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Semi-Annual Groundwater Monitoring Report

June 2003 through December 2003

The Former Glovatorium Facility

3815 Broadway

Oakland, California

August 26, 2003

Project 01-2511

Prepared for

Smiland and Khachigian

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Prepared by

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August 27, 2003

Project: 01-2510

Mr. Scott Seery, CHMM
Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

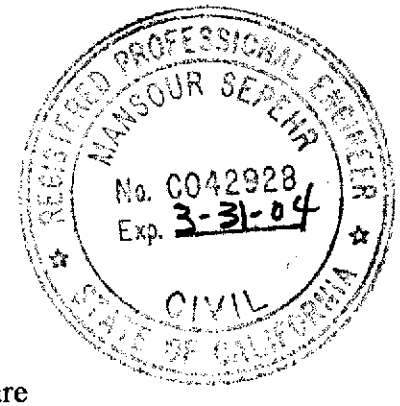
Subject: Site Located at 3815 Broadway, Oakland, California
Former Glovatorium Facility

Dear Mr. Seery:

Enclosed for your review is a copy of SOMA's "Semi-Annual 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) 244-6600, if you have any questions or comments.

Sincerely,



Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

Enclosure

cc: Mr. Stuart Depper, Clean Tech Machinery w/enclosure
Mr. Albert M. Cohen, Smiland & Khachigian 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 Smiland & Khachigian and Archer Norris, to comply with the Alameda County Department of Environmental Health's requirements for the second semi-annual groundwater monitoring event and to provide information necessary to defend litigation relating to the property.

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

Table of Contents

List of Tables

List of Figures

List of Appendices

1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc. (SOMA) for the Law Offices of Smiland and Khachigian on behalf of their client, the owners of the former Glovatorium, and for Archer Norris on behalf of their client Earl Thompson. The property, the former Glovatorium, is located at 3815 Broadway Avenue, 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 second semi-annual groundwater monitoring event of 2003, conducted at the Site on July 29 and 30, 2003 by SOMA. Included in this report are laboratory results of 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.

1.1 Site Description

The Site is located between Manila Avenue and Broadway, near the intersection of 38th 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 38th 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 38th 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 four USTs under the sidewalk on 38th 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 40th 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 2003 groundwater monitoring event.

1.2 Background

The following is a brief description of previous Site investigations.

In August 1997, Geosolv, LLC (Geosolv) initiated the first soil and groundwater investigation at the Site. Geosolv drilled fourteen soil borings to the approximate depths of 10 to 24 feet bgs using the direct push method. 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.

In July 1999, based on the request of the ACEHS, an investigation of potential groundwater preferential flow paths was initiated by LFR. LFR 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 using a direct push drilling method. 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.

In January and April 2000, LFR conducted quarterly groundwater monitoring events at the Site. During the groundwater monitoring events, groundwater elevations were measured in the temporary sampling points installed by LFR and Geolsolv, and in off-site wells MW-8, MW-9 and MW-11 owned by TOSCO. Groundwater samples were collected from the temporary sampling points installed by LFR and from off-site well MW-11.

In July and August 2000, LFR installed four groundwater monitoring wells, namely LFR-1 through LFR-4, 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 (NO_3^-), sulfate (SO_4^{-2}) ferrous iron (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. During this monitoring event, groundwater elevations were measured

and groundwater samples were collected from the newly installed groundwater monitoring wells (LFR-1 through LFR-4), from temporary sampling points installed by LFR and Geosolv, and from off-site monitoring wells MW-8, MW-9, and MW-11 owned by TOSCO. However, no groundwater samples were collected from MW-8 or MW-9.

In late October and early November 2000, LFR conducted the Fourth Quarter 2000 groundwater monitoring event, including another bioattenuation study. During the fourth quarter monitoring event, LFR sampled nine groundwater monitoring wells and temporary groundwater sampling points and measured groundwater elevations in nineteen groundwater monitoring wells and temporary sampling points (LFR, January 2001).

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

In late January, LFR conducted the First Quarter 2001 groundwater monitoring event. However, SOMA prepared the First Quarter 2001 monitoring report (SOMA, May 2001). The results of the First Quarter 2001 groundwater monitoring event suggested the occurrence of strong anaerobic biodegradation activities and dechlorination of PCE beneath the Site.

The Second Quarter 2001 groundwater monitoring event was conducted by SOMA on April 26 and 27, 2001 and reported on July 5, 2001. During this period certain bioattenuation data, which proved to be less useful, were not collected. The results of the Second Quarter 2001 monitoring event indicated a strong occurrence of the dechlorination process of PCE in the subsurface.

SOMA conducted the Third Quarter 2001 groundwater monitoring event on July 26 and 27, 2001. During this monitoring event ten groundwater monitoring wells were sampled and depths to groundwater were measured in 20 groundwater

monitoring wells and temporary sampling points. To better evaluate the bioattenuation parameters including DO, SOMA recommended replacing the existing small diameter monitoring wells B-7 and B-10 with larger diameter wells as proposed in SOMA's June 15, 2001 Workplan.

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. 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 conducted the Fourth Quarter 2001 groundwater monitoring event on October 18 and 19, 2001. During this monitoring event eleven groundwater monitoring wells were sampled and depths to groundwater were measured in 20 groundwater monitoring wells and temporary sampling points.

The First Quarter 2002 groundwater monitoring event was conducted by SOMA on January 30 and 31, 2002. During this monitoring event 11 groundwater monitoring wells were sampled, depth to groundwater was measured and any free product noted in 23 groundwater monitoring wells and temporary sampling points.

The Second Quarter 2002 groundwater monitoring event was conducted by SOMA on April 16 and 17, 2002. During this monitoring event 11 groundwater monitoring wells were sampled, depth to groundwater was measured and any free product noted in 22 groundwater monitoring wells and temporary sampling points.

The Third Quarter 2002 groundwater monitoring event was conducted by SOMA on July 17 and 18, 2002. During this monitoring event, 11 groundwater monitoring wells were sampled, depth to groundwater was measured and any free product noted in 23 wells and temporary sampling points.

The Fourth Quarter 2002 groundwater monitoring event was conducted by SOMA on October 22 and 23, 2002. During this monitoring event, 11 groundwater monitoring wells were sampled, depth to groundwater was measured and any free product noted in 24 wells and temporary sampling points.

SOMA's workplan dated June 15, 2001, as approved by the Alameda County Health Care Services (ACHCS) on August 27, 2001, proposed a two-phase approach for assessing the nature and extent of soil and groundwater contamination and defining the Site's regulatory status. The first phase included installation of additional groundwater monitoring wells, soil and groundwater sampling, conducting hydraulic testing, and a sensitive receptor survey. Phase II of the workplan included the definition of 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 described 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 groundwater flow and chemical transport modeling was to predict groundwater chemical concentrations down-gradient from the Site, beneath the nearest 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 were 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 groundwater in 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.

The First Quarter 2003 groundwater monitoring event was conducted by SOMA on February 18 and 19, 2003. During this monitoring event, 11 groundwater monitoring wells were sampled. The data collected from this monitoring event and previous monitoring events are sufficient to completely define the extent of groundwater and soil contamination and the occurrence of biodegradation at the Site. Consequently, SOMA recommended that groundwater monitoring be conducted on a semi-annual basis instead of a quarterly basis in the modeling report and the First Quarter 2003 monitoring report. SOMA's recommendation was approved by the ACEHS upon their review of these reports. Therefore, the Second Quarter 2003 monitoring event was not conducted, and the Third Quarter 2003 monitoring event will henceforth be known as the second semi-annual monitoring event of 2003.

1.3 Site Geology and Hydrogeology

The Site is located on the alluvial plain between the San Francisco Bay shoreline and the Oakland hills. Surface sediments in the Site'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 at depths of 17 to 21 bgs in borings B-11, E-23, E-25, GW-7 and GW-8.

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 permeability 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 1.2×10^{-4} and 6.9×10^{-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 appears to range between 10.5 and 60.1 ft/year.

2.0 FIELD ACTIVITIES

Field activities were conducted on July 29 and 30, 2003, during which 11 groundwater monitoring wells were sampled. Depths to water levels were measured in 24 groundwater monitoring wells and temporary sampling points. Due to the presence of floating product in SOMA-4, this well was not sampled. Figure 2 shows the location of the groundwater monitoring wells and temporary sampling points. Appendix A includes notes and results of SOMA's site-specific field activities for this groundwater monitoring event.

On July 29, 2003, 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 data at each monitoring well were used to calculate the groundwater elevation.

Prior to collecting samples, each well was purged using a battery operated 2-inch diameter pump (Model ES-60 DC). 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-phenathroline 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 sample was transferred to four 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 June 30, 2003. Samples for methane analysis were collected in a 40-mL VOA vial were maintained at 9°C in a cooler. These samples were sent to Microseeps Laboratory in Pittsburgh, Pennsylvania on July 30, 2003.

2.1 Laboratory Analysis

Curtis & Tompkins, Ltd., a state certified laboratory, analyzed the groundwater samples for TPH-g, TPH-ss, BTEX, MtBE, and VOCs. TPH-g and TPH-ss were prepared using EPA Method 5030B and measured using EPA Method 8015B(M). BTEX, MtBE, and VOCs were prepared using EPA Method 5030B and analyzed using EPA Method 8260B. Methane analysis of the groundwater samples was conducted by Microseeps Laboratory.

3.0 Results

This section describes the results of the second semi-annual groundwater monitoring event of 2003. It includes groundwater flow conditions, the status of groundwater contamination, and the occurrence of bioattenuation in the subsurface.

3.1 Groundwater Flow Condition

Table 2 presents the calculated groundwater elevations at each well. Depths to water and the elevation at the top of the well casings were used to calculate groundwater elevations. As shown in Table 2, depths to groundwater ranged from 8.10 feet in B-2 to 24.32 feet in monitoring well SOMA-5. The corresponding groundwater elevations ranged from 57.18 feet in SOMA-5 to 77.44 feet in MW-8. Table 3 shows the historical water level elevations at different groundwater monitoring wells and sampling points. Groundwater elevations have decreased in all wells and sampling points since the First Quarter 2003 monitoring event except for B-13, GW-2 and SOMA-5. Site-wide groundwater elevations showed an average decrease of 1.07 feet since the previous monitoring event. This decrease can be attributed to the onset of a drier season.

In evaluating the groundwater flow direction and gradient, water level data from all B wells, GW-4, LFR-2, SOMA-1, 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 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. LFR-2 is located adjacent to the storm drain and the sanitary sewer line. The mounding that occurred in the vicinity of LFR-2 may be the result of a leak in the storm drain or sewer line. Therefore, the groundwater elevation value for this well has been omitted in the groundwater elevations contour map.

4. 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.

5. 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.

The water level elevation in SOMA-2 closely matches the water level elevation of the other groundwater monitoring well within the source area; therefore, it was used in drawing the water level elevation contour map.

As in the four previous monitoring events, groundwater was encountered in SOMA-5. However, the well could not be sampled due to insufficient groundwater volume. SOMA-5 has been completed within the intervening clay layers below the first water-bearing zone.

Figure 3 displays a contour map of groundwater elevations. As Figure 3 shows, groundwater flows from the northeast to southwest at an average gradient of 0.033 ft/ft. The direction of groundwater flow and the groundwater gradient is consistent with the findings of previous monitoring events.

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 4, along with their historical values. Water temperatures ranged from 16.20°C in SOMA-3 to 20.10°C in GW-1. The variation in temperature may reflect the changes in air temperature during sampling. The temperature measurements allowed the field crew to make corrections to the pH, EC, and DO measurements. Measurements of pH ranged from 6.87 in LFR-3 to 7.91 in SOMA-2. The EC measurements ranged from 430 µS/cm in GW-4 to 1330 µS/cm in LFR-1.

3.2 Groundwater Quality

Table 5 displays the results of the laboratory analyses for TPH-ss, TPH-g, MtBE and BTEX. As shown in Table 5, TPH-ss was detected in six of the eleven wells sampled. Detectable TPH-ss levels ranged from 120 µg/L in GW-3 to 4,100 µg/L in LFR-2. However, in monitoring wells GW-3 and LFR-4, the groundwater sample exhibited a fuel pattern that does not resemble the standard Stoddard solvent pattern. This is likely due to the weathering of the solvent mixture in the environment over a period of years. A contour map of TPH-ss concentrations in groundwater is shown in Figure 4.

TPH-g was detected in seven of the eleven wells sampled. TPH-g levels in GW-2, MW-11, LFR-3 and SOMA-1 were below the laboratory reporting limits. Detectable TPH-g concentrations ranged from 68 µg/L in LFR-1 to 6,000 µg/L in LFR-2. However, groundwater samples in GW-4, LFR-2, SOMA-2 and SOMA-3 may contain heavier hydrocarbons, which contributed to the quantification of TPH-g concentrations in these wells. Groundwater samples in GW-3, GW-4, LFR-1, LFR-2, SOMA-2 and SOMA-3 exhibited fuel patterns that do not resemble the standard gasoline pattern. Again, this is likely due to weathering of the gasoline in the environment. LFR-2 was found to have both the highest TPH-g and TPH-ss concentrations. SOMA-3 also exhibits high TPH-g and TPH-ss

concentrations. A contour map of TPH-g concentrations in groundwater is shown in Figure 5.

MtBE was only detected in SOMA-1 and SOMA-2 at levels of 190 µg/L and 300 µg/L, respectively. An MtBE iso-concentration map was not produced due to insufficient points for contouring.

Benzene was only detected in LFR-4 at a level of 10 µg/L. Toluene, ethylbenzene and total xylenes were not detected above the laboratory reporting limits in any of the wells that were sampled. A contour map of benzene is not presented due to the mostly non-detectable concentrations in groundwater.

Table 6 shows the historical analytical results for total petroleum hydrocarbons, MtBE and BTEX. Several concentration trends were observed since the previous (First Quarter 2003) monitoring event. TPH-ss concentrations increased in GW-3 and LFR-2, decreased in GW-4, LFR-1, LFR-4, SOMA-2 and SOMA-3, and remained below the laboratory reporting limits in all other wells. TPH-g concentrations increased in GW-3, and LFR-2, decreased in GW-4, LFR-1, LFR-4, SOMA-2 and SOMA-3, and remained below the laboratory reporting limits in all other wells. MtBE concentrations increased in SOMA-1 and SOMA 2, and remained non-detectable in all the other wells. BTEX concentrations, with the exception of benzene in LFR-4, have remained non-detectable in all the wells. The benzene concentration in LFR-4 decreased since the previous monitoring event. Site-wide, the general trends for TPH-ss and TPH-g concentrations are decreasing, while the trend for MtBE concentrations appears to be increasing.

Table 7 shows the concentrations of VOCs in the groundwater during this monitoring event. Tetrachloroethene was detected in GW-2, GW-3, LFR-1, SOMA-1, SOMA-2 and SOMA-3. The detectable concentrations of PCE ranged from 16 µg/L in monitoring well SOMA-1 to 430 µg/L in GW-3. A contour map of PCE concentrations in groundwater is shown in Figure 6. Trichloroethene was

detected in only two of the eleven wells sampled. TCE concentrations were reported to be 27 µg/L in LFR-1 and 220 µg/L in SOMA-3. A contour map of TCE concentrations is not presented due to insufficient contouring points. Cis-1,2-dichloroethene was detected in LFR-1, LFR-2, SOMA-1, SOMA-2 and SOMA-3 at concentrations of 6.5 µg/L, 11 µg/L, 42 µg/L, 580 µg/L and 4,700 µg/L, respectively. Figure 7 shows a contour map of cis-1,2-DCE concentrations in groundwater. During the second semi-annual monitoring event, 1,2-dichloropropane was detected in SOMA-1 at 6.2 µg/L. 1,2-Dichloropropane was not detected in any other monitoring wells. Trans-1,2-dichloroethene, vinyl chloride, and 1,1-dichloroethene were not detected above the laboratory reporting limits in any of the wells sampled.

Table 8 shows the historical concentration of VOCs in the groundwater. Several concentration trends were observed since the previous monitoring event. PCE concentrations increased in GW-3, SOMA-1, SOMA-2 and SOMA-3, decreased in GW-2, and LFR-1, and remained below the laboratory detection limits in all other wells. TCE concentrations increased only in SOMA-3, decreased in GW-2 and LFR-1 and remind below the laboratory reporting limits in all other wells. Cis-1,2-DCE increased in LFR-1, LFR-2, SOMA-1 and SOMA-3, decreased in GW-3 and SOMA-2, and remained non-detectable in all other wells. 1,2-Dichloropropane concentrations increased in SOMA-1, but remained below the laboratory reporting limits in the other wells and sampling points. Concentrations of trans-1,2-DCE and vinyl chloride remained below the detection limits in all the groundwater samples.

Free product was measured at the Site on July 17, 2003. Free product was detected in B-3, B-7, B-8 and SOMA-4, as shown in Table 9. Based on these measurements, SOMA-4 is the most impacted well and contains a layer of free product approximately 10.50 feet thick. The extent of free product is limited to SOMA-4 and its surrounding area.

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 the field inside the casing 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 underneath 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 concentration of DO 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 0 mg/L in LFR-2, SOMA-1 and SOMA-3 to 6.12 mg/L in GW-3. Figure 8 presents the DO concentration contour map in the groundwater using in-situ measurements.

This is the seventh monitoring event in which SOMA-1 through SOMA-3 were used for DO measurements. Due to the presence of floating product, DO measurements were not collected at SOMA-4. It should be noted that due to the limitation of the drilling equipment, SOMA-3 still is a ¾ inch diameter well which was installed in the deeper zone within the suspected chemical source area 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. Table 10 presents the current and historical DO concentrations in groundwater. Except for GW-3, DO levels have decreased since the previous monitoring event.

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. During this monitoring event nitrate was not detected in any well or sampling point. A contour map of

nitrate concentrations is not presented due to non-detect values. Nitrate levels have decreased in GW-2, GW-3, GW-4, MW-11, LFR-1, LFR-2, LFR-3, LFR-4, SOMA-1, SOMA-2 and SOMA-3 since the previous monitoring event.

Manganese. After DO and nitrate have been depleted, manganese may be used as an electron acceptor for anaerobic biodegradation. Therefore, increased dissolved manganese concentrations in groundwater are indicative of reductive dechlorination. Manganese concentrations ranged from 0 mg/L in GW-3 to 6.1 mg/L in GW-4. A contour map of dissolved manganese concentrations in groundwater is presented in Figure 9. As shown in Table 10, dissolved manganese concentrations have increased in GW-2, GW-4, LFR-1, and SOMA-3, but decreased in GW-3, MW-11, LFR-2, LFR-3, LFR-4 and SOMA-2 since the previous monitoring event. The dissolved manganese concentration in SOMA-1 has remained at 0.4 mg/L since the previous monitoring event.

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 GW-3, GW-4, LFR-2, LFR-4, SOMA-2 and SOMA-3. Detectable sulfate levels ranged from 1 mg/L in SOMA-1 to 54 mg/L in MW-11. Figure 10 shows a contour map of sulfate concentrations in groundwater using the field data. Sulfate levels increased in LFR-3, remained at the same level in GW-4, LFR-2, SOMA-1, SOMA-2 and SOMA-3, and decreased in all other wells and sampling points since previous monitoring event.

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 GW-2, GW-3, MW-11, LFR-1,

LFR-3 and SOMA-1. The highest ferrous iron concentrations were found in GW-4, LFR-2, LFR-4 and SOMA-3, each at a level of 3.3 mg/L. Detectable ferrous iron levels ranged from 0.83 mg/L to 3.3 mg/L. A contour map of ferrous iron concentrations is shown in Figure 11. Ferrous iron levels have decreased in GW-2, GW-3, LFR-3 and SOMA-3, but remained at the same concentrations in all other wells.

Methane. The presence of methane in groundwater is indicative of strongly reduced conditions, and suggests reductive dechlorination by the process of methanogenesis. Methane concentrations ranged from 0.0004 mg/L in LFR-1 to 8.7 mg/L in LFR-2 and SOMA-3. The higher concentrations of methane in the vicinity of LFR-2, LFR-4 and SOMA-3 indicate conditions that are conducive to anaerobic biodegradation. A contour map of methane concentrations in the groundwater is shown in Figure 12. Methane concentrations have increased in LFR-4, remained at the same concentration in LFR-3, and decreased in all other monitoring wells since the previous monitoring event, as shown in Table10.

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 –141 mV in GW-4 to +224 mV in MW-11. Low ORP values were found in the apparent source area (SOMA-2), the cross-gradient well LFR-4 and the down-gradient wells GW-4 and LFR-2. 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, GW-3, MW-11, LFR-3 and SOMA-1. Detectable total iron concentrations ranged from 0.02 mg/L in LFR-1 to 3.3 mg/L in GW-4, LFR-2, LFR-4 and SOMA-3. The results of the total iron analysis are presented in Table 4

Nitrite. Nitrate may reduce to nitrite during the process of anaerobic biodegradation. Nitrite concentrations were not detected in any wells during this monitoring event. Nitrite concentrations in groundwater for this monitoring event and historical nitrite results are shown in Table 4.

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 4.

Appendix B includes the COC forms and laboratory reports for the Second Semi-Annual 2003 groundwater monitoring event.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following is a summary of the work performed on July 29 and 30, 2003 and the results of this work.

1. Groundwater samples and field measurements of physical and chemical parameters were collected from GW-2, GW-3, GW-4, MW-11, LFR-1 through LFR-4 and SOMA-1 through SOMA-3. Measurements of pH, temperature, electric conductivity and bioattenuation parameters were collected in the field. The groundwater samples were analyzed for TPH-ss, TPH-g, MtBE, BTEX, and VOCs.

2. Groundwater elevations during this monitoring event were found to range from 57.18 feet in SOMA-5 to 77.44 feet in MW-8. Groundwater flows from

the northeast to southwest at an average gradient of 0.033 ft/ft. The direction of groundwater flow and the average groundwater gradient is consistent with the findings of previous monitoring events.

3. TPH-ss was found in six of the eleven wells sampled. TPH-ss concentrations ranged from 120 µg/L to 4,100 µg/L. TPH-g was detected in seven wells with concentrations ranging from 68 µg/L to 6,000 µg/L. The maximum concentrations of TPH-ss and TPH-g were detected in LFR-2. MtBE was only detected in SOMA-1 and SOMA-2 at levels of 190 µg/L and 300 µg/L, respectively. Benzene was detected in LFR-4 at a level of 10 µg/L and was not detected in any other wells. Toluene, ethylbenzene and total xylenes were not detected above the laboratory reporting limits in all the wells that were sampled.

4. Free product was measured on July 17, 2003 at the Site. Free product was detected in B-3, B-7, B-8 and SOMA-4 at thicknesses of 0.80 foot, 0.03 foot, 0.23 foot and 10.50 feet, respectively.

5. PCE was detected in six of the eleven wells and had a concentration range of 16 µg/L to 430 µg/L. TCE was only detected in LFR-1 and SOMA-3 at levels of 27 µg/L and 220 µg/L, respectively. Cis-1,2-DCE was detected in five wells and has a concentration range of 6.5 µg/L to 4,700 µg/L. Cis-1,2-DCE is one of the breakdown products of PCE, so its presence in groundwater indicates that reductive dechlorination may be occurring underneath the Site. 1,2-dichloropropane was only detected in SOMA-1 at a concentration of 6.2 µg/L. Trans-1,2-DCE, vinyl chloride and 1,1-dichloroethene were below the laboratory detection limits in all wells.

