to evaluate whether the storm drain 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 zone, and due to the strong vertical gradient, the water level elevation in the deeper zone is significantly lower than the shallow water-bearing zone.
4. Due to the presence of free product in SOMA-4, the recorded water level elevation in this well is not representative of the shallow water-bearing zone.

Figure 3 displays a contour map of the groundwater elevations, as measured during this monitoring event. In general, as Figure 3 shows, the groundwater flows from the northeast to southwest at an average gradient of 0.020 ft/ft. The direction of the groundwater flow is consistent, however, the groundwater gradient increased since the previous monitoring event. There appears to be a groundwater depression zone in the vicinity of well MW-11, which can be probably attributed to the local recharge at this well.

The field measurements of some physical and chemical parameters of the groundwater samples are presented in detail in the field notes in Appendix A, and are summarized in Table 3, along with their historical values. Water temperatures ranged from 16.55°C in B-10 to 20.25°C in MW-11. The variation in temperature may reflect the changes in air temperature during sampling. Measurements of pH ranged from 6.16 in MW-11 to 6.98 in GW-4. The EC measurements ranged from 403 µS/cm in GW-4 to 1,420 µS/cm in B-10.

### 3.2 Groundwater Quality

Table 4 displays the results of the laboratory analyses for TPH-ss, TPH-g, MtBE and BTEX. As shown in Table 4, TPH-ss was below the laboratory reporting limit in wells GW-2, MW-11, LFR-1, LFR-3, and SOMA-1. Detectable TPH-ss levels ranged from 84 µg/L in GW-3 to 5,100 µg/L in SOMA-2. A contour map of TPH-ss concentrations in the groundwater, as analyzed for this monitoring event, is illustrated in Figure 4.

TPH-g was below the laboratory reporting limit in wells GW-2, MW-11, LFR-1, LFR-3, and SOMA-1. Detectable TPH-g concentrations ranged from 110 µg/L in GW-3 to 6,800 µg/L in SOMA-2. However, the groundwater sample from both GW-3 and SOMA-2 exhibited a fuel pattern that did not resemble the standard gasoline pattern. The groundwater sample from well GW-3 also exhibited an unknown chromatographical single peak or peaks during laboratory testing. The groundwater sample in well SOMA-2 also may have been affected by the presence of heavier weight hydrocarbons. A contour map of TPH-g concentrations in the groundwater, as analyzed for this monitoring event, is illustrated in Figure 5.

MtBE was below the laboratory reporting limit in wells B-10, GW-2 to GW-4, LFR-1 to LFR-3, SOMA-2, and SOMA-5. Detectable MtBE concentrations ranged between 0.8 ug/L in well MW-11 and 320 ug/L in well SOMA-3. A contour map of MtBE concentrations in the groundwater, as analyzed for this monitoring event, is illustrated in Figure 6.

In general, BTEX constituents were below the laboratory reporting limit throughout the site, with the exception of wells LFR-4, SOMA-2, and SOMA-3. The only BTEX constituent detected in well LFR-4 was benzene, at 24 ug/L. Both toluene and total xylenes were detected in well SOMA-2 at 53 ug/L and 31 ug/L,

respectively. Both benzene and total xylenes were detected in SOMA-3 at 1.7 ug/L and 1.6 ug/L, respectively. Since benzene was detected in only two wells (LFR-4 and SOMA-3), and only at trace concentrations in these wells, no iso-concentration figure was drawn for benzene.

Table 4 also shows the historical analytical results for total petroleum hydrocarbons, MtBE and BTEX. Several concentration trends were observed since the previous monitoring event. This was the first time well B-10 had been sampled since April 2001. Well LFR-4 was last sampled in January 2004. The following is the concentration trend for the remaining site wells sampled during this monitoring event.

- TPH-ss concentrations decreased in wells GW-3, GW-4, LFR-2, and SOMA-2, increased in wells SOMA-3 and SOMA-5, and remained below the laboratory reporting limit in all other wells.
- TPH-g concentrations decreased in wells GW-3, GW-4, LFR-1, LFR-2, and SOMA-2, increased in wells SOMA-3, and SOMA-5, and remained below the laboratory reporting limit in all other wells.
- MtBE concentrations increased in well MW-11, SOMA-1, and SOMA-3, and remained non-detectable in all the other wells.
- All BTEX concentrations remained non-detectable in all of the wells, with the exception of SOMA-2 and SOMA-3. Both toluene and total xylenes increased in well SOMA-2. Both benzene and total xylenes increased in well SOMA-3. All other BTEX analytes remained at non-detectable levels in wells SOMA-2 and SOMA-3.

Table 5 shows the historical concentrations of VOCs in the groundwater. PCE was below the laboratory reporting limit in wells MW-11, LFR-2, and SOMA-5. Detectable concentrations of PCE ranged from 0.6 µg/L in monitoring well GW-4 to 590 µg/L in B-10. A contour map of PCE concentrations in the groundwater, as analyzed for this monitoring event, is illustrated in Figure 7.

TCE was below the laboratory reporting limit in wells GW-3, GW-4, MW-11, LFR-2 to LFR-4, and SOMA-5. Detectable TCE concentrations ranged from 2.6 µg/L in SOMA-1 to 340 µg/L in B-10. A contour map of TCE concentrations in the groundwater, as analyzed for this monitoring event, is illustrated in Figure 8.

Cis-1,2-dichloroethene was below the laboratory reporting limit in wells GW-3, MW-11, and LFR-3. Detectable Cis-1,2-dichloroethene concentrations ranged from 0.9 µg/L in well GW-2 to 12,000 ug/L in well B-10. A contour map of cis-1,2-dichloroethene concentrations in the groundwater, as analyzed for this monitoring event, is illustrated in Figure 9.

Trans-1,2-dichloroethene (trans-1,2-DCE) was below the laboratory reporting limit in all of the samples, with the exception of the samples collected from SOMA-2 and SOMA-3. Trans-1,2-DCE was detected in wells SOMA-2 and



SOMA-3 at 44 ug/L and 6.7 ug/L, respectively. Vinyl chloride was detected in well SOMA-3, at 1.1 ug/L; all of the samples were at non-detectable levels. 1,2-Dichloropropane (1,2-DCP) was below the laboratory reporting limit throughout the site, with the exception of the samples collected from wells GW-4, SOMA-1, and SOMA-3. 1,2-DCP was detected in wells GW-4, SOMA-1, and SOMA-3 at 1.1 ug/L, 4.6 ug/L, and 3.2 ug/L, respectively. In general, due to the low or non-detectable levels of these constituents, throughout the site no iso-concentration figures were drawn for trans-1,2-DCE, vinyl chloride, and 1,2-DCP.

Table 5 also shows the historical analytical results for volatile organic compounds, which include PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride. Several concentration trends were observed since the previous monitoring event. This was the first time well B-10 had been sampled since April 2001. Well LFR-4 was last sampled in January 2004. The following is the concentration trend for the remaining site wells sampled during this monitoring event.

- PCE concentrations in wells GW-2, GW-3, GW-4, LFR-1, and SOMA-1 to SOMA-3, remained within the historical values as reported in the past. However, it remained below the laboratory detection limit in all other wells. However, for the first time detectable concentration of PCE (at 11 ug/L) was detected in LFR-3. The levels found were relatively low, below levels found in upgradient well GW-3 and consistent with the results of modeling study which predicted that low levels of PCE could appear in the most downgradient monitoring well. Based on the simulated results PCE plume will migrate to downgradient areas and will gradually disappear from beneath the nearby residents in seven years. This is due to the natural bioattenuation of PCE caused by advection and dispersion processes.
- TCE increased in wells GW-2, LFR-1, and SOMA-1 to SOMA-3, and remained below the laboratory reporting limits in all other wells. The increasing pattern in the TCE concentration is indicative of the advancement of the dehalogenation process, which would deplete the PCE concentration in the source area wells.
- Cis-1,2-DCE decreased in wells GW-2, LFR-1, SOMA-2, and SOMA-3, increased in wells GW-4, LFR-2, SOMA-1 and SOMA-5, and remained at a non-detectable level in all other wells. The reported cis-1,2-DCE concentrations are within the reported historical values.
- Trans-1,2-DCE increased in wells SOMA-2 and SOMA-3, and remained below the laboratory reporting limit in all of the groundwater samples. Vinyl chloride increased in well SOMA-3, and remained below the laboratory reporting limit in all of the groundwater samples. 1,2-Dichloropropane increased in wells GW-4, SOMA-1, and SOMA-3, remained below the laboratory reporting limit in all of the groundwater samples. The increasing pattern in trans-1,2-DCE, vinyl chloride and 1,2-dichloropropane concentrations are indicative of the advancement of

dehologation process, which would eventually deplete the PCE concentration in the source area wells.

### 3.3 Bioattenuation Parameter Analysis Results

SOMA continued to collect natural attenuation parameters during this groundwater monitoring event. The objective of the bioattenuation study is to evaluate whether intrinsic bioremediation processes are active at the Site. The results of this study indicated that PCE and other dissolved organic compounds are biodegrading beneath the Site.

Like the previous monitoring events, most of the bioattenuation parameters were measured in the field. Only dissolved methane was measured in the laboratory. In addition, DO was measured in-situ by the field crew. Based on Borden (1998) and Sepehr (1999), the ex-situ measurement of natural gases such as DO may introduce oxygen into the groundwater sample and result in certain errors. Therefore, DO was measured in situ, before collecting a groundwater sample.

Naturally occurring biological processes can enhance the removal rate of contaminants in the subsurface. During the degradation process, indigenous bacteria that exist in the subsurface utilize the energy released from the transfer of electrons to drive the 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 DO, followed by nitrate, manganese, ferric iron, sulfate, and carbon dioxide, in descending order of preference. Evaluating the distribution of these electron acceptors can provide evidence of where and to what extent chlorinated and aliphatic hydrocarbon biodegradation is occurring. The by-products of the biodegradation processes are nitrite, ferrous iron, alkalinity, sulfide, methane, and carbon dioxide. For the evaluation of bioattenuation processes beneath the Site, groundwater samples were collected during the current groundwater monitoring event and analyzed for selected electron acceptors and the by-products of biodegradation activities, as described below.

**Dissolved Oxygen.** DO is the most favored electron acceptor used by microbes for the biodegradation of organic compounds. A DO concentration less than 0.5 mg/L indicates anaerobic conditions. In our experience, in-situ measurements of DO yield more realistic results than ex-situ (laboratory) measurements. Significant differences in DO concentrations using in-situ and ex-situ measurements (conducted by Microseep) during the First Quarter 2001 can be attributed to cross contamination by atmospheric oxygen during ex-situ measurement (R. Borden, 1998, M. Sepehr 1999). Therefore, during recent monitoring events, DO measurements were conducted in-situ by SOMA's field crew. DO levels ranged from 4.21 mg/L in well LFR-2 to 10.90 mg/L in GW-2. A

contour map of DO concentrations in the groundwater, using in-situ measurements, during this monitoring event, is illustrated in Figure 10.

It should be noted that due to the limitation of the drilling equipment, SOMA-3 is still a ¾ 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, the results may not be representative of the subsurface condition due to the small diameter of this well. The high DO readings in wells B-10, GW-2, GW-4, SOMA-3, and SOMA-5 may have also been the result of the smaller diameter pipe construction of these wells. During the purge cycle of well MW-11, due to a low local recharge within the well, purging was terminated when the well dried. This could account for the higher DO concentration observed at well MW-11.

Table 6 presents the current and historical DO concentrations in the groundwater. In general, with the exception of wells B-10 and LFR-4 (as earlier noted, were not sampled during the last event), since the previous monitoring event, DO levels increased significantly throughout the Site.

**Nitrate.** After DO has been depleted, nitrate may be used as an electron acceptor for anaerobic biodegradation. Nitrate concentrations less than 1.0 mg/L may indicate that reductive dechlorination is occurring. Nitrate was not observed in wells MW-11, LFR-2, LFR-4, and SOMA-1 to SOMA-5, excluding SOMA-4, which was not measured. Detectable nitrate concentrations ranged from 0.5 mg/L in well GW-3 to the maximum allowable tolerance level of 35 mg/L in wells B-10 and LFR-3. A contour map of nitrate concentrations in the groundwater, using in-situ measurements, during this monitoring event, is illustrated in Figure 11.

In general, with the exception of wells B-10 and LFR-4 (as earlier noted, were not sampled during the last event), since the previous monitoring event, nitrate increased in wells GW-2 to GW-4, LFR-1, LFR-3, and remained at a non-detectable level in wells MW-11, LFR-2, and SOMA-1 to SOMA-5, excluding well SOMA-4, which was not measured.

**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 the groundwater are indicative of reductive dechlorination. Detectable manganese concentrations ranged from 0.2 mg/L in LFR-1 to 41.1 mg/L in B-10. Manganese was not detected in well GW-2.

In general, with the exception of wells B-10 and LFR-4 (as earlier noted, were not sampled during the last event), since the previous monitoring event, dissolved manganese concentrations increased in wells GW-3, GW-4, LFR-1 to LFR-3, SOMA-1, SOMA-3, and SOMA-5, it was decreased in wells MW-11 and SOMA-

2. A contour map of dissolved manganese concentrations in the groundwater, as measured during this monitoring event, is illustrated in Figure 12.

**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 the production of sulfide. Sulfate concentrations less than 20 mg/L are indicative of reductive dechlorination (EPA 1998). Sulfate was not detected in LFR-2, LFR-4, SOMA-2, SOMA-3, and SOMA-5. Detectable sulfate levels ranged from 16 mg/L in SOMA-1 to the maximum equipment allowable tolerance level of 80 mg/L in wells B-10, MW-11, and LFR-3.

In general, with the exception of wells B-10 and LFR-4 (as earlier noted, were not sampled during the last event), since the previous monitoring event, sulfate levels increased in wells GW-2 to GW-4, MW-11, LFR-1, LFR-3, and SOMA-1. Sulfate in wells LFR-2, SOMA-2, SOMA-3, and SOMA-5 remained at non-detectable levels. A contour map of sulfate concentrations in the groundwater, as measured during this monitoring event, is illustrated in Figure 13.

**Ferrous Iron.** Increased ferrous iron accompanies 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. Ferrous iron was not detected in wells GW-2, GW-3, MW-11, and LFR-1. Detectable ferrous iron concentrations ranged from 0.21 mg/L in well SOMA-1 to the maximum allowable tolerance level of 3.30 mg/L in wells B-10, LFR-2, LFR-4, SOMA-2, and SOMA-5.

In general, with the exception of wells B-10 and LFR-4 (as earlier noted, were not sampled during the last event), since the previous monitoring event, ferrous iron levels have decreased in GW-4, and increased at wells LFR-2, LFR-3, SOMA-1, and SOMA-3. Ferrous iron concentrations remained at non-detectable levels in wells GW-2, GW-3, MW-11, LFR-1, and remained at a maximum level in wells SOMA-2 and SOMA-5. A contour map of ferrous iron concentrations in the groundwater, as measured during this monitoring event, is illustrated in Figure 14.

**Methane.** The presence of methane in groundwater is indicative of strongly reduced conditions and suggests reductive dechlorination by the process of methanogenesis. Methane was below the laboratory reporting limit in wells GW-2, GW-3, MW-11, LFR-1 and LFR-3. Detectable methane concentrations ranged from 0.84 mg/L in GW-4 to 20 mg/L in SOMA-5. Higher concentrations of methane indicate conditions that are conducive to anaerobic biodegradation.

In general, with the exception of wells B-10 and LFR-4 (as earlier noted, were not sampled during the last event), since the previous monitoring event, methane

concentrations decreased in wells GW-4, LFR-1, SOMA-2, and SOMA-3, and increased in well SOMA-1 and SOMA-5. Methane remained at non-detectable levels in wells GW-2, GW-3, MW-11, LFR-3, and remained constant in well LFR-2. A contour map of methane concentrations in the groundwater, as measured during this monitoring event, is illustrated in Figure 15.

**Oxygen Reduction Potential.** The ORP of groundwater is a measure of electron activity and is 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 -113 mV in SOMA-5 to +128 mV in GW-4. Negative ORP values were found in wells LFR-2, SOMA-2, and SOMA-5. These results indicate that conditions in and near the apparent source area are conducive to anaerobic biodegradation.

### 3.4 Other Parameters

**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 nature of data collected during previous groundwater monitoring events in connection with the bioattenuation process, no alkalinity data was collected during the current and 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 nature of data collected during the previous groundwater monitoring events in connection with the bioattenuation process, no chloride data was collected during this and previous groundwater monitoring events.

**Carbon Dioxide:** Carbon dioxide is a product of several biodegradation processes. Due to the inconclusive nature of data collected during the previous groundwater monitoring events, in connection with the bioattenuation process, no carbon dioxide data was collected during the 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 GW-2 and GW-3. Detectable total iron concentrations ranged from 0.09 mg/L in LFR-1 to the maximum allowable equipment tolerance level of 3.3 mg/L in wells B-10, GW-4, LFR-2 to LFR-4, SOMA-2, and SOMA-5. The results of the total iron analysis are presented in Table 3.

**Nitrite:** Nitrate may reduce to nitrite during the process of anaerobic biodegradation. During this monitoring event, nitrite was not detected in wells GW-2, GW-3, MW-11, LFR-2, LFR-4, and SOMA-1 to SOMA-5, excluding well SOMA-4, which was not measured. Historical nitrite site concentrations in the groundwater are also shown in Table 3.

**Sulfide:** When sulfate is used as an electron acceptor for anaerobic biodegradation it is reduced to sulfide. Due to the inconclusive nature of data collected during the 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 has an effect on the 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. The groundwater temperature affects the 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.

Appendix B includes the COC forms and laboratory reports for the Second Semi-Annual 2005 groundwater monitoring event.

#### **4.0 FREE PRODUCT REMOVAL ACTIVITIES**

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

Figure 16 illustrates the historical free product thickness measured in both wells SOMA-4 and B-8. As illustrated in Figure 16, free product has significantly decreased in well SOMA-4 since the installation of the FAP system in February 2004. As Figure 16 shows the thickness of free product in SOMA-4 from 10.5 feet in June 2003 has been reduced to 0.5 foot in July 2005.

In August 2004, SOMA converted borings B-3 and B-8 into wells for the purpose of removing free product from these locations. The FAP system was installed in SOMA-4 and B-8 to remove free product from these locations. Currently, free product is being removed from both SOMA-4 and B-8. As of July 11, 2005, approximately 1,270 gallons of free product have been removed from these wells.

Due to the excess rainfall, which reduced the efficiency of the FAP system in the removal of free product, the FAP system was temporarily shut-down in early February 2005. The FAP system was re-started in April 2005. SOMA will

continue removing free product from these wells, using the FAP system, until the product thickness disappears.

## 5.0 CONCLUSIONS AND RECENT ACTIVITIES

Based on the data obtained during the Second Semi-Annual 2005 groundwater monitoring event, our conclusions are as follows:

1. All analyzed constituents for the furthest down-gradient well, LFR-3, and the furthest up-gradient well, MW-11 were below the laboratory reporting limit with the exception of a trace MtBE concentration in well MW-11 and a trace PCE concentration in well LFR-3.
2. The data collected to date regarding the distribution of PCE and other VOCs in the groundwater demonstrate that PCE has been degraded into some of its breakdown products. PCE typically degrades into TCE, then cis-1,2-DCE and trans-1,2-DCE (at much lower concentrations than cis-1,2-DCE), then to vinyl chloride, ethane and ethene and finally carbon dioxide, water, and chloride. This sequence of degradation would be anticipated where the biological reductive dehalogenation of PCE is occurring. Some of these breakdown products and relative concentrations are present at the Site.
3. The presence of TCE in wells B-10, GW-2, LFR-1, and SOMA-1 to SOMA-3, during the current sampling event, demonstrates that PCE degradation is occurring. The presence of relatively high concentrations of cis-1,2-DCE in wells B-10, SOMA-2 and SOMA-3 and its presence in wells GW-2, GW-4, LFR-1, LFR-2, LFR-4, SOMA-1, and SOMA-5 is also indicative of biodegradation.
4. The results of DO, nitrate, manganese, sulfate, ferrous iron, methane, and ORP measurements demonstrate that conditions in the apparent source area are conducive to the reductive dechlorination processes.
5. In general, the apparent source area still appears to be in the region of wells SOMA-2, SOMA-3, SOMA-5, and B-10. Well B-10 was last sampled in January 2001. However, at SOMA-2, TPH-ss, TPH-g, and cis 1,2-DCE all decreased. In SOMA-3, several analyzed constituents increased. In SOMA-5, several constituents remained at non-detectable levels, with the exception of increases in TPH-ss, TPH-g, and cis-1,2-DCE.
6. PCE concentrations in wells GW-2, GW-3, GW-4, LFR-1, and SOMA-1 to SOMA-3, remained within the historical values as reported in the past. However, it remained below the laboratory detection limit in all other wells. However, for the first time detectable concentration of PCE (at 11 ug/L) was detected in LFR-3. The levels found were relatively low, below levels found in upgradient well GW-3 and consistent with the results of modeling

study which predicted that low levels of PCE could appear in the most downgradient monitoring well. Based on the simulated results PCE plume will migrate to downgradient areas and will gradually disappear from beneath the nearby residents in seven years. This is due to the natural bioattenuation of PCE caused by advection and dispersion processes.

7. In order to evaluate the age of the remaining free products in SOMA-4 and B-8, SOMA recommends collecting two free product samples from SOMA-4 and B-8. The samples will be submitted to the specialty laboratory. The result will reveal whether or not the source of existing free product belongs to the new release(s).

SOMA is currently in the process of removing free product from the subsurface. In addition of addressing the issues raised in the Alameda County, Health Care Services Agency letter dated June 21, 2005. Future monitoring events will now include the sampling of temporary well B-10. Also, the VOC reporting limits for well SOMA-3 were set at 0.5 ug/L. However, due a high cis-1,2-Dichloroethene concentration detected at well SOMA-2, the VOC limits could not be set at a lower level without damaging the laboratory testing equipment.



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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
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>	
21-Jan-00							76.32
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
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		68.45	67.95	74.55	68.64	68.16				73.62
10-Aug-00								77.26	77.14	
9-Aug-00	DRY	69.11	66.54	DRY	68.71	67.88				74.12
27-Apr-00	DRY	70.59	68.16	73.97	68.70	68.00	71.34	79.15	77.25	75.35
25-Jan-00										73.48
24-Jan-00										
21-Jan-00		68.32		74.33						
20-Jan-00			67.93		68.61		70.42			
19-Jan-00	DRY	68.24	67.86	74.71	68.61	67.63	70.44			
27-Aug-99	DRY	68.46	67.66	NM	68.71	67.71	70.60			
18-Feb-98										
26-Oct-97										

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

Date	LFR-1	LFR-2	LFR-3	LFR-4	SOMA-1	SOMA-2	SOMA-3	SOMA-4	SOMA-5
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				68.14					
30-Oct-00	70.22	71.62	66.99						
10-Aug-00									
9-Aug-00	70.16	69.99	66.76	68.39					
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										
B-7 field	31-Oct-00	760	42	200	14.00	<0.1	<2.0					
	31-Oct-00				17.22	-1.00	-1.00			6.16	16.05	1454
B-7 field	31-Jan-00	720	43	170	12.00	<0.1	<2.0					
	31-Jan-00									6.79	13.90	1424
	26-Apr-01				>3.3	0.24				6.59	16.30	1340
	26-Jul-01				15.30	0.02				6.39	15.97	1400
B-10 field	10-Aug-00					0.02	0.06					
	B-10											
B-10	31-Oct-00	500	76	120	6.60	<0.1	<2.0					
	31-Oct-00				8.35	0.00	0.00			6.21	16.62	1051
B-10	31-Jan-01	480	81	72	6.10	<0.1	<2.0					
	31-Jan-01				1.44	0.07				6.81	14.66	1117
B-10	11-Jun-01				1.31					6.65	16.70	1090
	26-Jul-01				6.50	0.00				6.38	16.09	1160
B-10	10-Aug-01	520	74	145	6.00	<0.05	<0.04	<0.0005	0.00	6.86	16.80	1130
	6-Jul-05	NM	NM	NM	3.30	0.348	NM	<0.005	<0.005	6.70	16.55	1420
<b>Temporary Sampling Points Installed by LFR</b>												
GW-2	01-Nov-00									6.31	18.97	1218
	GW-2 field											
GW-2 field	30-Jan-01			63						6.82	13.75	846
	31-Jan-01									6.80	19.50	874
GW-2 field	26-Apr-01				0.02					6.74	20.30	803
	26-Jul-01				0.03	0.02				6.84	21.30	786
GW-2 field	19-Oct-01	NM	NM	NM	NM	NM	NM	NM	NM	6.70	17.70	797
	31-Jan-02	NM	NM	NM	1.05	0.01	NM	NM	NM	6.38	17.00	707
GW-2 field	16,17-Apr-02	NM	NM	NM	0.65	0.02	NM	NM	NM	6.35	17.75	798
	17,18-Jul-02	NM	NM	NM	1.39	0.00	NM	NM	NM	6.73	19.78	670
GW-2 field	23-Oct-02	NM	NM	NM	0.12	0.04	NM	NM	NM	6.86	18.10	607
	19-Feb-03	NM	NM	NM	0.10	0.02	NM	NM	NM	7.26	20.10	651
GW-2 field	29-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	NM	6.72	18.00	542
	29-Jan-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.85	19.92	561
GW-2 field	4-Aug-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.82	18.34	503
	2-Feb-05	NM	NM	NM	0.00	0.00	NM	NM	NM	6.78	19.07	529
GW-2 field	6-Jul-05	NM	NM	NM	0.00	0.00	NM	<0.005	<0.005	6.78	19.07	529
	6-Jul-05	NM	NM	NM	0.00	0.00	NM	<0.005	<0.005	6.78	19.07	529
GW-3	11-Aug-00	340	25	54		0.05	-1.00	<0.0005	<0.0005	7.05	21.43	860
	GW-3 field											
GW-3 field	11-Aug-00									6.52	18.83	967
	1-Nov-00											
GW-3 field	1-Feb-01			54						6.89	17.29	602
	29-Jan-01									5.68	16.20	673
GW-3 field	11-Jun-01				0.00	0.70				6.53	22.25	547
	26-Jul-01				0.14	0.00				6.84	22.56	590
GW-3 field	19-Oct-01	NM	NM	NM	0.00	NM	NM	NM	NM	6.70	18.40	593
	31-Jan-02	NM	NM	NM	0.14	0.01	NM	NM	NM	6.64	16.61	526
GW-3 field	16,17-Apr-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.32	17.10	545
	17,18-Jul-02	NM	NM	NM	1.08	0.01	NM	NM	NM	6.36	19.80	425
GW-3 field	23-Oct-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.77	17.80	412
	19-Feb-03	NM	NM	NM	0.08	0.01	NM	NM	NM	7.07	19.40	490
GW-3 field	29-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	NM	6.65	18.20	450
	29-Jan-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.74	20.20	436
GW-3 field	3-Aug-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.28	19.39	445
	2-Feb-05	NM	NM	NM	0.00	0.00	NM	NM	NM	6.90	18.99	415
GW-3 field	6-Jul-05	NM	NM	NM	0.00	0.00	NM	<0.005	<0.005	6.90	18.99	415
	6-Jul-05	NM	NM	NM	0.00	0.00	NM	<0.005	<0.005	6.90	18.99	415
GW-4	30-Jan-01				2.00	0.04				6.60	13.48	479
	GW-4 field									6.45	19.44	827
GW-4 field	26-Jul-01									6.79	18.36	732
	19-Oct-01	NM	NM	NM	11.00	NM	NM	NM	NM	6.50	12.00	414
GW-4 field	31-Jan-02	NM	NM	NM	12.70	0.01	NM	NM	NM	6.34	13.98	467
	16,17-Apr-02	NM	NM	NM	6.40	0.03	NM	NM	NM	6.49	21.93	572
GW-4 field	17,18-Jul-02	NM	NM	NM	>3.3	0.03	NM	NM	NM	NM	NM	NM
	23-Oct-02	NM	NM	NM	NM	NM	NM	NM	NM	6.67	13.60	466
GW-4 field	19-Feb-03	NM	NM	NM	3.30	0.00	NM	NM	NM	7.30	18.70	430
	30-Jul-03	NM	NM	NM	3.30	0.00	NM	NM	NM	6.85	13.00	534
GW-4 field	29-Jan-04	NM	NM	NM	3.30	0.00	NM	NM	NM	6.96	22.62	509
	3-Aug-04	NM	NM	NM	3.30	0.00	NM	NM	NM	6.80	13.25	382
GW-4 field	1-Feb-05	NM	NM	NM	3.30	0.00	NM	NM	NM	6.98	18.71	403
	6-Jul-05	NM	NM	NM	3.30	0.028	NM	<0.005	<0.005	6.98	18.71	403

**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 Owned by TOSCO</b>												
MW-11	10-Aug-00	360	110	216	0.13	<0.05	<0.04	<0.0005	<0.0005	6.47	21.00	1
MW-11 field	10-Aug-00					0.04	0.00					
MW-11 field	1-Nov-00	300	120	190	<0.05	<0.1	<2.0					
MW-11 field	1-Nov-00				0.01	0.00	-1.00			5.83	20.13	1
MW-11 field	31-Jan-01	330	130	150	<0.05	<0.1	<2.0					
	31-Jan-01									6.35	13.67	1
	26-Apr-01				0.01					5.67	18.00	1210
	26-Jul-01				0.00	0.02				6.02	19.65	1120
	19-Oct-01	NM	NM	NM	0.00	NM	NM	NM	NM	6.41	21.25	130
	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	6.81	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
<b>Monitoring Wells Installed by LFR</b>												
LFR-1	11-Aug-00	250	110					<0.0005	<0.0005	6.97	19.73	936
LFR-1 field	09-Aug-00			51		0.02	-1.00					
LFR-1 field/sp	30-Oct-00	240	100	25	<0.05	<0.1	<2					
LFR-1-spl	30-Oct-00				0.01/0.01	0.031/0.036	0.001/0.001			6.38	17.94	697
LFR-1 field	29-Jan-01	150	76	28	<0.05	<0.1	<2					
LFR-1 Dup	29-Jan-01				0.00	0.04				6.82	15.00	870
	29-Jan-01	150	75	26	<0.05	<0.1	<2					
	26-Apr-01				0.00					5.76	16.80	980
	26-Jul-01				0.05	0.01				6.48	19.38	772
	26-Jul-01	NM	NM	NM	0.42	NM	NM	NM	NM	6.73	20.83	661
	31-Jan-02	NM	NM	NM	0.03	0.01	NM	NM	NM	6.50	16.50	879
	16,17-Apr-02	NM	NM	NM	0.75	0.02	NM	NM	NM	5.88	16.37	1120
	17,18-Jul-02	NM	NM	NM	0.22	0.01	NM	NM	NM	6.40	17.02	832
	23-Oct-02	NM	NM	NM	0.30	0.00	NM	NM	NM	6.54	20.09	803
	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
LFR-2	11-Aug-00	590	33	174				<0.0005	0.00	7.15	19.87	1088
LFR-2 field	11-Aug-00				2.95	-1.00	0.01					
LFR-2 field	02-Nov-00	550	40	180	6.20	<0.1	<2					
LFR-2 field	02-Nov-00				7.45	0.01	0.00			6.19	19.67	1306
LFR-2 field	30-Jan-01	480	21	130	4.60	<0.1	<2					
	30-Jan-01				1.04	0.01				6.60	12.73	945
	27-Apr-01				2.97					5.64	16.40	921
	26-Jul-01				4.60	0.01				6.31	18.66	970
	18-Oct-01	NM	NM	NM	8.20	NM	NM	NM	NM	6.78	19.56	109
	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	6.58	18.18	712

**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-3 LFR-3 split LFR-3 field 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				<0.0005	<0.0005			
	10-Aug-00					0.06						
	01-Nov-00	350	66	160	<0.05	<0.1	-1.00					
	01-Nov-00				0.01	0.01	<2			6.16	17.71	1164
	30-Jan-01	250	31	71	<0.05	<0.1	<2					
	30-Jan-01				0.03					6.64	17.29	541
	11-Jun-01				0.01					5.43	18.00	613
	26-Jul-01				0.70	0.03				6.25	20.50	602
	18-Oct-01	NM	NM	NM	0.12	NM	NM	NM	NM	6.50	21.39	645
	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	
LFR-4 LFR-4 FB LFR-4 field LFR-4 field LFR-4 field	11-Aug-00	630	71	161				<0.0005	<0.0005	6.90	20.11	1240
	10-Aug-00							<0.0005	<0.0005			
	11-Aug-00				0.22	0.02	0.00					
	31-Oct-00	490	28	130	1.00	<0.1	<2					
	31-Oct-00				0.67	0.02	0.00			6.21	18.11	830
	01-Feb-01	460	25	120	1.30	<0.1	<2					
	01-Feb-01				1.43	0.02				6.55	15.28	916
	27-Apr-01				1.44					5.79	18.30	1060
	26-Jul-01				0.95	0.00				6.26	19.23	866
	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	
<b>Monitoring Wells Installed by SOMA</b>												
SOMA-1	19-Oct-01	NM	NM	NM	0.75	NM	NM	NM	NM	6.77	18.15	146
	31-Jan-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.70	17.50	1160
	16,17-Apr-02	NM	NM	NM	0.17	0.03	NM	NM	NM	6.01	17.98	1280
	17,18-Jul-02	NM	NM	NM	0.11	0.01	NM	NM	NM	6.52	16.21	1270
	23-Oct-02	NM	NM	NM	0.24	0.01	NM	NM	NM	6.60	17.77	1270
	19-Feb-03	NM	NM	NM	0.00	0.01	NM	NM	NM	6.33	17.40	1350
	30-Jul-03	NM	NM	NM	0.00	0.00	NM	NM	NM	6.90	17.80	1300
	29-Jan-04	NM	NM	NM	2.10	0.00	NM	NM	NM	6.51	17.60	959
	3-Aug-04	NM	NM	NM	0.00	0.00	NM	NM	NM	6.42	17.89	956
	1-Feb-05	NM	NM	NM	0.00	0.00	NM	NM	NM	6.26	17.70	985
	5-Jul-05	NM	NM	NM	0.19	0.00	NM	<0.005	<0.005	6.36	19.36	1220
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	1360
	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
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	18.20	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	

**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-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
SOMA-5	5-Jul-05	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	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

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 Colorimeter

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	24-Jan-00	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
B-13	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
	31-Jan-02	<0.05	<0.050	<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	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
	19-Feb-03	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	29-Jul-03	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	28-Jan-04	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	4-Aug-04	0.054 <sup>YZ</sup>	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	2-Feb-05	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
6-Jul-05	<0.050	<0.050	<0.0005	<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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
GW-3	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	0.150	0.260 <sup>Y</sup>	<0.0020	<0.0005	<0.0005	<0.0005	0.00130 <sup>C</sup>
	27-Apr-00	0.200 <sup>YZ</sup>	0.380 <sup>YZ</sup>	<0.0020	<0.0005	<0.0005	<0.0005	<0.00050
	27-Apr-00	0.300 <sup>Z</sup>	0.570 <sup>YZ</sup>	<0.0020	<0.0005	<0.0005	<0.0005	<0.00050
	11-Aug-00	<0.050	0.077 <sup>YZ</sup>	<0.0020	<0.0005	<0.0005	<0.0005	0.00051
	2-Nov-00	<0.050	0.050 <sup>YZ</sup>	0.0026	<0.0005	<0.0005	<0.0005	<0.00050
	1-Feb-01	<0.050	<0.050	<0.0020	<0.0005	<0.0005	<0.0005	<0.00050
	27-Apr-01	<0.050	0.062 <sup>YZ</sup>	0.0056	<0.0005	<0.0005	<0.0005	<0.00050
	27-Jul-01	<0.050	<0.050	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	<0.050	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	<0.050	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	0.110 <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	
GW-4 Split	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	0.550	0.700 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	0.580	0.880 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	0.390	0.580 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	28-Jan-04	0.310	0.520 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
3-Aug-04	0.710	0.640 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005	
1-Feb-05	0.280	0.370 <sup>HY</sup>	<0.005	<0.005	<0.005	<0.005	<0.005	
6-Jul-05	0.120	0.16 <sup>HY</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 Split	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 Split	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 Split	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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
<b>Monitoring Wells Owned by TOSCO</b>								
MW-11	25-Jan-00	< 0.050	<0.05	0.0090	<0.0005	<0.0005	<0.0005	<0.0005
	28-Apr-00	<0.050	<0.05	<0.0087	<0.0005	<0.0005	<0.0005	<0.0005
	10-Aug-00	<0.050	<0.05	0.0110	<0.0005	<0.0005	<0.0005	<0.0005
	1-Nov-00	<0.050	<0.05	0.0068	<0.0005	<0.0005	<0.0005	<0.0005
	31-Jan-01	< 0.050	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Jul-01	<0.050	0.10 <sup>HY</sup>	0.0010	<0.0005	<0.0005	<0.0005	0.0007
	19-Oct-01	<0.050	<0.05	<0.0050	<0.0050	<0.005	<0.005	<0.010
	31-Jan-02	<0.050	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	<0.050	<0.050	<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	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	18-Feb-03	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	28-Jan-04	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
3-Aug-04	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	
1-Feb-05	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	
5-Jul-05	<0.050	<0.050	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	
<b>Monitoring Wells Installed by LFR</b>								
LFR-1 Split	9-Aug-00	0.53	1.2	0.0095	<0.0005	<0.0005	<0.0005	<0.0005
	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
	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	<0.050	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	<0.050	0.068 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
	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	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	2-Feb-05	<0.050	0.056 <sup>YZ</sup>	<0.005	<0.005	<0.005	<0.005	<0.005
6-Jul-05	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
<b>Monitoring Wells Installed by LFR</b>								
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	0.950	1.3 <sup>HY</sup>	<0.0005	<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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
<b>LFR-3 Split</b>	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	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	29-Jan-04	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
	3-Aug-04	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005
2-Feb-05	<0.050	<0.050	<0.005	<0.005	<0.005	<0.005	<0.005	
5-Jul-05	<b>&lt;0.050</b>	<b>&lt;0.050</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>LFR-4</b>	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>	0.270	0.0065	0.00084	<0.0005	<0.0005	<0.0005
	1-Feb-01	0.16 <sup>Y</sup>	0.220	0.0097	0.00330	<0.0005	<0.0005	<0.0005
	27-Apr-01	0.22 <sup>Y</sup>	0.440	0.0058	0.02700	0.0036	<0.0005	<0.0005
	27-Jul-01	0.091 <sup>Y</sup>	0.190	0.011	0.00090	<0.0005	<0.0005	<0.0005
	31-Jan-02	NA <sup>Y</sup>	NA	NA	NA	NA	NA	NA
	16,17-Apr-02	0.40 <sup>Y</sup>	0.670	<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>	0.170	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>	0.590	<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	<b>0.510<sup>Y</sup></b>	<b>0.680</b>	<b>0.0049</b>	<b>0.024</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	
<b>Monitoring Wells Installed by SOMA</b>								
<b>SOMA-1</b>	19-Oct-01	0.22	0.440	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	<0.050	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	<0.050	0.053	0.140	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	<0.050	<0.050	0.150	<0.0071	<0.0071	<0.0071	<0.0071
	30-Jul-03	<0.050	<0.050	0.190	<0.005	<0.005	<0.005	<0.005
	29-Jan-04	<0.050	<0.050	0.190	<0.005	<0.005	<0.005	<0.005
	3-Aug-04	<0.050	<0.050	0.170	<0.013	<0.013	<0.013	<0.013
1-Feb-05	<0.050	<0.050	0.200	<0.017	<0.017	<0.017	<0.017	
5-Jul-05	<b>&lt;0.050</b>	<b>&lt;0.050</b>	<b>0.210</b>	<b>&lt;0.0017</b>	<b>&lt;0.0017</b>	<b>&lt;0.0017</b>	<b>&lt;0.0017</b>	
<b>SOMA-2</b>	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	0.370	0.600 <sup>HY</sup>	0.300	<0.0071	<0.0071	<0.0071	<0.0071
	19-Feb-03	0.300	0.460 <sup>HY</sup>	0.210	<0.017	<0.017	<0.017	<0.017
	29-Jul-03	0.270	0.400 <sup>HY</sup>	0.300	<0.020	<0.020	<0.020	<0.020
	28-Jan-04	0.230	0.38 <sup>HY</sup>	0.270	<0.017	<0.017	<0.017	<0.017
	4-Aug-04	0.310	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	<b>5.100</b>	<b>6.8<sup>HY</sup></b>	<b>&lt;0.025</b>	<b>&lt;0.025</b>	<b>0.053</b>	<b>&lt;0.025</b>	<b>0.031</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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
SOMA-3	19-Oct-01	0.420	0.83	0.65	<0.02500	<0.02500	<0.0250	<0.0500
	31-Jan-02	0.230	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	0.610	1.00 <sup>HY</sup>	0.42	0.00078	0.00068	<0.0005	<0.0005
	17,18-Jul-02	0.410	0.69 <sup>HY</sup>	0.38	<0.017	<0.017	<0.017	<0.017
	22,23-Oct-02	3.000	4.700 <sup>HY</sup>	<0.170	<0.170	<0.170	<0.170	<0.170
	19-Feb-03	2.500	3.800 <sup>HY</sup>	<0.130	<0.130	<0.130	<0.130	<0.130
	29-Jul-03	2.100	3.100 <sup>HY</sup>	<0.130	<0.130	<0.130	<0.130	<0.130
	29-Jan-04	4.100	6.8 <sup>HY</sup>	<0.310	<0.310	<0.310	<0.310	<0.310
	4-Aug-04	4.000	3.6 <sup>HY</sup>	<0.500	<0.500	<0.500	<0.500	<0.500
	2-Feb-05	0.270	0.36 <sup>HY</sup>	0.25	<0.063	<0.063	<0.063	<0.063
6-Jul-05	0.320	0.43 <sup>HY</sup>	0.320	0.0017	<0.0005	<0.0005	0.0016	
SOMA-4	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
29-Jul-03	FP	FP	FP	FP	FP	FP	FP	
SOMA-5	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

Notes:

- <sup>b</sup> Analysis was carried out npast the hold date, no analytical problems were encountered
- <sup>c</sup> Presence of this compound confirmed by second column, however, the confirmation concentration different from reported results by more than a factor of two.
- <sup>H</sup> Heavier hydrocarbons than the standard are present in the sample.
- <sup>J</sup> Result is estimated.
- <sup>L</sup> Lighter hydrocarbons contributed to the quantitation
- NA = Not analyzed, LFR-4 was not analyzed during the Second Quarter 2002 due to the well being inaccessible. Not Analyzed. Well LFR-4 inaccessible during the Third Quarter 2004 Monitoring Event.
- <sup>Y</sup> Sample exhibits fuel pattern which does not resemble standard.
- <sup>Z</sup> 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	0.270	0.001	<0.0013	<0.0013
B-3	24-Jan-00	<0.0020	<0.002	0.610	<0.002	<0.002	<0.002
B-7	24-Jan-00	<0.0036	<0.0036	0.920	0.004	<0.0036	<0.0036
	11-Aug-00	<0.0031	<0.0031	0.860	0.005	<0.0031	<0.0031
	31-Oct-00	<0.0042	<0.0042	0.910	0.004	<0.0042	<0.0042
	27-Jul-01	0.010	0.017	0.860	0.005	<0.0031	<0.0031
	27-Apr-01	<0.0031	<0.0031	1.100	0.007	<0.0031	<0.0031
31-Jan-01	<0.0042	<0.0042	0.920	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	1.200	2.400	14.000	0.090	<0.063	<0.063
	10-Aug-00	2.900	1.600	6.500	0.050	<0.025	<0.025
	31-Oct-00	2.400	1.900	7.100	0.061	<0.025	<0.025
	27-Jul-01	1.700	1.400	7.300	0.043	<0.025	<0.025
	27-Jul-01	0.870	0.810	6.600	0.041	<0.025	<0.025
	31-Jan-01	2.100	1.600	6.600	0.044	<0.025	<0.025
6-Jul-05	0.590	0.340	12.000	<0.1	<0.1	<0.1	
B-13	24-Jan-00	0.020	0.029	0.130	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
	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	
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	

**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-4</b>  Split	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	< 0.0005	0.0011
<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 ROSCO</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	

**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>Monitoring wells installed by LFR</b>							
<b>LFR-1</b>  Split	9-Aug-00	2.800	0.064	0.041	< 0.0083	< 0.0083	< 0.0083
	30-Oct-00	0.820	0.034	0.010	< 0.0031	< 0.0031	< 0.0031
	30-Oct-00	0.870	0.035	0.014	< 0.0031	< 0.0031	< 0.0031
	29-Jan-01	0.770	0.026	0.007	<0.0025	<0.0025	<0.0025
	26-Apr-01	0.440	0.013	0.005	<0.0013	<0.0013	<0.0013
	27-Jul-01	0.380	0.031	0.010	<0.0013	<0.0013	<0.0013
	18-Oct-01	0.780	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	0.380	0.040	<0.0130	<0.0130	<0.0250	<0.0130
	17,18-Jul-02	0.360	0.041	<0.013	<0.013	<0.025	<0.013
	22,23-Oct-02	0.180	0.024	0.007	<0.005	<0.010	<0.005
	18-Feb-03	0.280	0.032	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	0.150	0.027	0.007	<0.005	<0.010	<0.005
	29-Jan-04	0.150	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	<b>0.096</b>	<b>0.0260</b>	<b>0.0049</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	
<b>LFR-2</b>  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	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>0.0012</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	<b>&lt;0.0005</b>	
<b>LFR-3</b>  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	<b>0.011</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>LFR-4</b>	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	<b>0.0011</b>	<b>&lt;0.0005</b>	<b>0.0026</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)
<b>Monitoring wells installed by SOMA</b>							
<b>SOMA-1</b>	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	<b>0.041</b>	<b>0.0026</b>	<b>0.051</b>	<b>&lt;0.0017</b>	<b>&lt;0.0017</b>	<b>0.0046</b>	
<b>SOMA-2</b>	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	<b>0.078</b>	<b>0.047</b>	<b>5.200</b>	<b>0.044</b>	<b>&lt;0.025</b>	<b>&lt;0.025</b>	
<b>SOMA-3</b>	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	0.360	<0.017	<0.033	<0.017
	17,18-Jul-02	0.027	<0.017	0.440	<0.017	<0.033	<0.017
	22,23-Oct-02	<0.170	<0.170	5.900	<0.170	<0.330	<0.170
	19-Feb-03	<0.130	<0.130	4.100	<0.130	<0.250	<0.130
	29-Jul-03	0.150	0.220	4.700	<0.130	<0.250	<0.130
	29-Jan-04	<0.310	<0.310	7.700	<0.310	<0.630	<0.310
	4-Aug-04	<0.500	<0.500	6.900	<0.500	<1.0	<0.500
	2-Feb-05	<0.063	<0.063	1.100	<0.063	<0.130	<0.063
6-Jul-05	<b>0.031</b>	<b>0.014</b>	<b>0.890</b>	<b>0.0067</b>	<b>0.0011</b>	<b>0.0032</b>	
<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>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	<b>&lt;0.0025</b>	<b>&lt;0.0025</b>	<b>0.0057</b>	<b>&lt;0.0025</b>	<b>&lt;0.0025</b>	<b>&lt;0.0025</b>

Notes:

<: Not detected above the laboratory reporting limits.

<sup>b</sup> 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.