6. This is the twelfth groundwater monitoring event in which bioattenuation parameters were analyzed. Groundwater samples were analyzed for DO, nitrate, manganese, sulfate, total iron, ferrous iron, methane and ORP.

Certain parameters such as chloride, carbon dioxide, hydrogen, alkalinity, and sulfide were not measured due to their inconclusive role in the bioattenuation processes at this Site.

4.1 Conclusions

Based on the data obtained during the Second Semi-Annual 2003 groundwater monitoring event, our conclusions are as follows:

1. Since the year 2000, groundwater monitoring data has been collected on a quarterly basis. This data has been sufficient to completely define the extent of groundwater contamination and occurrence of biodegradation at the Site. ACEHS has agreed to conduct groundwater monitoring events on a semi-annual basis.

2. The furthest down-gradient well, LFR-3, and the furthest up gradient well, MW-11, contained no detectable concentrations of VOCs, TPH-g, TPH-ss, MtBE and BTEX.

3. The data collected to date regarding the distribution of PCE and other VOCs in groundwater indicate 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. The presence of TCE in the apparent source area well SOMA-3 during the current sampling event indicates that PCE degradation is occurring. The presence of relatively high concentrations of cis-1,2-DCE in SOMA-2 and SOMA-3 and its presence in other wells such as LFR-2 and SOMA-1 is also indicative of biodegradation.

4. The results of DO, nitrate, manganese, sulfate, ferrous iron, methane, and ORP measurements indicate that conditions in the apparent source area are conducive to the reductive dechlorination processes.

5. DO concentrations of approximately less than 1.0 mg/L in the groundwater are indicative of anaerobic biodegradation conditions. During this groundwater monitoring event, anaerobic conditions were detected in LFR-1, LFR-2, LFR-3, LFR-4, SOMA-1 and SOMA-3. The results of this current monitoring event and from past monitoring events indicated that conditions in the apparent source areas were conducive to the anaerobic biodegradation processes.

6. Relatively low concentrations of nitrate (e.g. less than 1.0 mg/L) are anticipated in locations where the oxygen has been depleted, because nitrate ions can be an effective electron acceptor in anaerobic biodegradation processes. Non-detectable nitrate concentrations in on- and off-site areas indicate conditions that are conducive to anaerobic biodegradation.

7. Relatively low concentrations of sulfate (e.g. less than 20 mg/L) are anticipated in locations where oxygen has been depleted, because sulfate ion can be used as an effective electron acceptor in the anaerobic biodegradation processes. Lower or non-detectable sulfate concentrations in GW-4, LFR-2, LFR-4, SOMA-1, SOMA-2 and SOMA-3 indicate conditions that are conducive to anaerobic biodegradation.

8. The reducing conditions conducive to the dehalogenation of VOCs can also reduce iron to the soluble ferrous state. Therefore, a relatively high concentration of ferrous iron is anticipated in locations where biodegradation occurs. Higher ferrous iron concentrations in GW-4, LFR-

2, LFR-4, SOMA-2 and SOMA-3 indicate conditions that are conducive to anaerobic biodegradation.

9. A relatively high concentration of methane is anticipated in locations where biodegradation occurs because methane is indicative of strongly reducing conditions and suggests reductive dechlorination by the process of methanogenesis. Methane concentrations ranging from 3.9 mg/L to 8.7 mg/L in LFR-2, LFR-4 and SOMA-3 indicate conditions that are conducive to anaerobic biodegradation.

10. The ORP of groundwater is a measurement 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 millivolts (mV) to less than -400 mV, with negative values expected in areas where anaerobic processes are occurring. Negative ORP values were found in and near the apparent source areas. These results indicate that conditions in and near the apparent source area are conducive to anaerobic biodegradation.

4.2 Recommendations

Free product was detected in SOMA-4 with a thickness of 10.50 feet. Based on the results of this investigation, SOMA recommends the immediate commencement of free product removal at the Site using a skimmer pump.

SOMA began implementing Phase II of the approved Workplan (dated June 15, 2001). SOMA had recently completed groundwater flow and chemical transport modeling to simulate the future extent of chlorinated solvents and other chemicals beneath the Site. In light of the groundwater modeling results, which confirm that biodegradation is occurring, SOMA believes that the site should likely be characterized as a "Low" risk site according to the California Regional Water Quality Control Board's Interim Guidance Document dated December 8, 1995. In order to do so, however, the Interim Guidance document requires

conducting a human health risk assessment to evaluate the impact of the Site's contaminant in soil and groundwater on the current and future Site's workers and the nearby residents. SOMA is therefore currently conducting a human health risk assessment and continuing groundwater monitoring in order to validate the conclusions of the chemical fate and transport modeling.

In order to define the Site's regulatory status, SOMA is currently developing the Site's conceptual model and began to conduct a human health risk assessment. The results of this evaluation will determine the Site's regulatory status in terms of "Low Risk" or "High Risk." Based upon the outcome of this study, the most appropriate corrective action will be proposed to the ACEHS. Meanwhile SOMA will continue to conduct groundwater monitoring events on a semi-annual basis.

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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)
Temporary Sampling Points Installed by Geosolv, LLC						
B-2	19-Aug-97	82.20	82.09	21	5 to 21	77.2 to 61.2
B-3[1]	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
Temporary Sampling Points Installed by LFR						
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[2]	15-Jul-99	81.91	81.65	13.5	7.5 to 13.5	74.4 to 68.4
GW-6A[2]	16-Jul-99	81.93	81.61	15	5 to 15	76.9 to 66.9
GW-7[2]	15-Jul-99	81.30	NS	20	10 to 20	71.3 to 61.3
GW-8[2]	16-Jul-99	80.28	80.10	20	10 to 20	70.3 to 60.3
Temporary Sampling Points Installed by TOSCO						
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
Groundwater Monitoring Wells Installed by LFR						
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
Groundwater Monitoring Wells Installed by SOMA						
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:

[1] Top of casing surveyed on south side on January 21, 2000, because the casing was broken.

[2] 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
Groundwater Elevation Data
July 29, 2003
3815 Broadway, Oakland, California

Well Name	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)
B-2	82.09	8.10	73.99
B-3	82.57	8.74	73.83
B-7	76.96	8.43	68.53
B-8	81.82	9.43	72.39
B-9	77.37	8.70	68.67
B-10	81.50	8.92	72.58
B-13	84.58	8.78	75.80
GW-1	79.94	dry	NC
GW-2	79.14	10.45	68.69
GW-3	77.92	10.25	67.67
GW-4	82.37	9.76	72.61
GW-5	81.01	12.19	68.82
GW-6A	81.61	13.64	67.97
MW-8	87.44	10.00	77.44
MW-9	86.56	9.45	77.11
MW-11	84.13	10.35	73.78
LFR-1	79.97	9.79	70.18
LFR-2	81.89	10.93	70.96
LFR-3	77.96	11.25	66.71
LFR-4	81.65	13.28	68.37
SOMA-1	81.64	13.80	67.84
SOMA-2	81.39	11.55	69.84
SOMA-3	81.42	8.94	72.48
SOMA-4	81.09	FP	NC
SOMA-5	81.50	24.32	57.18

Notes:
dry: Monitoring well GW-1 was dry when measured during this monitoring event.
NM: SOMA-4 was not measured due to the presence of free product.
NC: Not calculated. Groundwater elevation in GW-1 not calculated due to dryness of well. Groundwater elevation in Soma-4 not calculated due to free product in the well.

Table 3
Historical Groundwater Elevation Data
Former Glovatorium Site
3815 Broadway, Oakland, California

Date	B-2	B-3	B-7	B-8	B-9	B-10	B-13
18-Feb-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 (FP)	77.16 (FP 0.5')	70.79	75.03 (FP 0.5')	70.43	74.14	77.53 (FP 0.7')
18-Oct-01	73.26 (0.25' FP)	73.24 (1' FP)	67.89	69.51 (2.1' FP)	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 (FP)	69.01	73.32	69.42	73.35	DRY
10-Aug-00							
9-Aug-00	73.9 (FP)	74.55 (FP)	68.61	72.8 (FP)	68.82	72.65	75.23
27-Apr-00	75.41 (FP)	75.86 (FP)	69.85 (FP)	74.14 (FP)	69.96	73.70	75.87
25-Jan-00							
24-Jan-00	75.93 (FP)	75.83	69.66 (FP)	72.84	70.25 (FP)	74.15 (FP)	
21-Jan-00							76.32
20-Jan-00							
19-Jan-00	73.97 (FP)	73.22 (2)	68.6 (FP)	71.81 (FP)	68.91 (FP)	73.02 (FP)	74.18
27-Aug-99							
18-Feb-98	78.16 (1)	78.04 (1)	71.57 (1)	76.64 (1)	71.44 (1)	75.13 (1)	78.51 (1)
26-Oct-97	72.66 (1)	73.64 (1)	68.09 (1)	71.11 (1)	68.39 (1)	72.26 (1)	73.02 (1)

Table 3
Historical Groundwater Elevation Data
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
18-Feb-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 3
Historical Groundwater Elevation Data
Former Glovatorium Site
3815 Broadway, Oakland, California

Date	LFR-1	LFR-2	LFR-3	LFR-4	SOMA-1	SOMA-2	SOMA-3	SOMA-4	SOMA-5
18-Feb-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(FP 2.5')	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 4

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)
[illegible]												
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											
	31-Oct-00	760	42	200	14.00	<0.1	<2.0			6.16	16.05	1454
B-7 field	31-Oct-00				17.22	-1.00	-1.00					
	31-Jan-00	720	43	170	12.00	<0.1	<2.0			6.79	13.90	1424
B-7 field	31-Jan-00									6.59	16.30	1340
	26-Apr-01				>3.3	0.24				6.39	15.97	1400
	26-Jul-01				15.30	0.02						
B-10 field	10-Aug-00					0.02	0.06					
B-10	31-Oct-00	500	76	120	6.60	<0.1	<2.0			6.21	16.62	1051
	31-Oct-00				8.35	0.00	0.00					
	31-Jan-01	480	81	72	6.10	<0.1	<2.0			6.81	14.66	1117
	31-Jan-01				1.44	0.07				6.65	16.70	1090
	11-Jun-01				1.31					6.38	16.09	1160
	26-Jul-01				6.50	0.00				6.86	16.80	1130
	10-Aug-01	520	74	145	6.00	<0.05	<0.04	<0.0005	0.00	6.31	18.97	1218
[illegible]												
GW-2	01-Nov-00									6.82	13.75	846
	30-Jan-01			63						6.80	19.50	874
GW-2 field	31-Jan-01									6.74	20.30	803
	26-Apr-01				0.02					6.84	21.30	786
	26-Jul-01				0.03	0.02				6.70	17.70	797
	19-Oct-01	NM	NM	NM	NM	NM	NM	NM	NM	6.38	17.00	707
	31-Jan-02	NM	NM	NM	1.05	0.01	NM	NM	NM	6.35	17.75	798
	16,17-Apr-02	NM	NM	NM	0.65	0.02	NM	NM	NM	6.73	19.78	670
	17,18-Jul-02	NM	NM	NM	1.39	0.00	NM	NM	NM	6.86	18.10	607
	23-Oct-02	NM	NM	NM	0.12	0.04	NM	NM	NM	7.26	20.10	651
	19-Feb-03	NM	NM	NM	0.10	0.02	NM	NM	NM			
	29-Jul-03	**NM**	**NM**	**NM**	**0.00**	**0.00**	**NM**	**NM**	**NM**			
GW-3	11-Aug-00	340	25	54				<0.0005	<0.0005	7.05	21.43	860
GW-3 field	11-Aug-00					0.05	-1.00					
GW-3 field	1-Nov-00									6.52	18.83	967
	1-Feb-01			54								
GW-3 field	29-Jan-01									6.89	17.29	602
	11-Jun-01				0.00	0.70				5.68	16.20	673
	26-Jul-01				0.14	0.00				6.53	22.25	547
	19-Oct-01	NM	NM	NM	0.00	NM	NM	NM	NM	6.84	22.56	590
	31-Jan-02	NM	NM	NM	0.14	0.01	NM	NM	NM	6.70	18.40	593
	16,17-Apr-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.64	16.61	526
	17,18-Jul-02	NM	NM	NM	1.08	0.01	NM	NM	NM	6.32	17.10	545
	23-Oct-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.36	19.80	425
	19-Feb-03	NM	NM	NM	0.08	0.01	NM	NM	NM	6.77	17.80	412
	29-Jul-03	**NM**	**NM**	**NM**	**0.00**	**0.00**	**NM**	**NM**	**NM**	7.07	19.40	490
GW-4	30-Jan-01									6.60	13.48	479
	26-Jul-01				2.00	0.04				6.45	19.44	827
	19-Oct-01	NM	NM	NM	11.00	NM	NM	NM	NM	6.79	18.36	732
	31-Jan-02	NM	NM	NM	12.70	0.01	NM	NM	NM	6.50	12.00	414
	16,17-Apr-02	NM	NM	NM	6.40	0.03	NM	NM	NM	6.34	13.98	467
	17,18-Jul-02	NM	NM	NM	>3.3	0.03	NM	NM	NM	6.49	21.93	572
	23-Oct-02	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
	19-Feb-03	NM	NM	NM	3.30	0.00	NM	NM	NM	6.67	13.60	466
	30-Jul-03	**NM**	**NM**	**NM**	**3.30**	**0.00**	**NM**	**NM**	**NM**	7.30	18.70	430

Table 4

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)
Monitoring Wells Sampled by TOSCO												
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					
	1-Nov-00	300	120	190	<0.05	<0.1	<2.0			5.83	20.13	1
MW-11 field	1-Nov-00				0.01	0.00	-1.00					
	31-Jan-01	330	130	150	<0.05	<0.1	<2.0			6.35	13.67	1
MW-11 field	31-Jan-01									5.67	18.00	1210
	26-Apr-01				0.01					6.02	19.85	1120
	26-Jul-01				0.00	0.02				6.41	21.25	130
	19-Oct-01	NM	NM	NM	0.00	NM	NM	NM	NM	6.60	18.50	1090
	31-Jan-02	NM	NM	NM	0.05	0.04	NM	NM	NM	5.87	18.70	1150
	16,17-Apr-02	NM	NM	NM	0.00	0.00	NM	NM	NM	6.27	18.37	1180
	17,18-Jul-02	NM	NM	NM	0.00	0.02	NM	NM	NM	6.62	20.81	1220
	23-Oct-02	NM	NM	NM	0.00	0.04	NM	NM	NM	6.49	19.50	1170
	18-Feb-03	NM	NM	NM	0.00	0.04	NM	NM	NM	**6.92**	**19.70**	**941**
	30-Jul-03	**NM**	**NM**	**NM**	**0.00**	**0.00**	**NM**	**NM**	**NM**			
Monitoring Wells Installed by LFR												
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					
	30-Oct-00	240	100	25	<0.05	<0.1	<2			6.38	17.94	697
LFR-1 field/sp	30-Oct-00				0.01/0.01	0.031/0.036	0.001/0.001					
LFR-1-spl	30-Oct-00	220	100	40	<0.05	<0.1	<2					
	29-Jan-01	150	76	28	<0.05	<0.1	<2			6.82	15.00	870
LFR-1 field	29-Jan-01				0.00	0.04						
LFR-1 Dup	29-Jan-01	150	75	26	<0.05	<0.1	<2			5.76	16.80	980
	26-Apr-01				0.00					6.48	19.38	772
	26-Jul-01				0.05	0.01				6.73	20.83	661
	26-Jul-01	NM	NM	NM	0.42	NM	NM	NM	NM	6.50	16.50	879
	31-Jan-02	NM	NM	NM	0.03	0.01	NM	NM	NM	5.88	16.37	1120
	16,17-Apr-02	NM	NM	NM	0.75	0.02	NM	NM	NM	6.40	17.02	832
	17,18-Jul-02	NM	NM	NM	0.22	0.01	NM	NM	NM	6.54	20.09	803
	23-Oct-02	NM	NM	NM	0.30	0.00	NM	NM	NM	6.47	16.90	607
	18-Feb-03	NM	NM	NM	0.40	0.00	NM	NM	NM	**6.92**	**19.20**	**1330**
	30-Jul-03	**NM**	**NM**	**NM**	**0.02**	**0.00**	**NM**	**NM**	**NM**			
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					
	02-Nov-00	550	40	180	6.20	<0.1	<2			6.19	19.67	1306
LFR-2 field	02-Nov-00				7.45	0.01	0.00					
	30-Jan-01	480	21	130	4.60	<0.1	<2			6.60	12.73	945
LFR-2 field	30-Jan-01				1.04	0.01				5.64	16.40	921
	27-Apr-01				2.97					6.31	18.66	970
	26-Jul-01				4.60	0.01				6.78	19.56	109
	18-Oct-01	NM	NM	NM	8.20	NM	NM	NM	NM	6.50	16.60	644
	31-Jan-02	NM	NM	NM	1.97	0.05	NM	NM	NM	6.19	16.43	845
	16,17-Apr- 02	NM	NM	NM	7.60	0.06	NM	NM	NM	6.52	16.24	986
	17,18-Jul-02	NM	NM	NM	8.80	0.00	NM	NM	NM	6.84	18.09	812
	23-Oct-02	NM	NM	NM	3.30	0.06	NM	NM	NM	6.50	16.90	617
	18-Feb-03	NM	NM	NM	3.30	0.00	NM	NM	NM	**7.15**	**17.30**	**861**
	30-Jul-03	**NM**	**NM**	**NM**	**3.30**	**0.00**	**NM**	**NM**	**NM**			

Table 4

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	10-Aug-00	310	85	162	<0.1	0.15	0.04	<0.0005	<0.0005	6.57	19.92	951
LFR-3 split	10-Aug-00	300	85	152				<0.0005	<0.0005			
LFR-3 field	10-Aug-00					0.06	-1.00					
	01-Nov-00	350	66	160	<0.05	<0.1	<2					
LFR-3 field	01-Nov-00				0.01	0.01	0.00			6.16	17.71	1164
	30-Jan-01	250	31	71	<0.05	<0.1	<2					
LFR-3 field	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**
LFR-4	11-Aug-00	630	71	161				<0.0005	<0.0005	6.90	20.11	1240
LFR-4 field	11-Aug-00				0.22	0.02	0.00					
	31-Oct-00	490	28	130	1.00	<0.1	<2					
LFR-4 field	31-Oct-00				0.67	0.02	0.00			6.21	18.11	830
B-10 FB	10-Aug-00							<0.0005	<0.0005			
	01-Feb-01	460	25	120	1.30	<0.1	<2					
LFR-4 field	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**
Monitoring wells installed by SOMA												
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**
SOMA-2	19-Oct-01	NM	NM	NM	44.00	NM	NM	NM	NM	6.87	16.93	122
	31-Jan-02	NM	NM	NM	10.50	0.34	NM	NM	NM	6.90	15.20	1140
	16,17-Apr-02	NM	NM	NM	8.70	0.01	NM	NM	NM	6.30	15.25	1170
	17,18-Jul-02	NM	NM	NM	>3.3	0.00	NM	NM	NM	6.86	14.19	1170
	23-Oct-02	NM	NM	NM	3.30	0.00	NM	NM	NM	6.97	16.47	1380
	19-Feb-03	NM	NM	NM	2.93	0.01	NM	NM	NM	6.86	15.70	1420
	29-Jul-03	**NM**	**NM**	**NM**	**1.37**	**0.00**	**NM**	**NM**	**NM**	**7.91**	**16.80**	**1290**
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**
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**

Notes

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

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

NM= not measured

Table 5
Analytical Results of Groundwater Samples Analyzed for Petroleum Hydrocarbons
July 29-30, 2003
Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Stoddard Solvent C7-C12 (µg/L)	Gasoline C7-C12 (µg/L))	MtBE (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
GW-2	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0
GW-3	120 YZ	180 YZ	<10	<10	<10	<10	<10
GW-4	390	580 HY	<5.0	<5.0	<5.0	<5.0	<5.0
MW-11	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0
LFR-1	<50	68 YZ	<5.0	<5.0	<5.0	<5.0	<5.0
LFR-2	4,100	6,000 HY	<5.0	<5.0	<5.0	<5.0	<5.0
LFR-3	<50	<50	<5.0	<5.0	<5.0	<5.0	<5.0
LFR-4	400 Y	590	<5.0	10	<5.0	<5.0	<5.0
SOMA-1	<50	<50	190	<5.0	<5.0	<5.0	<5.0
SOMA-2	270	400 HY	300	<20	<20	<20	<20
SOMA-3	2,100	3,100 HY	<130	<130	<130	<130	<130
SOMA-4	FP	FP	FP	FP	FP	FP	FP

< : not detected above the laboratory reporting limits
H Heavier hydrocarbons contributed to the quantitation.
Y Sample exhibits fuel pattern which does not resemble standard.
Z Sample exhibits unknown single peak or peaks.
FP: Free product was observed in the SOMA-4, therefore no sample was collected.