**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-7	11-Aug-00						11.0000	193	
B-7-field	11-Aug-00	0.63		-1.0	3.0				
	31-Oct-00	0.62	2.6	< 0.10	< 1.0	11.00	2.4000		-3
B-7-field	31-Oct-00	0.25		0.4	-1.0	15.85		-63	
	1-Feb-01	0.78	2.2	0.8	<1.0	15.00	13.0000		
B-7-field	31-Jan-01	0.48						28	
B-7 Field	26-Apr-01	0.60	1.7	2.5	5.0	>3.3	7.6000	-28	
B-7 Field	26-Jul-01	1.98	7.3	0.0	8.0	11.60	7.0000	-40	
<b>B-8 field</b>	31-Jan-01	<b>0.45</b>						<b>58</b>	
<b>B-10</b>	10-Aug-00			< 0.05	< 0.05	5.70	10.0000	213	
B-10-field	10-Aug-00	0.44		-1.0	-2.0				
	31-Oct-00	2.40	1.4	< 0.10	< 1.0	5.90	6.7000		0.81
B-10-field	31-Oct-00	0.44		0.0	0.0	7.60		-22	
	31-Jan-01	6.40	1.3	< 0.10	<2.0	7.70	24		1.3
B-10-field	31-Jan-01	0.46						64	
B-10 Field	11-Jun-01	0.90	0.0	0.0	0.0	1.25	3.9000	-8	NM
B-10 Field	26-Jun-01	1.87	1.3	0.0	3.0	6.20	5.6000	-22	
	<b>6-Jul-05</b>	<b>9.53</b>	<b>41.1</b>	<b>35.0</b>	<b>80.0</b>	<b>3.30</b>	<b>2.2000</b>	<b>12</b>	
<b>GW-2-field</b>	1-Nov-00	2.32						77	
<b>GW-2</b>	1-Feb-01	3.80					0.0410		
GW-2-field	1-Feb-01	0.58						159	
	26-Apr-01	4.00	1.0	7.1	36.0	0.02	0.0002	152	NM
	26-Jul-01	1.93	0.0	3.9	60.0	0.00	0.0160	233	
GW-2 field	Not En. Sample						0.0009		
	31-Jan-02	2.80	0.0	0.8	45.0	0.36	0.0069	179	NM
	16,17-Apr-02	1.76	0.0	4.7	70.0	0.09	0.0003	198	
	17,18-Jul-02	1.39	0.6	0.0	69.0	0.00	0.0021	161	
	22,23-Oct-02	3.86	0.6	11.5	40.0	0.07	0.0007	166	
	19-Feb-03	7.24	0.1	10.3	49.0	0.03	0.0012	169	
	29-Jul-03	4.21	0.2	0.0	44.0	0.00	0.0007	47	
	28-Jan-04	6.02	0.0	3.3	56.0	0.00	0.00046	143	
	4-Aug-04	8.27	0.0	0.0	27.0	0.00	0.00035	115	
	2-Feb-05	8.41	0.0	0.0	40.0	0.00	<0.0050	76	
	<b>6-Jul-05</b>	<b>10.90</b>	<b>0.0</b>	<b>5.3</b>	<b>51.0</b>	<b>0.00</b>	<b>&lt;0.005</b>	<b>90</b>	
<b>GW-3</b>	11-Aug-00						< 0.0005	395	
GW-3-field	11-Aug-00	0.72		1.0	46.0				
GW-3-field	1-Nov-00	7.76						81	
	29-Jan-01	8.80					0.0120		
GW-3-field	1-Feb-01	8.99						235	
	27-Apr-01	2.90	0.0	0.7	30.0	0.00	0.0150	212	NM
	26-Jul-01	2.48	0.0	2.4	52.0	0.12	0.0083	214	
GW-3 field	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	0.00	0.0081	163	
	16,17-Apr-02	7.55	0.0	4.2	59.0	0.00	0.0006	133	
	17,18-Jul-02	3.50	0.0	0.0	47.0	0.22	0.0100	155	
	22,23-Oct-02	2.19	0.0	1.6	33.0	0.00	0.0007	178	
	19-Feb-03	5.28	0.4	4.0	43.0	0.02	0.0007	123	
	29-Jul-03	6.12	0.0	0.0	31.0	0.00	0.0005	96	
	28-Jan-04	4.21	0.0	0.8	61.0	0.00	0.00042	141	
	3-Aug-04	10.20	0.0	0.0	41.0	0.00	0.00028	84	
	2-Feb-05	3.97	0.5	0.0	12.0	0.00	<0.0050	84	
	<b>6-Jul-05</b>	<b>7.96</b>	<b>2.9</b>	<b>0.5</b>	<b>52.0</b>	<b>0.00</b>	<b>&lt;0.005</b>	<b>67</b>	
<b>GW-4-field</b>	30-Jan-01	0.83						67	
GW-4-field	26-Jul-01	2.59	0.2	10.5	25.0	1.29	0.0028	-3	
GW-4-field	18-Oct-01	1.00	0.1	0.0	0.0	4.80	4.8000	-84	NM
<b>GW-4</b>	31-Jan-02	0.90	0.8	0.0	0.0	8.00	3.5000	-91	
	16,17-Apr-02	0.41	0.1	5.2	0.0	5.70	4.7000	-2	
	17,18-Jul-02	2.38	3.0	0.0	0.0	>3.3	4.8000	-68	
	22,23-Oct-02	NM	NM	NM	NM	NM	0.3000	NM	
	19-Feb-03	7.76	0.4	5.4	0.0	3.30	2.3000	-57	
	30-Jul-03	5.38	6.1	0.0	0.0	3.30	1.3000	-141	
	28-Jan-04	2.17	5.9	0.0	0.0	3.30	0.2200	-73	
	3-Aug-04	10.35	0.9	0.0	0.0	3.30	3.2000	-113	
	1-Feb-05	2.97	0.8	0.0	0.0	1.53	1.2000	93	
	<b>6-Jul-05</b>	<b>9.17</b>	<b>1.9</b>	<b>9.8</b>	<b>20.0</b>	<b>1.07</b>	<b>0.8400</b>	<b>128</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)
<b>MW-11</b>	10-Aug-00			2.8	63.0	< 0.1	< 0.0005	476	
MW-11-field	10-Aug-00	2.52		4.1	67.0				
	1-Nov-00	4.10	< 0.010	15.0	90.0	< 0.1	0.0000		130
MW-11-field	1-Nov-00	4.01		3.3	73.0	0.00		87	
MW-11-field	1-Nov-00	3.97		27.3	74.0	0.00		319	
	31-Jan-01	6.30	< 0.010	15.0	94.0	< 1.0	0.0001		1.1
MW-11 Field	26-Apr-01	7.40	0.0	6.8	52.0	0.00	0.0014	229	NM
MW-11 Field	26-Jul-01	1.85	0.0	5.2	77.0	0.00	0.0049	233	
MW-11 Field	18-Oct-01	5.58	0.0	10.1	NM	0.00	0.0066	155	NM
	31-Jan-02	4.90	0.0	2.8	79.0	0.00	0.0077	218	
	16,17-Apr-02	3.18	0.0	2.8	88.0	0.00	0.0092	242	
	17,18-Jul-02	2.82	0.0	4.1	79.0	0.00	0.0088	357	
	22,23-Oct-02	4.47	0.0	3.7	69.0	0.00	0.0025	118	
	18-Feb-03	5.65	0.6	2.3	73.0	0.00	0.0022	304	
	30-Jul-03	3.80	0.1	0.0	54.0	0.00	0.0010	224	
	28-Jan-04	7.32	0.0	0.0	80.0	0.00	0.0200	130	
	3-Aug-04	10.40	0.0	0.0	77.0	0.00	0.0028	185	
	1-Feb-05	6.99	1.7	0.0	52.0	0.00	<0.0050	91	
	<b>5-Jul-05</b>	<b>10.38</b>	<b>1.2</b>	<b>0.0</b>	<b>80.0</b>	<b>0.00</b>	<b>&lt;0.005</b>	<b>125</b>	
<b>LFR-1</b>	9-Aug-00							462	
	11-Aug-00						0.0096		
LFR-1-field	9-Aug-00	3.63		5.5	30.0				1.5
	30-Oct-00	2.70	0.0	39.0	42.0	< 1.0	0.0004		
LFR-1-field/split	30-Oct-00	2.95		10.3/10.0	29/29	0.01/0.01		77	1
LFR-1 split	30-Oct-00	3.40	0.0	40.0	43.0	< 1.0	0.0007		
	29-Jan-01	5.10	<0.01	<0.10	51.0	<1.0	0.0001		0.43
LFR-1-field	29-Jan-01	3.78	0.0		36.0	0.00		383	
LFR-1 Dup	29-Jan-01	4.60	<0.01	<0.10	50.0	<1.0	0.0000		0.32
	26-Apr-01	3.20	0.0	12.9	16.0	0.00	0.0003	224	NM
	26-Jul-01	1.07	0.0	8.0	25.0	0.01	0.0084	238	
LFR-1 field	18-Oct-01	1.03	0.0	6.9	24.0	0.18	0.0054	119	NM
	31-Jan-02	1.80	0.3	5.5	31.0	0.00	0.0062	163	
	16,17-Apr-02	1.68	0.3	1.5	38.0	0.39	0.0030	240	
	17,18-Jul-02	0.00	0.0	6.1	3.0	0.07	0.0047	209	
	22,23-Oct-02	0.00	0.4	0.0	23.0	0.15	0.0008	265	
	18-Feb-03	7.76	0.0	4.3	30.0	0.00	0.0008	260	
	30-Jul-03	0.58	0.3	0.0	10.0	0.00	0.0004	190	
	29-Jan-04	3.12	0.5	0.0	57.0	0.00	0.0011	19	
	4-Aug-04	6.26	5.8	0.0	17.0	0.00	0.0010	62	
	2-Feb-05	5.24	0.0	0.0	1.0	0.00	0.0120	93	
	<b>6-Jul-05</b>	<b>8.53</b>	<b>0.2</b>	<b>2.5</b>	<b>40.0</b>	<b>0.00</b>	<b>&lt;0.005</b>	<b>110</b>	
<b>LFR-2</b>	11-Aug-00						6.6000	270	
LFR-2-field	11-Aug-00	0.48		1.5	-1.0	2.70			1200
	2-Nov-00	2.20	8.8	0.3	5.4	5.30	8.5000		
LFR-2-field	2-Nov-00	0.47		0.5	-1.0	6.05		-24	
	30-Jan-01	4.40	8.9	1.0	8.3	4.60	4.6000		1.1
LFR-2-field	30-Jan-01	0.61	10.7	2.9		1.02		210	
	27-Apr-01	1.40	0.4	1.6	1.0	2.66	14.0000	9	NM
	26-Jul-01	0.55	0.2	0.0	0.0	4.50	10.0000	-20	
LFR-2 field	18-Oct-01	0.43	0.0	0.0	0.0	6.50	11.0000	-75	NM
	31-Jan-02	1.00	0.0	2.6	19.0	1.81	11.0000	-14	
	16,17-Apr-02	0.00	0.0	1.7	0.0	7.20	16.0000	-6	
	17,18-Jul-02	0.00	13.9	0.0	0.0	7.20	9.6000	-64	
	22,23-Oct-02	0.00	10.7	0.5	0.0	3.30	4.7000	-82	
	18-Feb-03	0.42	9.0	0.0	0.0	3.30	9.6000	-53	
	30-Jul-03	0.00	3.0	0.0	0.0	3.30	8.7000	-85	
	4-Aug-04	4.78	1.6	0.0	0.0	3.30	6.2000	-93	
	1-Feb-05	1.77	12.1	0.0	0.0	1.79	11.0000	69	
	<b>5-Jul-05</b>	<b>4.21</b>	<b>18.2</b>	<b>0.0</b>	<b>0.0</b>	<b>3.30</b>	<b>11.0000</b>	<b>-60</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 LFR-3 split LFR-3-field LFR-3-field LFR-3-field LFR-3 Field LFR-3 Field LFR-3 Field	10-Aug-00			2.4	64.0	< 0.1	0.0005	464	850	
	10-Aug-00							< 0.0005		
	10-Aug-00	1.30		2.4	64.0					
		1-Nov-00	4.70	0.0	8.8	74.0	< 1.0	0.0003	75	
		1-Nov-00	0.58		1.8	57.0	0.00			
		31-Jan-01	4.10	<0.01	1.2	58.0	< 1.0	0.0004		
		30-Jan-01	1.75		0.0	44.0	0.00		195	
		11-Jun-01	1.00	0.0	0.8	28.0	0.00	0.0086	201	NM
		26-Jul-01	1.29	0.4	0.0	51.0	0.60	0.0035	228	
		18-Oct-01	0.54	0.0	0.8	30.0	0.11	0.0093	139	NM
		31-Jan-02	0.80	0.4	2.6	32.0	0.00	0.0072	212	
		16,17-Apr-02	0.19	0.4	0.0	55.0	0.79	0.0096	228	
		17,18-Jul-02	0.00	0.2	1.7	42.0	0.00	0.0068	166	
		22,23-Oct-02	0.11	0.5	0.0	36.0	0.00	0.0035	186	
		19-Feb-03	1.10	0.5	0.0	19.0	0.54	0.0069	217	
	30-Jul-03	0.17	0.1	0.0	21.0	0.00	0.0069	167		
	29-Jan-04	1.39	0.0	0.0	0.0	3.30	0.0011	64		
	3-Aug-04	5.14	3.9	0.0	8.0	0.00	0.0054	175		
	2-Feb-05	2.74	0.0	0.0	0.0	0.00	<0.005	94		
	5-Jul-05	7.59	0.5	35.0	80.0	3.29	<0.005	85		
LFR-4 LFR-4-field LFR-4-field LFR-4-field LFR-4 Field LFR-4 Field	11-Aug-00			0.7	1.0	0.14	0.0620	402	1.1	
	11-Aug-00	1.13		< 0.10	2.9	1.10				
		31-Oct-00	1.90	2.2	1.0		0.61	3.2000	-80	
		31-Oct-00	0.64							
		1-Feb-01	3.20	2.8	1.5	2.8	1.80	2.2000		1.5
		1-Feb-01	0.55	4.5	8.0	0.0	1.50		59	
		27-Apr-01	5.60	0.0	1.7	0.0	1.37	7.0000	14	NM
		26-Jul-01	1.65	0.0	0.0	0.0	0.84	1.2000	18	
		16,17-Apr-02	0.00	1.0	2.6	6.0	4.80	12.0000	-4	
		17,18-Jul-02	0.79	6.8	0.0	0.0	>3.3	2.8000	3	
		22,23-Oct-02	0.00	4.0	0.0	0.0	2.55	1.3000	-63	
		19-Feb-03	0.50	6.8	0.0	18.0	3.30	4.4000	-41	
		30-Jul-03	0.28	5.1	0.0	0.0	3.30	3.9000	-49	
		29-Jan-04	1.64	5.0	0.0	0.0	0.52	4.0000	1	
		4-Aug-04	NM	NM	NM	NM	NM	NM	NM	
	5-Jul-05	5.22	2.8	0.0	0.0	3.30	5.4000	61		
SOMA-1	18-Oct-01	4.19	0.3	0.2	33.0	0.52	0.1200	151	NM	
	31-Jan-02	0.40	0.0	0.0	18.0	0.00	0.5800	141	NM	
	16,17-Apr-02	0.00	0.0	0.6	31.0	0.10	0.8200	213		
	17,18-Jul-02	0.00	0.0	1.8	28.0	0.05	0.4400	149		
	22,23-Oct-02	0.00	0.7	0.0	4.0	0.00	0.6800	131		
	18-Feb-03	5.12	0.4	0.0	1.0	0.00	0.4100	258		
	30-Jul-03	0.00	0.4	0.0	1.0	0.00	0.9900	74		
	29-Jan-04	0.29	0.5	0.0	13.0	0.47	0.8500	133		
	3-Aug-04	4.44	0.0	0.0	25.0	0.00	0.5000	152		
	1-Feb-05	1.57	0.1	0.0	0.0	0.00	0.8300	137		
	5-Jul-05	7.58	0.5	0.0	16.0	0.21	1.5000	72		
SOMA-2	18-Oct-01	0.57	0.0	0.4	0.0	40.00	6.6000	-89	NM	
	31-Jan-02	0.70	3.8	0.8	0.0	9.00	13.0000	103	NM	
	16,17-Apr-02	0.00	0.5	0.1	0.0	7.40	14.0000	-69		
	17,18-Jul-02	0.00	5.7	0.0	0.0	>3.3	9.4000	-87		
	22,23-Oct-02	0.35	1.7	2.8	15.0	3.30	2.2000	-98		
	19-Feb-03	3.17	1.9	1.7	0.0	2.89	2.4000	-72		
	30-Jul-03	2.71	1.0	0.0	0.0	0.83	1.0000	-53		
	28-Jan-04	4.52	0.2	0.0	0.0	1.46	1.7000	-8		
	4-Aug-04	7.06	0.4	0.0	0.0	0.31	1.4000	-33		
2-Feb-05	1.17	8.4	0.0	0.0	3.30	13.0000	-95			
	6-Jul-05	5.67	1.1	0.0	0.0	3.30	11.0000	-66		



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**in Groundwater Samples**  
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**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-3</b>	18-Oct-01	1.32	0.0	0.0	33.0	0.22	1.0000	2	NM
	31-Jan-02	1.00	22.0	2.0	54.0	0.62	0.4600	-71	NM
	16,17-Apr-02	2.60	0.0	0.6	42.0	0.77	0.4100	29	
	17,18-Jul-02	0.97	10.9	0.0	23.0	>3.3	0.9400	-51	
	22,23-Oct-02	0.30	2.7	0.1	7.0	3.26	4.2000	-98	
	19-Feb-03	0.18	0.0	0.0	0.0	3.30	9.0000	-88	
	30-Jul-03	0.00	2.0	0.0	0.0	3.30	8.7000	-106	
	29-Jan-04	2.30	3.5	0.0	0.0	3.30	8.4000	-85	
	4-Aug-04	5.35	0.0	0.0	0.0	3.30	6.5000	-105	
	2-Feb-05	3.66	0.3	0.0	0.0	0.00	2.7000	-73	
6-Jul-05	<b>9.65</b>	<b>0.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.77</b>	<b>2.5000</b>	<b>84</b>		
<b>SOMA-4</b>	18-Oct-01	0.83	4.0	22.0	17.0	0.22	1.2000	88	NM
<b>SOMA-5</b>	4-Aug-04	5.65	0.0	0.0	0.0	0.23	1.7000	-143	
	2-Feb-05	2.40	1.5	0.0	0.0	3.30	3.0000	-81	
	6-Jul-05	<b>8.91</b>	<b>20.9</b>	<b>0.0</b>	<b>0.0</b>	<b>3.30</b>	<b>20.0000</b>	<b>-113</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.

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

<b>SOMA-4</b>			
<b>Date</b>	<b>Depth to Water (feet)</b>	<b>Depth to Free Product (feet)</b>	<b>Thickness of Free Product (feet)</b>
<b>2002</b>			
31-Jan-02	11.30	8.80	2.50
10-Apr-02	12.45	9.58	2.87
29-Apr-02	13.00	9.80	3.20
10-Sep-02	16.75	10.26	6.49
19-Sep-02	16.32	10.64	5.68
27-Sep-02	16.59	10.65	5.94
3-Oct-02	16.95	11.65	5.30
7-Oct-02	17.40	11.01	6.39
8-Oct-02	17.11	10.75	6.36
14-Oct-02	17.51	10.53	6.98
25-Oct-02	16.90	10.96	5.94
01-Nov-02	15.59	11.70	3.89
14-Nov-02	16.24	11.20	5.04
20-Nov-02	13.44	11.90	1.54
15-Dec-02	12.73	12.10	0.63
<b>2003</b>			
18-Jul-03	17.70	7.20	10.50
<b>2004</b>			
28-Jan-04	12.00	2.90	9.10
<b>2005</b>			
29-Jun-05	10.40	10.10	0.30
18-Jul-05	10.35	9.90	0.45
25-Jul-05	10.75	10.00	0.75

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

<b>B-8</b>			
Date	Depth to Water (feet)	Depth to Free Product (feet)	Thickness of Free Product (feet)
<b>2001</b>			
18-Oct-01	12.31	10.21	2.10
<b>2002</b>			
31-Jan-02	6.79	6.29	0.50
10-Apr-02	8.22	8.08	0.14
29-Apr-02	8.55	8.45	0.10
3-Oct-02	10.40	9.64	0.76
7-Oct-02	10.37	8.79	1.58
8-Oct-02	10.28	9.68	0.60
14-Oct-02	10.30	9.69	0.61
22-Oct-02	10.39	9.70	0.69
<b>2003</b>			
18-Jul-03	9.40	9.17	0.23
<b>2005</b>			
29-Jun-05	11.50	11.25	0.25
18-Jul-05	10.90	10.10	0.80
25-Jul-05	10.92	10.20	0.72

# FIGURES



approximate scale in feet

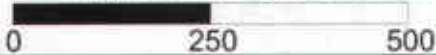
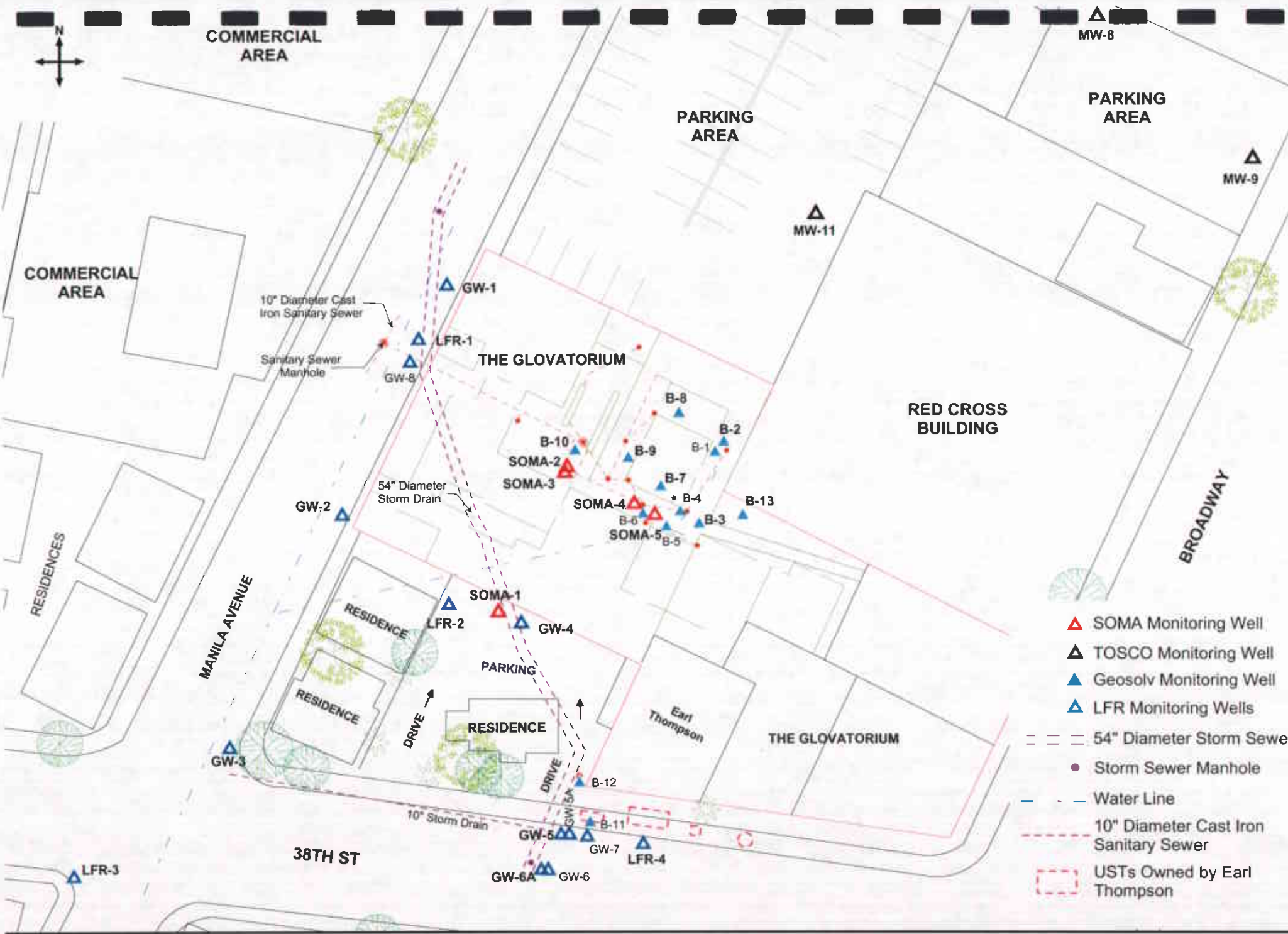


Figure 1: Site vicinity map.



approximate scale in feet



Figure 2: Map showing the approximate locations of groundwater monitoring wells.

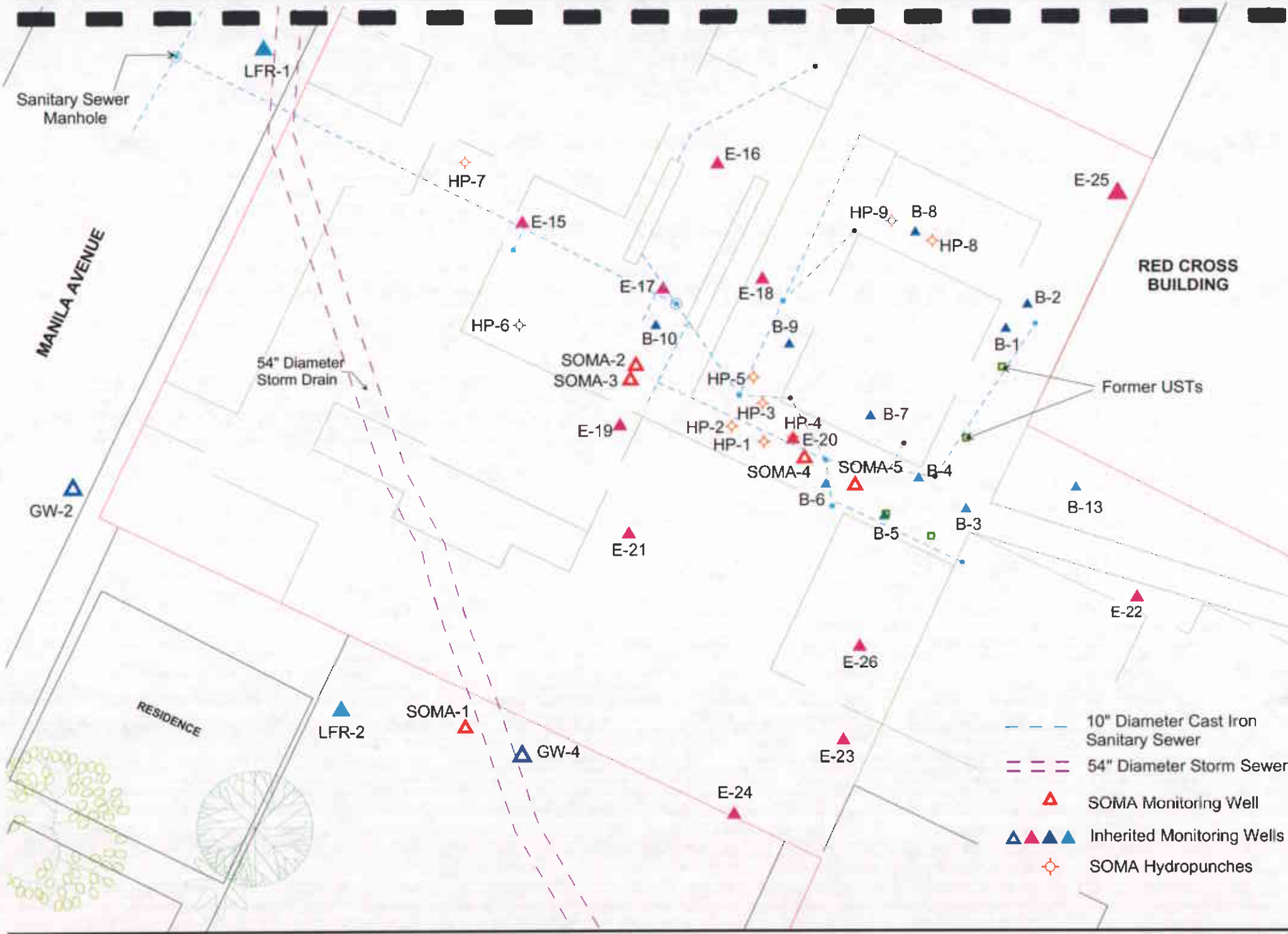
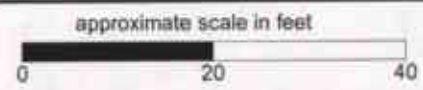


Figure 2a: Map showing the approximate locations of SOMA monitoring wells, SOMA hydropunches, inherited monitoring locations, and utility lines within the former Glovatorium building.



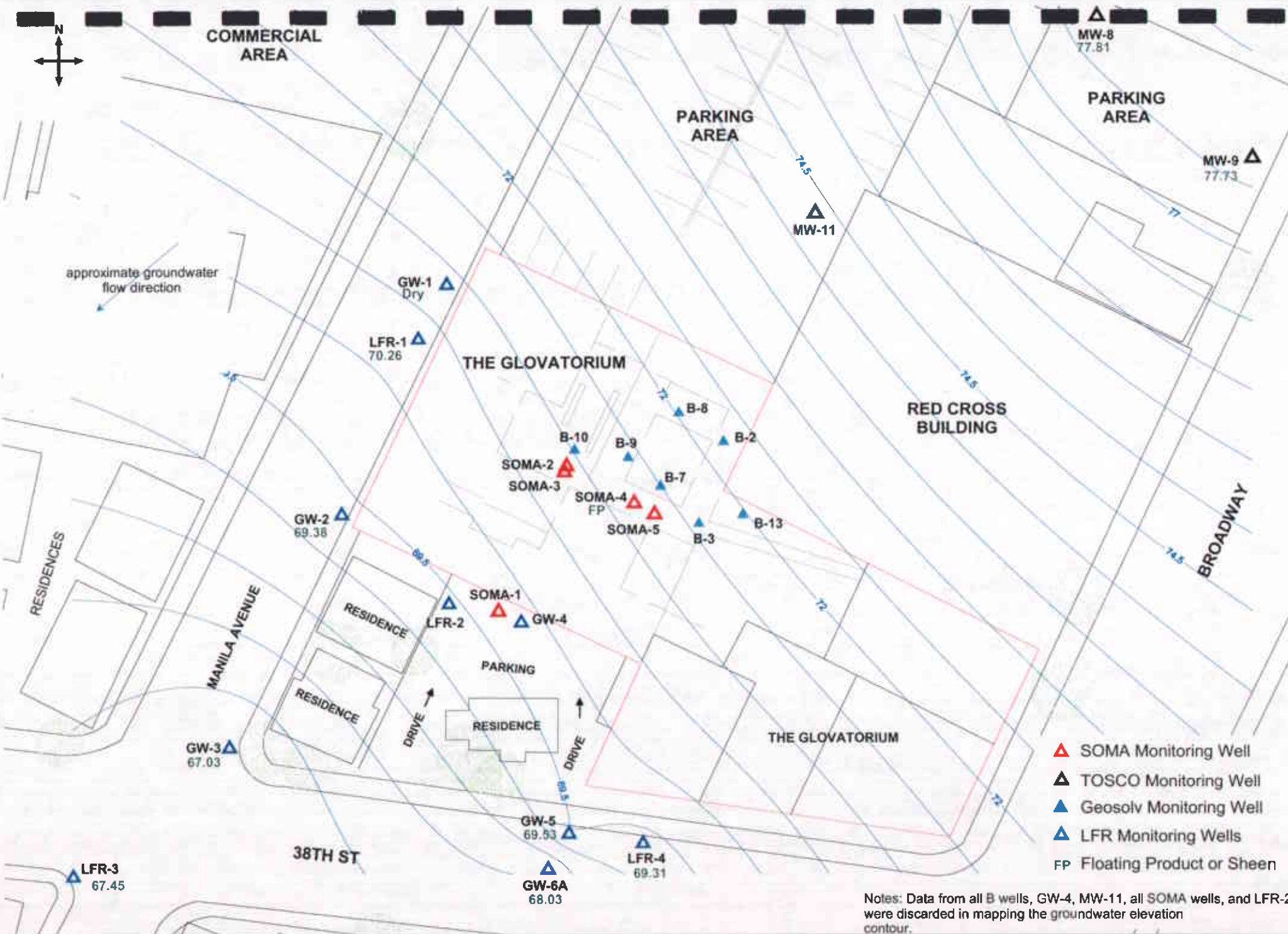


Figure 3: Groundwater elevation contour map in feet. July 2005.



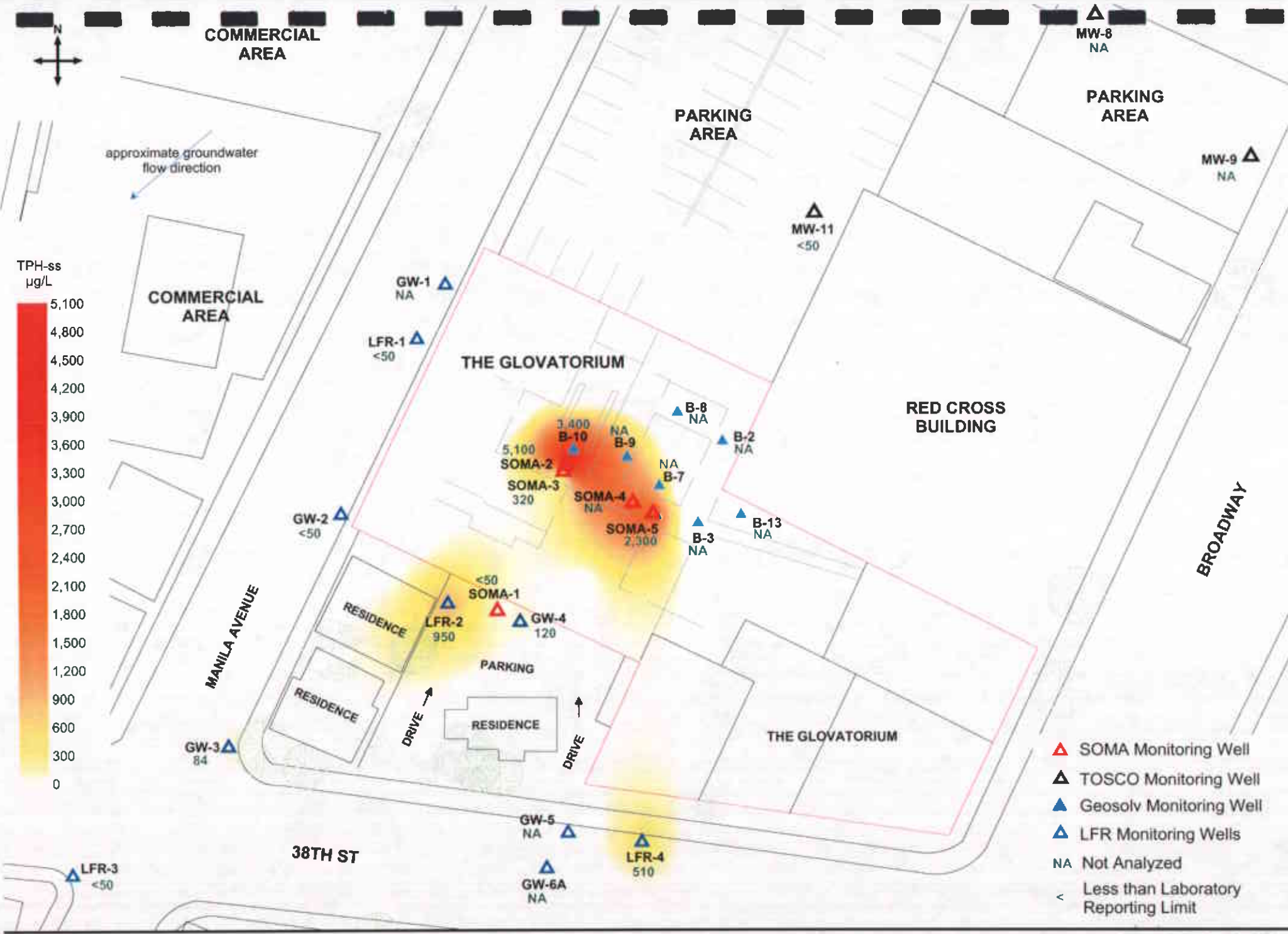


Figure 4: Contour map of TPH-ss concentrations in groundwater. July 2005.

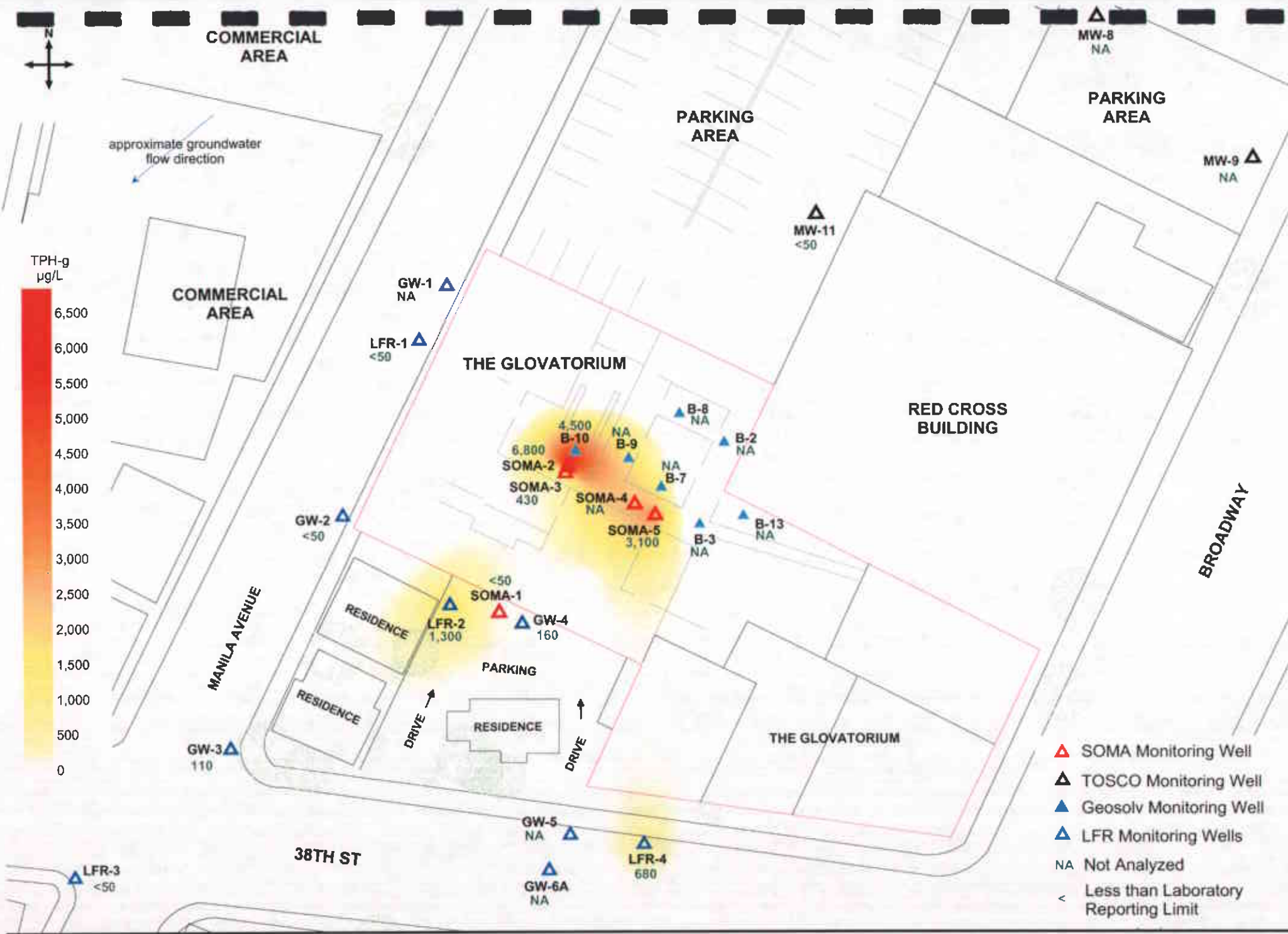


Figure 5: Contour map of TPH-g concentrations in groundwater. July 2005.

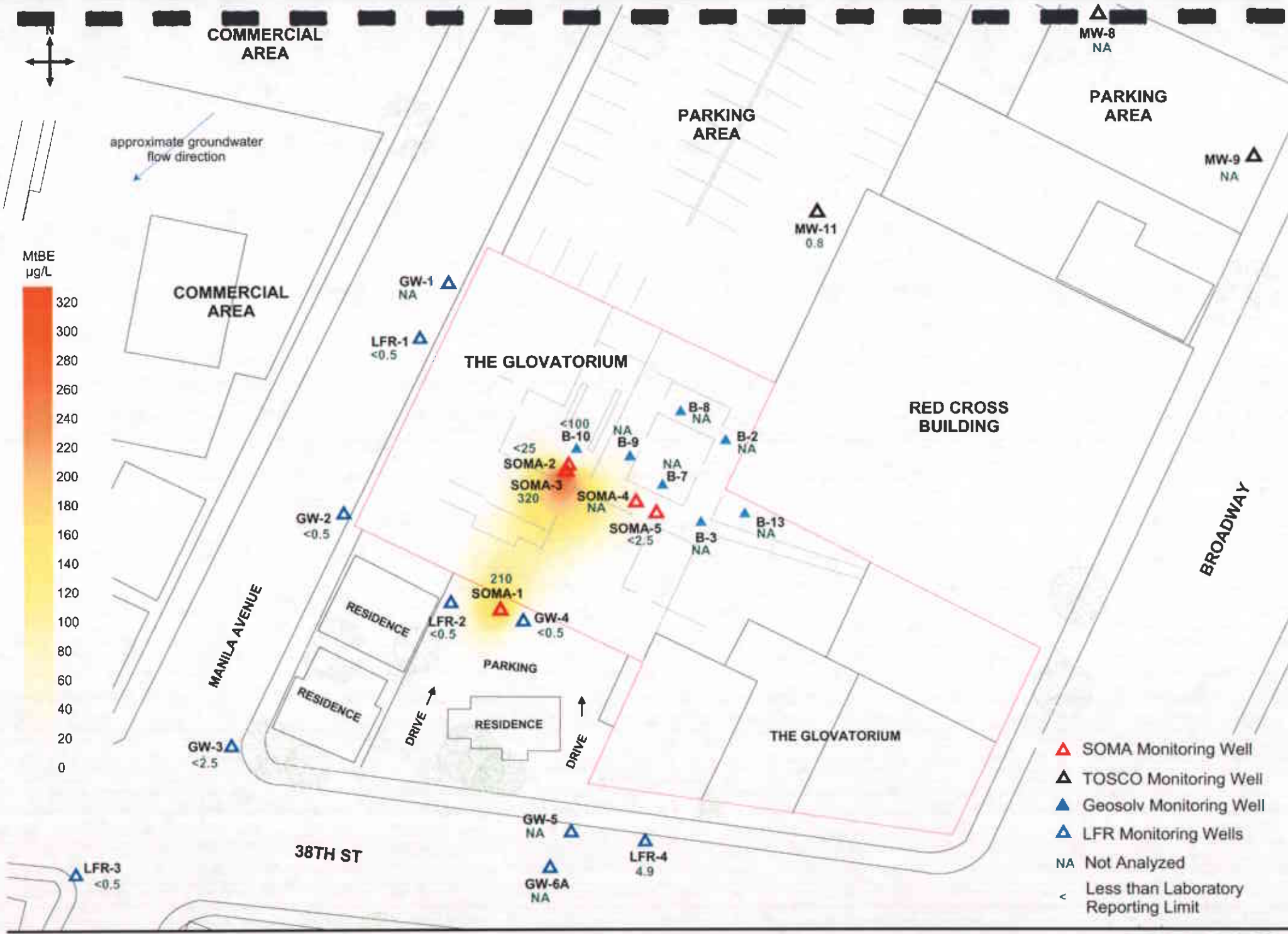
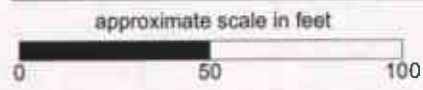


Figure 6: Contour map of MtBE concentrations in groundwater (EPA Method 8260B). July 2005.



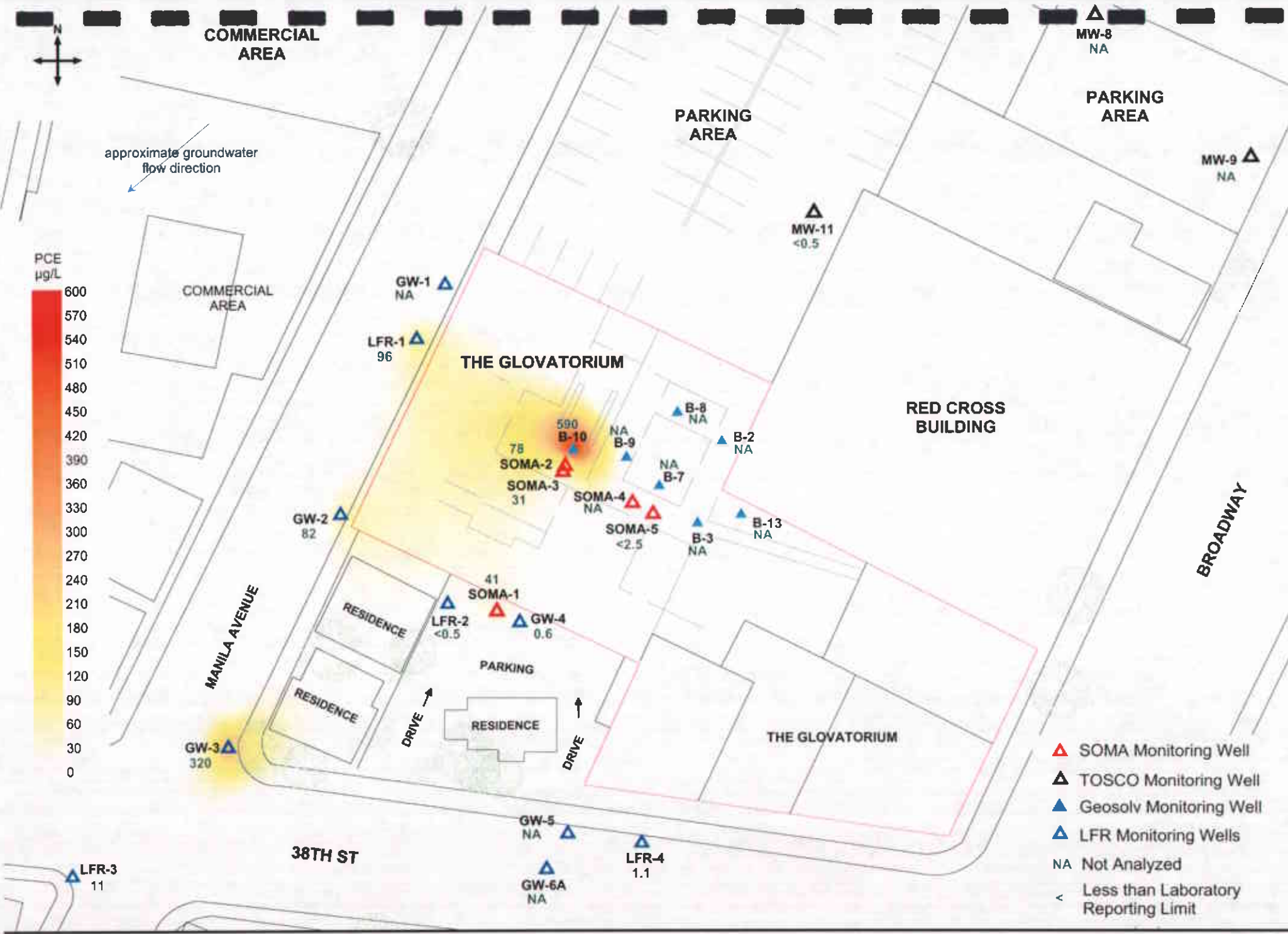


Figure 7: Contour map of PCE concentrations in groundwater. July 2005.

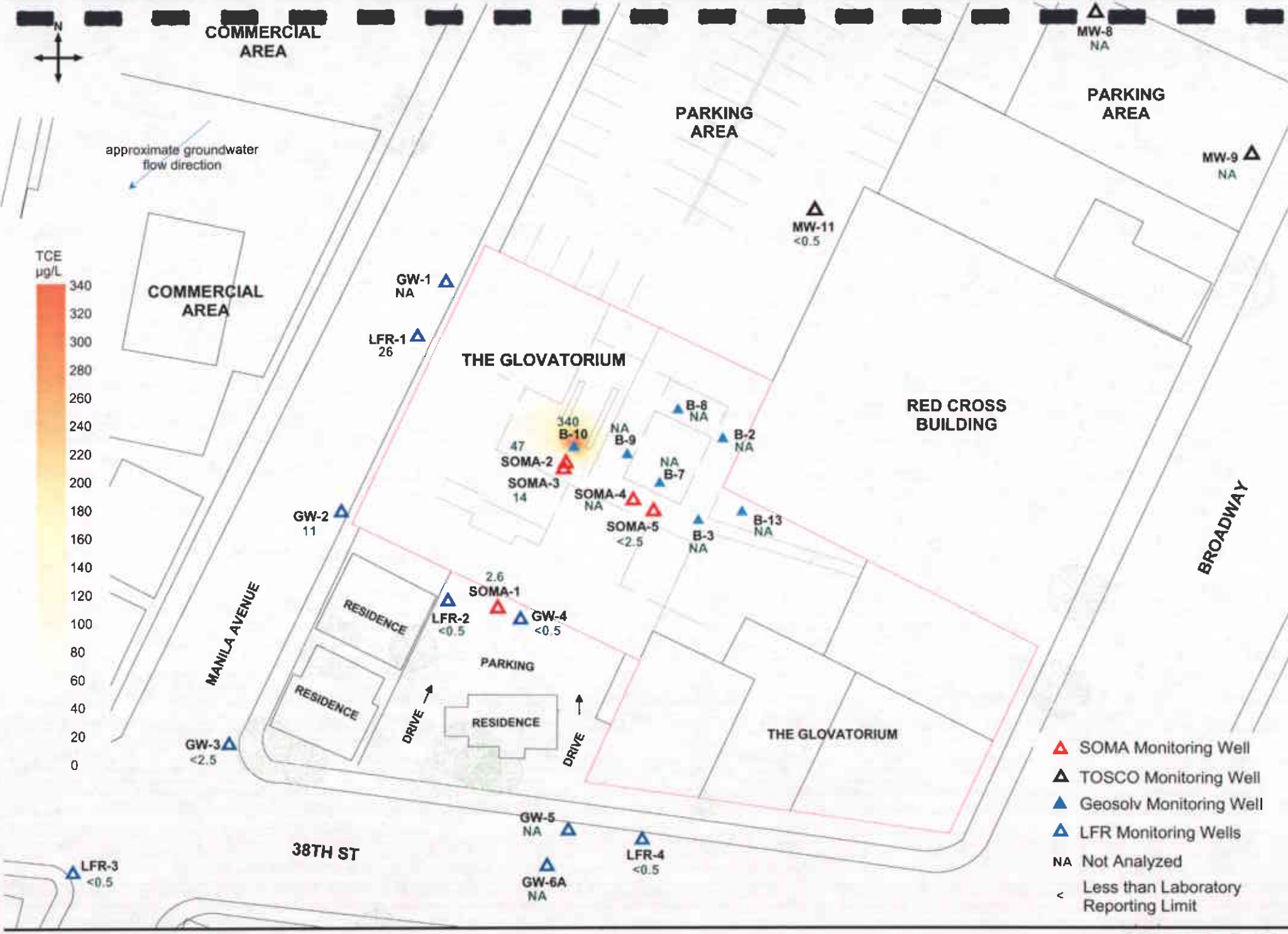


Figure 8: Contour map of TCE concentrations in groundwater. July 2005.

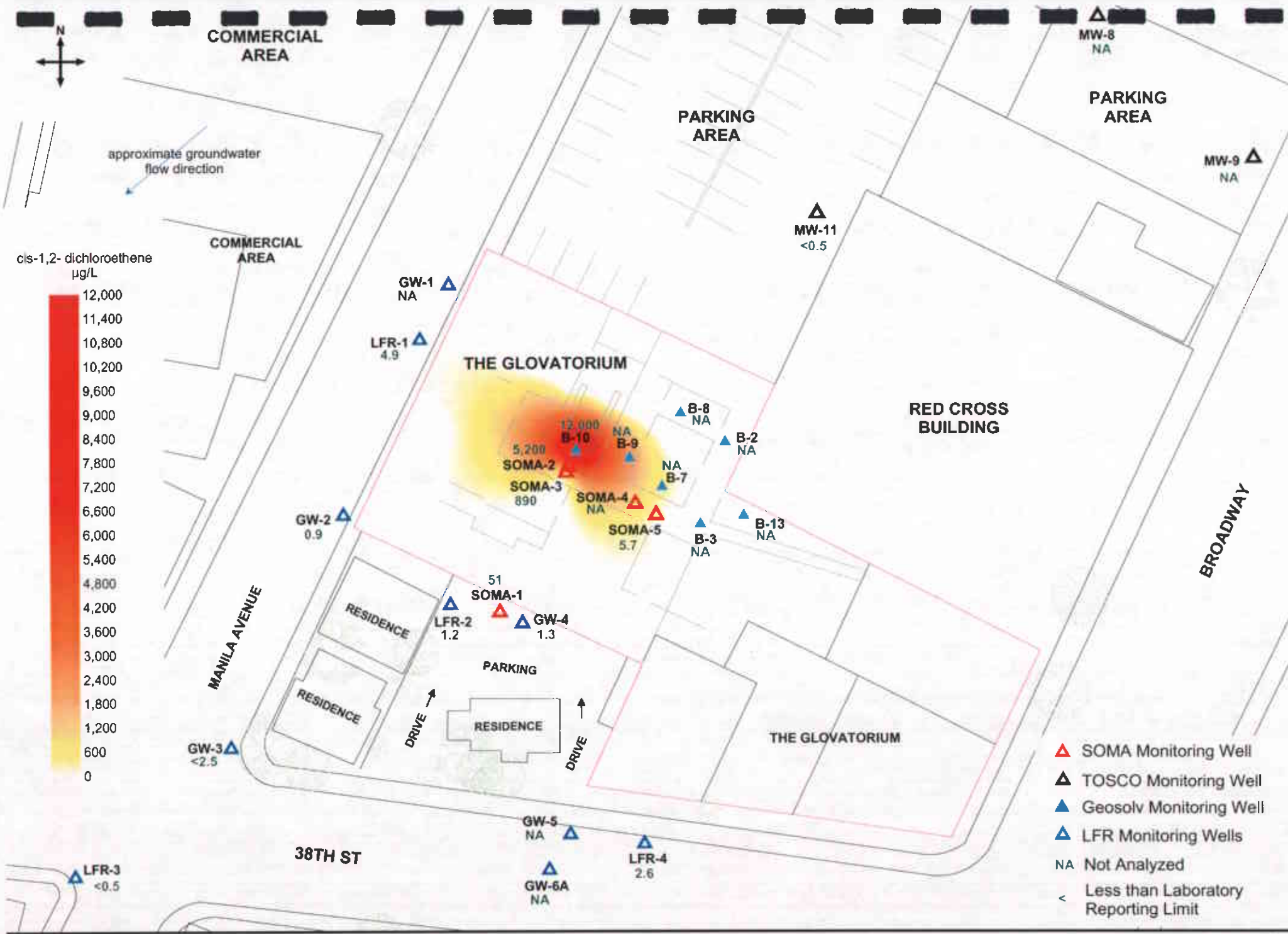


Figure 9: Contour map of cis-1,2-dichloroethene concentrations in groundwater. July 2005.

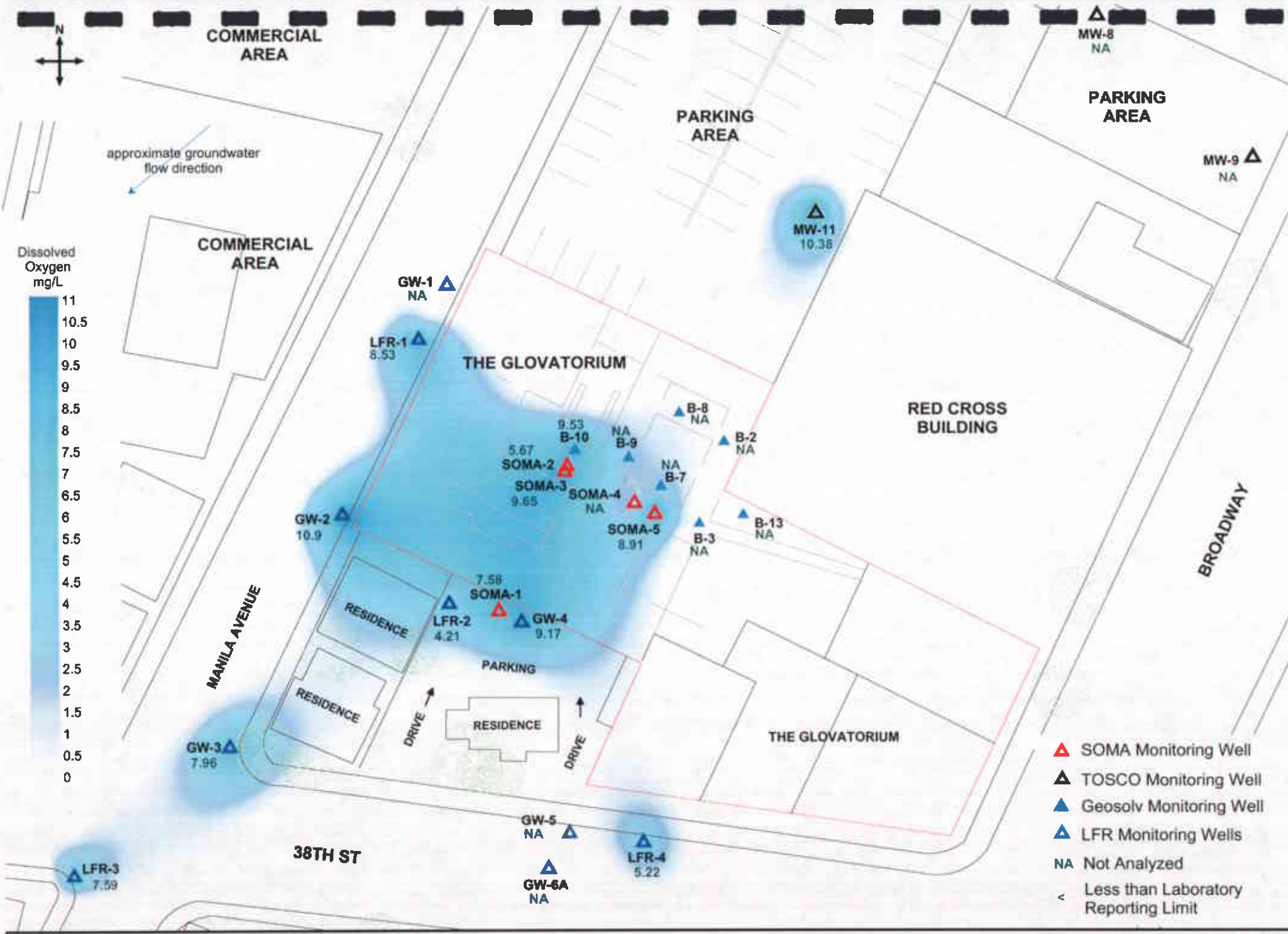


Figure 10: Contour map of dissolved oxygen concentrations in groundwater. July 2005.

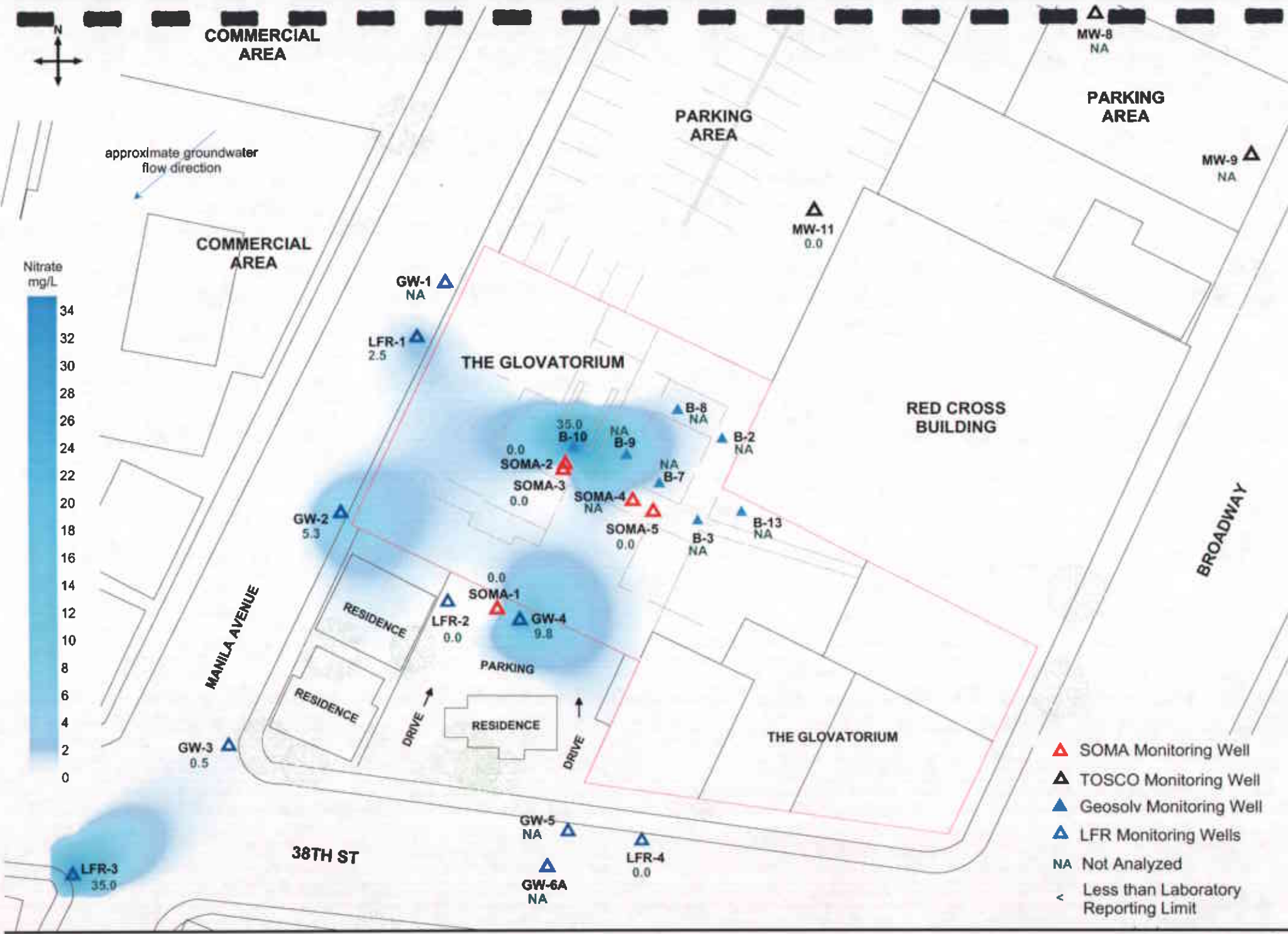


Figure 11: Contour map of nitrate concentrations in groundwater. July 2005.