Table 6
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)
Temporary Sampling Points Installed by Geosolv Inc.								
B-2	24-Jan-00	20 J	31 YJ	<0.05	<0.013	<0.013	0.11 C	0.22 C
B-3	24-Jan-00	4.9 J	8.8 YJ	<0.01	0.0048	<0.0025	<0.0025	0.0714
B-7	27-Jul-01	2.5	5.2 HY	0.0057	0.0070	0.051	0.0082	0.0740
B-7	31-Jan-01	5.3	7.9	0.0100	0.0089	0.059	0.0097	0.0870
B-7	26-Apr-01	4.5	8.9 H	0.0069	0.0110	0.071	0.077 C	0.2080
B-7	31-Oct-00	62 J	98 YHJ	0.01 J	0.0091 J	0.061 J	<0.0005	0.237 J
B-7	11-Aug-00	3.7 J	6.8 YHJ	0.0200	0.0077 J	0.047 J	0.007 J	0.065 CJ
B-7	24-Jan-00	19	30 J	<0.05	<0.013	0.062	<0.013	0.2070
B-8	24-Jan-00	11 J	19 YJ	<0.01	<0.0025	<0.0025	<0.0025	0.17 C
B-9	24-Jan-00	1 YJ	1.8 YHJ	<0.002	<0.0005	<0.0005	0.01 C	0.0089 C
B-10	27-Jul-01	1.7	3.6 H	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
B-10	31-Jan-01	2.4 Z	3.6 HYZ	<0.002	0.0031	0.010	0.00076 c	0.0197
B-10	26-Apr-01	2.4 Z	4.7 Z	0.0025	0.0041	0.013	ND	0.0290
B-10	31-Oct-00	2.2 YZ	3.5 Z	<0.002	0.0038	0.011	<0.0005	0.0182
B-10	10-Aug-00	2.8 Y	6.1 Y	0.1600	0.0073	0.012	<0.005	0.0241
B-10	24-Jan-00	2.4 Y	4.2	0.0140 c	0.0072	0.027	0.025 C	0.0320
B-13	24-Jan-00	1.7 J	3 YJ	<0.01	<0.0025	<0.0025	<0.0025	0.0200
Temporary Sampling Points Installed by URS								
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 Y	0.0044	<0.0005	<0.0005	0.00097 C	0.0013
	28-Apr-00	<0.05	0.095 YZ	<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 YZ	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 b	<0.0050 b	<0.0050 b	<0.0050 b	<0.0050 b
	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**

Table 6
Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE in Groundwater Samples
Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)
GW-3	19-Jul-99	0.070 [Z]	0.100 [Z]	<0.0020	<0.0005	<0.0005	<0.0005	0.00064
	20-Jan-00	0.150	0.260 [Y]	<0.0020	<0.0005	<0.0005	<0.0005	0.00130 [C]
	27-Apr-00	0.200 [YZ]	0.380 [YZ]	<0.0020	<0.0005	<0.0005	<0.0005	<0.00050
	27-Apr-00	0.300 [Z]	0.570 [YZ]	<0.0020	<0.0005	<0.0005	<0.0005	<0.00050
	11-Aug-00	<0.050	0.077 [YZ]	<0.0020	<0.0005	<0.0005	<0.0005	0.00051
	2-Nov-00	<0.050	0.050 [YZ]	0.0026	<0.0005	<0.0005	<0.0005	<0.00050
	1-Feb-01	<0.050	<0.050	<.0020	<.0005	<0.0005	<0.0005	<0.00050
	27-Apr-01	<0.050	0.062 [YZ]	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 [YZ]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.00500 [b]
	16,17-Apr-02	<0.050	0.055 [YZ]	<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 YZ	0.140 YZ	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071
	19-Feb-03	0.068 YZ	0.100 YZ	<0.005	<0.005	<0.005	<0.005	<0.005
	29-Jul-03	**0.120 YZ**	**0.180 YZ**	**<0.010**	**<0.010**	**<0.010**	**<0.010**	**<0.010**
GW-4	21-Jul-99	6.80 [J]	10 [YHJ]	0.0022	<0.0005	<0.0005	<0.0005	0.0029 [J]
	20-Jan-00	0.97 [J]	1.60 [YJ]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Split	20-Jan-00	0.85 [J]	1.50 [YJ]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-00	0.31	0.60 [Y]	<0.0020	<0.0005	<0.0005	<0.0005	0.0027
	30-Jan-01	0.39	0.58 [HY]	<0.0020	<0.0005	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.42	0.86 [HY]	<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 [HY]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]
	16,17-Apr-02	0.40	0.67 [HY]	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	0.97	1.7 [HY]	<0.005	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	0.550	0.700 HY	<0.005	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	0.580	0.880 HY	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	**0.390**	**0.580 HY**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
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 [Y]	0.0007	<0.0005	<0.0005	<0.0005	<0.0005
	27-Apr-00	0.05 [Y]	0.096 [Y]	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
GW-6A	27-Aug-99	<0.05	0.054 [Y]	0.0089	<0.0005	<0.0005	<0.0005	<0.0005
Split	27-Aug-99	<0.05	0.057 [Y]	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 [Y]	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
GW-7	15-Jul-99	NA	NA	<0.0025	0.05 [J]	<0.0005	0.000727	0.00313 [J]
Split	15-Jul-99	NA	NA	NA	NA	NA	NA	NA
	15-Jul-99	NA	NA	NA	0.0567 [J]	<0.002	<0.002	<0.002
Split	15-Jul-99	NA	NA	NA	0.0755 [J]	<0.002	<0.002	<0.002
GW-8	19-Jul-99	<0.05	<0.05	0.0078	<0.0005	0.00064	<0.0005	0.00151
	20-Jan-00	0.19	0.33 [Y]	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
Split	20-Jan-00	0.20	0.37 [Y]	<0.002	0.00058	<0.0005	<0.0005	<0.0005
	28-Apr-00	0.064 [YZ]	0.12 [YZ]	0.013	<0.0005	<0.0005	<0.0005	<0.0005

Table 6
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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)
Monitoring Wells Owned by TOSCO								
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
	Jul-27-01	<0.050	0.10 HY	0.0010	<0.0005	<0.0005	<0.0005	0.0007
	Oct-19-01	<0.050	<0.05	<0.0050	<0.0050	<0.005	<0.005	<0.010
	Jan-31-02	<0.050	0.071 Y	<0.0050 b	<0.0050 b	<0.005 b	<0.005 b	<0.005 b
	Apr-16-17-02	<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**
Monitoring Wells Installed by LFR								
LFR-1	9-Aug-00	0.53	1.2	0.0095	<0.0005	<0.0005	<0.0005	<0.0005
	30-Oct-00	0.24 YZ	0.37 YZ	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
Split	30-Oct-00	0.24 YZ	0.37 YZ	0.0043	<0.0005	<0.0005	<0.0005	<0.0005
	29-Jan-01	0.21 YZ	0.31 YZ	0.0033	<0.0005	<0.0005	<0.0005	<0.0005
	Apr-26-01	0.092	0.18 YZ	0.0044	<0.0005	0.002	<0.0005	<0.0005
	Jul-27-01	0.086	0.18 YZ	<0.0013	<0.0013	<0.0013	<0.0013	<0.0013
	Oct-18-01	0.19	0.38	<0.031	<0.031	<0.031	<0.031	<0.062
	Jan-31-02	0.15 YZ	0.27 YZ	<0.013 b	<0.013 b	<0.013 b	<0.013 b	<0.013 b
	Apr-16-17-02	0.10 YZ	0.17 YZ	< 0.013	<0.0005	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	0.084 YZ	0.14 YZ	<0.013	<0.013	<0.013	<0.013	<0.013
	22,23-Oct-02	<0.050	0.078 YZ	<0.005	<0.005	<0.005	<0.005	<0.005
	18-Feb-03	0.076 YZ	0.110 YZ	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	**<0.050**	**0.068 YZ**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
LFR-2	11-Aug-00	0.59	1.10 YH	0.0022	0.0018	<0.0005	<0.0005	0.0013 C
	2-Nov-00	0.38	0.70 YH	0.003	0.0035	0.0011	0.0042	0.01184 C
	30-Jan-01	0.36	0.54 HY	0.0034	0.00057	<0.0005	<0.0005	<0.0005
	Apr-27-01	0.33	0.66 HY	<0.002	<0.0005	0.0013	<0.0005	<0.0005
	Apr-27-01	0.36	0.72 HY	<0.002	0.00059	0.0019	<0.0005	0.013
	Jul-27-01	0.33	0.76 HY	<0.0005	0.0013	<0.0005	<0.0005	0.0006
	Oct-18-01	0.73	1.50	<0.0071	<0.0071	<0.0071	<0.0071	<0.0142
	Jan-31-02	0.76	1.40 HY	<0.005 b	<0.005 b	<0.005 b	<0.005 b	<0.005 b
	Apr-16-17-02	1.10	1.90 HY	<0.002	<0.0005	<0.0005	<0.0005	0.019 C
	17,18-Jul-02	0.97	1.7 HY	<0.005	<0.005	<0.005	<0.005	<0.005
	22,23-Oct-02	3.10	5.000 HY	<0.005	<0.005	<0.005	<0.005	<0.005
	18-Feb-03	1.50	2.300 HY	<0.005	<0.005	<0.005	<0.005	<0.005
	30-Jul-03	**4.10**	**6.000 HY**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**

Table 6
Historical Analytical Results for Total Petroleum Hydrocarbon, BTEX and MtBE in Groundwater Samples
Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Date Sampled	TPH-ss (mg/L)	TPH-g (mg/L)	MtBE (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethyl-benzene (mg/L)	Total Xylenes (mg/L)
LFR-3	10-Aug-00	<0.05	<0.05	<0.002	<0.0005	<0.0005	<0.0005	<0.0005
Split	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
	Apr-27-01	<0.05	<0.05	0.0024	<0.0005	0.0054	<0.0005	<0.0005
	Jul-27-01	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	Oct-18-01	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.01
	Jan-31-02	<0.05	0.067 Y	<0.005 b	<0.005 b	<0.005 b	<0.005 b	<0.005 b
	Apr-16-17-02	<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**
LFR-4	11-Aug-00	0.22 Y	0.41 Y	0.0051	0.01100	<0.0005	<0.0005	0.00162 C
	31-Oct-00	0.17 Y	0.270	0.0065	0.00084	<0.0005	<0.0005	<0.0005
	1-Feb-01	0.16 Y	0.220	0.0097	0.00330	<0.0005	<0.0005	<0.0005
	Apr-27-01	0.22 Y	0.440	0.0058	0.02700	0.0036	<0.0005	<0.0005
	Jul-27-01	0.091 Y	0.190	0.011	0.00090	<0.0005	<0.0005	<0.0005
	Jan-31-02	NA	NA	NA	NA	NA	NA	NA
	Apr-16-17-02	0.40 Y	0.670	< 0.005	0.05300	<0.0005	<0.0005	<0.0005
	17,18-Jul-02	0.21 Y	0.36 Y	0.0075	0.007	<0.005	<0.005	<0.005
	22,23-Oct-02	0.110 Y	0.170	0.0080	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	0.490 Y	0.740	<0.005	0.055	<0.005	<0.005	<0.005
	30-Jul-03	**0.400 Y**	**0.590**	**<0.005**	**0.010**	**<0.005**	**<0.005**	**<0.005**
				Monitoring Wells Installed by SOMA				
SOMA-1	Oct-19-01	0.22	0.440	0.034	<0.0050	<0.0050	<0.0050	<0.0100
	Jan-31-02	0.058	0.100 HY	0.110 b	<0.0050 b	<0.0050 b	<0.0050 b	<0.0050 b
	Apr-16-17-02	<0.050	0.052 Y	0.120	0.0008	<0.0005	<0.0005	<0.0005
	Jul-17-18-02	<0.05	<0.05	0.120	<0.005	<0.005	<0.005	<0.005
	Oct-22,23-02	<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**
SOMA-2	Oct-19-01	1.4	2.8	<0.250	<0.2500	<0.250	<0.250	<0.500
	Jan-31-02	1.3	2.4 HY	<0.071 b	<0.0710 b	<0.071 b	<0.071 b	<0.071 b
	Apr-16-17-02	1.3 L	2.2 H	< 0.130	0.0067	0.046	0.012	0.044
	17,18-Jul-02	2.6	4.4 HY	<0.063	<0.063	<0.063	<0.063	<0.063
	22,23-Oct-02	0.370	0.600 HY	0.300	<0.0071	<0.0071	<0.0071	<0.0071
	19-Feb-03	0.300	0.460 HY	0.210	<0.017	<0.017	<0.017	<0.017
	29-Jul-03	**0.270**	**0.400 HY**	**0.300**	**<0.020**	**<0.020**	**<0.020**	**<0.020**

Table 6
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)
SOMA-3	Oct-19-01	0.420	0.83	0.65	<0.02500	<0.02500	<0.0250	<0.0500
	Jan-31-02	0.230	0.41 HY	0.31 [b]	<0.01300 [b]	<0.01300 [b]	<0.0130 [b]	<0.0130 [b]
	Apr-16-17-02	0.610	1.00 HY	0.42	0.00078	0.00068	<0.0005	<0.0005
	17,18-Jul-02	0.410	0.69 HY	0.38	<0.017	<0.017	<0.017	<0.017
	22,23-Oct-02	3.000	4.700 HY	<0.170	<0.170	<0.170	<0.170	<0.170
	19-Feb-03	2.500	3.800 HY	<0.130	<0.130	<0.130	<0.130	<0.130
	29-Jul-03	**2.100**	**3.100 HY**	**<0.130**	**<0.130**	**<0.130**	**<0.130**	**<0.130**
SOMA-4	Oct-19-01	2.5	5	0.63	<0.13	<0.13	<0.13	<0.26
	Jan-31-02	FP	FP	FP	FP	FP	FP	FP
	Apr-16-17-02	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**

Notes:

[b] Analysis was carried out npast the hold date, no analytical problems were encountered

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

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

[J] Result is estimated.

[L] Lighter hydrocarbons contributed to the quantitation

[Y] Sample exhibits fuel pattern which does not resemble standard.

[Z] Sample exhibits unknown single peak or peaks.

FP: Free product detected in SOMA 4.

NA = Not analyzed, LFR-4 was not analzed during the Second Quarter 2002 due to the well being inaccessible.

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 7
Anayltical Results of Groundwater Samples Analyzed for Volatile Organic Compounds
July 29-30, 2003
Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Tetrachloro-ethene (µg/L)	Trichloroethene (µg/L)	cis-1,2-Dichloroethene (µg/L)	trans-1,2-Dichloroethene (µg/L)	Vinyl Chloride (µg/L)	1,2-Dichloro-propane (µg/L)	1,1-Dichloro-ethene (µg/L)
GW-2	43	<5.0	<5.0	<5.0	<10	<5.0	<5.0
GW-3	430	<10	<10	<10	<20	<10	<10
GW-4	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0
MW-11	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0
LFR-1	150	27	6.5	<5.0	<10	ND	<5.0
LFR-2	<5.0	<5.0	11	<5.0	<10	<5.0	<5.0
LFR-3	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0
LFR-4	<5.0	<5.0	<5.0	<5.0	<10	<5.0	<5.0
SOMA-1	16	<5.0	42	<5.0	<10	6.2	<5.0
SOMA-2	32	<20	580	<40	<40	<20	<20
SOMA-3	150	220	4,700	<130	<250	<130	<130
SOMA-4	FP	FP	FP	FP	FP	FP	FP

FP: Free Product observed in well SOMA-4

< : not detected above laboratory reporting limits

Table 8
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)
Temporary Sampling Points Installed by Cascade in 1999							
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	27-Jul-01	0.010	0.017	0.860	0.005	<0.0031	<0.0031
B-7	27-Apr-01	<0.0031	<0.0031	1.100	0.007	<0.0031	<0.0031
B-7	31-Jan-01	< 0.0042	< 0.0042	0.920	0.005	< 0.0042	< 0.0042
B-7	31-Oct-00	< 0.0042	< 0.0042	0.910	0.004	< 0.0042	< 0.0042
B-7	11-Aug-00	< 0.0031	< 0.0031	0.860	0.005	< 0.0031	< 0.0031
B-7	24-Jan-00	< 0.0036	< 0.0036	0.920	0.004	< 0.0036	< 0.0036
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	27-Jul-01	1.700	1.400	7.300	0.043	<0.025	<0.025
B-10	27-Jul-01	0.870	0.810	6.600	0.041	<0.025	<0.025
B-10	31-Jan-01	2.100	1.600	6.600	0.044	< 0.025	< 0.025
B-10	31-Oct-00	2.400	1.900	7.100	0.061	< 0.025	< 0.025
B-10	10-Aug-00	2.900	1.600	6.500	0.050	< 0.025	< 0.025
B-10	24-Jan-00	1.200	2.400	14.000	0.090	< 0.063	< 0.063
B-13	24-Jan-00	0.020	0.029	0.130	0.005	< 0.0005	< 0.0005
Temporary Sampling Points Installed by ERI							
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 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0100 [b]	<0.0050 [b]
	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**
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
Split	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 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0100 [b]	<0.0050 [b]
	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**

Table 8
Historical Analytical Results For Volatile Organic Compound Analyses in Groundwater Samples
at the Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
GW-4	19-Jul-99	< 0.0005	< 0.0005	0.004	< 0.0005	< 0.0005	0.002
	20-Jan-00	0.001	< 0.0005	0.004	< 0.0005	< 0.0005	0.002
Split	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 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0100 [b]	<0.0050 [b]
	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**
GW-5	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
GW-6A	27-Aug-99	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Split	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
GW-7	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
Split	15-Jul-99	< 0.0020	< 0.0020	0.004	< 0.0020	< 0.0020	< 0.0020
GW-8	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
Split	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
			Monitoring wells sampled by ESC				
MW-11	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 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0100 [b]	<0.0050 [b]
	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**

Table 8
Historical Analytical Results For Volatile Organic Compound Analyses in Groundwater Samples
at the Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
			Monitoring wells installed by [illegible]				
LFR-1	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
Split	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 [b]	0.035 [b]	<0.0130 [b]	<0.0130 [b]	<0.0250 [b]	<0.0130 [b]
	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**
LFR-2	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 [b]	<0.0050 [b]	0.0069 [b]	<0.0050 [b]	<0.0100 [b]	<0.0050 [b]
	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**
LFR-3	10-Aug-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Split	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 [b]	<0.0050 [b]	<0.0050 [b]	<0.0050 [b]	<0.0100 [b]	<0.0050 [b]
	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**
LFR-4	11-Aug-00	< 0.0005	< 0.0005	0.001	< 0.0005	< 0.0005	< 0.0005
	31-Oct-00	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	30-Jan-01	<0.0005	<0.0005	0.001	<0.0005	< 0.0005	< 0.0005
	27-Apr-01	<0.0005	<0.0005	0.002	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.001	<0.0005	0.002	<0.0005	<0.0005	<0.0005
	16,17-Apr-02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0100	<0.0050
	17,18-Jul-02	<0.005	<0.005	<0.005	<0.005	<0.01	<0.005
	22,23-Oct-02	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	19-Feb-03	<0.005	<0.005	<0.005	<0.005	<0.010	<0.005
	30-Jul-03	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.010**	**<0.005**

Table 8
Historical Analytical Results For Volatile Organic Compound Analyses in Groundwater Samples
at the Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
			Monitoring wells installed by SOMA				
SOMA-1	19-Oct-01	<0.0050	<0.0050	0.014	<0.0050	<0.0100	<0.0050
	31-Jan-02	0.0056 [b]	<0.0050 [b]	0.0070 [b]	<0.0050 [b]	<0.0100 [b]	0.0057 [b]
	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**
SOMA-2	19-Oct-01	1.400	0.350	5.000	<0.250	<0.500	<0.250
	31-Jan-02	<0.071 [b]	<0.071 [b]	1.8 [b]	<0.071 [b]	<0.140 [b]	<0.071 [b]
	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**
SOMA-3	19-Oct-01	0.042	0.057	0.440	<0.025	<0.050	<0.025
	31-Jan-02	0.018 [b]	0.023 [b]	0.38 [b]	<0.013 [b]	<0.025 [b]	<0.013 [b]
	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**
SOMA-4	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**

Notes:
<: Not detected above the laboratory reporting limits.
[b] analysis was carried out past hold date, no analytical problems were encountered
FP: Not Analyzed due to Free Product

Table 9
Free Product Thickness
July 17, 2003
at the Former Glovatorium Site
3815 Broadway, Oakland, California

Well or Sampling Point	Depth to Free Product (feet)	Depth to Groundwater (feet)	Free Product Thickness (feet)
B-2	Not Detected	8.22	Not Detected
B-3	8.08	8.88	0.80
B-7	8.45	8.48	0.03
B-8	9.17	9.40	0.23
B-9	Not Detected	7.75	Not Detected
SOMA-4	7.20	17.70	10.50

Table 10
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				-3
	31-Oct-00	0.62	2.6	< 0.10	< 1.0	11.00	2.4000		
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-8 field	31-Jan-01	0.45						58	
B-10	10-Aug-00			< 0.05	< 0.05	5.70	10.0000	213	
B-10-field	10-Aug-00	0.44		-1.0	-2.0				0.81
	31-Oct-00	2.40	1.4	< 0.10	< 1.0	5.90	6.7000		
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	
GW-2-field	1-Nov-00	2.32						77	
GW-2	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**	
GW-3	11-Aug-00						< 0.0005	395	
GW-3-field	11-Aug-00	0.72		1.0	46.0				
	1-Nov-00							81	
GW-3-field		7.76					0.0120		
	29-Jan-01	8.80						235	
GW-3-field	1-Feb-01	8.99							
	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**	
GW-4-field	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
GW-4	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	4.6000	-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**	

Table 10
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)
MW-11	10-Aug-00			2.8	63.0	< 0.1	< 0.0005	476	
MW-11-field	10-Aug-00	2.52		4.1	67.0				130
	1-Nov-00	4.10	< 0.010	15.0	90.0	< 0.1	0.0000	87	
MW-11-field	1-Nov-00	4.01		3.3	73.0	0.00			1.1
	31-Jan-01	6.30	< 0.010	15.0	94.0	< 1.0	0.0001	319	
MW-11-field	1-Nov-00	3.97		27.3	74.0	0.00		229	NM
MW-11 Field	26-Apr-01	7.40	0.0	6.8	52.0	0.00	0.0014	233	
MW-11 Field	26-Jul-01	1.85	0.0	5.2	77.0	0.00	0.0049	155	NM
MW-11 Field	18-Oct-01	5.58	0.0	10.1	NM	0.00	0.0066	218	
	31-Jan-02	4.90	0.0	2.8	79.0	0.00	0.0077	242	
	16,17-Apr-02	3.18	0.0	2.8	88.0	0.00	0.0092	357	
	17,18-Jul-02	2.82	0.0	4.1	79.0	0.00	0.0088	118	
	22,23-Oct-02	4.47	0.0	3.7	69.0	0.00	0.0025	304	
	18-Feb-03	5.65	0.6	2.3	73.0	0.00	0.0022	**224**	
	30-Jul-03	**3.80**	**0.1**	**0.0**	**54.0**	**0.00**	**0.0010**	462	
LFR-1	9-Aug-00						0.0096		1.5
	11-Aug-00								
LFR-1-field	9-Aug-00	3.63		5.5	30.0				
	30-Oct-00	2.70	0.0	39.0	42.0	< 1.0	0.0004	77	1
LFR-1-field/split	30-Oct-00	2.95		10.3/10.0	29/29	0.01/0.01			
LFR-1 split	30-Oct-00	3.40	0.0	40.0	43.0	< 1.0	0.0007		0.43
	29-Jan-01	5.10	<0.01	<0.10	51.0	<1.0	0.0001	383	
LFR-1-field	29-Jan-01	3.78	0.0		36.0	0.00			0.32
LFR-1 Dup	29-Jan-01	4.60	<0.01	<0.10	50.0	<1.0	0.0000	224	NM
	26-Apr-01	3.20	0.0	12.9	16.0	0.00	0.0003	238	
	26-Jul-01	1.07	0.0	8.0	25.0	0.01	0.0084	119	NM
LFR-1 filed	18-Oct-01	1.03	0.0	6.9	24.0	0.18	0.0054	163	
	31-Jan-02	1.80	0.3	5.5	31.0	0.00	0.0062	240	
	16,17-Apr-02	1.68	0.3	1.5	38.0	0.39	0.0030	209	
	17,18-Jul-02	0.00	0.0	6.1	3.0	0.07	0.0047	265	
	22,23-Oct-02	0.00	0.4	0.0	23.0	0.15	0.0008	260	
	18-Feb-03	7.76	0.0	4.3	30.0	0.00	0.0008	**190**	
	30-Jul-03	**0.58**	**0.3**	**0.0**	**10.0**	**0.00**	**0.0004**	270	
LFR-2	11-Aug-00						6.6000		1200
LFR-2-field	11-Aug-00	0.48		1.5	-1.0	2.70			
	2-Nov-00	2.20	8.8	0.3	5.4	5.30	8.5000	-24	
LFR-2-field	2-Nov-00	0.47		0.5	-1.0	6.05			1.1
	30-Jan-01	4.40	8.9	1.0	8.3	4.60	4.6000	210	
LFR-2-field	30-Jan-01	0.61	10.7	2.9		1.02		9	NM
	27-Apr-01	1.40	0.4	1.6	1.0	2.66	14.0000	-20	
	26-Jul-01	0.55	0.2	0.0	0.0	4.50	10.0000	-75	NM
LFR-2 field	18-Oct-01	0.43	0.0	0.0	0.0	6.50	11.0000	-14	
	31-Jan-02	1.00	0.0	2.6	19.0	1.81	11.0000	-6	
	16,17-Apr-02	0.00	0.0	1.7	0.0	7.20	16.0000	-64	
	17,18-Jul-02	0.00	13.9	0.0	0.0	7.20	9.6000	-82	
	22,23-Oct-02	0.00	10.7	0.5	0.0	3.30	4.7000	-53	
	18-Feb-03	0.42	9.0	0.0	0.0	3.30	9.6000	**-85**	
	30-Jul-03	**0.00**	**3.0**	**0.0**	**0.0**	**3.30**	**8.7000**		

Table 10
Historical In-Situ and Ex-Situ Analyses Results for Bioattenuation Parameters in Groundwater Samples
at the Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Date Sampled	Dissolved Oxygen (mg/L)	Dissolved Manganese (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	Ferrous Iron (mg/L)	Methane* (mg/L)	ORP	Hydrogen (nanoMoles)
LFR-3	10-Aug-00			2.4	64.0	< 0.1	0.0005	464	
LFR-3 split	10-Aug-00							< 0.0005	
LFR-3-field	10-Aug-00	1.30		2.4	64.0				850
	1-Nov-00	4.70	0.0	8.8	74.0	< 1.0	0.0003		
LFR-3-field	1-Nov-00	0.58		1.8	57.0	0.00		75	
	31-Jan-01	4.10	<0.01	1.2	58.0	< 1.0	0.0004		
LFR-3-field	30-Jan-01	1.75		0.0	44.0	0.00		195	
LFR-3 Field	11-Jun-01	1.00	0.0	0.8	28.0	0.00	0.0086	201	NM
LFR-3 Field	26-Jul-01	1.29	0.4	0.0	51.0	0.60	0.0035	228	
LFR-3 Field	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**	
LFR-4	11-Aug-00						0.0620	402	
LFR-4-field	11-Aug-00	1.13		0.7	1.0	0.14			1.1
	31-Oct-00	1.90	2.2	< 0.10	2.9	1.10	3.2000		
LFR-4-field	31-Oct-00	0.64		1.0		0.61		-80	
	1-Feb-01	3.20	2.8	1.5	2.8	1.80	2.2000		1.5
LFR-4-field	1-Feb-01	0.55	4.5	8.0	0.0	1.50		59	
LFR-4 Field	27-Apr-01	5.60	0.0	1.7	0.0	1.37	7.0000	14	NM
LFR-4 Field	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**	
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	26.0	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**	
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**	
SOMA-3	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**	
SOMA-4	18-Oct-01	0.83	4.0	22.0	17.0	0.22	1.2000	88	NM

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.
(1) Sample concentration was too dilute to be reproducibly measured using the Hach spectrophotometer.
(2) Field measurement was not recorded.