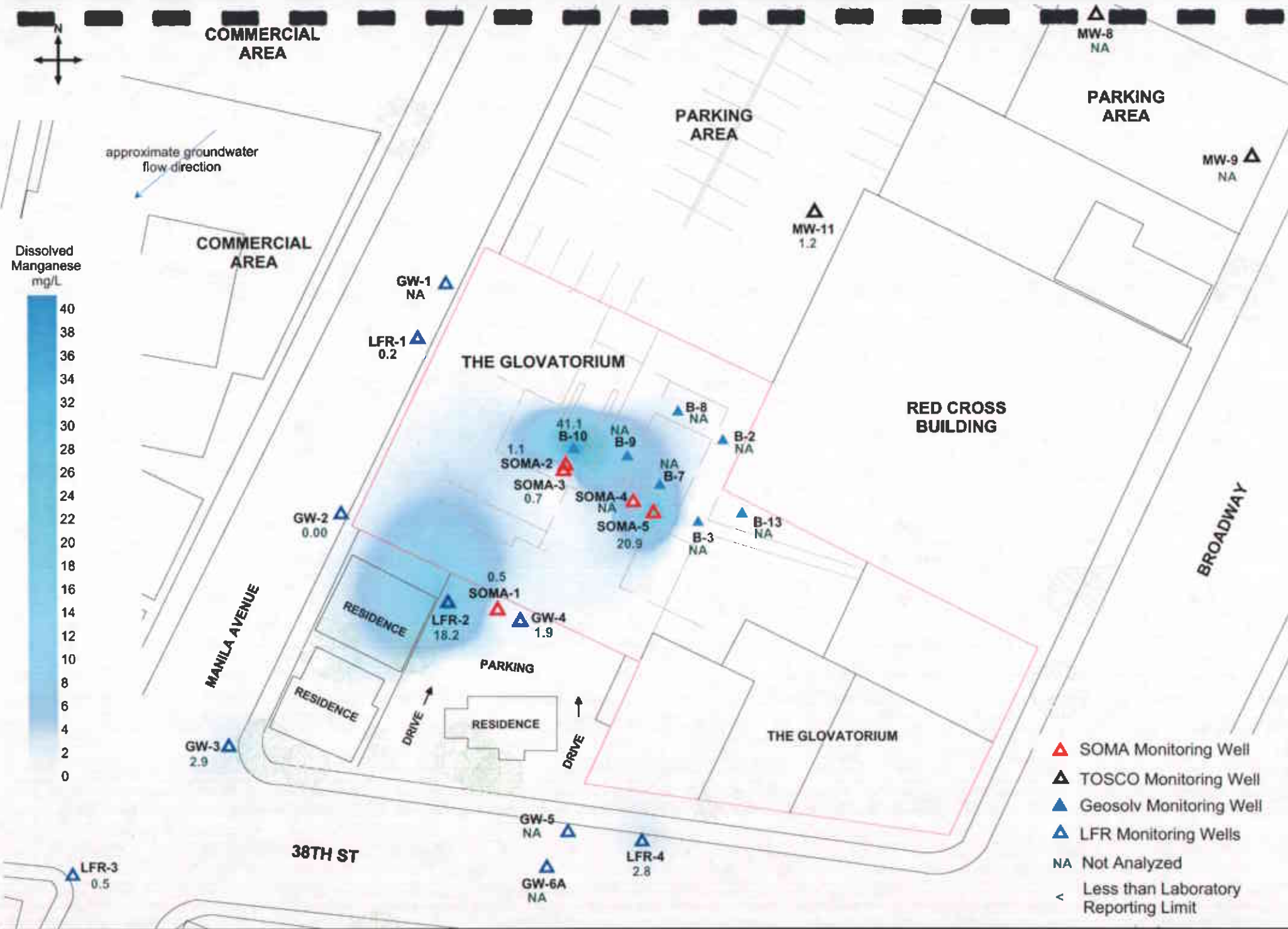


Figure 12: Contour map of dissolved manganese concentrations in groundwater, July 2005.

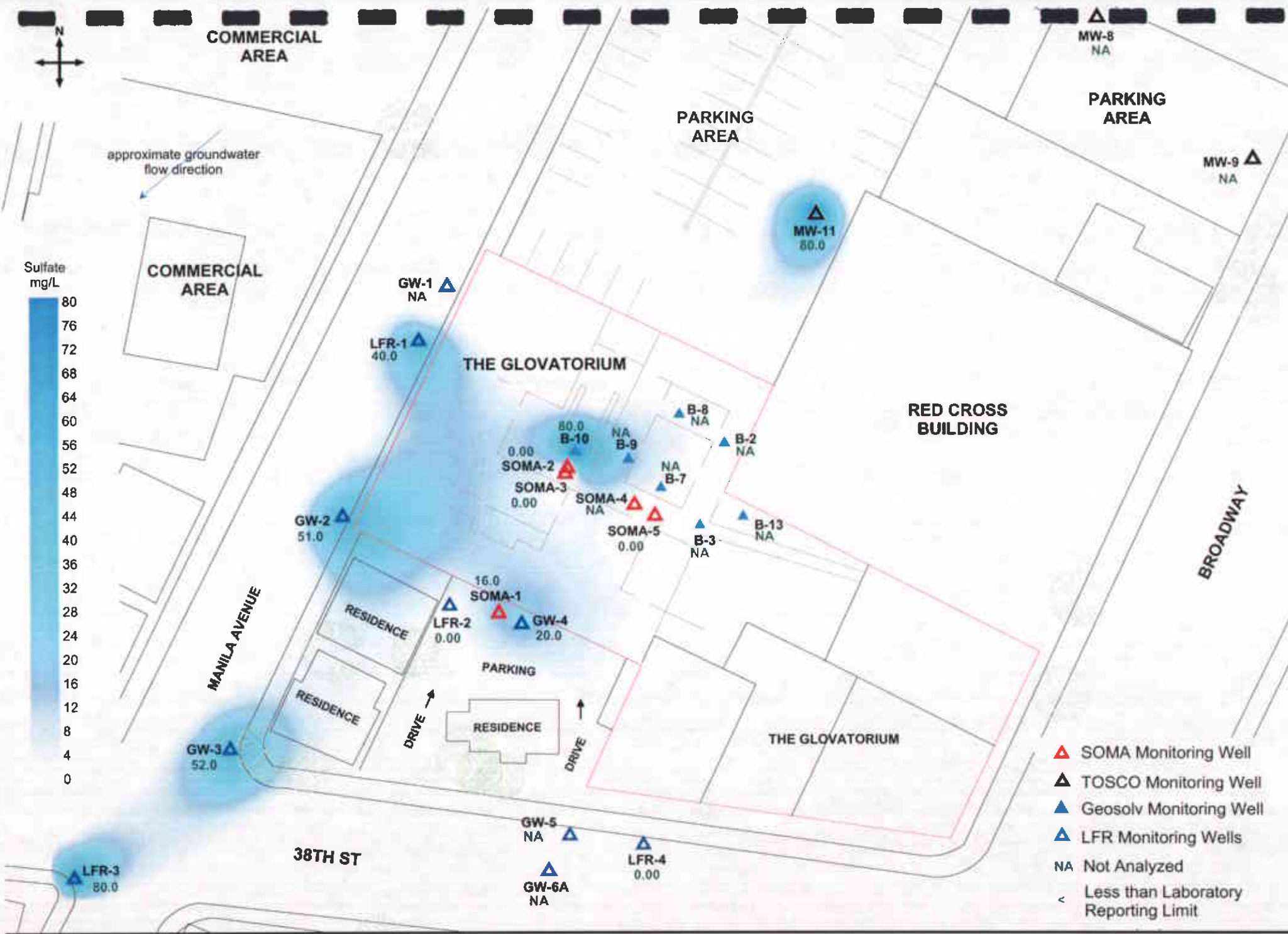


Figure 13: Contour map of sulfate concentrations in groundwater. July 2005.

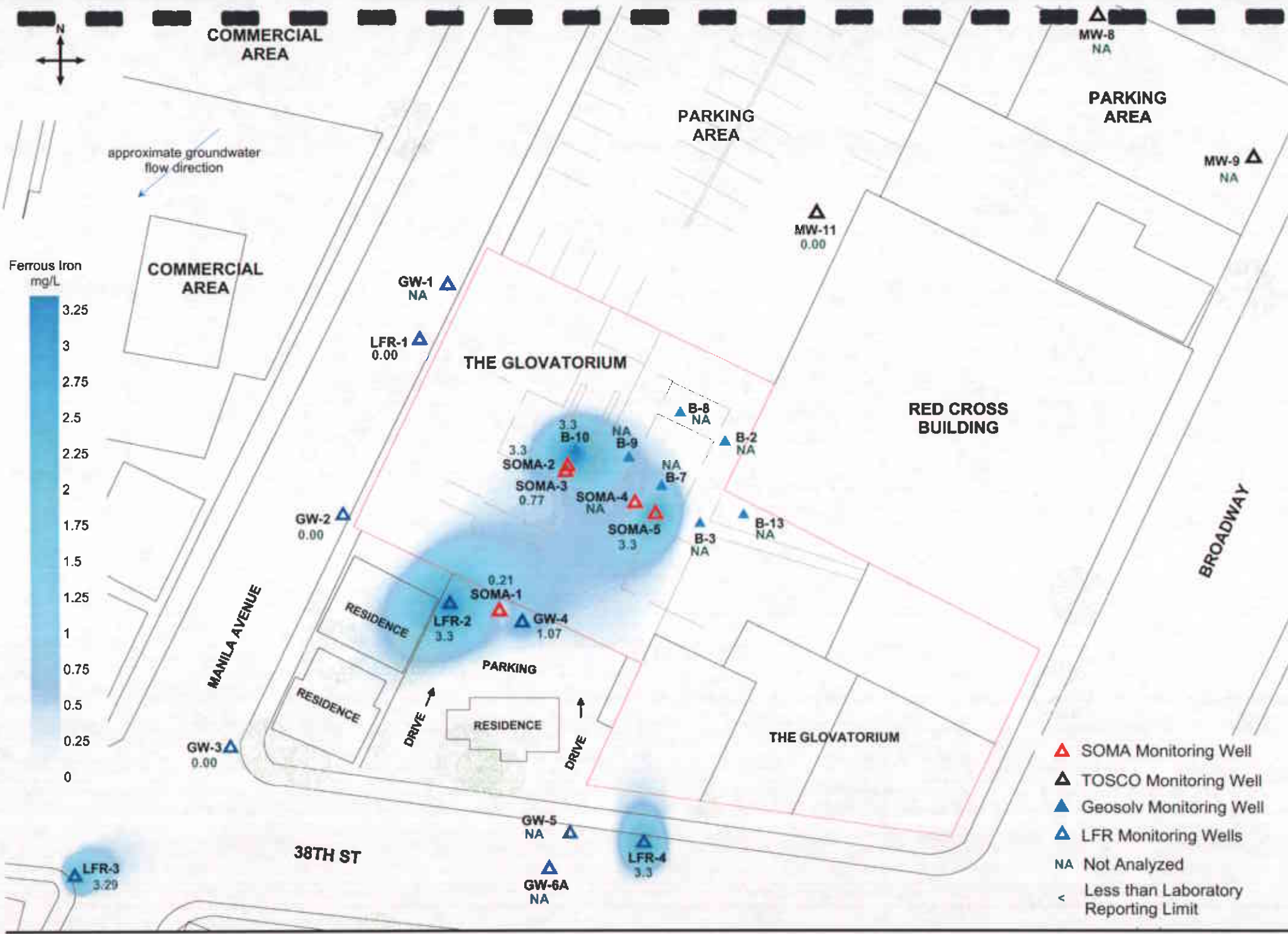


Figure 14: Contour map of ferrous iron concentrations in groundwater. July 2005.

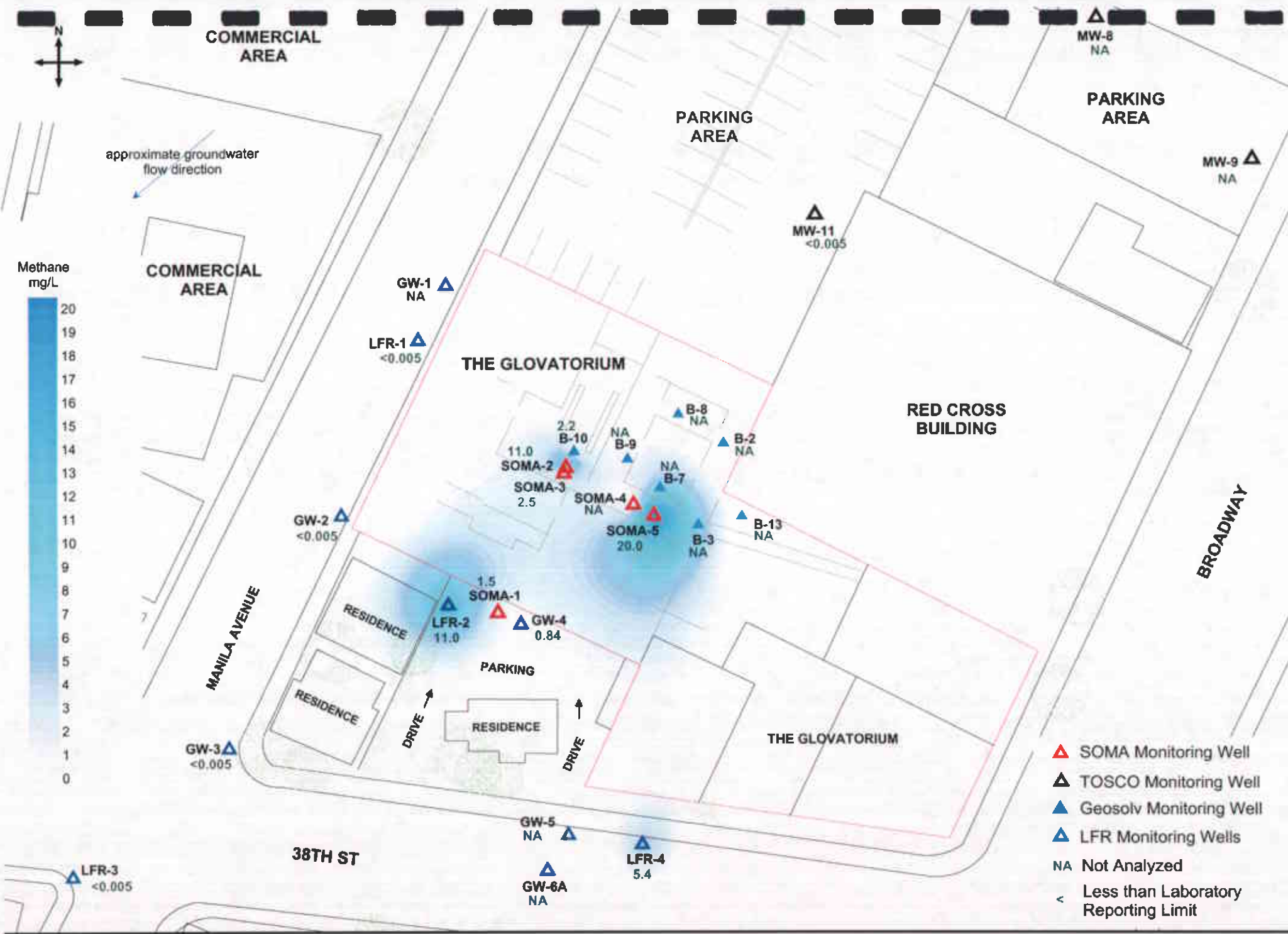
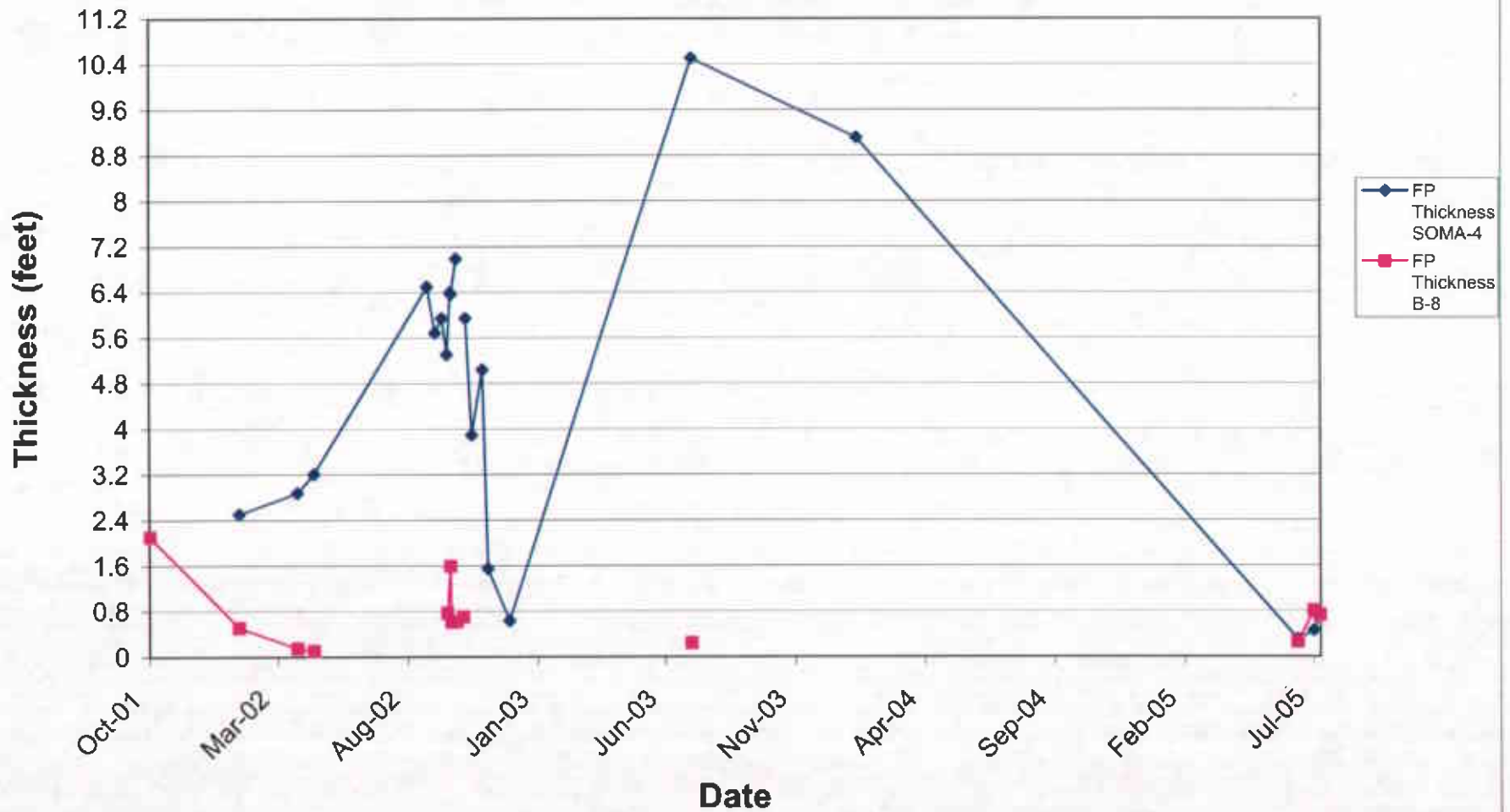


Figure 15: Contour map of methane concentrations in groundwater. July 2005.

**Figure 16**  
**Free Product Thickness**  
**Former Glovatorium Site**  
**3815 Broadway, Oakland, California**



# **APPENDIX A**

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



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: 8.59 feet  
 Groundwater Elevation: 72.91 feet  
 Water Column Height: 9.31 feet  
 Purged Volume: 400 gallons  
ml

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July ~~26~~, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: No  Yes  Describe: MURDY  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: slight solvent odor

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
2:08 PM	started purging well						
2:09 PM	200 ml	6.74	16.41	9.19	1490	999	68
2:10 PM	400	6.70	16.55	9.53	1420	999	12
2:15 SAMPLE							

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
2:15 PM	3.30	3.30	35	0.348	80	41.1

Notes:



Well Name: GW-2  
 Casing Diameter: 3/4 inch  
 Depth of Well: 20 feet  
 Top of Casing Elevation: 79.14 feet  
 Depth to Groundwater: 9.76 feet  
 Groundwater Elevation: 69.38 feet  
 Water Column Height: 10.24 feet  
 Purged Volume: 400 ml gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July ~~26~~, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump   
 Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

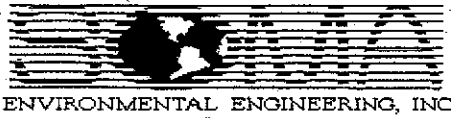
Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
10:55 AM	started purging well						
10:57 AM	200ml	6.89	19.30	NR	602	388	91
10:59 AM	400ml	6.78	19.07	10.90	529	533	90
11:02 AM	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
11:02 AM	✓	✓	5.3	✓	51	✓

Notes:





Well Name: GW-3  
 Casing Diameter: 3/4 inch  
 Depth of Well: 20 feet  
 Top of Casing Elevation: 77.92 feet  
 Depth to Groundwater: 10.89 feet  
 Groundwater Elevation: 67.03 feet  
 Water Column Height: 9.11 feet  
 Purged Volume: 400ml gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July 16, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
10:23 AM	Started purging well						
10:24 AM	200ml	6.94	18.97	9.64	470	158	61
10:25 AM	400ml	6.90	18.99	7.96	415	294	67
10:27 AM	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
10:27 AM	0	6	0.5	0	52	2.9

Notes:



Well Name: GW-4  
 Casing Diameter: 3/4 inch  
 Depth of Well: 12 feet  
 Top of Casing Elevation: 82.37 feet  
 Depth to Groundwater: 8.80 feet  
 Groundwater Elevation: 73.57 feet  
 Water Column Height: 3.20 feet  
 Purged Volume: 400 ml gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July 5-6, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

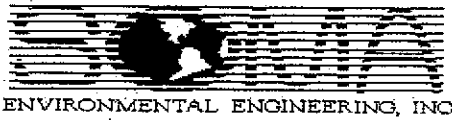
Color: No  Yes  Describe: cloudy  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
9:45 AM	Started purging well						
9:46 AM	300 ml	8.05	18.74	9.96	416	187	113
9:47 AM	400 ml	6.98	18.71	9.17	403	760	128
9:50 AM	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
9:50 AM	1.07	3.30	9.8	0.028	20	1.9

Notes:



Well Name: MW-11  
 Casing Diameter: 2 inch  
 Depth of Well: 19.00 feet  
 Top of Casing Elevation: 84.13 feet  
 Depth to Groundwater: 13.92 feet  
 Groundwater Elevation: 70.21 feet  
 Water Column Height: 5.08 feet  
 Purged Volume: 3 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July 5~~th~~, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump   
 Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1:55 PM	started purging well						
1:56 PM	0.5	5.77	21.43	NR	1270	115	145
1:58 PM	1.5	6.04	20.19	11.40	1160	118	135
2:02 PM	3.0	6.16	20.25	10.38	1130	97.7	125
2:04 PM	3.0	DRIED					

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
2:04 PM	0	0.13	0	0	80	1.2

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: LFR-1  
 Casing Diameter: 2 inch  
 Depth of Well: 19 feet  
 Top of Casing Elevation: 79.97 feet  
 Depth to Groundwater: 9.71 feet  
 Groundwater Elevation: 70.26 feet  
 Water Column Height: 9.29 feet  
 Purged Volume: 7 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July ~~26~~, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
11:32 AM	STARTED PURGE						
11:34 AM	2	6.71	19.01	10.32	541	428	99
11:36 AM	4	6.68	18.54	9.60	1270	446	110
11:38 AM	7	6.69	18.26	8.53	1360	767	110
11:40 AM	SAMPLES						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
11:45 AM	0	0.09	2.5	0.002	40	0.2

Notes:



Well Name: LFR-2  
 Casing Diameter: 2 inch  
 Depth of Well: 19 feet  
 Top of Casing Elevation: 81.89 feet  
 Depth to Groundwater: 10.37 feet  
 Groundwater Elevation: 71.52 feet  
 Water Column Height: 8.63 feet  
 Purged Volume: 5.0 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July 5~~X~~ 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

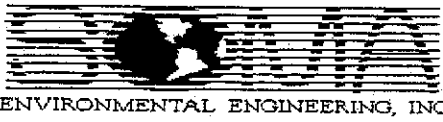
Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
2:44 PM	Started purging well						
2:46 PM	2.0	6.61	17.90	8.73	536	344	25
2:48 PM	4.0	6.58	17.75	5.98	704	318	-38
2:50 PM	5.0	6.56	18.18	4.21	712	267	-60
2:51 PM	DRIED						
2:53 PM	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
2:53 PM	3.3	3.3	Ø	Ø	Ø	18.2

Notes:



Well Name: LFR-3  
 Casing Diameter: 2 inch  
 Depth of Well: 22 feet  
 Top of Casing Elevation: 77.96 feet  
 Depth to Groundwater: 10.51 feet  
 Groundwater Elevation: 67.45 feet  
 Water Column Height: 11.49 feet  
 Purged Volume: 6 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July 5~~th~~ 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
4:54 PM	started purging well						
4:56 PM	2.0	6.71	20.29	9.90	351	650	80
4:59 PM	5.5	6.39	20.01	7.59	463	973	85
5 PM	6	DRIED					
5:03 PM	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
5:03 PM	3.29	3.3	35	0.205	20	0.5

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: LFR-4  
 Casing Diameter: 2 inch  
 Depth of Well: 19 feet  
 Top of Casing Elevation: 81.65 feet  
 Depth to Groundwater: 12.34 feet  
 Groundwater Elevation: 69.31 feet  
 Water Column Height: 6.66 feet  
 Purged Volume: 5 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July 5~~th~~, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

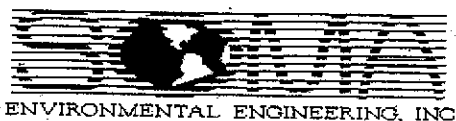
Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
4:07 PM	started purging well						
4:09 PM	1.5	6.67	19.38	6.48	705	376	79
4:11 PM	4	6.49	19.20	5.22	772	361	61
4:13 PM	5	DRIED					
4:15 PM	samples						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
4:15 PM	3.30	3.30	0	0	0	2.8

Notes:



Well Name: SOMA-1  
 Casing Diameter: 4 inch  
 Depth of Well: 40 feet  
 Top of Casing Elevation: 81.64 feet  
 Depth to Groundwater: 13.09 feet  
 Groundwater Elevation: 68.55 feet  
 Water Column Height: 26.91 feet  
 Purged Volume: 25 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July 5~~th~~, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

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

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
3:19 PM		started purging well					
3:23 PM	3.0	6.62	17.88	NR	992	308	73
3:27 PM	10.0	6.35	17.80	6.13	1250	233	71
3:40 PM	25	6.36	19.36	7.58	1220	685	72
3:42 PM	sample						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
3:42 PM	0.21	0.19	0	0	16	0.5

Notes:

NR not recorded, DO level was erroneous at start of purge cycle.