FIGURES

Figure 1: Site vicinity map.

SOMA
ENVIRONMENTAL ENGINEERING, INC.

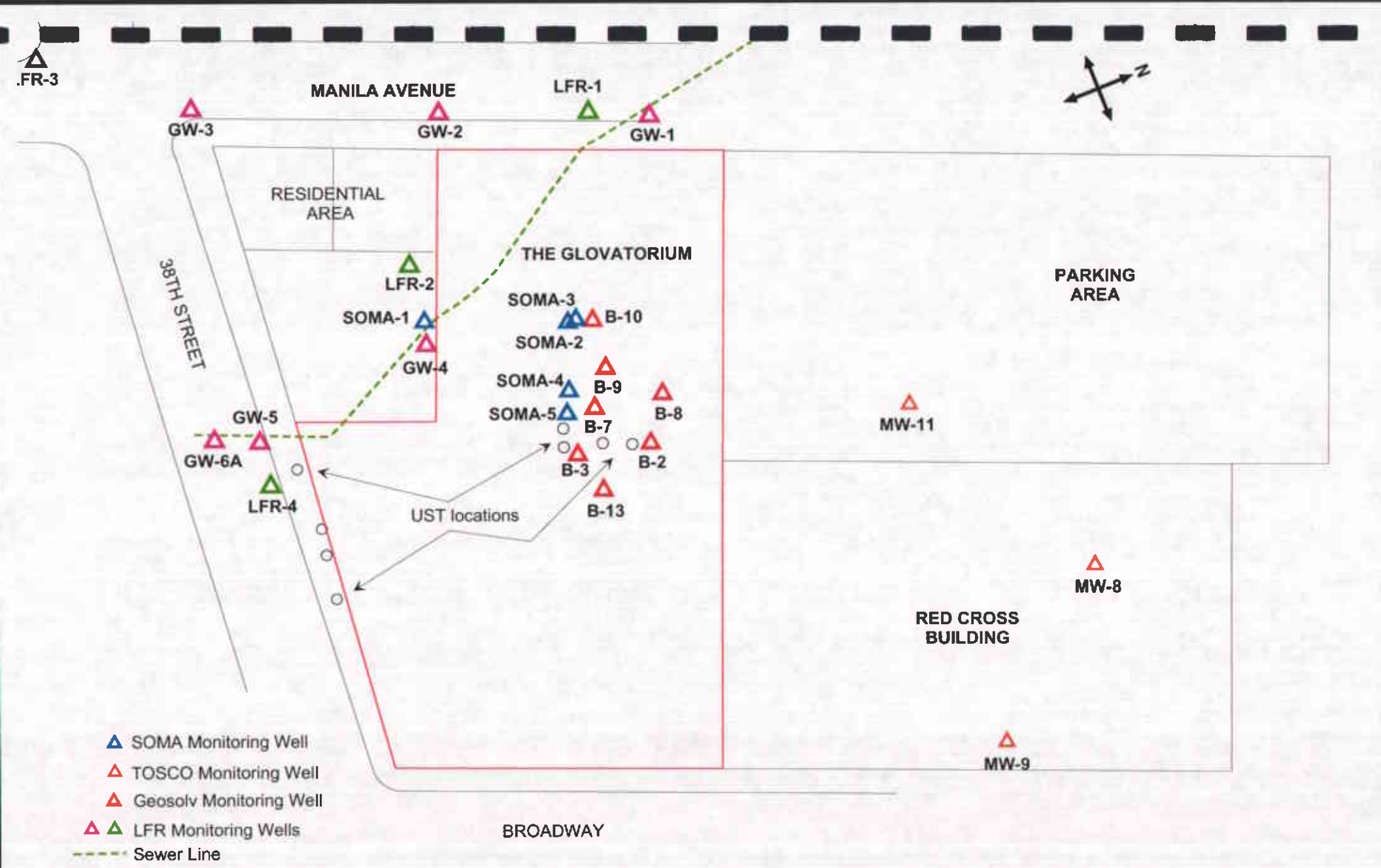


Figure 2: Map showing the locations of groundwater monitoring wells.

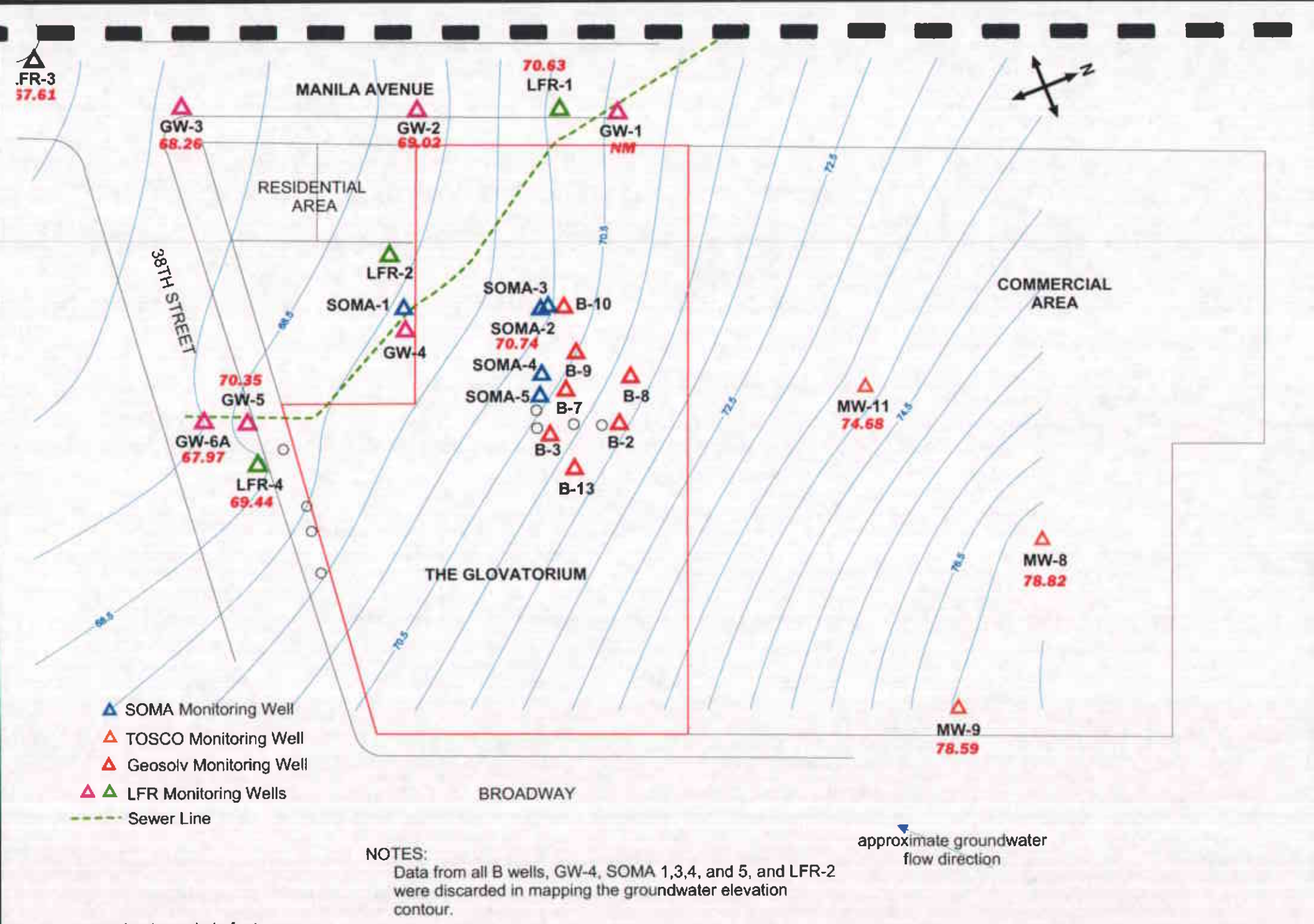


Figure 3: Groundwater elevation contour map in feet.
July 29, 2003

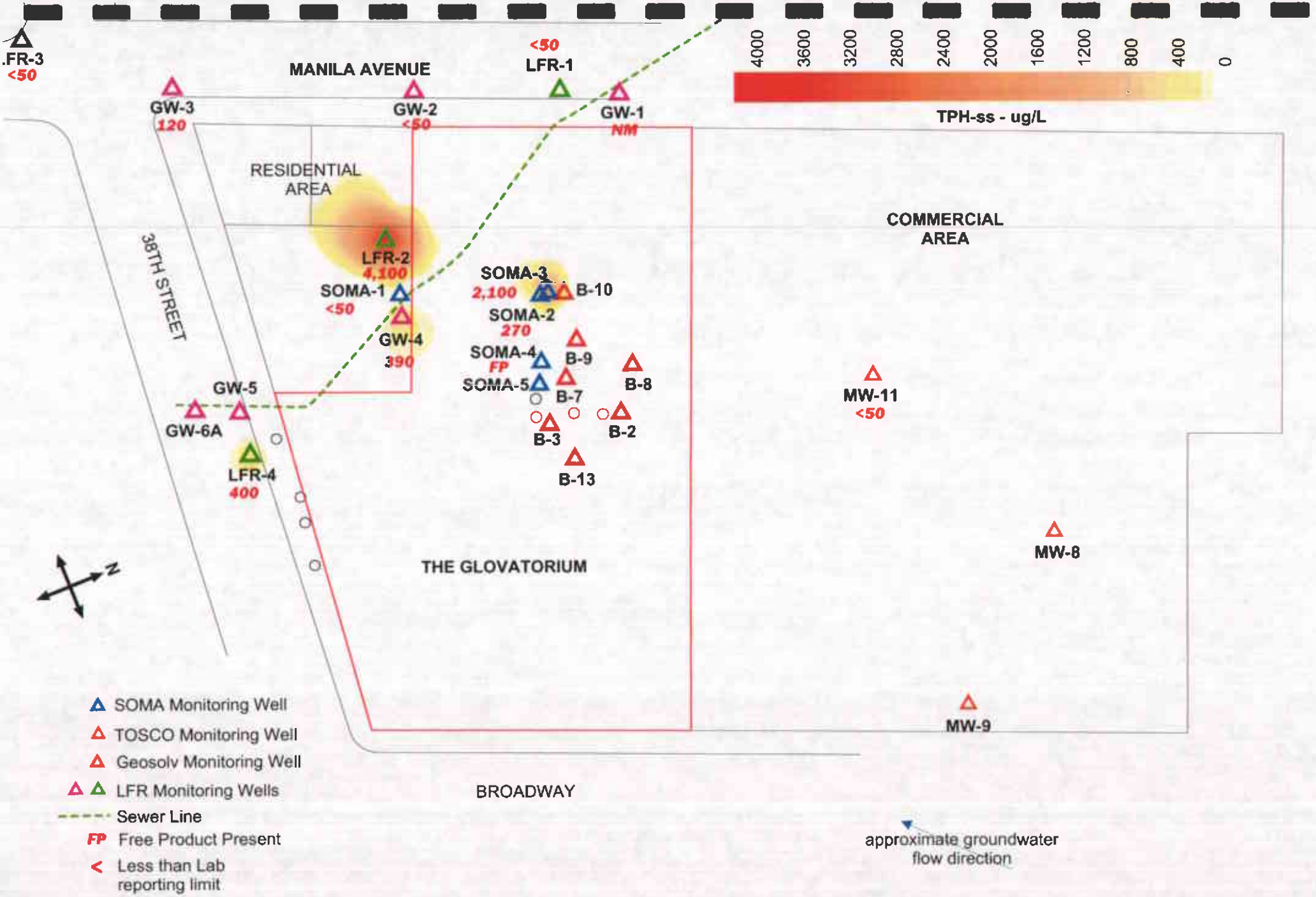


Figure 4: Contour map of TPH-ss concentrations in the groundwater.
July 29-30, 2003

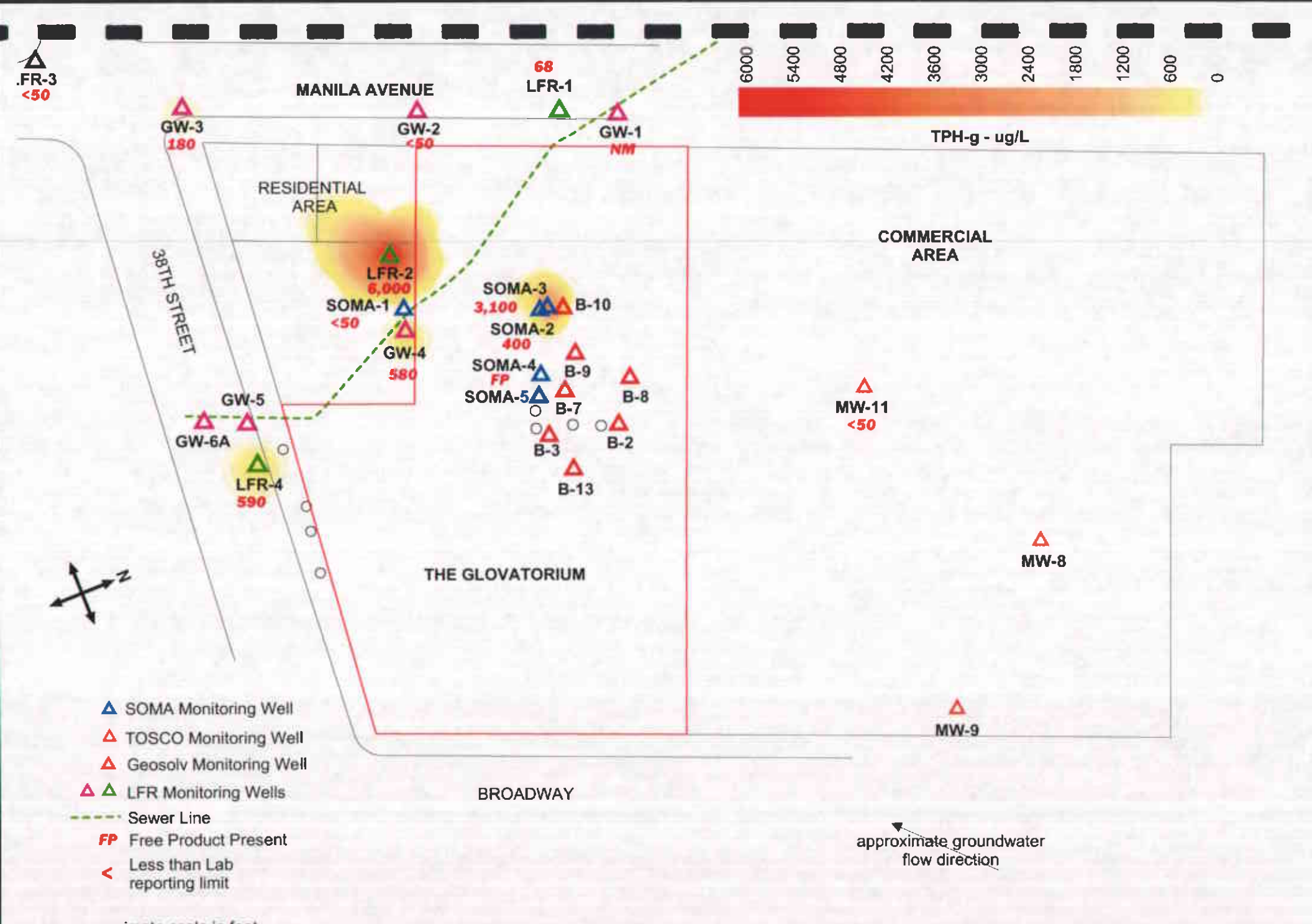


Figure 5: Contour map of TPH-g concentrations in the groundwater.
July 29-30, 2003

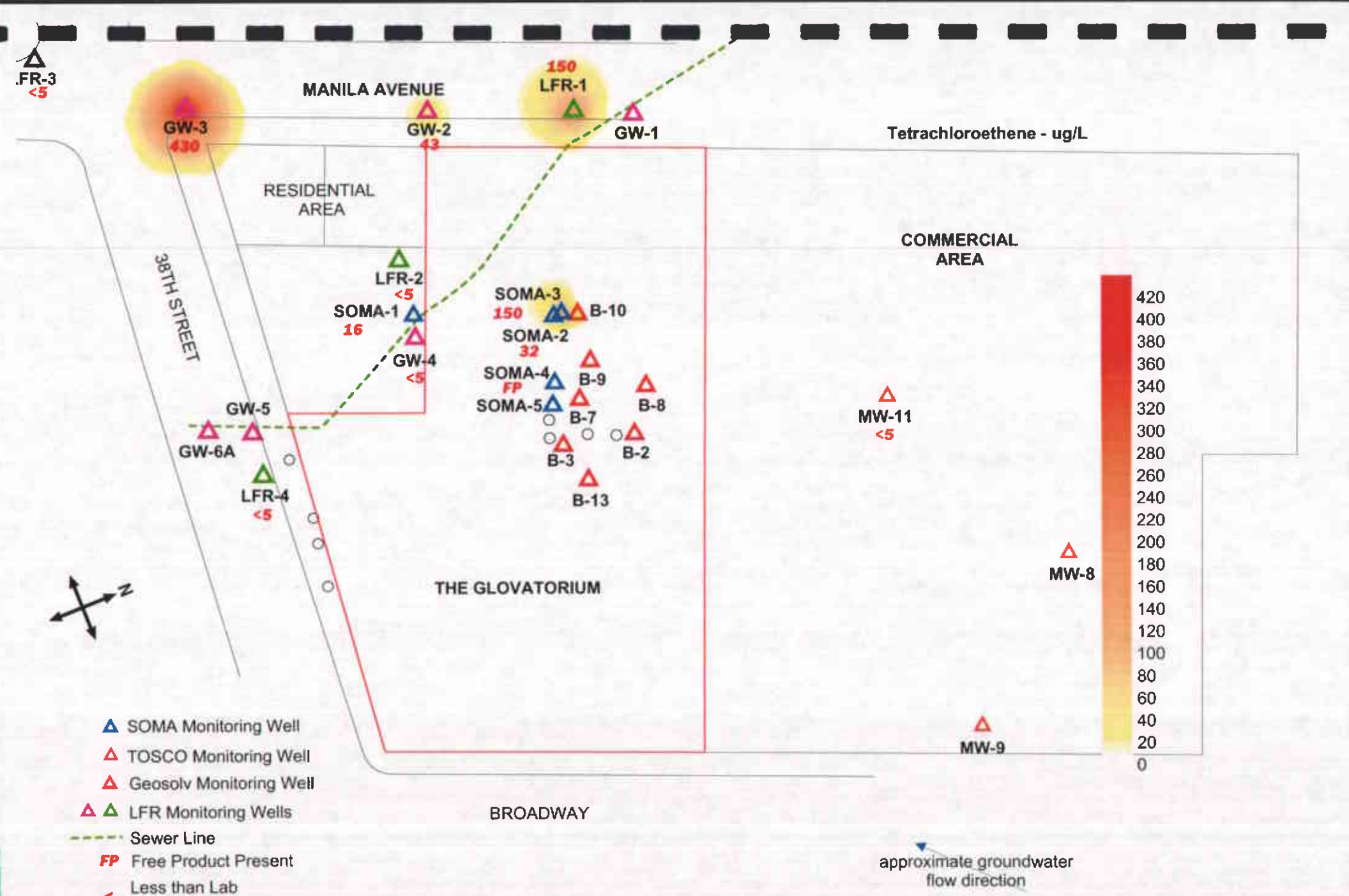


Figure 6: Contour map of Tetrachloroethene concentrations in the groundwater.
July 29-30, 2003