ENVIRONMENTAL ENGINEERING, INC

Well Name: SOMA-2  
 Casing Diameter: 2 inch  
 Depth of Well: 20 feet  
 Top of Casing Elevation: 81.39 feet  
 Depth to Groundwater: 8.61 feet  
 Groundwater Elevation: 72.78 feet  
 Water Column Height: 11.39 feet  
 Purged Volume: 8.5 gallons

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July ~~16~~ 6, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

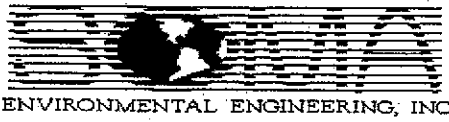
Color: No  Yes  Describe: \_\_\_\_\_  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: \_\_\_\_\_

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
3:16 PM	started purging well						
3:18 PM	2.0	6.79	16.21	9.96	1280	195	18
3:20 PM	3.5	6.92	16.11	8.21	1270	377	-15
3:24 PM	6.0	6.67	16.12	6.37	1290	999	-53
3:26 PM	8.5	6.64	16.12	5.67	1290	999	-66
3:30 PM	samples						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
3:30 PM	3.30	3.30	0	0	0	1.1

Notes:



Well Name: SOMA-3  
 Casing Diameter: 3/4 inch  
 Depth of Well: 30 feet  
 Top of Casing Elevation: 81.42 feet  
 Depth to Groundwater: 10.77 feet  
 Groundwater Elevation: 70.65 feet  
 Water Column Height: 19.23 feet  
 Purged Volume: 400 gallons  
ml

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July ~~8~~ 6, 2005  
 Sampler: Tony Perini.  
 Mehran Nowroozi

Purging Method: Bailer

Pump

Sampling Method: Bailer

Pump

Color: No

Yes

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

Sheen: No

Yes

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

Odor: No

Yes

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

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
1:31 PM	started purging well						
1:33 PM	200	6.64	17.40	NR	967	579	112
1:36 PM	400	6.56	16.79	9.65	935	999	84
1:38 PM	samples						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
1:38 PM	0.77	1.12	0	0	0	0.7

Notes:



ENVIRONMENTAL ENGINEERING, INC

Well Name: SOMA-5  
 Casing Diameter: 3/4 inch  
 Depth of Well: 26 feet  
 Top of Casing Elevation: 81.50 feet  
 Depth to Groundwater: 2.84 feet  
 Groundwater Elevation: 78.66 feet  
 Water Column Height: 23.16 feet  
 Purged Volume: 600 gallons  
 ml

Project #: 2511  
 Address: 3815 Broadway  
 Oakland, California  
 Date: July ~~26~~, 2005  
 Sampler: Tony Perini  
 Mehran Nowroozi

Purging Method: Bailer  Pump   
 Sampling Method: Bailer  Pump

Color: No  Yes  Describe: cloudy  
 Sheen: No  Yes  Describe: \_\_\_\_\_  
 Odor: No  Yes  Describe: slight solvent odor

Field Measurements:

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
2:43 PM	starts purging well						
2:44 PM	200	6.75	16.81	NR	1300	999	-101
2:45 PM	400	6.75	16.99	8.91	1150	831	-113
2:48 PM	600	DRIES					
2:50 PM	samples						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
2:50 PM	3.30	3.30	0	0	0	20.9

Notes:

# **APPENDIX B**

Chain of Custody Form and Laboratory Report

For the

Second Semi-Annual

2005 Groundwater Monitoring Event



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

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

A N A L Y T I C A L   R E P O R T


Prepared for:

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

Date: 20-JUL-05  
Lab Job Number: 180442  
Project ID: 2511  
Location: 3815 Broadway, Oakland

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.

Reviewed by:   
Project Manager

Reviewed by:   
Operations Manager

This package may be reproduced only in its entirety.

**CASE NARRATIVE**

Laboratory number: 180442  
Client: SOMA Environmental Engineering Inc.  
Project: 2511  
Location: 3815 Broadway, Oakland  
Request Date: 07/06/05  
Samples Received: 07/06/05

This hardcopy data package contains sample and QC results for thirteen water samples, requested for the above referenced project on 07/06/05. The samples were received cold and intact.

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

High surrogate recovery was observed for bromofluorobenzene (FID) in LFR-2 (lab # 180442-006); the corresponding trifluorotoluene (FID) surrogate recovery was within limits. No other analytical problems were encountered.

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

High surrogate recovery was observed for bromofluorobenzene in SOMA-5 (lab # 180442-011). No other analytical problems were encountered.

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

No analytical problems were encountered.

# CHAIN OF CUSTODY

## Curtis & Tompkins, Ltd.

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

## Analyses

C&T LOGIN # 180442

Sampler: Tony Perini / Mehran Nowroozi

Project No: 2511

Report To: Tony Perini

Project Name: 3815 Broadway, Oakland, CA

Company: SOMA Environmental

Turnaround Time: Standard

Telephone: 925-244-6600

Fax: 925-244-6601

Lab No.	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative							
			Soil	Water	Waste		HCL	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	ICE				
-1	GW-2	7/6/05 1102A	*			6-40ml VOAs	*			*				
-2	GW-3	7/6/05 1027A	*			6-40ml VOAs	*			*				
-3	GW-4	7/6/05 950A	*			6-40ml VOAs	*			*				
-4	MW-11	7/5/05 204P	*			6-40ml VOAs	*			*				
-5	LFR-1	7/6/05 1140A	*			6-40ml VOAs	*			*				
-6	LFR-2	7/5/05 253P	*			6-40ml VOAs	*			*				
-7	LFR-3	7/5/05 503P	*			6-40ml VOAs	*			*				
-8	SOMA-1	7/5/05 342P	*			6-40ml VOAs	*			*				
-9	SOMA-2	7/6/05 330P	*			6-40ml VOAs	*			*				
-10	SOMA-3	7/6/05 138P	*			6-40ml VOAs	*			*				
-11	SOMA-5	7/6/05 250P	*			6-40ml VOAs	*			*				
-12	<del>B-10</del>	7/6/05 215P	*			6-40ml VOAs	*			*				
-13	LFR-4	7/5/05 415P												

TPHg (including Stoddard Solvent) 8260B	BTEX + MtBE 8260B	8260 (Full List)	Methane											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											
*	*	*	*											

Notes:

Lower Detection Limits for vinyl chloride and PCE in wells SOMA-2 and SOMA-3

Collected  
 Cold  
 Ambient  
 Intact

RELINQUISHED BY:

Tony Perini 7/6/05  
Tony Perini 4:40 PM DATE/TIME  
 \_\_\_\_\_ DATE/TIME  
 \_\_\_\_\_ DATE/TIME

RECEIVED BY:

Juliana Curtis 7/6/05 4:40  
 \_\_\_\_\_ DATE/TIME  
 \_\_\_\_\_ DATE/TIME  
 \_\_\_\_\_ DATE/TIME

**Total Volatile Hydrocarbons**

Lab #: 180442	Location: 3815 Broadway, Oakland
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2511	Analysis: EPA 8015B
Matrix: Water	Received: 07/06/05
Units: ug/L	Analyzed: 07/07/05
Batch#: 103623	

Field ID: GW-2 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/06/05  
 Lab ID: 180442-001

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	63-141
Bromofluorobenzene (FID)	107	79-139

Field ID: GW-3 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/06/05  
 Lab ID: 180442-002

Analyte	Result	RL
Gasoline C7-C12	110 Y Z	50
Stoddard Solvent C7-C12	84 Y Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	63-141
Bromofluorobenzene (FID)	111	79-139

Field ID: GW-4 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/06/05  
 Lab ID: 180442-003

Analyte	Result	RL
Gasoline C7-C12	160 H Y	50
Stoddard Solvent C7-C12	120	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	63-141
Bromofluorobenzene (FID)	118	79-139

\*= Value outside of QC limits; see narrative  
 H= Heavier hydrocarbons contributed to the quantitation  
 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 1 of 5



**Total Volatile Hydrocarbons**

Lab #: 180442	Location: 3815 Broadway, Oakland
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2511	Analysis: EPA 8015B
Matrix: Water	Received: 07/06/05
Units: ug/L	Analyzed: 07/07/05
Batch#: 103623	

Field ID: MW-11 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/05/05  
 Lab ID: 180442-004

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	63-141
Bromofluorobenzene (FID)	104	79-139

Field ID: LFR-1 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/06/05  
 Lab ID: 180442-005

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	63-141
Bromofluorobenzene (FID)	100	79-139

Field ID: LFR-2 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/05/05  
 Lab ID: 180442-006

Analyte	Result	RL
Gasoline C7-C12	1,300 H Y	50
Stoddard Solvent C7-C12	950	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	101	63-141
Bromofluorobenzene (FID)	203 *	79-139

\*= Value outside of QC limits; see narrative  
 H= Heavier hydrocarbons contributed to the quantitation  
 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 #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Batch#:	103623		

Field ID:	LFR-3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/05/05
Lab ID:	180442-007		

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	63-141
Bromofluorobenzene (FID)	99	79-139

Field ID:	SOMA-1	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/05/05
Lab ID:	180442-008		

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	102	63-141
Bromofluorobenzene (FID)	103	79-139

Field ID:	SOMA-2	Diln Fac:	10.00
Type:	SAMPLE	Sampled:	07/06/05
Lab ID:	180442-009		

Analyte	Result	RL
Gasoline C7-C12	6,800 H Y	500
Stoddard Solvent C7-C12	5,100	500

Surrogate	%REC	Limits
Trifluorotoluene (FID)	100	63-141
Bromofluorobenzene (FID)	136	79-139

\*= Value outside of QC limits; see narrative  
 H= Heavier hydrocarbons contributed to the quantitation  
 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 3 of 5

**Total Volatile Hydrocarbons**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Batch#:	103623		

Field ID: SOMA-3 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/06/05  
 Lab ID: 180442-010

Analyte	Result	RL
Gasoline C7-C12	430 H Y	50
Stoddard Solvent C7-C12	320	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	102	63-141
Bromofluorobenzene (FID)	132	79-139

Field ID: SOMA-5 Diln Fac: 1.000  
 Type: SAMPLE Sampled: 07/06/05  
 Lab ID: 180442-011

Analyte	Result	RL
Gasoline C7-C12	3,100 H Y	50
Stoddard Solvent C7-C12	2,300 H	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	88	63-141
Bromofluorobenzene (FID)	100	79-139

Field ID: B-10 Diln Fac: 10.00  
 Type: SAMPLE Sampled: 07/06/05  
 Lab ID: 180442-012

Analyte	Result	RL
Gasoline C7-C12	4,500 H Y	500
Stoddard Solvent C7-C12	3,400 H	500

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	63-141
Bromofluorobenzene (FID)	122	79-139

\*= Value outside of QC limits; see narrative  
 H= Heavier hydrocarbons contributed to the quantitation  
 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 4 of 5

**Total Volatile Hydrocarbons**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Batch#:	103623		

Field ID:	LFR-4	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/05/05
Lab ID:	180442-013		

Analyte	Result	RL
Gasoline C7-C12	680	50
Stoddard Solvent C7-C12	510 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	122	63-141
Bromofluorobenzene (FID)	127	79-139

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC300060		

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	99	63-141
Bromofluorobenzene (FID)	102	79-139

\*= Value outside of QC limits; see narrative  
H= Heavier hydrocarbons contributed to the quantitation  
Y= Sample exhibits chromatographic pattern which does not resemble standard  
Z= Sample exhibits unknown single peak or peaks  
ND= Not Detected  
RL= Reporting Limit

# Chromatogram

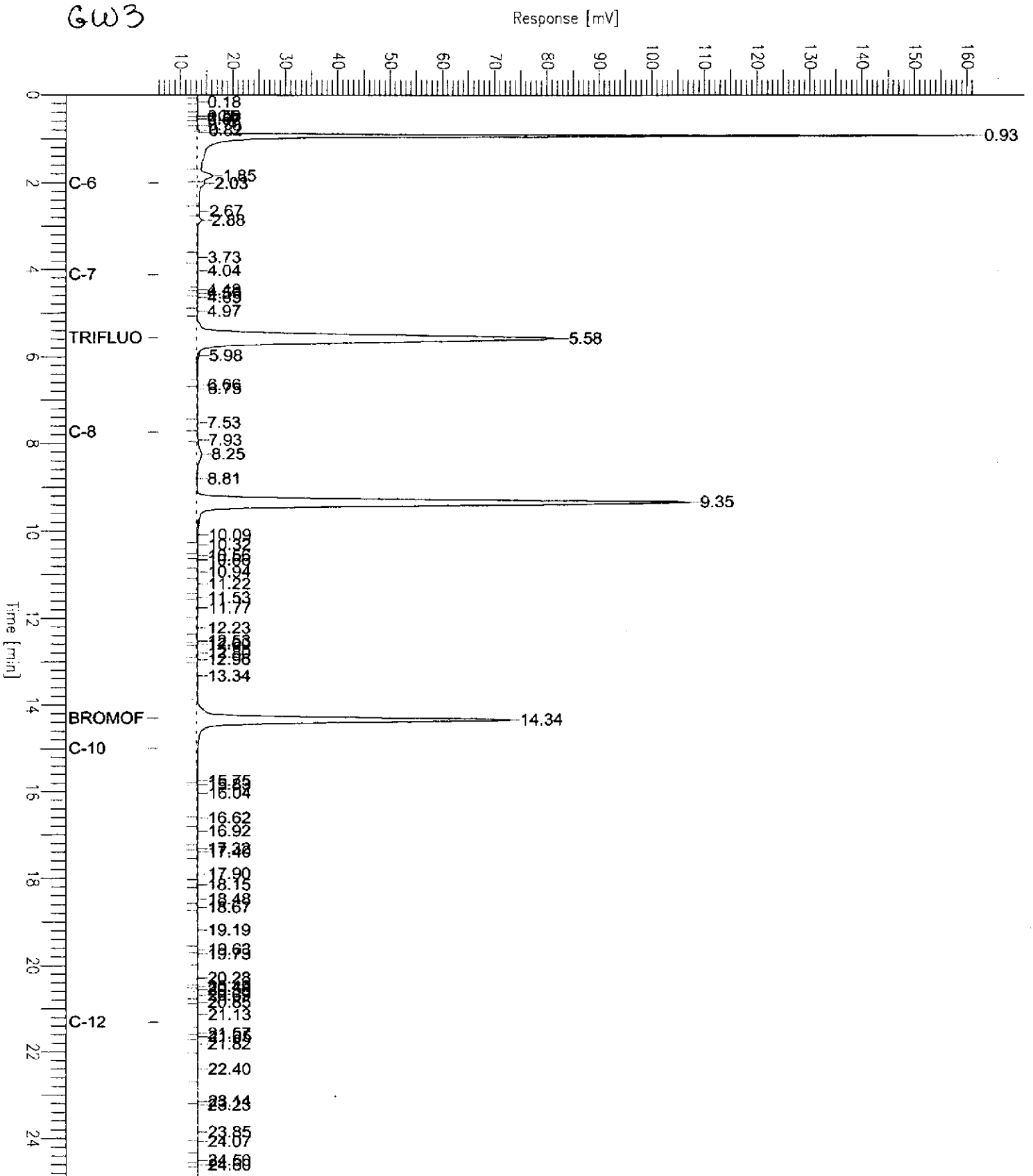
Sample Name : 180442-002,103623,tvh+stodd  
FileName : G:\GC05\DATA\188G007.raw  
Method : TVHBTXE  
Start Time : 0.00 min  
Scale Factor: 1.0

End Time : 25.00 min  
Plot Offset: 6 mV

Sample #: c1.0  
Date : 7/7/05 11:26 AM  
Time of Injection: 7/7/05 11:01 AM  
Low Point : 5.79 mV  
Plot Scale: 155.7 mV

Page 1 of 1

High Point : 161.48 mV

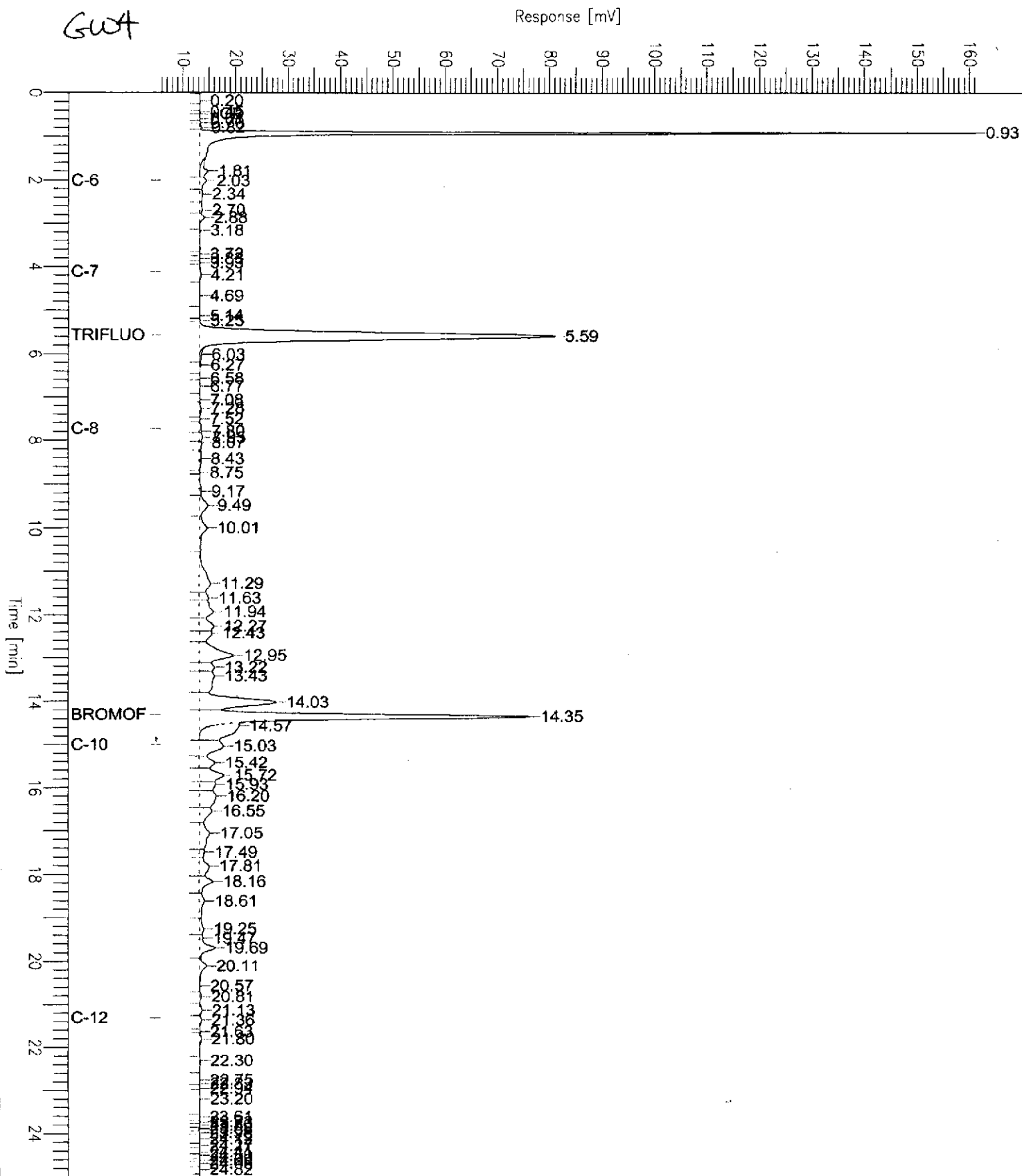


# Chromatogram

Sample Name : 180442-003,103623,tvh+stodd  
FileName : G:\GC05\DATA\188G008.raw  
Method : TVHBTXE  
Start Time : 0.00 min  
Scale Factor : 1.0

End Time : 25.00 min  
Plot Offset : 6 mV

Sample #: c1.0  
Date : 7/7/05 11:58 AM  
Time of Injection: 7/7/05 11:33 AM  
Low Point : 5.78 mV  
Plot Scale : 155.5 mV  
Page 1 of 1  
High Point : 161.25 mV



# Chromatogram

Sample Name : 180442-006,103623,tvh+stodd  
FileName : G:\GC05\DATA\188G011.raw  
Method : TVHBTXE  
Start Time : 0.00 min  
Scale Factor: 1.0

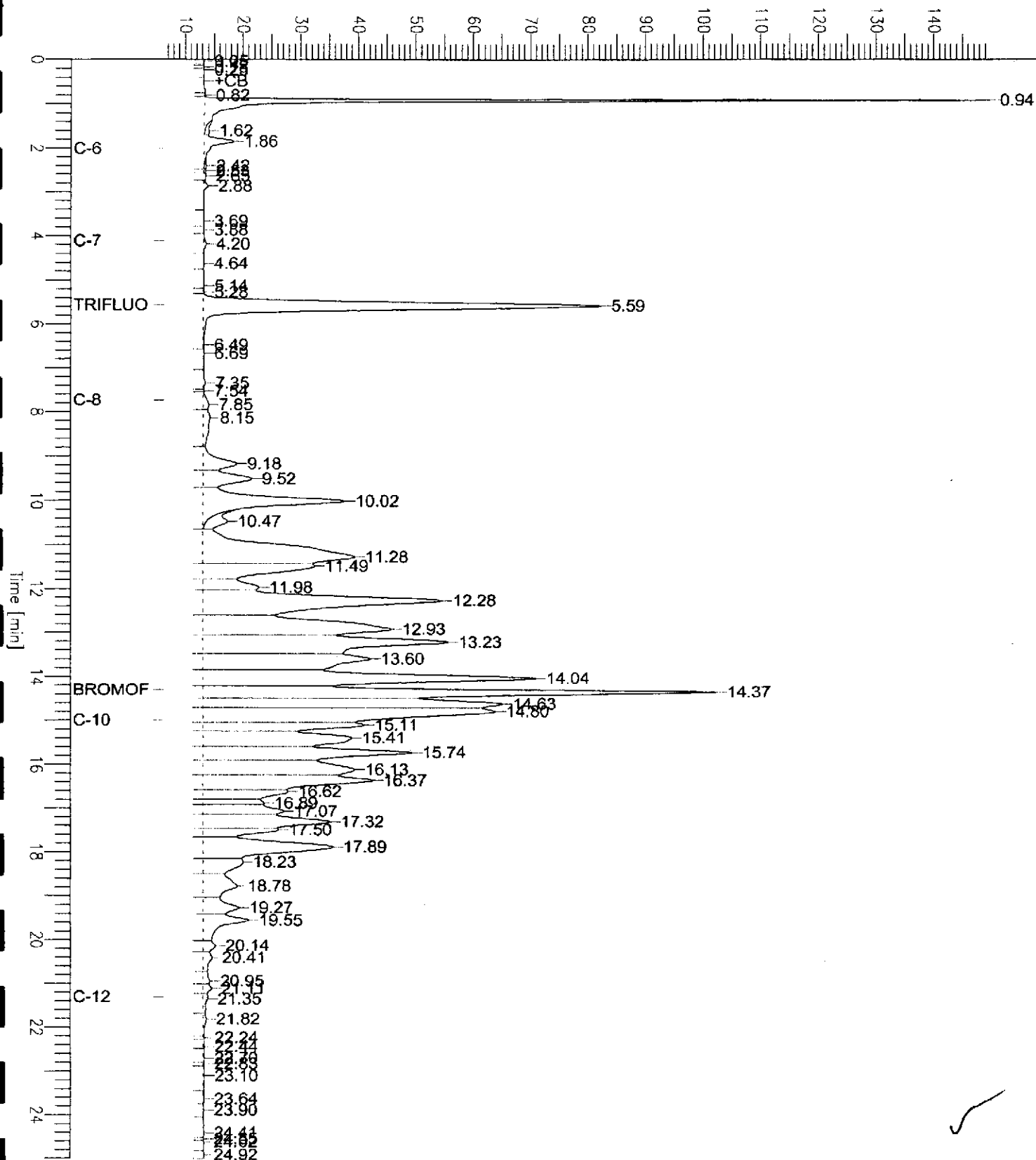
End Time : 25.00 min  
Plot Offset: 6 mV

Sample #: c1.0  
Date : 7/7/05 01:34 PM  
Time of Injection: 7/7/05 01:09 PM  
Low Point : 6.30 mV  
Plot Scale: 143.5 mV

Page 1 of 1

LFR-2

Response [mV]



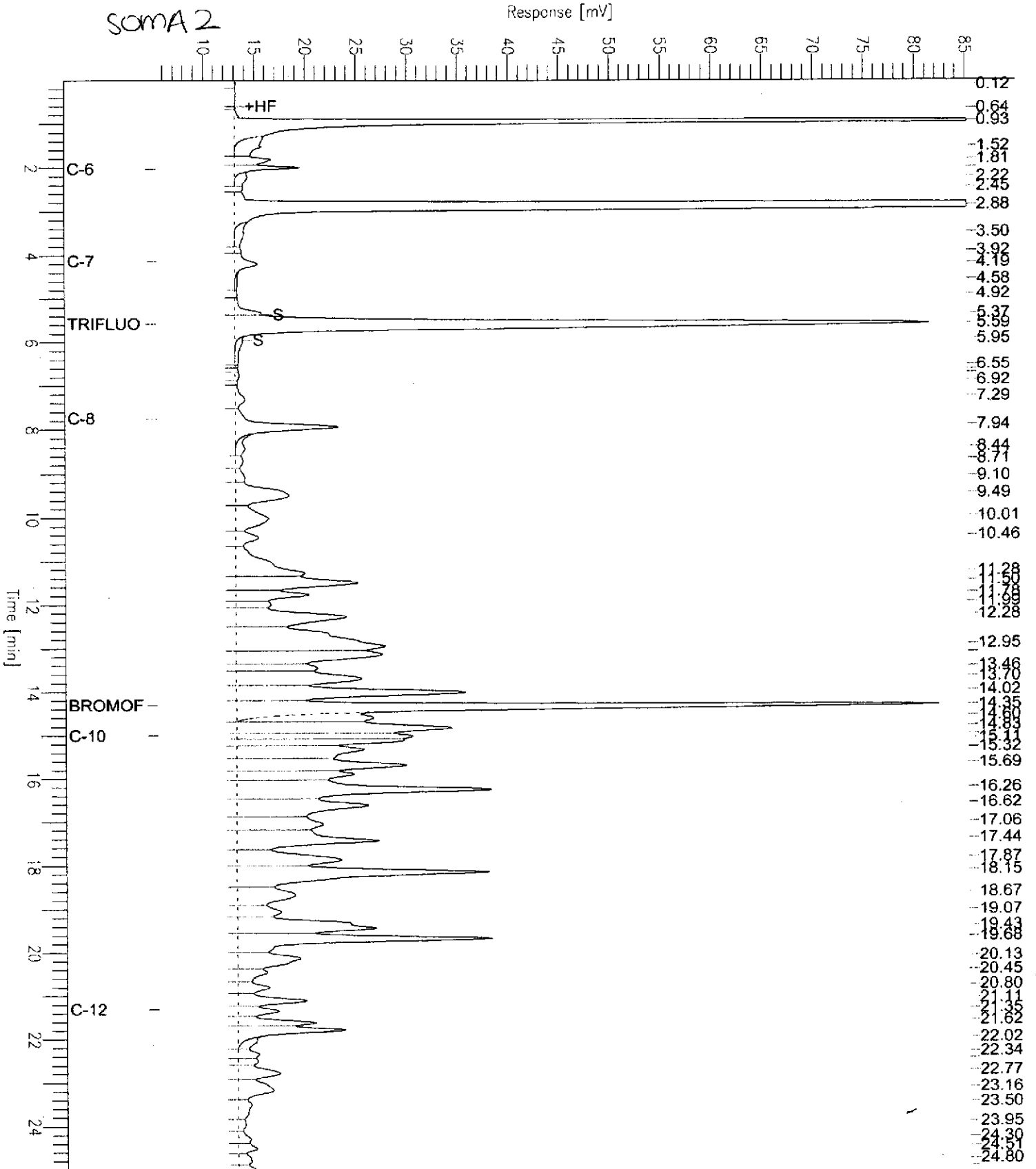
# Chromatogram

Sample Name : 180442-009,103623,tvh+stodd  
FileName : G:\GC05\DATA\188G020.RAW  
Method :  
Start Time : 0.02 min  
Scale Factor : 0.0

End Time : 25.00 min  
Plot Offset : 5 mV

Sample #: c1.0  
Date : 7/8/05 09:17 AM  
Time of Injection: 7/7/05 06:08 PM  
Low Point : 5.34 mV  
Plot Scale: 79.8 mV

Page 1 of 1





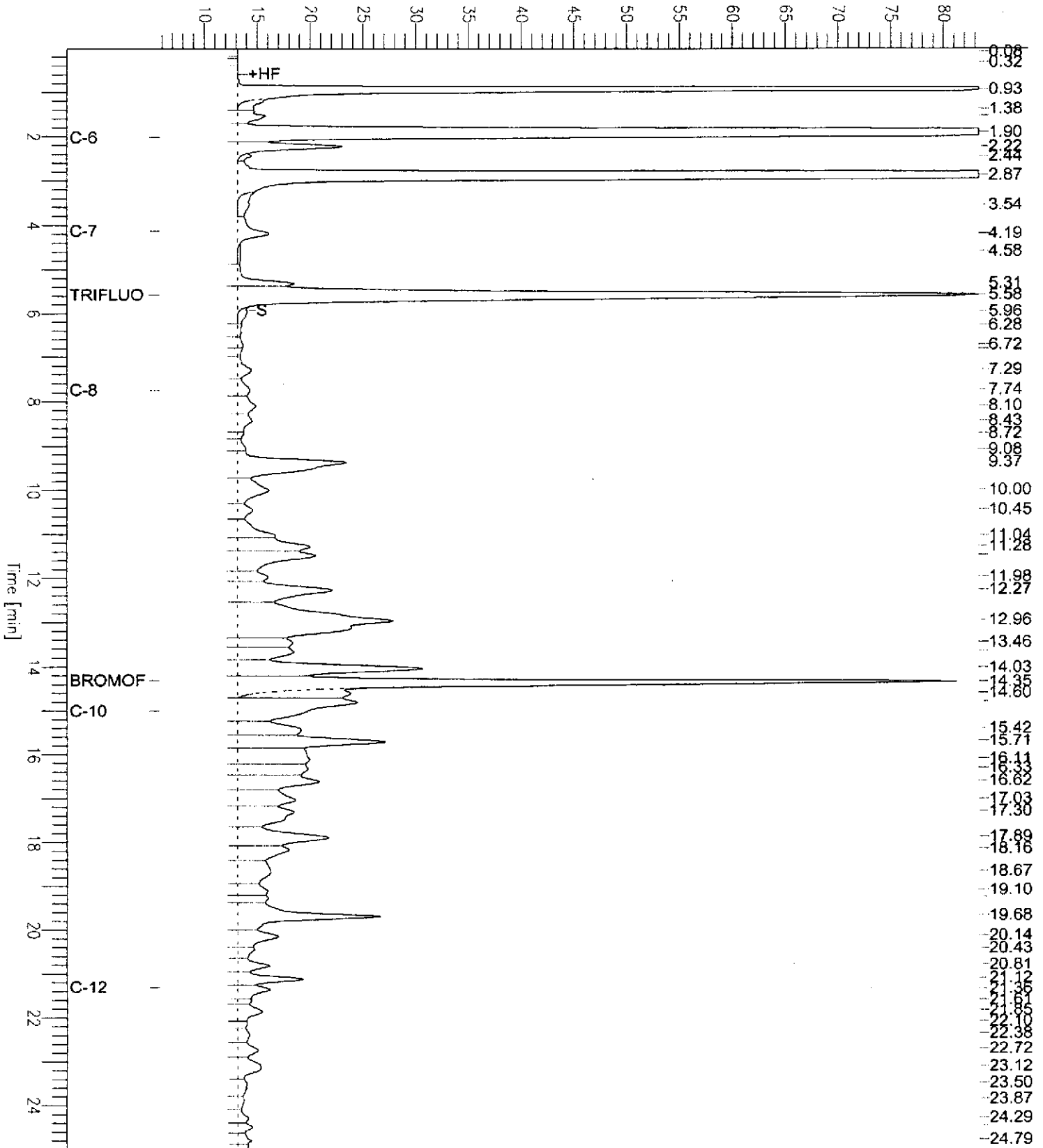
# Chromatogram

Sample Name : 180442-010,103623,tvh+stodd  
FileName : G:\GC05\DATA\188G017.RAW  
Method :  
Start Time : 0.02 min End Time : 25.00 min  
Scale Factor: 0.0 Plot Offset: 6 mV

Sample #: c1.0 Page 1 of 1  
Date : 7/8/05 09:15 AM  
Time of Injection: 7/7/05 04:32 PM  
Low Point : 5.75 mV High Point : 83.36 mV  
Plot Scale: 77.6 mV

SOMA3

Response [mV]



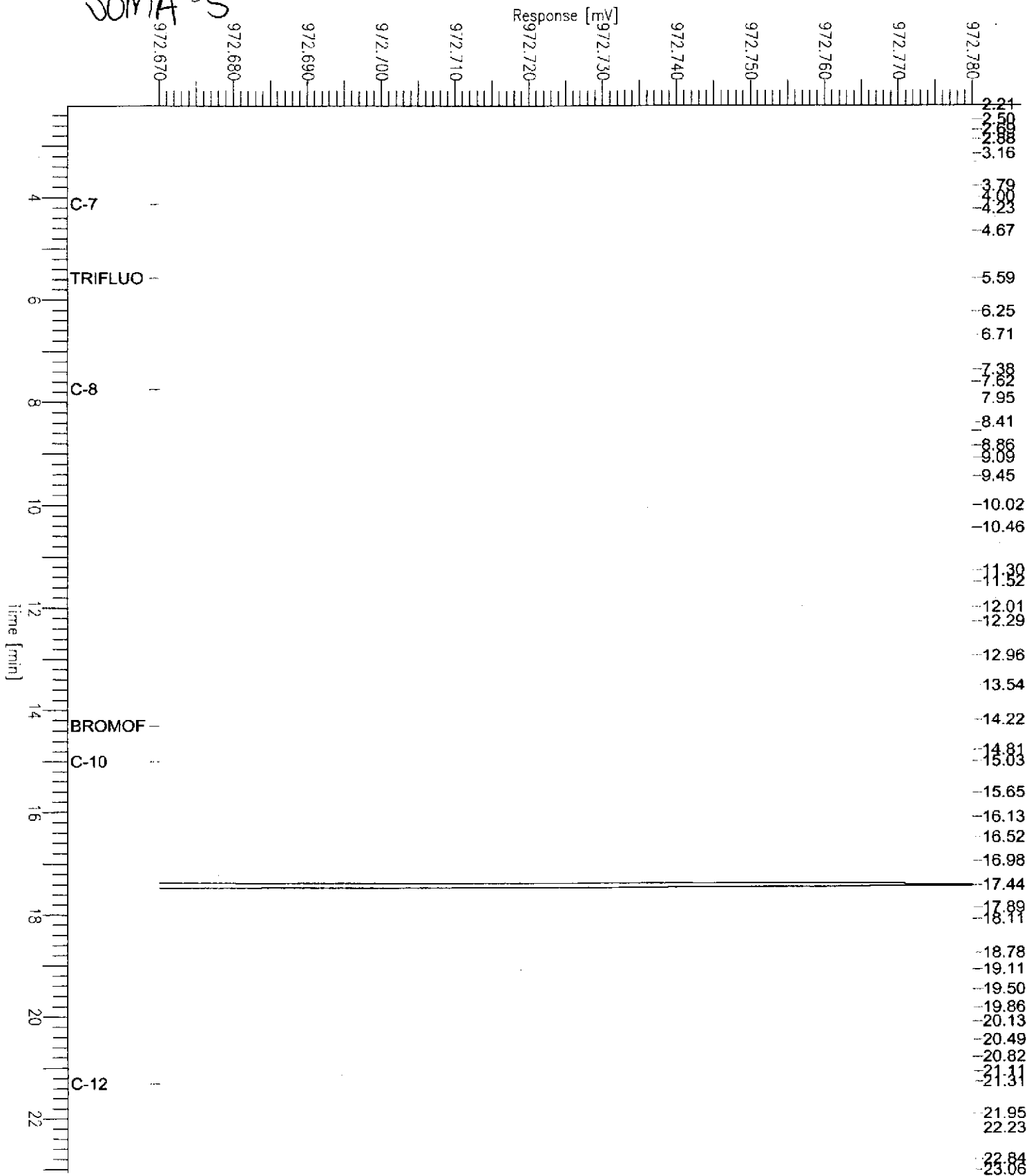
# Chromatogram

Sample Name : 180442-011,103623,tvh+stodd  
 FileName : G:\GC05\DATA\188G018.RAW  
 Method :  
 Start Time : 2.22 min  
 Scale Factor: 0.0

End Time : 23.08 min  
 Plot Offset: 973 mV

Sample #: cl.0  
 Date : 7/7/05 05:35 PM  
 Time of Injection: 7/7/05 05:04 PM  
 Low Point : 972.67 mV  
 High Point : 972.78 mV  
 Plot Scale: 0.1 mV

SOMA-5



# Chromatogram

Sample Name : 180442-012,103623,tvh+stodd

FileName : G:\GC05\DATA\188G012.RAW

Method :

Start Time : 0.02 min

End Time : 25.00 min

Scale Factor: 0.0

Plot Offset: 6 mV

Sample #: c1.0

Date : 7/7/05 03:29 PM

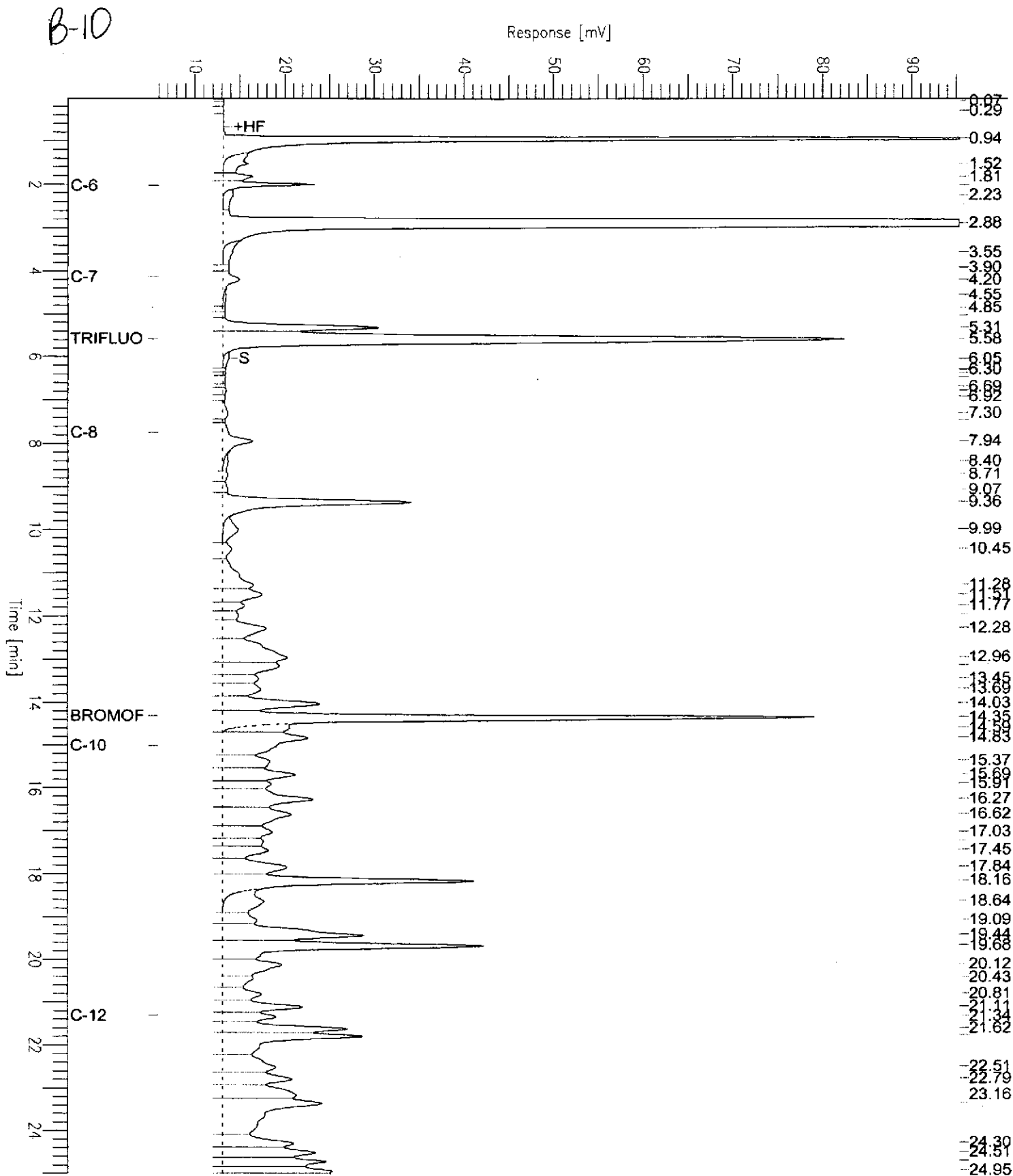
Time of Injection: 7/7/05 01:41 PM

Low Point : 5.95 mV

High Point : 95.31 mV

Plot Scale: 89.4 mV

Page 1 of 1



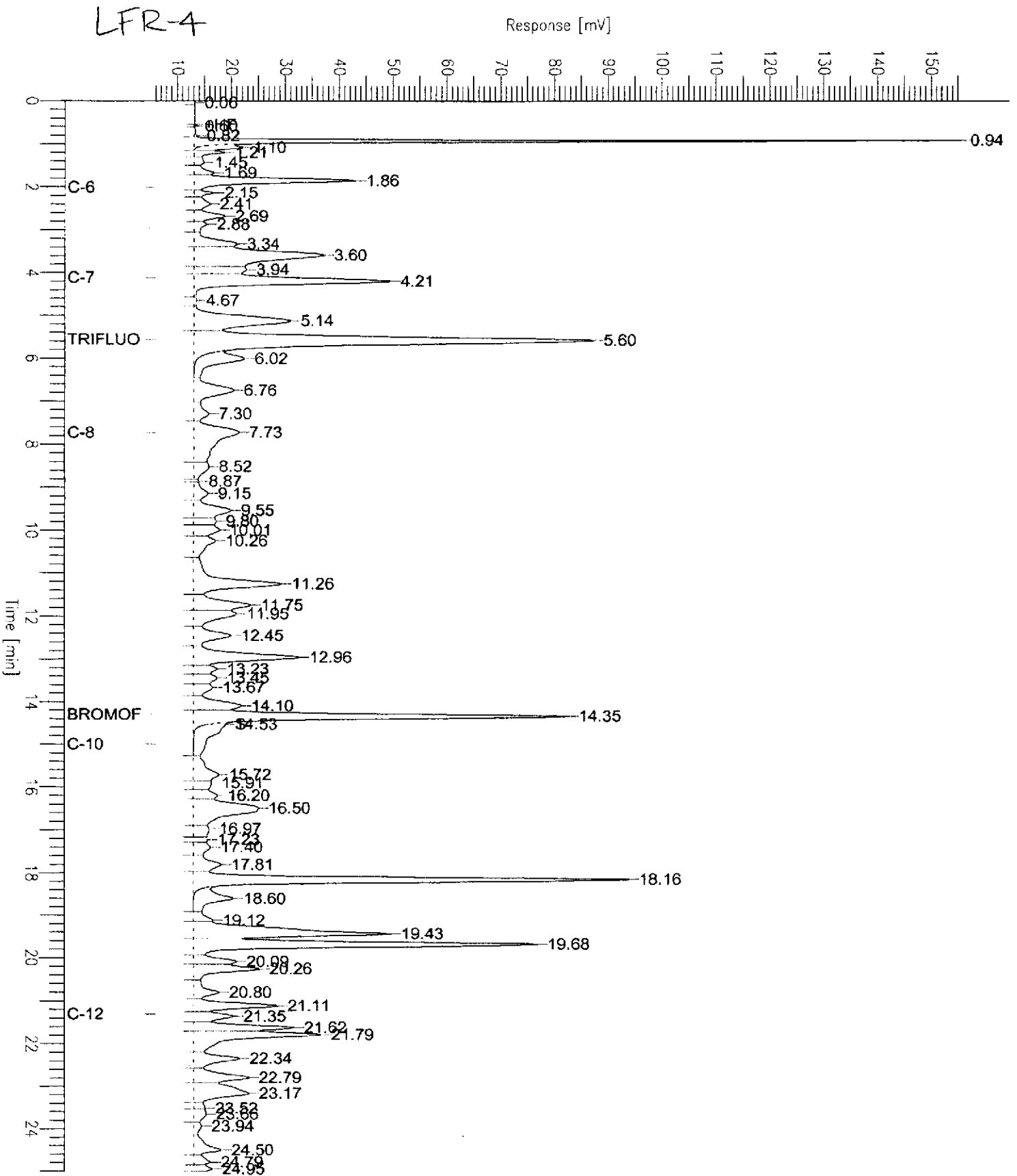
# Chromatogram

Sample Name : 180442-013,103623,tvh+stodd  
FileName : G:\GC05\DATA\188G019.raw  
Method : TVHBTXE  
Start Time : 0.00 min  
Scale Factor : 1.0

End Time : 25.00 min  
Plot Offset : 6 mV

Sample #: c1.0  
Date : 7/8/05 09:20 AM  
Time of Injection: 7/7/05 05:36 PM  
Low Point : 6.00 mV  
High Point : 155.53 mV  
Plot Scale: 149.5 mV

Page 1 of 1



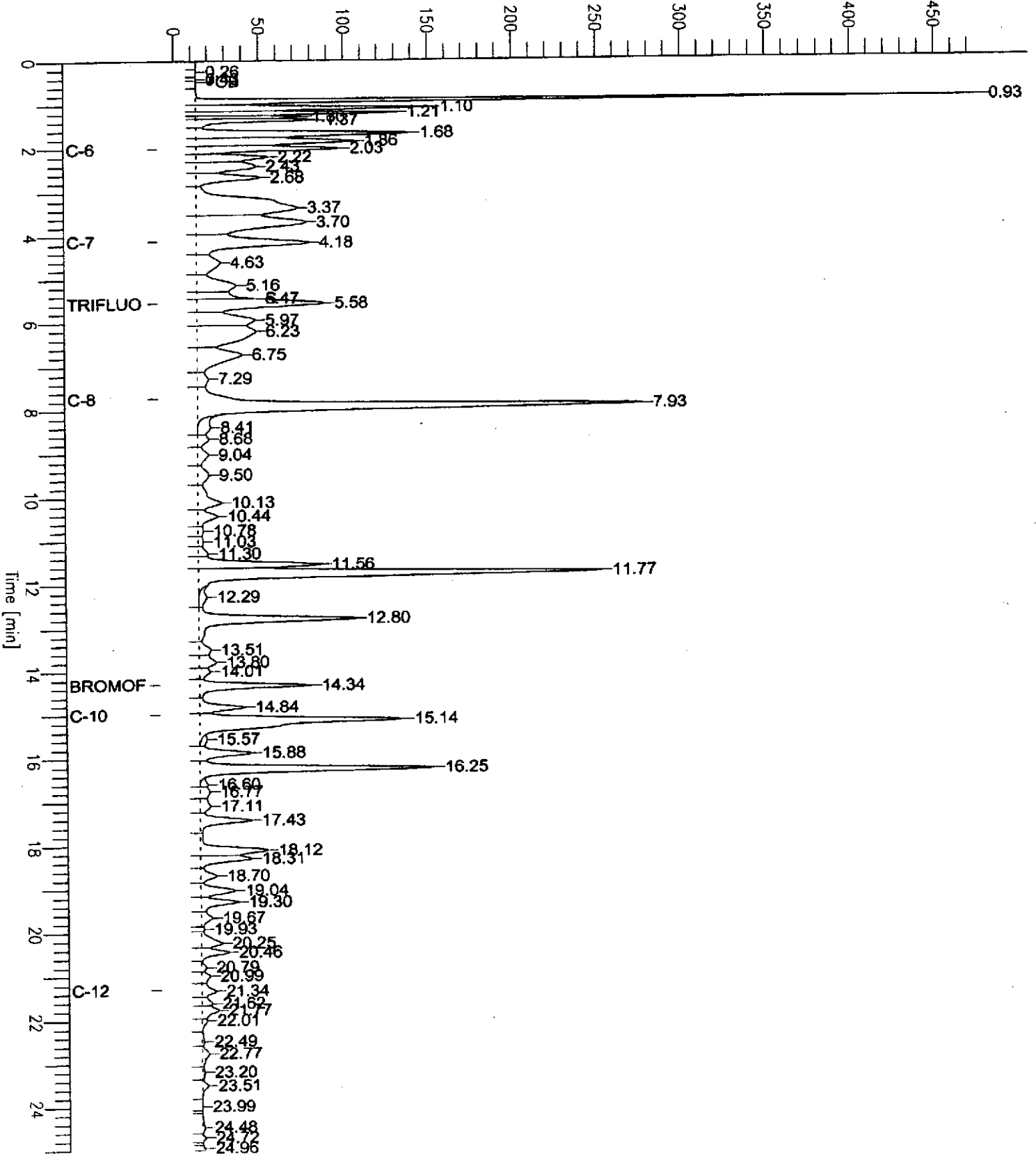
# Chromatogram

Sample Name : ccv/lcs,qc300062,103623,S915,5/5000  
FileName : G:\GC05\DATA\188G003.raw  
Method : TVHBTXE  
Start Time : 0.00 min End Time : 25.00 min  
Scale Factor : 1.0 Plot Offset : -10 mV

Sample # :  
Date : 7/7/05 09:30 AM  
Time of Injection: 7/7/05 08:53 AM  
Low Point : -9.86 mV High Point : 476.75 mV  
Plot Scale: 486.6 mV

Gasoline

Response [mV]



# Chromatogram

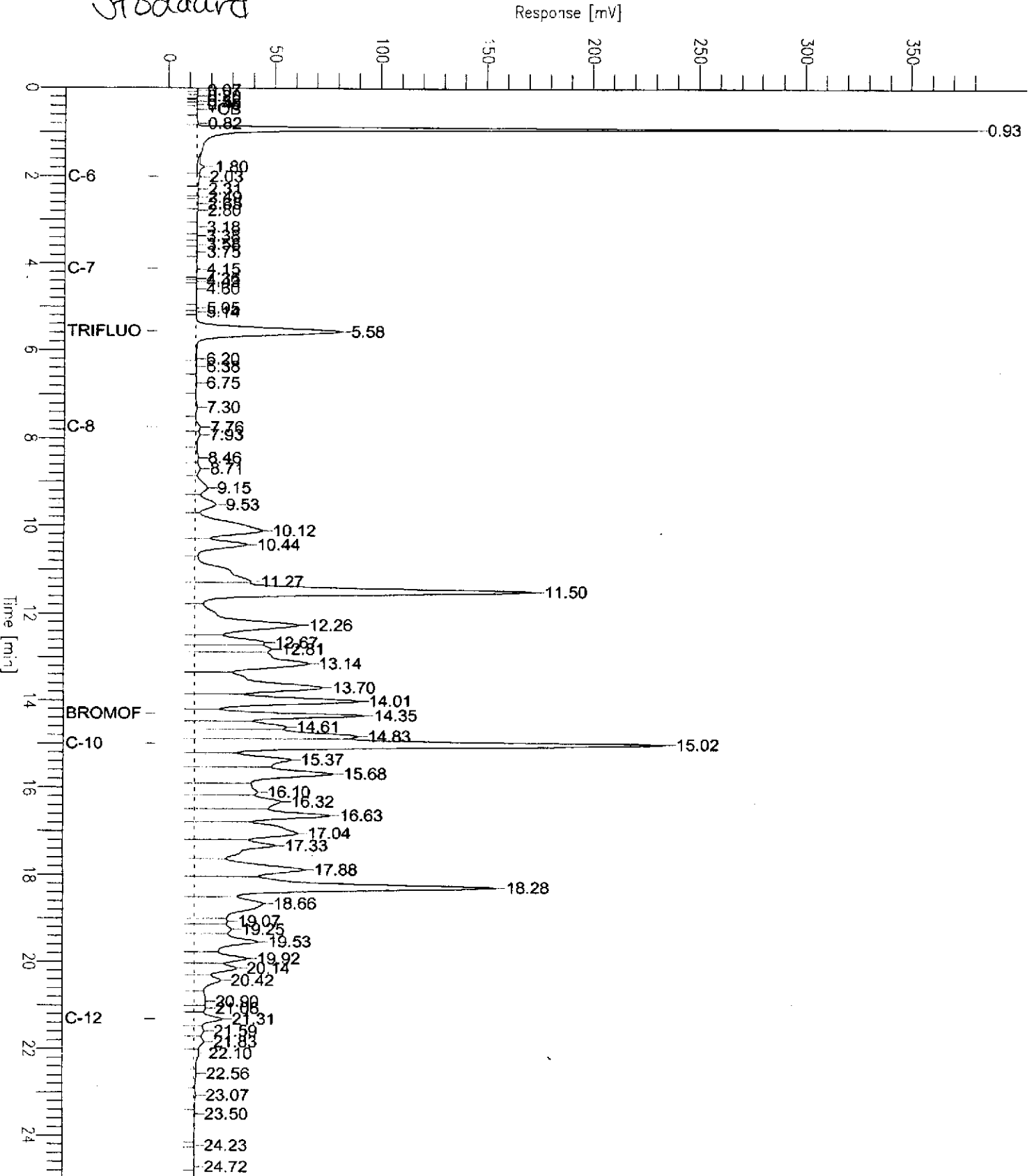
Sample Name : ccv,stodd,103623,S736,5/5000  
FileName : g:\gc05\data\198g004.raw  
Method : TVHBTXE  
Start Time : 0.00 min  
Scale Factor: 1.0

End Time : 25.00 min  
Plot Offset: -5 mV

Sample #:   
Date : 7/8/05 11:48 AM  
Time of Injection: 7/7/05 09:25 AM  
Low Point : -5.11 mV  
Plot Scale: 386.3 mV  
High Point : 381.20 mV