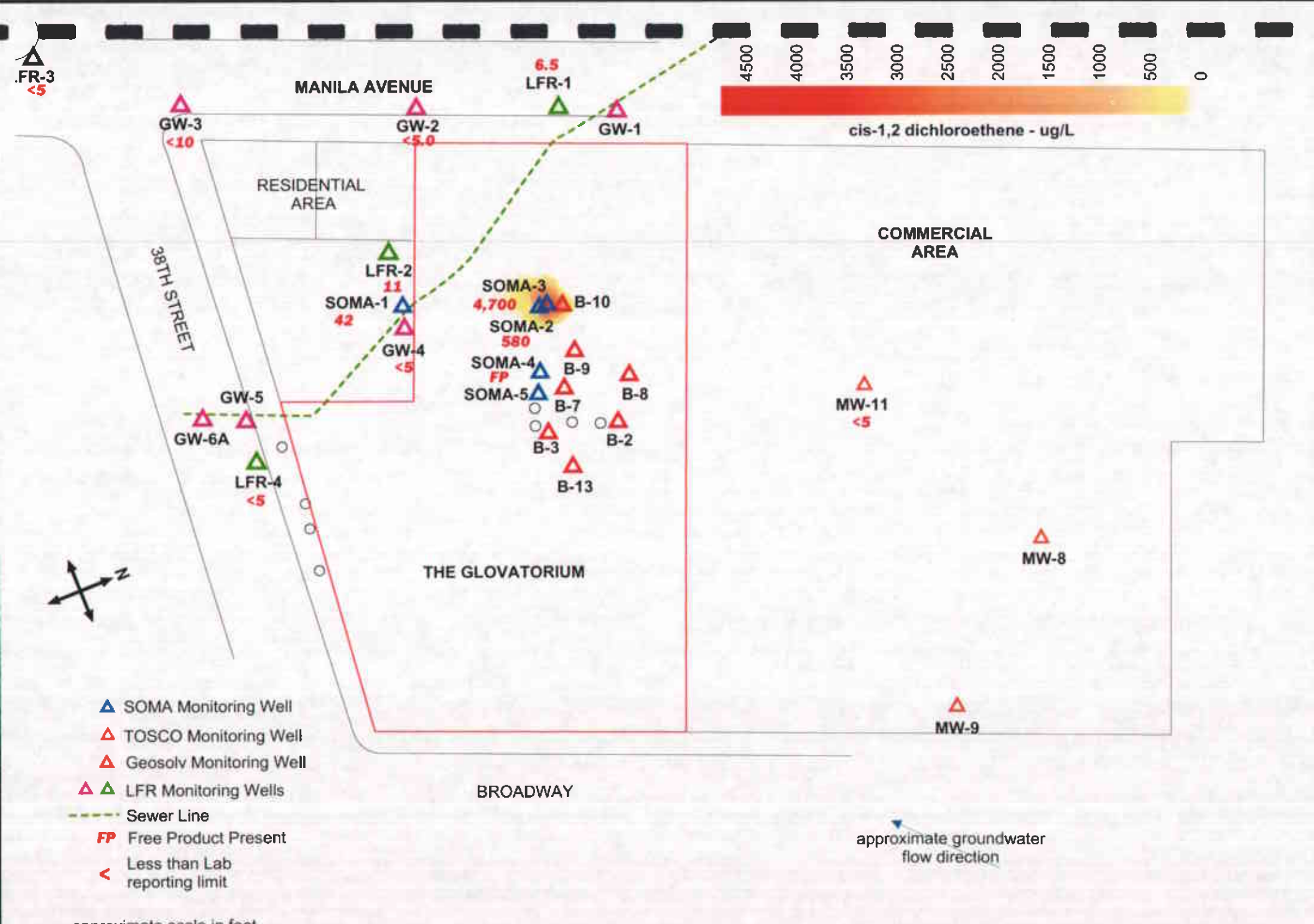


Figure 7: Contour map of cis-1,2 dichloroethene concentrations in the groundwater.
July 29-30, 2003

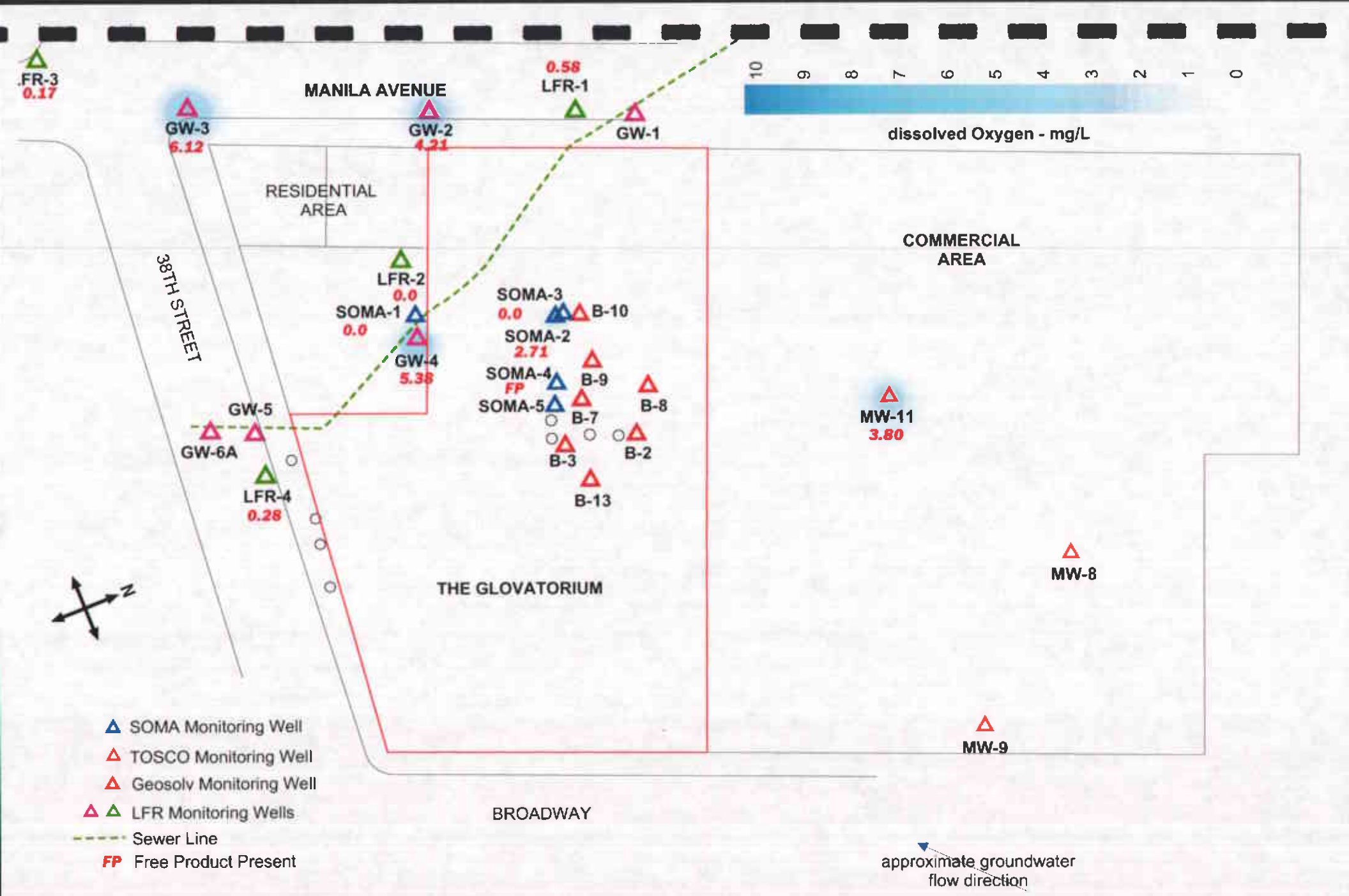


Figure 8: Contour map of dissolved Oxygen concentrations in the groundwater.
July 29-30, 2003

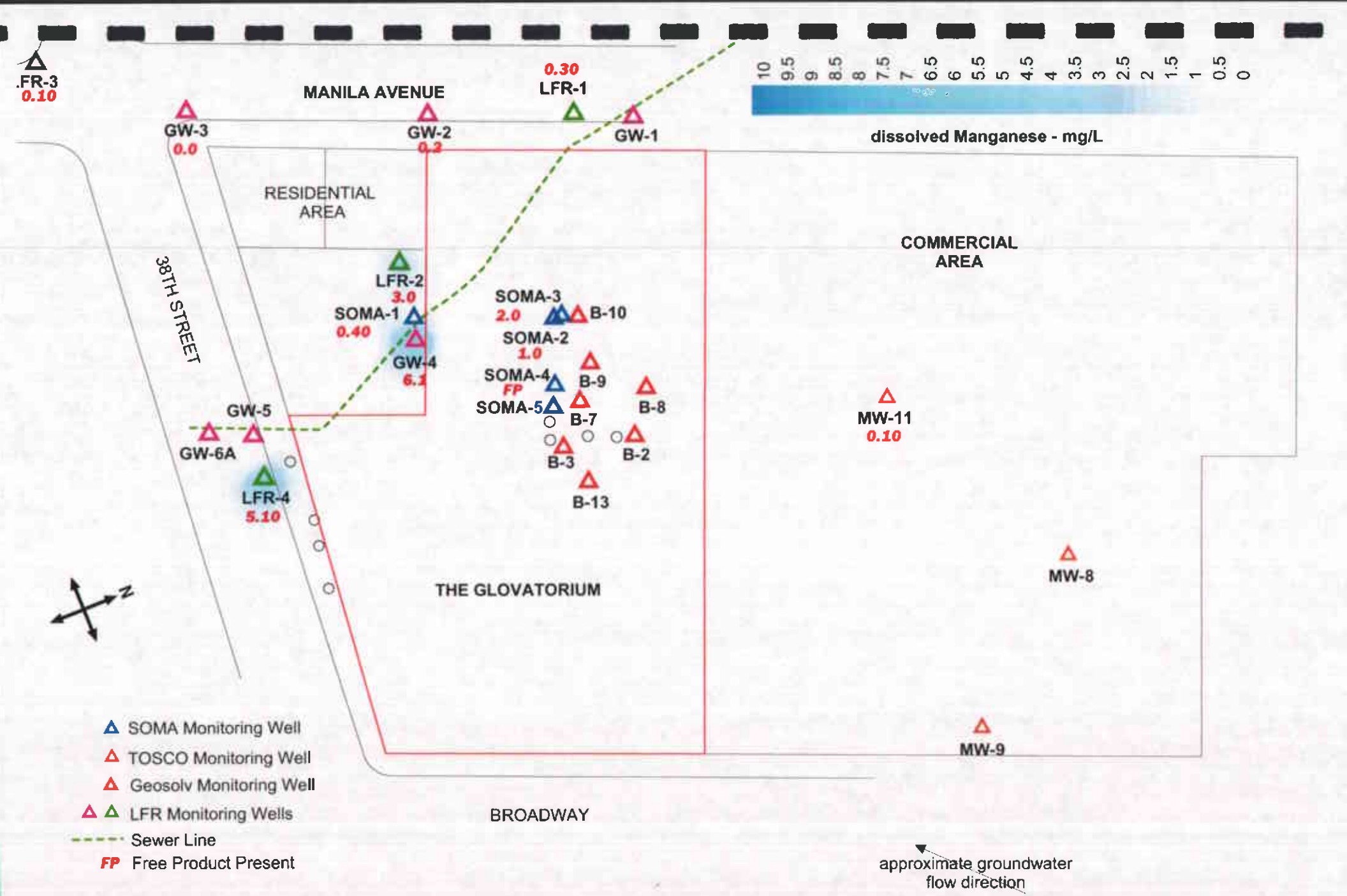


Figure 9: Contour map of dissolved Manganese concentrations in the groundwater.
July 29-30, 2003

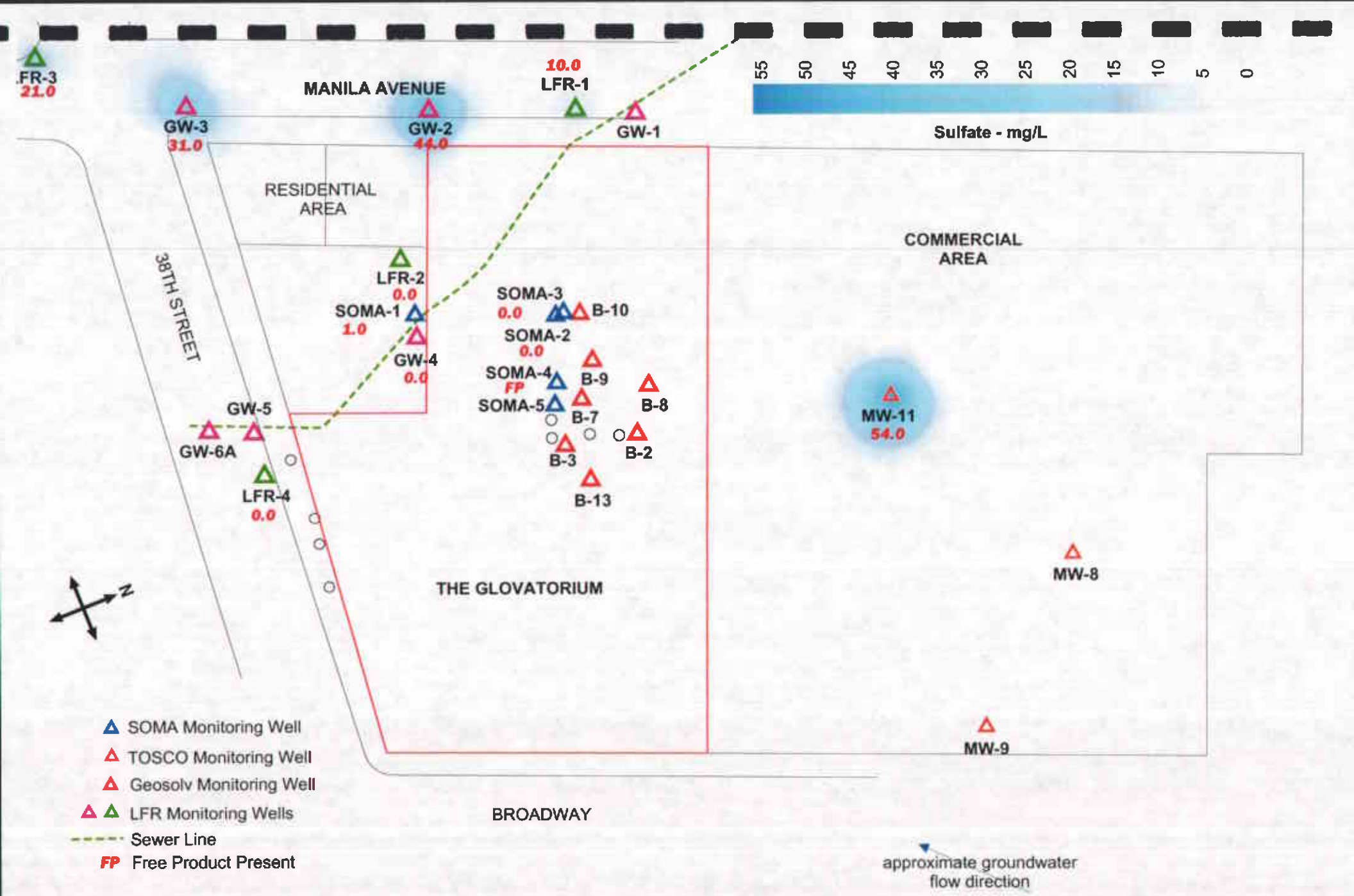


Figure 10: Contour map of Sulfate concentrations in the groundwater.
July 29-30, 2003

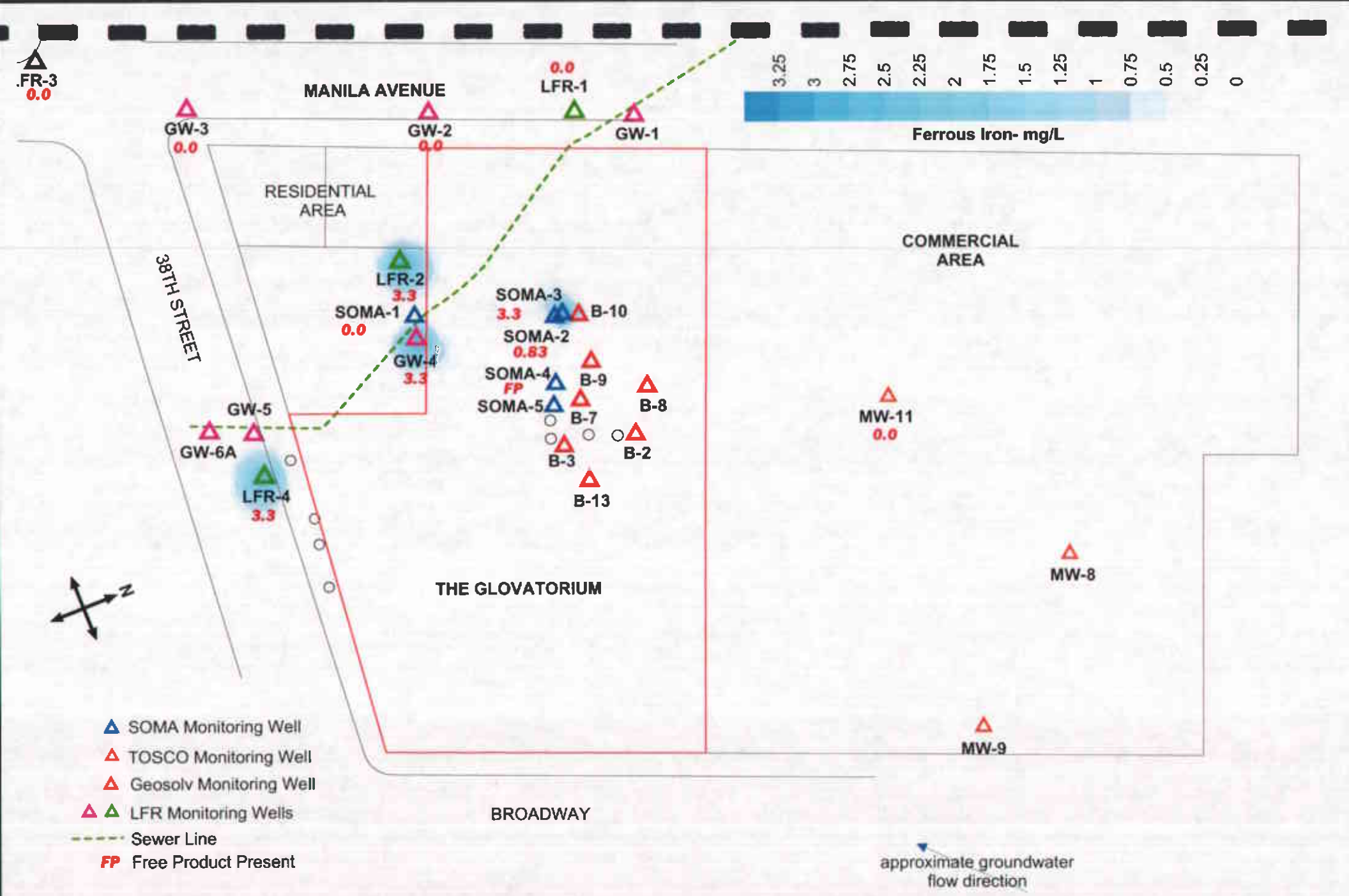


Figure 11: Contour map of Ferrous Iron concentrations in the groundwater.
July 29-30, 2003

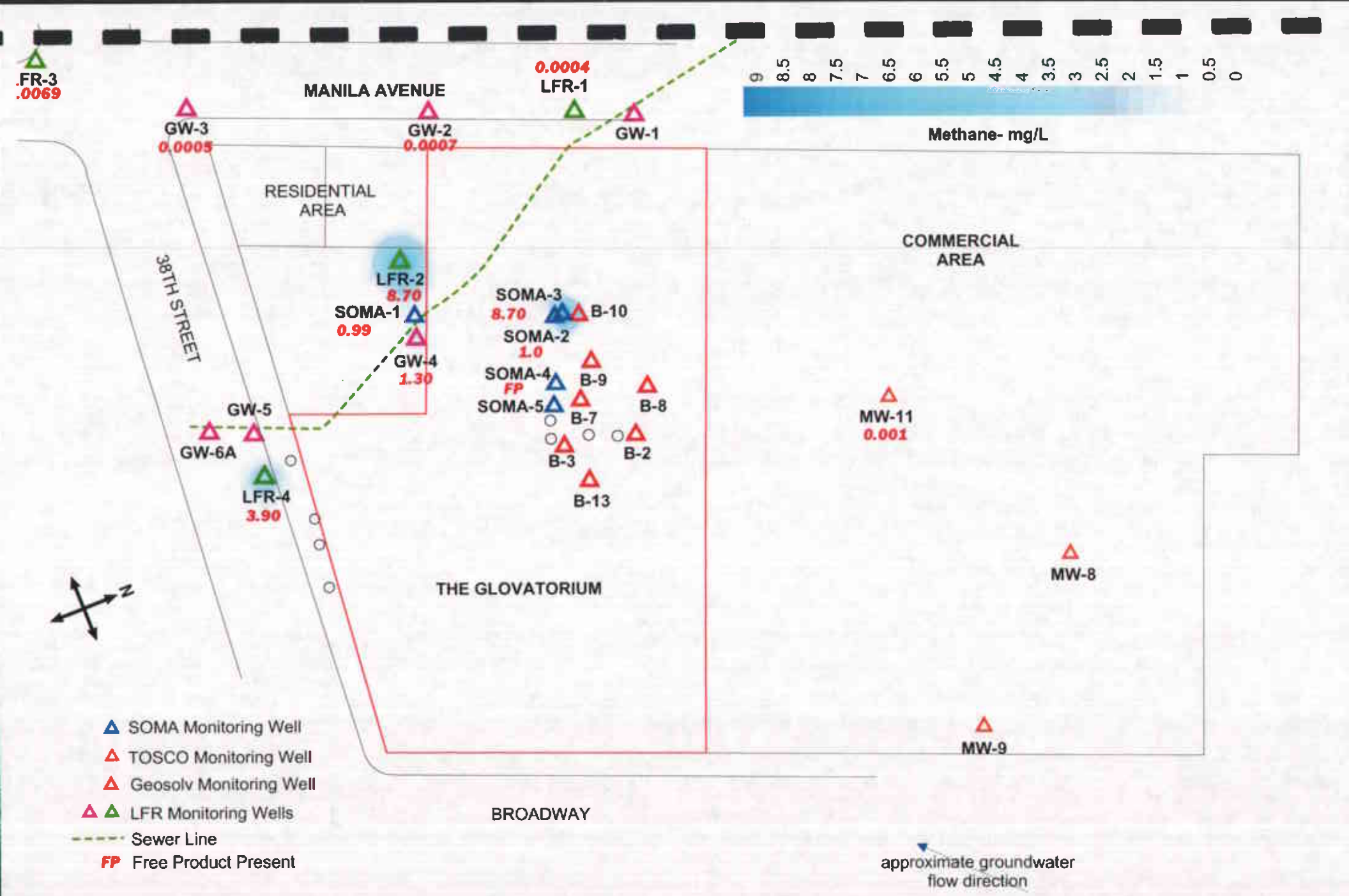


Figure 12: Contour map of Methane concentrations in the groundwater.
July 29-30, 2003

APPENDIX A

Field Notes, Field Measured Physical and Chemical Parameter Values

ENVIRONMENTAL ENGINEERING, INC

Well Name:	GW-2	**Project #:**	2511
Casing Diameter:	3/4 inch	**Address:**	3815 Broadway
Depth of Well:	20 feet		Oakland, California
Top of Casing Elevation:	~~79.14~~ feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	10.45 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	~~68.69~~ feet		Roy Zarrin
Water Column Height:	~~9.55~~ feet		
Purged Volume:	0.5 gallons		

Purging Method:	**Bailer** ☐	**Pump** ■			
Sampling Method:	**Bailer** ■	**Pump** ☐			
Color:	**No** ☐	**Yes** ☑	**Describe:**	muddy	
Sheen:	**No** ☐	**Yes** ☐	**Describe:**		
Odor:	**No** ☐	**Yes** ☐	**Describe:**		

Field Measurements:
7/29/03 s/m

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. ~~(µs/cm)~~	Turbidity (NTU)	ORP (mV)
2:58 PM	0.10	7.41	19.70	6.07	0.093	110	36
2:59	0.30	7.33	20.10	3.95	62.8 m/m	68.5	39
3:01	0.50	7.26	20.10	4.21	65.1 m/m	76.1	47
3:05		Samples.					