Page 1 of 1

Stoddard



## Batch QC Report

**Total Volatile Hydrocarbons**

Lab #:	180442	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:	QC300062	Batch#:	103623
Matrix:	Water	Analyzed:	07/07/05
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	1,985	99	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	63-141
Bromofluorobenzene (FID)	117	79-139



Batch QC Report

Total Volatile Hydrocarbons

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	103623
MSS Lab ID:	180450-006	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Type: MS Lab ID: QC300126

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	14.49	2,000	1,946	97	80-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	133	63-141
Bromofluorobenzene (FID)	113	79-139

Type: MSD Lab ID: QC300127

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,951	97	80-120	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	135	63-141
Bromofluorobenzene (FID)	116	79-139

RPD= Relative Percent Difference



**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	103635
Lab ID:	180442-001	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
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	0.9	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	11	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	82	0.5

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	103635
Lab ID:	180442-001	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

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

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	109	80-122
Toluene-d8	104	80-120
Bromofluorobenzene	104	80-124

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-3	Batch#:	103635
Lab ID:	180442-002	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	5.000		

Analyte	Result	RL
Freon 12	ND	5.0
Chloromethane	ND	5.0
Vinyl Chloride	ND	2.5
Bromomethane	ND	5.0
Chloroethane	ND	5.0
Trichlorofluoromethane	ND	5.0
Acetone	ND	50
Freon 113	ND	2.5
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
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	320	2.5

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-3	Batch#:	103635
Lab ID:	180442-002	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	5.000		

Analyte	Result	RL
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
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	2.5
Naphthalene	ND	10
1,2,3-Trichlorobenzene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	96	80-122
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-124

ND= Not Detected  
 RL= Reporting Limit  
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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	103635
Lab ID:	180442-003	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	5.0
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
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	1.1	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	0.6	0.5

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	103635
Lab ID:	180442-003	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	1.0	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	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-120
1,2-Dichloroethane-d4	109	80-122
Toluene-d8	100	80-120
Bromofluorobenzene	105	80-124

ND= Not Detected

RL= Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	103635
Lab ID:	180442-004	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	0.8	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	103635
Lab ID:	180442-004	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

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

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-120
1,2-Dichloroethane-d4	106	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	105	80-124

ND= Not Detected

RL= Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Batch#:	103635
Lab ID:	180442-005	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
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	4.9	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	26	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	96	0.5

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Batch#:	103635
Lab ID:	180442-005	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

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

Surrogate	%REC	Limits
Dibromofluoromethane	105	80-120
1,2-Dichloroethane-d4	110	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-124

ND= Not Detected

RL= Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	103635
Lab ID:	180442-006	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
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	1.2	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	103635
Lab ID:	180442-006	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

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

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	109	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	108	80-124

ND= Not Detected

RL= Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	103635
Lab ID:	180442-007	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	11	0.5

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	103635
Lab ID:	180442-007	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

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

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	106	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	102	80-124

ND= Not Detected

RL= Reporting Limit



## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	103680
Lab ID:	180442-008	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/08/05
Diln Fac:	3.333		

Analyte	Result	RL
Freon 12	ND	3.3
Chloromethane	ND	3.3
Vinyl Chloride	ND	1.7
Bromomethane	ND	3.3
Chloroethane	ND	3.3
Trichlorofluoromethane	ND	3.3
Acetone	ND	33
Freon 113	ND	1.7
1,1-Dichloroethene	ND	1.7
Methylene Chloride	ND	33
Carbon Disulfide	ND	1.7
MTBE	210	1.7
trans-1,2-Dichloroethene	ND	1.7
Vinyl Acetate	ND	33
1,1-Dichloroethane	ND	1.7
2-Butanone	ND	33
cis-1,2-Dichloroethene	51	1.7
2,2-Dichloropropane	ND	1.7
Chloroform	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	ND	1.7
Trichloroethene	2.6	1.7
1,2-Dichloropropane	4.6	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	41	1.7

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	103680
Lab ID:	180442-008	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/08/05
Diln Fac:	3.333		

Analyte	Result	RL
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-Trichloropropane	ND	1.7
Propylbenzene	ND	1.7
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	1.7
Naphthalene	ND	6.7
1,2,3-Trichlorobenzene	ND	1.7

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	106	80-122
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-124

ND= Not Detected

RL= Reporting Limit





## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-2	Units:	ug/L
Lab ID:	180442-009	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05

Analyte	Result	RL	Diln Fac	Batch#	Analysed
Freon 12	ND	50	50.00	103635	07/07/05
Chloromethane	ND	50	50.00	103635	07/07/05
Vinyl Chloride	ND	25	50.00	103635	07/07/05
Bromomethane	ND	50	50.00	103635	07/07/05
Chloroethane	ND	50	50.00	103635	07/07/05
Trichlorofluoromethane	ND	50	50.00	103635	07/07/05
Acetone	ND	500	50.00	103635	07/07/05
Freon 113	ND	25	50.00	103635	07/07/05
1,1-Dichloroethene	ND	25	50.00	103635	07/07/05
Methylene Chloride	ND	500	50.00	103635	07/07/05
Carbon Disulfide	ND	25	50.00	103635	07/07/05
MTBE	ND	25	50.00	103635	07/07/05
trans-1,2-Dichloroethene	44	25	50.00	103635	07/07/05
Vinyl Acetate	ND	500	50.00	103635	07/07/05
1,1-Dichloroethane	ND	25	50.00	103635	07/07/05
2-Butanone	ND	500	50.00	103635	07/07/05
cis-1,2-Dichloroethene	5,200	50	100.0	103680	07/08/05
2,2-Dichloropropane	ND	25	50.00	103635	07/07/05
Chloroform	ND	25	50.00	103635	07/07/05
Bromochloromethane	ND	25	50.00	103635	07/07/05
1,1,1-Trichloroethane	ND	25	50.00	103635	07/07/05
1,1-Dichloropropene	ND	25	50.00	103635	07/07/05
Carbon Tetrachloride	ND	25	50.00	103635	07/07/05
1,2-Dichloroethane	ND	25	50.00	103635	07/07/05
Benzene	ND	25	50.00	103635	07/07/05
Trichloroethene	47	25	50.00	103635	07/07/05
1,2-Dichloropropane	ND	25	50.00	103635	07/07/05
Bromodichloromethane	ND	25	50.00	103635	07/07/05
Dibromomethane	ND	25	50.00	103635	07/07/05
4-Methyl-2-Pentanone	ND	500	50.00	103635	07/07/05
cis-1,3-Dichloropropene	ND	25	50.00	103635	07/07/05
Toluene	53	25	50.00	103635	07/07/05
trans-1,3-Dichloropropene	ND	25	50.00	103635	07/07/05
1,1,2-Trichloroethane	ND	25	50.00	103635	07/07/05
2-Hexanone	ND	500	50.00	103635	07/07/05
1,3-Dichloropropane	ND	25	50.00	103635	07/07/05
Tetrachloroethene	78	25	50.00	103635	07/07/05
Dibromochloromethane	ND	25	50.00	103635	07/07/05
1,2-Dibromoethane	ND	25	50.00	103635	07/07/05

ND= Not Detected

RL= Reporting Limit

**Purgeable Organics by GC/MS**

Lab #: 180442	Location: 3815 Broadway, Oakland
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2511	Analysis: EPA 8260B
Field ID: SOMA-2	Units: ug/L
Lab ID: 180442-009	Sampled: 07/06/05
Matrix: Water	Received: 07/06/05

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	25	50.00	103635	07/07/05
1,1,1,2-Tetrachloroethane	ND	25	50.00	103635	07/07/05
Ethylbenzene	ND	25	50.00	103635	07/07/05
m,p-Xylenes	31	25	50.00	103635	07/07/05
o-Xylene	ND	25	50.00	103635	07/07/05
Styrene	ND	25	50.00	103635	07/07/05
Bromoform	ND	50	50.00	103635	07/07/05
Isopropylbenzene	ND	25	50.00	103635	07/07/05
1,1,2,2-Tetrachloroethane	ND	25	50.00	103635	07/07/05
1,2,3-Trichloropropane	ND	25	50.00	103635	07/07/05
Propylbenzene	ND	25	50.00	103635	07/07/05
Bromobenzene	ND	25	50.00	103635	07/07/05
1,3,5-Trimethylbenzene	29	25	50.00	103635	07/07/05
2-Chlorotoluene	ND	25	50.00	103635	07/07/05
4-Chlorotoluene	ND	25	50.00	103635	07/07/05
tert-Butylbenzene	ND	25	50.00	103635	07/07/05
1,2,4-Trimethylbenzene	85	25	50.00	103635	07/07/05
sec-Butylbenzene	ND	25	50.00	103635	07/07/05
para-Isopropyl Toluene	ND	25	50.00	103635	07/07/05
1,3-Dichlorobenzene	ND	25	50.00	103635	07/07/05
1,4-Dichlorobenzene	ND	25	50.00	103635	07/07/05
n-Butylbenzene	ND	25	50.00	103635	07/07/05
1,2-Dichlorobenzene	ND	25	50.00	103635	07/07/05
1,2-Dibromo-3-Chloropropane	ND	100	50.00	103635	07/07/05
1,2,4-Trichlorobenzene	ND	25	50.00	103635	07/07/05
Hexachlorobutadiene	ND	25	50.00	103635	07/07/05
Naphthalene	ND	100	50.00	103635	07/07/05
1,2,3-Trichlorobenzene	ND	25	50.00	103635	07/07/05

Surrogate	IRRC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	100	80-120	50.00	103635	07/07/05
1,2-Dichloroethane-d4	97	80-122	50.00	103635	07/07/05
Toluene-d8	100	80-120	50.00	103635	07/07/05
Bromofluorobenzene	99	80-124	50.00	103635	07/07/05



## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Units:	ug/L
Lab ID:	180442-010	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05

Analyte	Result	RL	Diln Fac	Batch#	Analysed
Freon 12	ND	1.0	1.000	103635	07/07/05
Chloromethane	ND	1.0	1.000	103635	07/07/05
Vinyl Chloride	1.1	0.5	1.000	103635	07/07/05
Bromomethane	ND	1.0	1.000	103635	07/07/05
Chloroethane	ND	1.0	1.000	103635	07/07/05
Trichlorofluoromethane	ND	1.0	1.000	103635	07/07/05
Acetone	ND	10	1.000	103635	07/07/05
Freon 113	ND	0.5	1.000	103635	07/07/05
1,1-Dichloroethene	1.6	0.5	1.000	103635	07/07/05
Methylene Chloride	ND	10	1.000	103635	07/07/05
Carbon Disulfide	ND	0.5	1.000	103635	07/07/05
MTBE	320	5.0	10.00	103680	07/08/05
trans-1,2-Dichloroethene	6.7	0.5	1.000	103635	07/07/05
Vinyl Acetate	ND	10	1.000	103635	07/07/05
1,1-Dichloroethane	ND	0.5	1.000	103635	07/07/05
2-Butanone	ND	10	1.000	103635	07/07/05
cis-1,2-Dichloroethene	890	5.0	10.00	103680	07/08/05
2,2-Dichloropropane	ND	0.5	1.000	103635	07/07/05
Chloroform	ND	0.5	1.000	103635	07/07/05
Bromochloromethane	ND	0.5	1.000	103635	07/07/05
1,1,1-Trichloroethane	ND	0.5	1.000	103635	07/07/05
1,1-Dichloropropene	ND	0.5	1.000	103635	07/07/05
Carbon Tetrachloride	ND	0.5	1.000	103635	07/07/05
1,2-Dichloroethane	ND	0.5	1.000	103635	07/07/05
Benzene	1.7	0.5	1.000	103635	07/07/05
Trichloroethene	14	0.5	1.000	103635	07/07/05
1,2-Dichloropropane	3.2	0.5	1.000	103635	07/07/05
Bromodichloromethane	ND	0.5	1.000	103635	07/07/05
Dibromomethane	ND	0.5	1.000	103635	07/07/05
4-Methyl-2-Pentanone	ND	10	1.000	103635	07/07/05
cis-1,3-Dichloropropene	ND	0.5	1.000	103635	07/07/05
Toluene	ND	0.5	1.000	103635	07/07/05
trans-1,3-Dichloropropene	ND	0.5	1.000	103635	07/07/05
1,1,2-Trichloroethane	ND	0.5	1.000	103635	07/07/05
2-Hexanone	ND	10	1.000	103635	07/07/05
1,3-Dichloropropane	ND	0.5	1.000	103635	07/07/05
Tetrachloroethene	31	0.5	1.000	103635	07/07/05
Dibromochloromethane	ND	0.5	1.000	103635	07/07/05
1,2-Dibromoethane	ND	0.5	1.000	103635	07/07/05

ND= Not Detected

RL= Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Units:	ug/L
Lab ID:	180442-010	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	0.5	1.000	103635	07/07/05
1,1,1,2-Tetrachloroethane	ND	0.5	1.000	103635	07/07/05
Ethylbenzene	ND	0.5	1.000	103635	07/07/05
m,p-Xylenes	ND	0.5	1.000	103635	07/07/05
o-Xylene	1.6	0.5	1.000	103635	07/07/05
Styrene	ND	0.5	1.000	103635	07/07/05
Bromoform	ND	1.0	1.000	103635	07/07/05
Isopropylbenzene	ND	0.5	1.000	103635	07/07/05
1,1,2,2-Tetrachloroethane	ND	0.5	1.000	103635	07/07/05
1,2,3-Trichloropropane	ND	0.5	1.000	103635	07/07/05
Propylbenzene	ND	0.5	1.000	103635	07/07/05
Bromobenzene	ND	0.5	1.000	103635	07/07/05
1,3,5-Trimethylbenzene	ND	0.5	1.000	103635	07/07/05
2-Chlorotoluene	ND	0.5	1.000	103635	07/07/05
4-Chlorotoluene	ND	0.5	1.000	103635	07/07/05
tert-Butylbenzene	ND	0.5	1.000	103635	07/07/05
1,2,4-Trimethylbenzene	ND	0.5	1.000	103635	07/07/05
sec-Butylbenzene	ND	0.5	1.000	103635	07/07/05
para-Isopropyl Toluene	ND	0.5	1.000	103635	07/07/05
1,3-Dichlorobenzene	ND	0.5	1.000	103635	07/07/05
1,4-Dichlorobenzene	ND	0.5	1.000	103635	07/07/05
n-Butylbenzene	ND	0.5	1.000	103635	07/07/05
1,2-Dichlorobenzene	ND	0.5	1.000	103635	07/07/05
1,2-Dibromo-3-Chloropropane	ND	2.0	1.000	103635	07/07/05
1,2,4-Trichlorobenzene	ND	0.5	1.000	103635	07/07/05
Hexachlorobutadiene	ND	0.5	1.000	103635	07/07/05
Naphthalene	ND	2.0	1.000	103635	07/07/05
1,2,3-Trichlorobenzene	ND	0.5	1.000	103635	07/07/05

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	102	80-120	1.000	103635	07/07/05
1,2-Dichloroethane-d4	109	80-122	1.000	103635	07/07/05
Toluene-d8	101	80-120	1.000	103635	07/07/05
Bromofluorobenzene	103	80-124	1.000	103635	07/07/05

ND= Not Detected

RL= Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-5	Batch#:	103680
Lab ID:	180442-011	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/08/05
Diln Fac:	5.000		

Analyte	Result	RL
Freon 12	ND	5.0
Chloromethane	ND	5.0
Vinyl Chloride	ND	2.5
Bromomethane	ND	5.0
Chloroethane	ND	5.0
Trichlorofluoromethane	ND	5.0
Acetone	350	50
Freon 113	ND	2.5
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	5.7	2.5
2,2-Dichloropropane	ND	2.5
Chloroform	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
Bromobenzene	ND	2.5
1,3,5-Trimethylbenzene	ND	2.5
2-Chlorotoluene	ND	2.5
4-Chlorotoluene	ND	2.5

\* = Value outside of QC limits; see narrative

ND = Not Detected

RL = Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-5	Batch#:	103680
Lab ID:	180442-011	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/08/05
Diln Fac:	5.000		

Analyte	Result	RL
tert-Butylbenzene	ND	2.5
1,2,4-Trimethylbenzene	ND	2.5
sec-Butylbenzene	ND	2.5
para-Isopropyl Toluene	47	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	2.5
Naphthalene	ND	10
1,2,3-Trichlorobenzene	ND	2.5

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	107	80-122
Toluene-d8	100	80-120
Bromofluorobenzene	134 *	80-124

\* = Value outside of QC limits; see narrative

ND = Not Detected

RL = Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	B-10	Batch#:	103680
Lab ID:	180442-012	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/08/05
Diln Fac:	200.0		

Analyte	Result	RL
Freon 12	ND	200
Chloromethane	ND	200
Vinyl Chloride	ND	100
Bromomethane	ND	200
Chloroethane	ND	200
Trichlorofluoromethane	ND	200
Acetone	ND	2,000
Freon 113	ND	100
1,1-Dichloroethene	ND	100
Methylene Chloride	ND	2,000
Carbon Disulfide	ND	100
MTBE	ND	100
trans-1,2-Dichloroethene	ND	100
Vinyl Acetate	ND	2,000
1,1-Dichloroethane	ND	100
2-Butanone	ND	2,000
cis-1,2-Dichloroethene	12,000	100
2,2-Dichloropropane	ND	100
Chloroform	ND	100
Bromochloromethane	ND	100
1,1,1-Trichloroethane	ND	100
1,1-Dichloropropene	ND	100
Carbon Tetrachloride	ND	100
1,2-Dichloroethane	ND	100
Benzene	ND	100
Trichloroethene	340	100
1,2-Dichloropropane	ND	100
Bromodichloromethane	ND	100
Dibromomethane	ND	100
4-Methyl-2-Pentanone	ND	2,000
cis-1,3-Dichloropropene	ND	100
Toluene	ND	100
trans-1,3-Dichloropropene	ND	100
1,1,2-Trichloroethane	ND	100
2-Hexanone	ND	2,000
1,3-Dichloropropane	ND	100
Tetrachloroethene	590	100

ND= Not Detected  
RL= Reporting Limit  
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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	B-10	Batch#:	103680
Lab ID:	180442-012	Sampled:	07/06/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/08/05
Diln Fac:	200.0		

Analyte	Result	RL
Dibromochloromethane	ND	100
1,2-Dibromoethane	ND	100
Chlorobenzene	ND	100
1,1,1,2-Tetrachloroethane	ND	100
Ethylbenzene	ND	100
m,p-Xylenes	ND	100
o-Xylene	ND	100
Styrene	ND	100
Bromoform	ND	200
Isopropylbenzene	ND	100
1,1,2,2-Tetrachloroethane	ND	100
1,2,3-Trichloropropane	ND	100
Propylbenzene	ND	100
Bromobenzene	ND	100
1,3,5-Trimethylbenzene	ND	100
2-Chlorotoluene	ND	100
4-Chlorotoluene	ND	100
tert-Butylbenzene	ND	100
1,2,4-Trimethylbenzene	ND	100
sec-Butylbenzene	ND	100
para-Isopropyl Toluene	ND	100
1,3-Dichlorobenzene	ND	100
1,4-Dichlorobenzene	ND	100
n-Butylbenzene	ND	100
1,2-Dichlorobenzene	ND	100
1,2-Dibromo-3-Chloropropane	ND	400
1,2,4-Trichlorobenzene	ND	100
Hexachlorobutadiene	ND	100
Naphthalene	ND	400
1,2,3-Trichlorobenzene	ND	100

Surrogate	IREC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	107	80-122
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-124

ND= Not Detected

RL= Reporting Limit

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## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	103635
Lab ID:	180442-013	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	0.5
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	4.9	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	2.6	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	24	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	1.1	0.5

ND= Not Detected

RL= Reporting Limit

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**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	103635
Lab ID:	180442-013	Sampled:	07/05/05
Matrix:	Water	Received:	07/06/05
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	1.8	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	0.9	0.5
para-Isopropyl Toluene	0.6	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	0.7	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	0.5
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	REC	Limits
Dibromofluoromethane	98	80-120
1,2-Dichloroethane-d4	97	80-122
Toluene-d8	100	80-120
Bromofluorobenzene	103	80-124

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	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:	QC300110	Batch#:	103635
Matrix:	Water	Analyzed:	07/07/05
Units:	ug/L		

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

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	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:	QC300110	Batch#:	103635
Matrix:	Water	Analyzed:	07/07/05
Units:	ug/L		

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

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	108	80-122
Toluene-d8	101	80-120
Bromofluorobenzene	106	80-124

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	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:	QC300125	Batch#:	103635
Matrix:	Water	Analyzed:	07/07/05
Units:	ug/L		

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

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	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:	QC300125	Batch#:	103635
Matrix:	Water	Analyzed:	07/07/05
Units:	ug/L		

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

Surrogate	REC	Limits
Dibromofluoromethane	103	80-120
1,2-Dichloroethane-d4	106	80-122
Toluene-d8	101	80-120
Bromofluorobenzene	104	80-124

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	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:	QC300282	Batch#:	103680
Matrix:	Water	Analyzed:	07/08/05
Units:	ug/L		

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

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	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:	QC300282	Batch#:	103680
Matrix:	Water	Analyzed:	07/08/05
Units:	ug/L		

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

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	106	80-122
Toluene-d8	99	80-120
Bromofluorobenzene	103	80-124

ND= Not Detected

RL= Reporting Limit

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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	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:	QC300283	Batch#:	103680
Matrix:	Water	Analyzed:	07/08/05
Units:	ug/L		

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

ND= Not Detected  
 RL= Reporting Limit  
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## Batch QC Report

**Purgeable Organics by GC/MS**

Lab #:	180442	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:	QC300283	Batch#:	103680
Matrix:	Water	Analyzed:	07/08/05
Units:	ug/L		

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

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	105	80-122
Toluene-d8	97	80-120
Bromofluorobenzene	101	80-124

ND= Not Detected  
 RL= Reporting Limit  
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## Batch QC Report

## Purgeable Organics by GC/MS

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	103635
Units:	ug/L	Analyzed:	07/07/05
Diln Fac:	1.000		

Type: BS Lab ID: QC300108

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	27.66	111	75-121
Benzene	25.00	25.96	104	80-120
Trichloroethene	25.00	27.38	110	78-120
Toluene	25.00	27.10	108	80-120
Chlorobenzene	25.00	26.89	108	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-120
1,2-Dichloroethane-d4	105	80-122
Toluene-d8	102	80-120
Bromofluorobenzene	99	80-124

Type: BSD Lab ID: QC300109

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	27.29	109	75-121	1	20
Benzene	25.00	26.36	105	80-120	2	20
Trichloroethene	25.00	27.76	111	78-120	1	20
Toluene	25.00	27.85	111	80-120	3	20
Chlorobenzene	25.00	27.02	108	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	101	80-120
1,2-Dichloroethane-d4	103	80-122
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-124

RPD= Relative Percent Difference

## Batch QC Report

**Purgeable Organics by GC/MS**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	103680
Units:	ug/L	Analyzed:	07/08/05
Diln Fac:	1.000		

Type: BS Lab ID: QC300280

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.94	100	75-121
Benzene	25.00	24.52	98	80-120
Trichloroethene	25.00	25.39	102	78-120
Toluene	25.00	25.53	102	80-120
Chlorobenzene	25.00	25.60	102	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	101	80-122
Toluene-d8	99	80-120
Bromofluorobenzene	101	80-124

Type: BSD Lab ID: QC300281

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	25.90	104	75-121	4	20
Benzene	25.00	25.35	101	80-120	3	20
Trichloroethene	25.00	26.57	106	78-120	5	20
Toluene	25.00	26.58	106	80-120	4	20
Chlorobenzene	25.00	26.76	107	80-120	4	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-120
1,2-Dichloroethane-d4	101	80-122
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-124

RPD= Relative Percent Difference



## Dissolved Gasses

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2511	Analysis:	RSK-175
Matrix:	Water	Received:	07/06/05
Units:	mg/L	Analyzed:	07/10/05
Batch#:	103716		

Field ID:	GW-2	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/06/05
Lab ID:	180442-001		

Analyte	Result	RL
Methane	ND	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

Field ID:	GW-3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/06/05
Lab ID:	180442-002		

Analyte	Result	RL
Methane	ND	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

Field ID:	GW-4	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/06/05
Lab ID:	180442-003		

Analyte	Result	RL
Methane	0.84	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

Field ID:	MW-11	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/05/05
Lab ID:	180442-004		

Analyte	Result	RL
Methane	ND	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

Field ID:	LFR-1	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/06/05
Lab ID:	180442-005		

Analyte	Result	RL
Methane	ND	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

### Dissolved Gasses

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2511	Analysis:	RSK-175
Matrix:	Water	Received:	07/06/05
Units:	mg/L	Analyzed:	07/10/05
Batch#:	103716		

Field ID:	LFR-2	Lab ID:	180442-006
Type:	SAMPLE	Sampled:	07/05/05

Analyte	Result	RL	Diln Fac
Methane	11	0.050	10.00
Ethene	ND	0.0050	1.000
Ethane	ND	0.0050	1.000

Field ID:	LFR-3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/05/05
Lab ID:	180442-007		

Analyte	Result	RL
Methane	ND	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

Field ID:	SOMA-1	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/05/05
Lab ID:	180442-008		

Analyte	Result	RL
Methane	1.5	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

Field ID:	SOMA-2	Lab ID:	180442-009
Type:	SAMPLE	Sampled:	07/06/05

Analyte	Result	RL	Diln Fac
Methane	11	0.050	10.00
Ethene	ND	0.0050	1.000
Ethane	ND	0.0050	1.000

Field ID:	SOMA-3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/06/05
Lab ID:	180442-010		

Analyte	Result	RL
Methane	2.5	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

**Dissolved Gasses**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2511	Analysis:	RSK-175
Matrix:	Water	Received:	07/06/05
Units:	mg/L	Analyzed:	07/10/05
Batch#:	103716		

Field ID:	SOMA-5	Lab ID:	180442-011
Type:	SAMPLE	Sampled:	07/06/05

Analyte	Result	RL	Diln Fac
Methane	20	0.050	10.00
Ethene	ND	0.0050	1.000
Ethane	ND	0.0050	1.000

Field ID:	B-10	Lab ID:	180442-012
Type:	SAMPLE	Sampled:	07/06/05

Analyte	Result	RL	Diln Fac
Methane	2.2	0.010	2.000
Ethene	ND	0.0050	1.000
Ethane	ND	0.0050	1.000

Field ID:	LFR-4	Lab ID:	180442-013
Type:	SAMPLE	Sampled:	07/05/05

Analyte	Result	RL	Diln Fac
Methane	5.4	0.025	5.000
Ethene	ND	0.0050	1.000
Ethane	ND	0.0050	1.000

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC300432		

Analyte	Result	RL
Methane	ND	0.0050
Ethene	ND	0.0050
Ethane	ND	0.0050

Batch QC Report

**Dissolved Gasses**

Lab #:	180442	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	METHOD
Project#:	2511	Analysis:	RSK-175
Matrix:	Water	Batch#:	103716
Units:	mg/L	Analyzed:	07/10/05
Diln Fac:	1.000		

Type: BS Lab ID: QC300433

Analyte	Spiked	Result	%REC	Limits
Methane	0.03272	0.03229	99	80-120
Ethene	0.05725	0.05950	104	80-120
Ethane	0.06135	0.06282	102	80-120

Type: BSD Lab ID: QC300434

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Methane	0.03272	0.03331	102	80-120	3	20
Ethene	0.05725	0.06157	108	80-120	3	20
Ethane	0.06135	0.06499	106	80-120	3	20