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
3:05 PM	0	0	0.0	0.00	44	0.2

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	GW-3	**Project #:**	2511
Casing Diameter:	3/4 inch	**Address:**	3815 Broadway
Depth of Well:	20 feet		Oakland, California
Top of Casing Elevation:	77.92 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	10.25 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	67.67 feet		Roy Zarrin
Water Column Height:	9.75 feet		
Purged Volume:	0.5 gallons		

Purging Method:	**Bailer** ☐	**Pump** ■
Sampling Method:	**Bailer** ■	**Pump** ☐

Color:	**No** ☐	**Yes** ☐	**Describe:**		
Sheen:	**No** ☐	**Yes** ☐	**Describe:**		
Odor:	**No** ☐	**Yes** ☐	**Describe:**		

Field Measurements:

7/29/03 ms/m

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. ~~(us/cm)~~	Turbidity (NTU)	ORP (mV)
3:57 PM	0.10	7.97	19.90	9.27	64.5	113	86
3:59	0.20	7.39	19.9	2.34	46.1	113	95
4:01	0.5	7.07	19.4	6.12	49.0	104	96
4:05		Sampled					

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
	0.0	0.0	0.0	0.0	31	0.0

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	GW-4	**Project #:**	2511
Casing Diameter:	3/4 inch	**Address:**	3815 Broadway
Depth of Well:	12 feet		Oakland, California
Top of Casing Elevation:	82.37 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	9.76 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	72.61 feet		Roy Zarrin
Water Column Height:	2.24 feet		
Purged Volume:	0.3 gallons		

Purging Method:	**Bailer** ☐		**Pump** ■		
Sampling Method:	**Bailer** ■		**Pump** ☐		
Color:	**No** ☐		**Yes** ☐	**Describe:**	
Sheen:	**No** ☐		**Yes** ☐	**Describe:**	
Odor:	**No** ☐		**Yes** ☐	**Describe:**	

Field Measurements:

7/30/03

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. ~~(µs/cm)~~	Turbidity (NTU)	ORP (mV)
8:54 AM	0.05	8.04	19.4	8.83	0.1 s/m	83	-119
8:58	0.30 Gal	7.30	18.7	5.38	43 mS/m	~~46~~ 56	-141
9 AM.	samples						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
	3.3	3.3	0.0	0.00	0.0	6.1

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	MW-11	**Project #:**	2511
Casing Diameter:	2 inch	**Address:**	3815 Broadway
Depth of Well:	18.94 feet		Oakland, California
Top of Casing Elevation:	84.13 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	10.35 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	73.78 feet		Roy Zarrin
Water Column Height:	8.59 feet		
Purged Volume:	4.5 gallons		

Purging Method:	Bailer ☐	Pump ■
Sampling Method:	Bailer ■	Pump ☐

Color:	No ☑	Yes ☐	**Describe:**		
Sheen:	No ☑	Yes ☐	**Describe:**		
Odor:	No ☑	Yes ☐	**Describe:**		

Field Measurements:

7/30/03 — ms/cm

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. ~~(µs/cm)~~	Turbidity (NTU)	ORP (mV)
11:43 AM	1.0	7.93	20.0	8.20	92.1	15.6	217
11:44 AM	2.0	7.12	20.4	5.17	91.4	19.0	225
11:46 AM	3.5	6.97	19.7	4.25	93.8	22.8	224
11:47 AM	4.5	6.92	19.7	3.80	94.1	20.2	224
11:50 AM	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
11:50 AM	0.0	0.0	0.0	0.0	54	0.1

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	LFR-1	**Project #:**	2511
Casing Diameter:	2 inch	**Address:**	3815 Broadway
Depth of Well:	19 feet		Oakland, California
Top of Casing Elevation:	79.97 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	9.79 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	70.18 feet		Roy Zarrin
Water Column Height:	9.21 feet		
Purged Volume:	6.5 gallons		

Purging Method:	**Bailer** ☐		**Pump** ■		
Sampling Method:	**Bailer** ■		**Pump** ☐		
Color:	**No** ☑		**Yes** ☐	**Describe:**	
Sheen:	**No** ☑		**Yes** ☐	**Describe:**	
Odor:	**No** ☑		**Yes** ☐	**Describe:**	

Field Measurements:

7/30/03 slm

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (µs/cm)	Turbidity (NTU)	ORP (mV)
12:27	1	7.75	19.2	5.10	0.145	57.8	178
12:28	3	7.19	19.5	1.36	70.4 mS	56.2	177
12:29	6	6.92	19.2	0.58	0.133	79.3	190
12:30	6.5	Dye					
12:35 PM		samples					

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
12:35 PM	0.0	0.02	0.0	0.00	10	0.3

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	LFR-2	**Project #:**	2511
Casing Diameter:	2 inch	**Address:**	3815 Broadway
Depth of Well:	19 feet		Oakland, California
Top of Casing Elevation:	81.89 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	10.93 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	70.96 feet		Roy Zarrin
Water Column Height:	8.07 feet		
Purged Volume:	5.0 gallons		

Purging Method:	**Bailer** ☐	**Pump** ■		
Sampling Method:	**Bailer** ■	**Pump** ☐		
Color:	**No** ☑	**Yes** ☐	**Describe:**	
Sheen:	**No** ☑	**Yes** ☐	**Describe:**	
Odor:	**No** ☑	**Yes** ☐	**Describe:**	

Field Measurements:

7/30/03 ms/m

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. ~~(µs/cm)~~	Turbidity (NTU)	ORP (mV)
9:40 AM	1.0	7.68	17.40	7.41	77.3	61.8	-60
9:42 AM	2.0	7.24	17.50	0.37	69.6	36.9	-82
9:43 AM	4.0	7.15	17.30	0.0	86.1	34.6	-85
9:44 AM	5.0	DRIED					
9:45 AM	SAMPLED						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
9:45 AM	3.30	3.30	0.0	0.00	0	3.0

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	LFR-3	**Project #:**	2511
Casing Diameter:	2 inch	**Address:**	3815 Broadway
Depth of Well:	22 feet		Oakland, California
Top of Casing Elevation:	77.96 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	11.25 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	66.71 feet		Roy Zarrin
Water Column Height:	10.75 feet		
Purged Volume:	6.0 gallons		

Purging Method:	**Bailer** ☐	**Pump** ■			
Sampling Method:	**Bailer** ■	**Pump** ☐			
Color:	**No** ☐	**Yes** ☑	**Describe:**	muddy	
Sheen:	**No** ☑	**Yes** ☐	**Describe:**		
Odor:	**No** ☑	**Yes** ☐	**Describe:**		

Field Measurements:

7/30/03 ms/m

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (~~µs/cm~~)	Turbidity (NTU)	ORP (mV)
1:12PM	1.0	7.44	21.20	5.00	39.6	87.1	163
1:15 PM	2.0	7.01	19.90	1.49	44.8	999	170
1:16 PM	4.0	6.90	20.0	0.23	44.8	241	168
1:17 PM	6.0	6.87	19.80	0.17	45.7	199	167
1:20 PM	samples						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
1:20 PM	2.0	2.00	0.0	0.000	21	0.1

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	LFR-4	**Project #:**	2511
Casing Diameter:	2 inch	**Address:**	3815 Broadway
Depth of Well:	19 feet		Oakland, California
Top of Casing Elevation:	81.65 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	13.28 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	68.37 feet		Roy Zarrin
Water Column Height:	5.72 feet		
Purged Volume:	5.0 gallons		

Purging Method:	Bailer ☐	Pump ■
Sampling Method:	Bailer ■	Pump ☐

Color:	No ☑	Yes ☐	**Describe:**		
Sheen:	No ☑	Yes ☐	**Describe:**		
Odor:	No ☑	Yes ☐	**Describe:**		

Field Measurements:

7/29/03

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. ~~(µs/cm)~~ mS/m	Turbidity (NTU)	ORP (mV)
4:43 AM	1.0	7.56	19.70	9.14	70.9	91.4	-50
4:44 PM	2.0	7.20	19.40	5.59	60.8	86.6	-26
4:45 PM	3.0	7.05	19.20	2.70	65.8	75.5	-30
4:46 PM	4.0	6.94	19.0	0.28	80.5	62.8	-49
4:47 PM	5.0	DRIED					
5 PM	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
5PM	3.30	3.30	0	0	0	5.1

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	SoMA-1	**Project #:**	2511
Casing Diameter:	4 inch	**Address:**	3815 Broadway
Depth of Well:	40 feet		Oakland, California
Top of Casing Elevation:	81.64 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	13.80 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	67.84 feet		Roy Zarrin
Water Column Height:	26.20 feet		
Purged Volume:	13 gallons		

Purging Method:	**Bailer** ☐	**Pump** ■
Sampling Method:	**Bailer** ■	**Pump** ☐

Color:	**No**	☑	**Yes** ☐	**Describe:**		
Sheen:	**No**	☑	**Yes** ☐	**Describe:**		
Odor:	**No**	☑	**Yes** ☐	**Describe:**		

Field Measurements:

7/30/03 s/m

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (~~µs/cm~~)	Turbidity (NTU)	ORP (mV)
10:11Am	1.0	7.59	17.70	6.41	0.129	40.5	-18
10:13 Am	2.0	7.05	17.50	0.0	0.130	273	25
10:15 Am	5.0	6.93	17.50	0.0	0.130	174	48
10:18 Am	9.0	6.90	17.70	0.0	0.130	64.9	66
10:21 Am	13	6.90	17.80	0.0	0.130	61.1	74
10:23 Am	Sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
10:23 AM	0.0	0.0	0.0	0.000	1.0	0.4

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	~~[illegible]~~ SOMA-2	**Project #:**	2511
Casing Diameter:	3/4 inch	**Address:**	3815 Broadway
Depth of Well:	20 feet		Oakland, California
Top of Casing Elevation:	81.39 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	11.55 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	69.84 feet		Roy Zarrin
Water Column Height:	8.45 feet		
Purged Volume:	0.40 gallons		

Purging Method: Bailer ☐ Pump ■

Sampling Method: Bailer ■ Pump ☐

Color: No ☑ Yes ☐ **Describe:** ______

Sheen: No ☑ Yes ☐ **Describe:** ______

Odor: No ☑ Yes ☐ **Describe:** ______

Field Measurements:
7/29/03

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. ~~(μs/cm)~~ s/m	Turbidity (NTU)	ORP (mV)
1:27 PM	0.10	9.16	17.20	9.95	0.125	208	-30
1:28 PM	0.25	7.91	16.80	2.71	0.129	237	-53
1:29 PM	0.4 DRIED				~~0.127~~		
1:30 PM	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
1:30 PM	0.83	1.37	0.0	.62 0.00	0	1.0

Notes:

ENVIRONMENTAL ENGINEERING, INC

Well Name:	SOMA-3	**Project #:**	2511
Casing Diameter:	2 inch	**Address:**	3815 Broadway
Depth of Well:	30 feet		Oakland, California
Top of Casing Elevation:	81.42 feet	**Date:**	7/29 -7/30/03
Depth to Groundwater:	8.94 feet	**Sampler:**	Tony Perini
Groundwater Elevation:	72.48 feet		Roy Zarrin
Water Column Height:	21.06 feet		
Purged Volume:	6.0 gallons		

Purging Method:	Bailer ☐		Pump ■		
Sampling Method:	Bailer ■		Pump ☐		
Color:	No ☐	Yes ☑	**Describe:**	cloudy	
Sheen:	No ☑	Yes ☐	**Describe:**		
Odor:	No ☑	Yes ☐	**Describe:**		

Field Measurements:
7/29/03 S/M

Time	Volume (gallons)	pH	Temp (°C)	D.O. (mg/L)	E.C. (~~µs/cm~~)	Turbidity (NTU)	ORP (mV)
2:07 PM	1.0	8.04	16.30	7.37	0.117	127	-111
2:08 PM	2.0	7.49	16.20	1.11	0.118	107	-110
2:09 PM	4.0	7.34	16.10	0.0	0.120	118	-110
2:11 PM	6.0	7.27	16.20	0.0	0.120	149	-106
2:15 PM	sampled						

Time	Ferrous Iron (mg/L)	Total Iron (mg/L)	Nitrate (mg/L)	Nitrite (mg/L)	Sulfate (mg/L)	Dissolved Manganese (mg/L)
2:15 PM	3.30	3.30	0.0	0.00	0	2.0

Notes:

APPENDIX B

Chain of Custody Forms

and

Laboratory Reports

MICROSEEPS

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203

San Ramon, CA 94583

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Laboratory Results

Lab Sample #	Client Sample ID
P0307488-01	GW-2
P0307488-02	GW-3
P0307488-03	GW-4
P0307488-04	MW-11
P0307488-05	LFR-1
P0307488-06	LFR-2
P0307488-07	LFR-3
P0307488-08	LFR-4
P0307488-09	SOMA-1
P0307488-10	SOMA-2
P0307488-11	SOMA-3

Microseeps test results meet all the requirements of the NELAC standards.

Approved By: Nadine Hall

The analytical results reported here are reliable and usable to the precision expressed in this report. As required by some regulating authorities, a full discussion of the uncertainty in our analytical results can be obtained at our web site or through customer service. Unless otherwise specified, all results are reported on a wet weight basis.

NOTES:

P030 7988

CHAIN - OF - CUSTODY RECORD

Phone: (412) 826-5245 — **Microseeps, Inc. - 220 William Pitt Way - Pittsburgh, PA 15238** — Fax No. : (412) 826-3433

Company : SOMA ENVIRONMENTAL ENGINEERING, INC.
Co. Address : 2680 Bishop Drive, Suite 203 San Ramon, CA 94583
Proj. Manager:
Proj. Location: Oakland, CA
Proj. Number: 251
Phone # : 925-244-6600 **Fax # :** 925-244-6606

Sampler's signature:

Results to : Tony Perini

Invoice to : Same as above

Sample ID	Sample Description	Date	Time	Comp.	Grab	# Cont.	Methane	Remarks
01 GW-2	Grab Sample	7/29/03	3:05 P		✓			
02 GW-3		7/29/03	4:05 P					
03 GW-4		7/30/03	9 AM					
04 MW-11		7/30/03	1150 A					
05 LFR-1		7/30/03	1235 P					
06 LFR-2		7/30/03	945 A					
07 LFR-3		7/30/03	120 P					
08 LFR-4		7/29/03	5 PM					
09 SOMA-1		7/30/03	1023 A					
10 SOMA-2		7/29/03	1:30 P					
11 SOMA-3		7/29/03	2:15 P					

Cooler ID	Cooler Temp.

Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Tony Perini / Tony Perini	SOMA ENV.	7/30/03	3:45 PM	R. Welch	Microseeps	7/31/03	1000
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :
Relinquished by :	Company :	Date :	Time :	Received by :	Company :	Date :	Time :

WHITE COPY : Accompany Samples — YELLOW COPY : Laboratory File — PINK COPY : Submitter

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-01

Sample Description	Matrix	Sampled Date/Time	Received
MW-2	Water	29 Jul. 03 15:05	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	0.69	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-02

Sample Description	Matrix	Sampled Date/Time	Received
MW-3	Water	29 Jul. 03 16:05	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	0.49	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-03

Sample Description	Matrix	Sampled Date/Time	Received
MW-4	Water	30 Jul. 03 9:00	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	1300	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-04

Sample Description	Matrix	Sampled Date/Time	Received
MW-11	Water	30 Jul. 03 11:50	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	0.99	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-05

Sample Description	Matrix	Sampled Date/Time	Received
FR-1	Water	30 Jul. 03 12:35	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	0.40	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-06

Sample Description	Matrix	Sampled Date/Time	Received
FR-2	Water	30 Jul. 03 9:45	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	8700	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-07

Sample Description	Matrix	Sampled Date/Time	Received
LFR-3	Water	30 Jul. 03 13:20	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	6.6	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-08

Sample Description	Matrix	Sampled Date/Time	Received
FR-4	Water	29 Jul. 03 17:00	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	3900	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-09

Sample Description	Matrix	Sampled Date/Time	Received
SOMA-1	Water	30 Jul. 03 10:23	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	990	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-10

Sample Description	Matrix	Sampled Date/Time	Received
SOMA-2	Water	29 Jul. 03 13:30	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	1000	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

Order #: P0307488
Report Date: 08/14/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Client Name: Soma Environmental Engineering
Contact: Tony Perini
Address: 2680 Bishop Drive
Suite 203
San Ramon, CA 94583

Lab Sample #: P0307488-11

Sample Description	Matrix	Sampled Date/Time	Received
SOMA-3	Water	29 Jul. 03 14:15	31 Jul. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	8700	0.015	ug/L	AM20GAX	rw	8/13/03

N - NELAC certified analysis

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.
2680 Bishop Dr.
Suite 203
San Ramon, CA 94583

Date: 12-AUG-03
Lab Job Number: 166619
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

Curtis & Tompkins, Ltd.

Laboratory Number: **166619**
Client: **SOMA Environmental Engineering Inc.**
Project: **2511/ 3815 Broadway, Oakland**
Request Date: **07/30/2003**

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for eleven water samples requested from the above referenced project on July 30, 2003. The samples were received cold and intact.

Total Volatile Hydrocarbons:

Recoveries for the surrogate bromofluorobenzene in samples GW-4, LFR-2, LFR-4, SOMA-2, and SOMA-3 exceed acceptance limits due to coelution of the surrogate peak with other hydrocarbon peaks. The recoveries for the associated surrogate trifluorotoluene are acceptable.

No other analytical problems were encountered.

Purgeable Organics (EPA 8260):

No analytical problems were encountered.

CHAIN OF CUSTODY

Page 1 of 1

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

C&T LOGIN # 166619

Sampler: Tony Perini/~~Ramin Bet-Yonan~~ Roy Zamin

Report To: Tony Perini/~~Mansour Sepehr~~

Company : SOMA Environmental

Telephone: 925-244-6600

Fax: 925-244-6601

Project No: 2511

Project Name: 3815 Broadway, Oakland, CA

Turnaround Time: standard

Lab No.	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: ICE	Analyses: TPHg (including Stoddard Solvent) 8015	Analyses: BTEX + MtBE 8021 GC	Analyses: 8260 (Full List)
-1	GW-2	7/29/03 3:05PM		✓		4-40ml VOAs	✓			✓	✓	✓	✓
-2	GW-3	7/29/03 4:05PM		↓		↓	↓			↓	↓	↓	↓
-3	GW-4	7/30/03 9 AM		↓		↓	↓			↓	↓	↓	↓
-4	MW-11	7/30/03 11:50AM		↓		↓	↓			↓	↓	↓	↓
-5	LFR-1	7/30/03 12:35PM		↓		↓	↓			↓	↓	↓	↓
-6	LFR-2	7/30/03 9:45AM		↓		↓	↓			↓	↓	↓	↓
-7	LFR-3	7/30/03 1:20PM		↓		↓	↓			↓	↓	↓	↓
-8	LFR-4	7/29/03 5PM		↓		↓	↓			↓	↓	↓	↓
-9	SOMA-1	7/30/03 10:23AM		↓		↓	↓			↓	↓	↓	↓
-10	SOMA-2	7/29/03 1:30PM		↓		↓	↓			↓	↓	↓	↓
-11	SOMA-3	7/29/03 2:15PM		↓		↓	↓			↓	↓	↓	↓

Preservation Correct?
☑ Yes ☐ No ☐ N/A

Received ☑ On Ice
☑ Cold ☐ Ambient ☑ Intact

Notes:
Grab Sample

RELINQUISHED BY:

Tony Perini 7/30/03 3:10PM DATE/TIME

DATE/TIME

DATE/TIME

RECEIVED BY:

7-30-03 3:00 pm DATE/TIME

DATE/TIME

DATE/TIME

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Batch#:	83304
Units:	ug/L	Received:	07/30/03

Field ID:	GW-2	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/29/03
Lab ID:	166619-001	Analyzed:	07/31/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	92	57-150
Bromofluorobenzene (FID)	127	65-144

Field ID:	GW-3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/29/03
Lab ID:	166619-002	Analyzed:	07/31/03

Analyte	Result	RL
Gasoline C7-C12	180 Y Z	50
Stoddard Solvent C7-C12	120 Y Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	57-150
Bromofluorobenzene (FID)	136	65-144

Field ID:	GW-4	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/30/03
Lab ID:	166619-003	Analyzed:	07/31/03

Analyte	Result	RL
Gasoline C7-C12	580 H Y	50
Stoddard Solvent C7-C12	390	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	57-150
Bromofluorobenzene (FID)	173 *	65-144

*= 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
b= See narrative
ND= Not Detected
RL= Reporting Limit
R= Response exceeds instrument's linear range

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Batch#:	83304
Units:	ug/L	Received:	07/30/03

Field ID:	MW-11	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/30/03
Lab ID:	166619-004	Analyzed:	07/31/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	91	57-150
Bromofluorobenzene (FID)	127	65-144

Field ID:	LFR-1	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/30/03
Lab ID:	166619-005	Analyzed:	07/31/03

Analyte	Result	RL
Gasoline C7-C12	68 Y Z	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	94	57-150
Bromofluorobenzene (FID)	131	65-144

Field ID:	LFR-2	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/30/03
Lab ID:	166619-006	Analyzed:	07/31/03

Analyte	Result	RL
Gasoline C7-C12	6,000 H Y	50
Stoddard Solvent C7-C12	4,100	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	91	57-150
Bromofluorobenzene (FID)	430 *	>LR b 65-144

*= 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
b= See narrative
ND= Not Detected
RL= Reporting Limit
LR= Response exceeds instrument's linear range

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC220793	Batch#:	83304
Matrix:	Water	Analyzed:	07/31/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,058	106	80-120

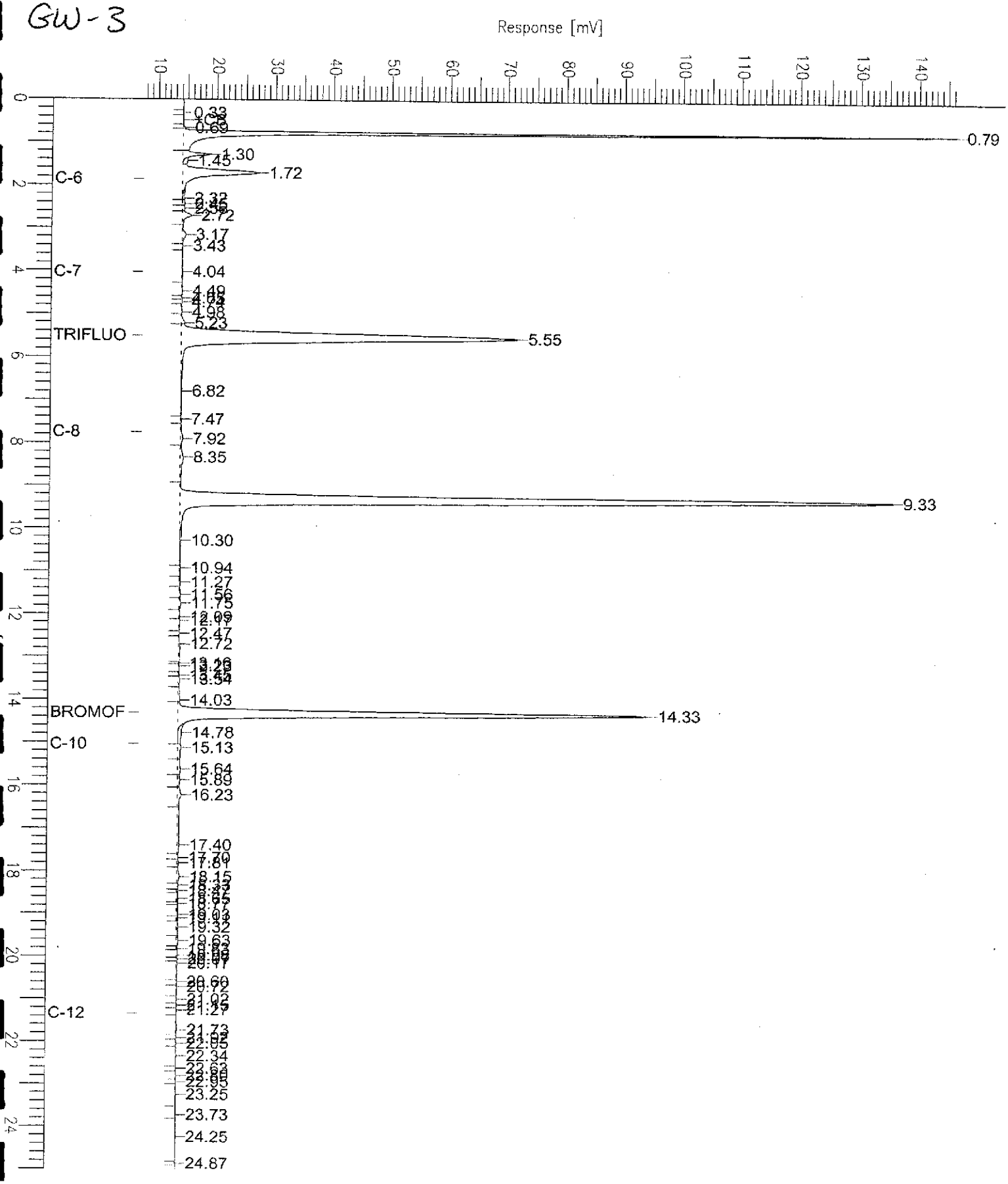
Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	57-150
Bromofluorobenzene (FID)	127	65-144

Chromatogram

Sample Name : 166619-002,83304
FileName : G:\GC05\DATA\212G012.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: c1 Page 1 of 1
Date : 7/31/03 04:24 PM
Time of Injection: 7/31/03 03:59 PM
Low Point : 7.47 mV High Point : 146.36 mV
Plot Scale: 138.9 mV

GW-3

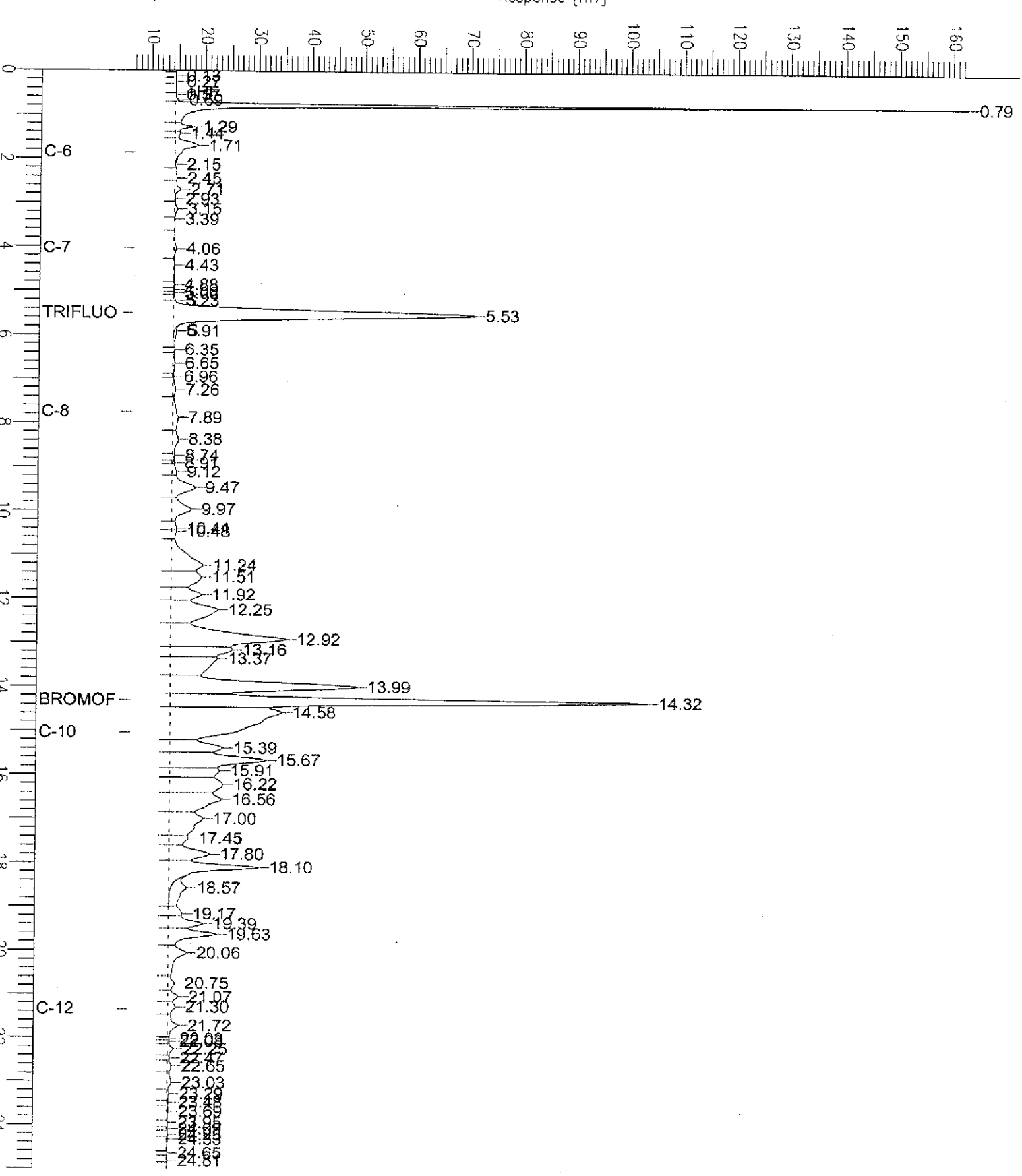


Chromatogram

Sample Name : 166619-003,83304
FileName : G:\GC05\DATA\212G021.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: c1 Page 1 of 1
Date : 8/1/03 01:11 PM
Time of Injection: 7/31/03 09:01 PM
Low Point : 6.86 mV High Point : 162.89 mV
Plot Scale: 156.0 mV

GW-4



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Field ID:	LFR-1	Batch#:	83304
MSS Lab ID:	166619-005	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Type: MS Lab ID: QC220906

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	67.69	2,000	2,144	104	76-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	57-150
Bromofluorobenzene (FID)	143	65-144

Type: MSD Lab ID: QC220907

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,118	103	76-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	57-150
Bromofluorobenzene (FID)	142	65-144

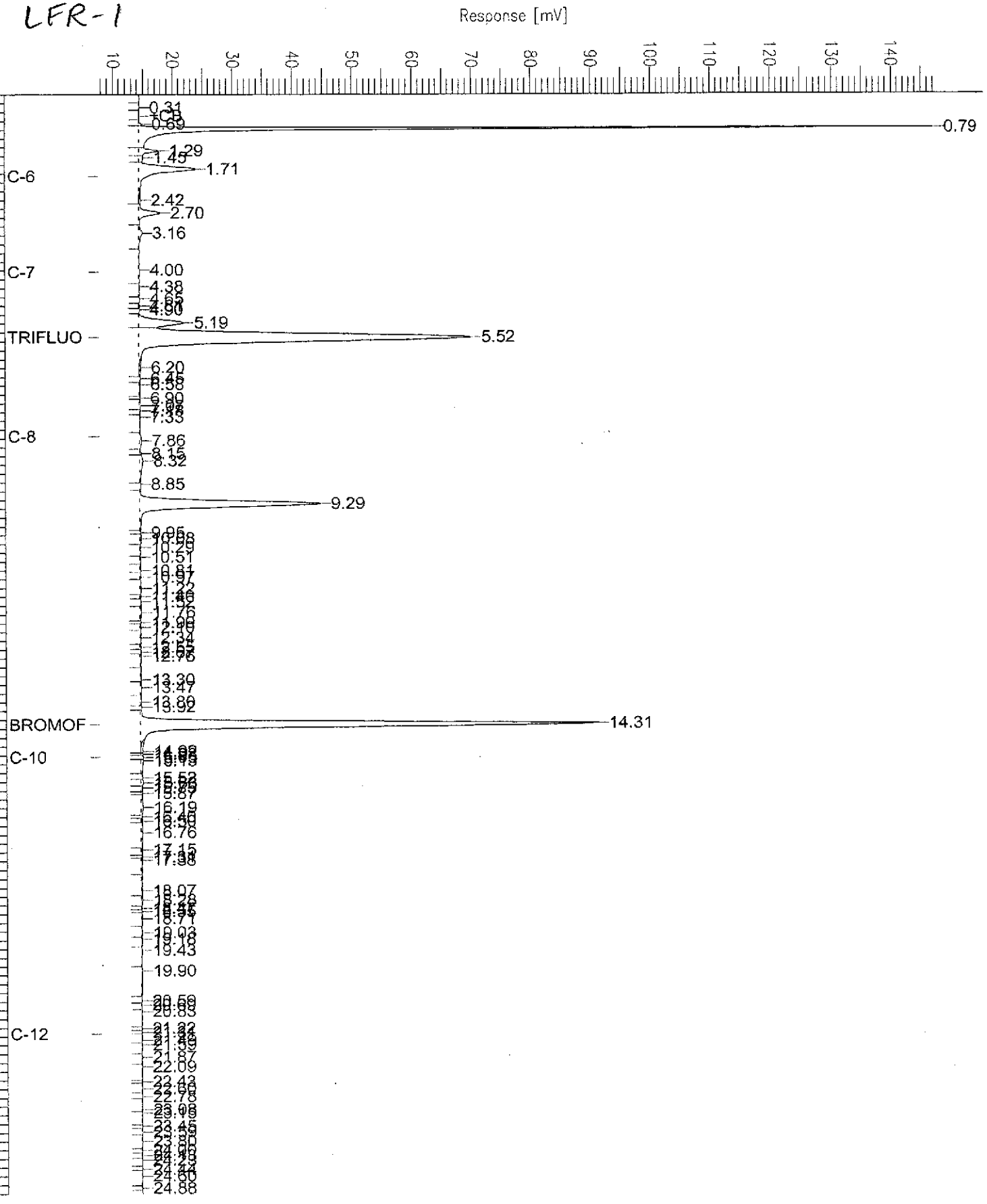
RPD= Relative Percent Difference

Chromatogram

Sample Name : 166619-005,83304
FileName : G:\GC05\DATA\212G023.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 8 mV

Sample #: c1
Date : 7/31/03 10:34 PM
Time of Injection: 7/31/03 10:08 PM
Low Point : 7.60 mV High Point : 147.11 mV
Plot Scale: 139.5 mV

LFR-1

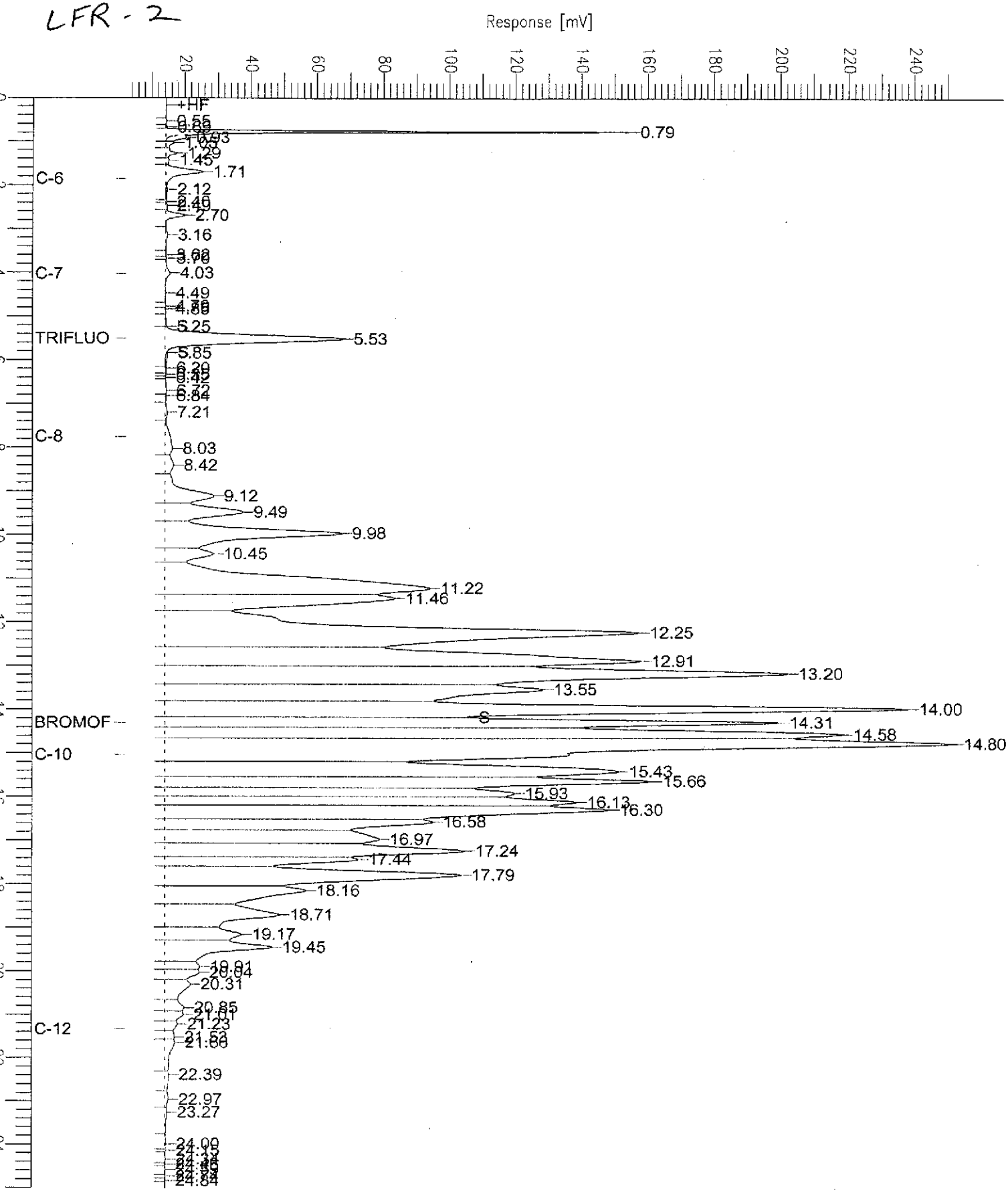


Chromatogram

Sample Name : 166619-006,83304
leName : G:\GC05\DATA\212G024.raw
thod : TVHBTXE
art Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 2 mV

Sample #: c1 Page 1 of 1
Date : 8/1/03 01:11 PM
Time of Injection: 7/31/03 10:42 PM
Low Point : 2.39 mV High Point : 251.75 mV
Plot Scale: 249.4 mV

LFR-2



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Batch#:	83304
Units:	ug/L	Received:	07/30/03

Field ID:	LFR-3	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/30/03
Lab ID:	166619-007	Analyzed:	07/31/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	91	57-150
Bromofluorobenzene (FID)	128	65-144

Field ID:	LFR-4	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/29/03
Lab ID:	166619-008	Analyzed:	08/01/03

Analyte	Result	RL
Gasoline C7-C12	590	50
Stoddard Solvent C7-C12	400 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	121	57-150
Bromofluorobenzene (FID)	156 *	65-144

Field ID:	SOMA-1	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/30/03
Lab ID:	166619-009	Analyzed:	08/01/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	57-150
Bromofluorobenzene (FID)	129	65-144

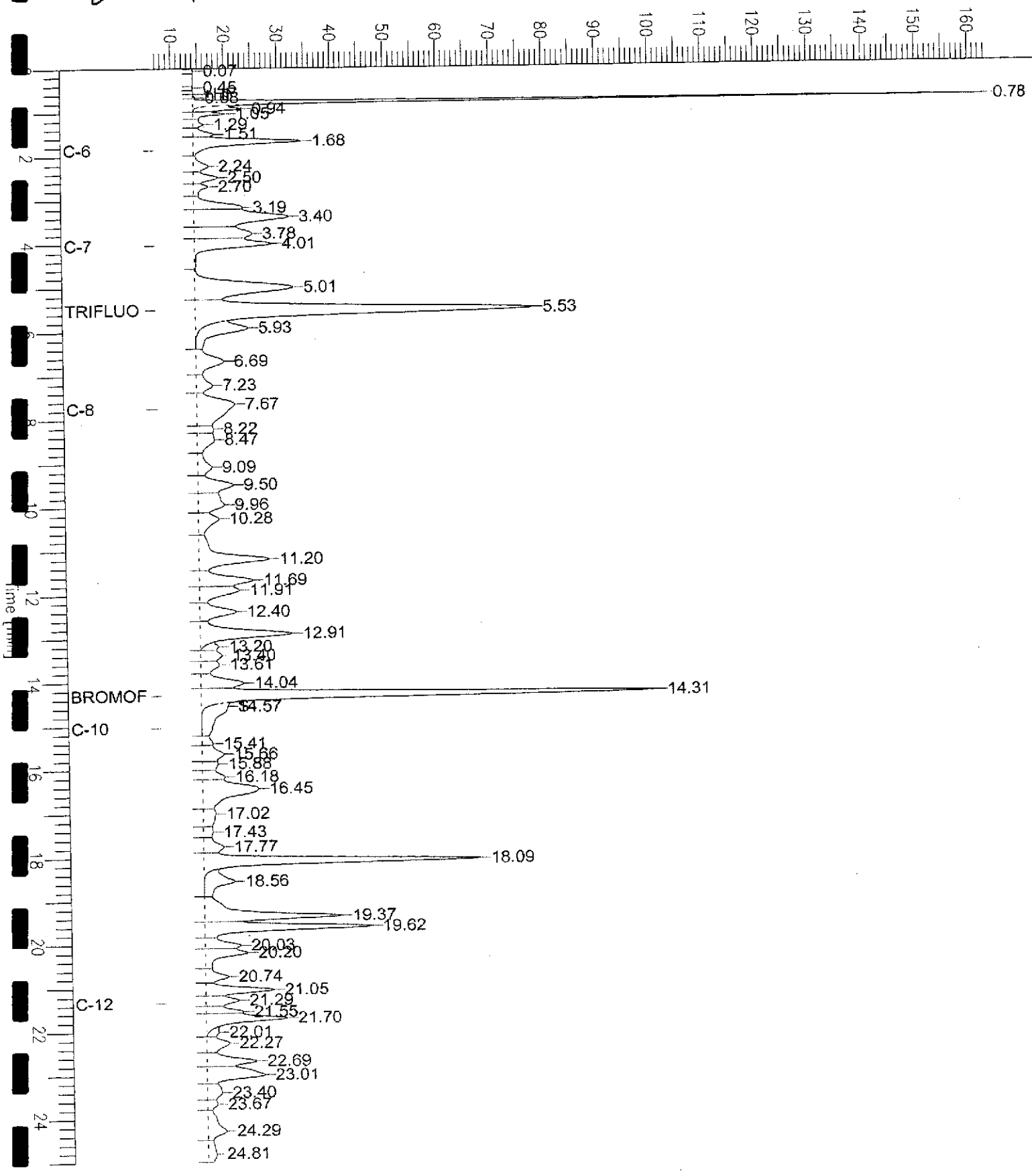
*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits chromatographic pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
b= See narrative
ND= Not Detected
RL= Reporting Limit
LR= Response exceeds instrument's linear range

Chromatogram

Sample Name : 166619-008,83304
File Name : G:\GC05\DATA\212G027.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: 7 mV

Sample #: c1
Date : 8/1/03 01:11 PM
Time of Injection: 8/1/03 12:22 AM
Low Point : 6.73 mV High Point : 163.05 mV
Plot Scale: 156.3 mV

LFR-4



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Batch#:	83304
Units:	ug/L	Received:	07/30/03

Field ID:	SOMA-2	Diln Fac:	1.000
Type:	SAMPLE	Sampled:	07/29/03
Lab ID:	166619-010	Analyzed:	08/01/03

Analyte	Result	RL
Gasoline C7-C12	400 H Y	50
Stoddard Solvent C7-C12	270	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	95	57-150
Bromofluorobenzene (FID)	153 *	65-144

Field ID:	SOMA-3	Diln Fac:	2.000
Type:	SAMPLE	Sampled:	07/29/03
Lab ID:	166619-011	Analyzed:	07/31/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	97	57-150
Bromofluorobenzene (FID)	177 *	65-144

Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC220791	Analyzed:	07/31/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	87	57-150
Bromofluorobenzene (FID)	112	65-144

*= 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
b= See narrative
ND= Not Detected
RL= Reporting Limit
LR= Response exceeds instrument's linear range

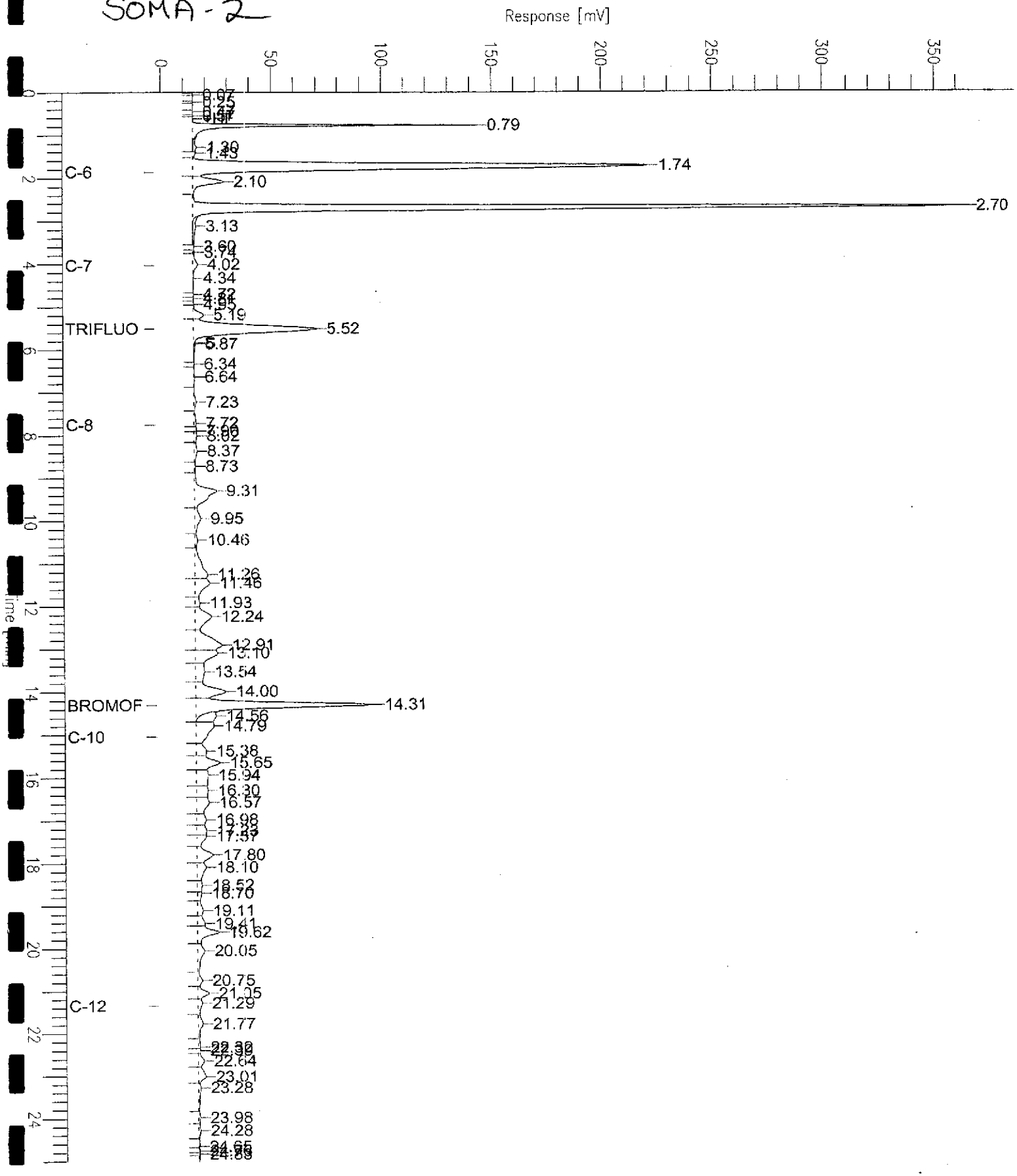
1.0

Chromatogram

Sample Name : 166619-010,83304
FileName : G:\GC05\DATA\212G029.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -3 mV

Sample #: c1 Page 1 of 1
Date : 8/1/03 01:11 PM
Time of Injection: 8/1/03 01:29 AM
Low Point : -3.12 mV High Point : 364.91 mV
Plot Scale: 368.0 mV

SOMA-2

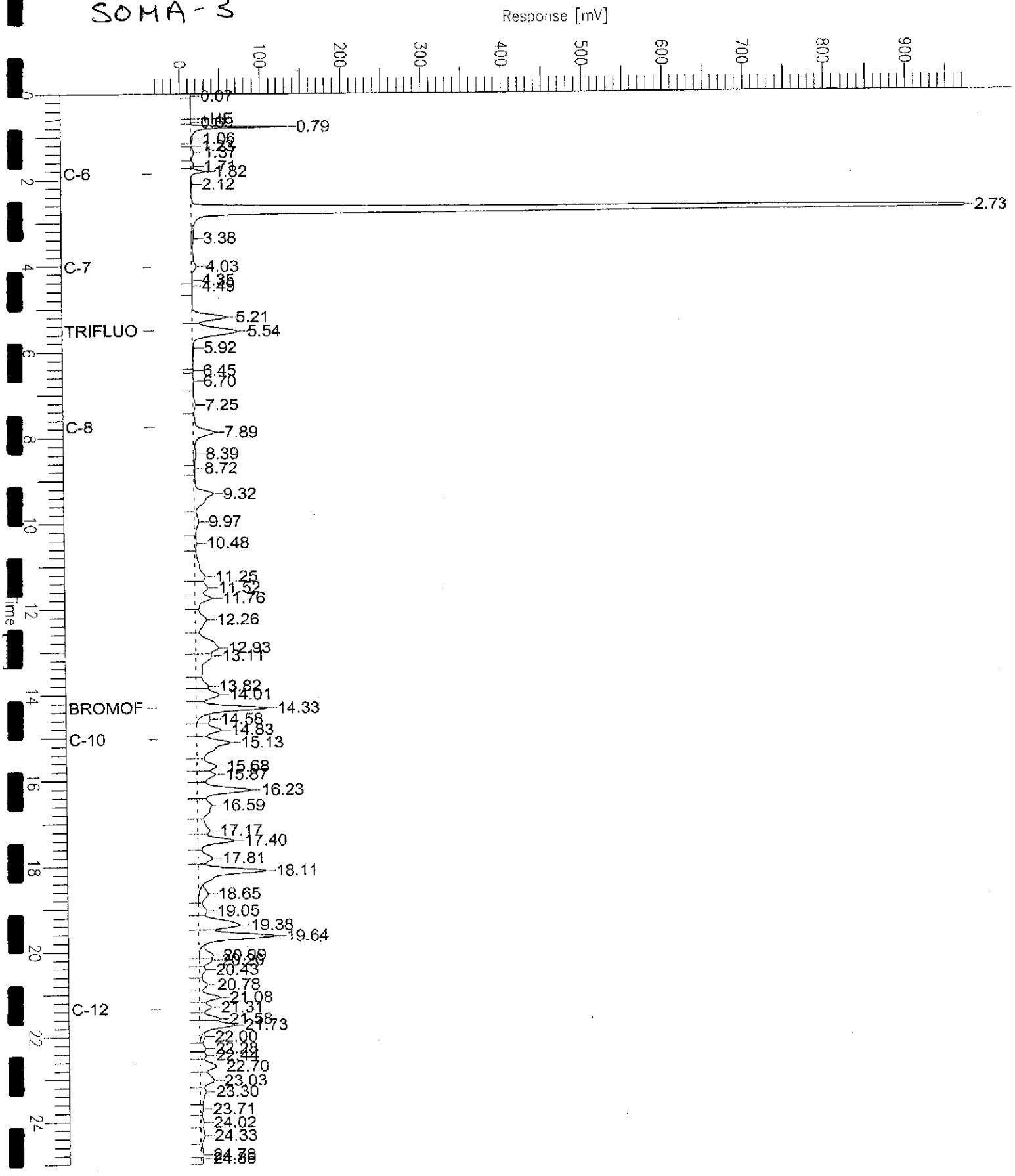


Chromatogram

Sample Name : 166619-011,83304
FileName : G:\GC05\DATA\212G009.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -34 mV

Sample #: c1 Page 1 of 1
Date : 8/1/03 01:11 PM
Time of Injection: 7/31/03 02:05 PM
Low Point : -33.92 mV High Point : 972.68 mV
Plot Scale: 1006.6 mV

SOMA-3

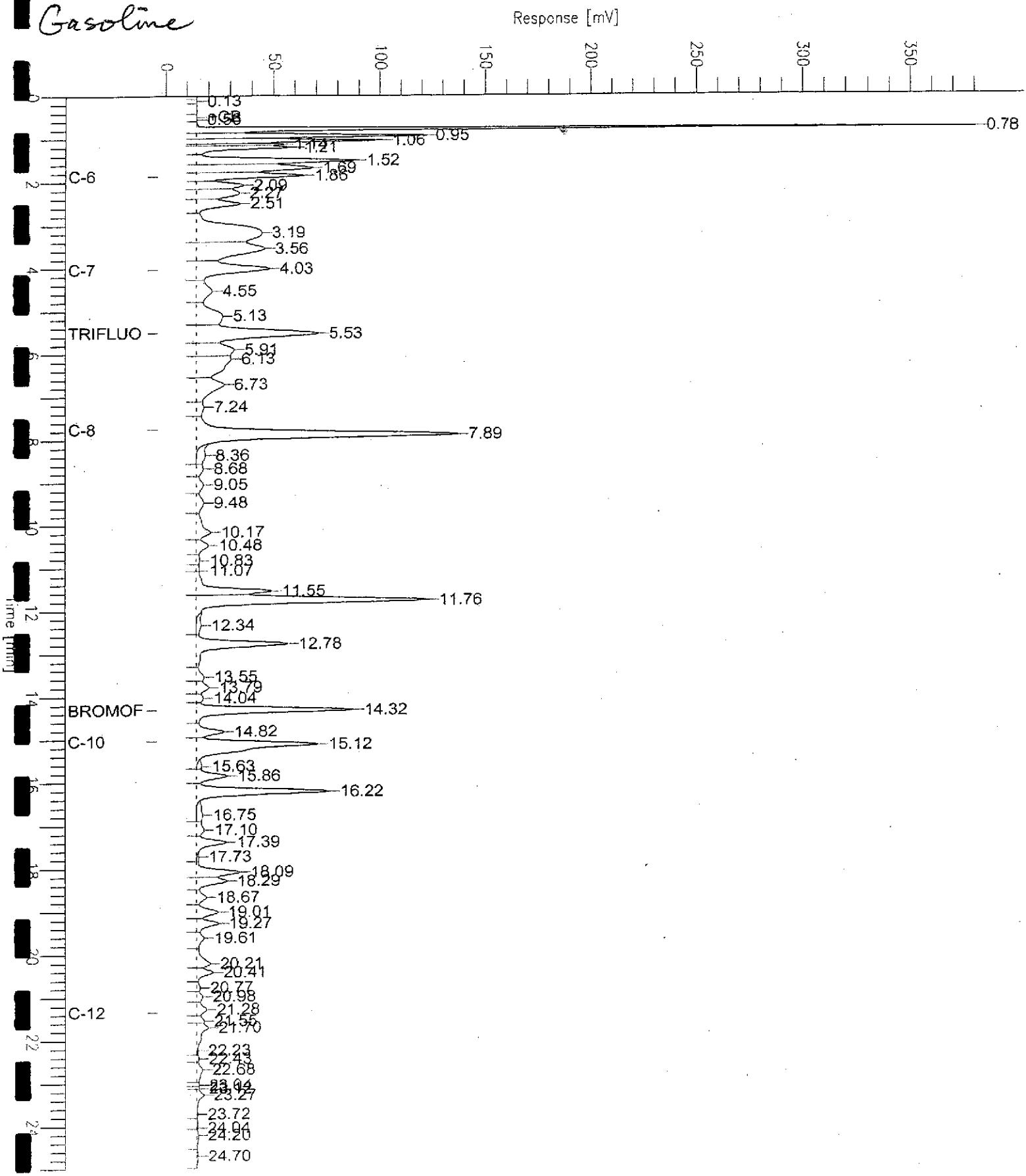


Chromatogram

Sample Name : CCV/LCS,qc220793,83304,03wsl192,2.5/5000
FileName : G:\GC05\DATA\212G003.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -4 mV

Sample #:
Date : 7/31/03 09:53 AM
Time of Injection: 7/31/03 09:28 AM
Low Point : -3.90 mV High Point : 380.85 mV
Plot Scale: 384.8 mV

Gasoline

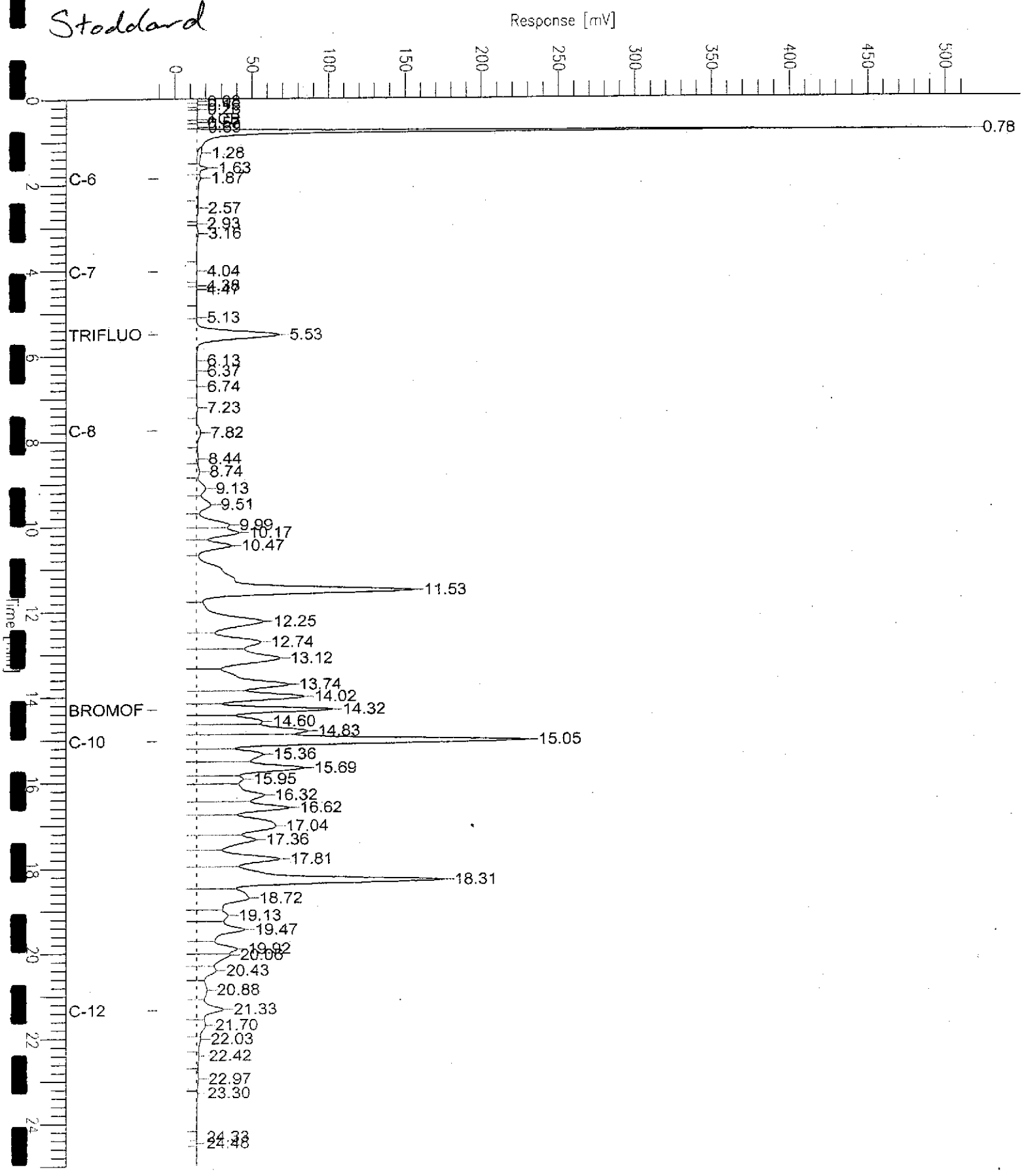


Chromatogram

Sample Name : ccv,stoddard,83304,03ws0644,5/5000
FileName : G:\GC05\DATA\212G004.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 25.00 min
Scale Factor: 1.0 Plot Offset: -11 mV

Sample #: Page 1 of 1
Date : 7/31/03 10:27 AM
Time of Injection: 7/31/03 10:01 AM
Low Point : -10.68 mV High Point : 517.56 mV
Plot Scale: 528.2 mV

Stoddard



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Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	83310
Lab ID:	166619-001	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	43	5.0

ND= Not Detected
RL= Reporting Limit

5.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	83310
Lab ID:	166619-001	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-121
1,2-Dichloroethane-d4	87	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	98	80-123

ND= Not Detected
RL= Reporting Limit

5.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-3	Units:	ug/L
Lab ID:	166619-002	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03

Analyte	Result	RL	Dil'n Fac	Batch#	Analyzed
Freon 12	ND	20	2.000	83310	07/31/03
Chloromethane	ND	20	2.000	83310	07/31/03
Vinyl Chloride	ND	20	2.000	83310	07/31/03
Bromomethane	ND	20	2.000	83310	07/31/03
Chloroethane	ND	20	2.000	83310	07/31/03
Trichlorofluoromethane	ND	10	2.000	83310	07/31/03
Acetone	ND	40	2.000	83310	07/31/03
Freon 113	ND	10	2.000	83310	07/31/03
1,1-Dichloroethene	ND	10	2.000	83310	07/31/03
Methylene Chloride	ND	40	2.000	83310	07/31/03
Carbon Disulfide	ND	10	2.000	83310	07/31/03
MTBE	ND	10	2.000	83310	07/31/03
trans-1,2-Dichloroethene	ND	10	2.000	83310	07/31/03
Vinyl Acetate	ND	100	2.000	83310	07/31/03
1,1-Dichloroethane	ND	10	2.000	83310	07/31/03
2-Butanone	ND	20	2.000	83310	07/31/03
cis-1,2-Dichloroethene	ND	10	2.000	83310	07/31/03
2,2-Dichloropropane	ND	10	2.000	83310	07/31/03
Chloroform	ND	10	2.000	83310	07/31/03
Bromochloromethane	ND	20	2.000	83310	07/31/03
1,1,1-Trichloroethane	ND	10	2.000	83310	07/31/03
1,1-Dichloropropene	ND	10	2.000	83310	07/31/03
Carbon Tetrachloride	ND	10	2.000	83310	07/31/03
1,2-Dichloroethane	ND	10	2.000	83310	07/31/03
Benzene	ND	10	2.000	83310	07/31/03
Trichloroethene	ND	10	2.000	83310	07/31/03
1,2-Dichloropropane	ND	10	2.000	83310	07/31/03
Bromodichloromethane	ND	10	2.000	83310	07/31/03
Dibromomethane	ND	10	2.000	83310	07/31/03
4-Methyl-2-Pentanone	ND	20	2.000	83310	07/31/03
cis-1,3-Dichloropropene	ND	10	2.000	83310	07/31/03
Toluene	ND	10	2.000	83310	07/31/03
trans-1,3-Dichloropropene	ND	10	2.000	83310	07/31/03
1,1,2-Trichloroethane	ND	10	2.000	83310	07/31/03
2-Hexanone	ND	20	2.000	83310	07/31/03
1,3-Dichloropropane	ND	10	2.000	83310	07/31/03
Tetrachloroethene	430	20	4.000	83345	08/01/03
Dibromochloromethane	ND	10	2.000	83310	07/31/03
1,2-Dibromoethane	ND	10	2.000	83310	07/31/03

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-3	Units:	ug/L
Lab ID:	166619-002	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03

Analyte	Result	RL	Dil'n Fac	Batch#	Analyzed
Chlorobenzene	ND	10	2.000	83310	07/31/03
1,1,1,2-Tetrachloroethane	ND	10	2.000	83310	07/31/03
Ethylbenzene	ND	10	2.000	83310	07/31/03
m,p-Xylenes	ND	10	2.000	83310	07/31/03
o-Xylene	ND	10	2.000	83310	07/31/03
Styrene	ND	10	2.000	83310	07/31/03
Bromoform	ND	10	2.000	83310	07/31/03
Isopropylbenzene	ND	10	2.000	83310	07/31/03
1,1,2,2-Tetrachloroethane	ND	10	2.000	83310	07/31/03
1,2,3-Trichloropropane	ND	10	2.000	83310	07/31/03
Propylbenzene	ND	10	2.000	83310	07/31/03
Bromobenzene	ND	10	2.000	83310	07/31/03
1,3,5-Trimethylbenzene	ND	10	2.000	83310	07/31/03
2-Chlorotoluene	ND	10	2.000	83310	07/31/03
4-Chlorotoluene	ND	10	2.000	83310	07/31/03
tert-Butylbenzene	ND	10	2.000	83310	07/31/03
1,2,4-Trimethylbenzene	ND	10	2.000	83310	07/31/03
sec-Butylbenzene	ND	10	2.000	83310	07/31/03
para-Isopropyl Toluene	ND	10	2.000	83310	07/31/03
1,3-Dichlorobenzene	ND	10	2.000	83310	07/31/03
1,4-Dichlorobenzene	ND	10	2.000	83310	07/31/03
n-Butylbenzene	ND	10	2.000	83310	07/31/03
1,2-Dichlorobenzene	ND	10	2.000	83310	07/31/03
1,2-Dibromo-3-Chloropropane	ND	10	2.000	83310	07/31/03
1,2,4-Trichlorobenzene	ND	10	2.000	83310	07/31/03
Hexachlorobutadiene	ND	10	2.000	83310	07/31/03
Naphthalene	ND	10	2.000	83310	07/31/03
1,2,3-Trichlorobenzene	ND	10	2.000	83310	07/31/03

Surrogate	%REC	Limits	Dil'n Fac	Batch#	Analyzed
Dibromofluoromethane	93	80-121	2.000	83310	07/31/03
1,2-Dichloroethane-d4	87	77-129	2.000	83310	07/31/03
Toluene-d8	99	80-120	2.000	83310	07/31/03
Bromofluorobenzene	98	80-123	2.000	83310	07/31/03

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	83310
Lab ID:	166619-003	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

D= Not Detected
L= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	83310
Lab ID:	166619-003	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-121
1,2-Dichloroethane-d4	88	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-123

D= Not Detected
L= Reporting Limit

6.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	83310
Lab ID:	166619-004	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND = Not Detected
RL = Reporting Limit

7.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	83310
Lab ID:	166619-004	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-121
1,2-Dichloroethane-d4	84	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-123

D= Not Detected
L= Reporting Limit

7.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Batch#:	83310
Lab ID:	166619-005	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	6.5	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	27	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	150	5.0

ND= Not Detected
RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Batch#:	83310
Lab ID:	166619-005	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-121
1,2-Dichloroethane-d4	92	77-129
Toluene-d8	119	80-120
Bromofluorobenzene	100	80-123

ND = Not Detected
RL = Reporting Limit

8.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	83310
Lab ID:	166619-006	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	11	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

9.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	83310
Lab ID:	166619-006	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-121
1,2-Dichloroethane-d4	87	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	99	80-123

ND= Not Detected
RL= Reporting Limit

9.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	83310
Lab ID:	166619-007	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	83310
Lab ID:	166619-007	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-121
1,2-Dichloroethane-d4	87	77-129
Toluene-d8	100	80-120
Bromofluorobenzene	98	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	83310
Lab ID:	166619-008	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	10	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected
RL= Reporting Limit

11.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	83310
Lab ID:	166619-008	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-121
1,2-Dichloroethane-d4	87	77-129
Toluene-d8	102	80-120
Bromofluorobenzene	100	80-123

ND= Not Detected
RL= Reporting Limit

11.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	83310
Lab ID:	166619-009	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	190	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	42	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	6.2	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	16	5.0

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	83310
Lab ID:	166619-009	Sampled:	07/30/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-121
1,2-Dichloroethane-d4	89	77-129
Toluene-d8	99	80-120
Bromofluorobenzene	97	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-2	Batch#:	83310
Lab ID:	166619-010	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	4.000		

Analyte	Result	RL
Freon 12	ND	40
Chloromethane	ND	40
Vinyl Chloride	ND	40
Bromomethane	ND	40
Chloroethane	ND	40
Trichlorofluoromethane	ND	20
Acetone	ND	80
Freon 113	ND	20
1,1-Dichloroethene	ND	20
Methylene Chloride	ND	80
Carbon Disulfide	ND	20
MTBE	300	20
trans-1,2-Dichloroethene	ND	20
Vinyl Acetate	ND	200
1,1-Dichloroethane	ND	20
2-Butanone	ND	40
cis-1,2-Dichloroethene	580	20
2,2-Dichloropropane	ND	20
Chloroform	ND	20
Bromochloromethane	ND	40
1,1,1-Trichloroethane	ND	20
1,1-Dichloropropene	ND	20
Carbon Tetrachloride	ND	20
1,2-Dichloroethane	ND	20
Benzene	ND	20
Trichloroethene	ND	20
1,2-Dichloropropane	ND	20
Bromodichloromethane	ND	20
Dibromomethane	ND	20
4-Methyl-2-Pentanone	ND	40
cis-1,3-Dichloropropene	ND	20
Toluene	ND	20
trans-1,3-Dichloropropene	ND	20
1,1,2-Trichloroethane	ND	20
2-Hexanone	ND	40
1,3-Dichloropropane	ND	20
Tetrachloroethene	32	20

ND= Not Detected
RL= Reporting Limit

13.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-2	Batch#:	83310
Lab ID:	166619-010	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	4.000		

Analyte	Result	RL
Dibromochloromethane	ND	20
1,2-Dibromoethane	ND	20
Chlorobenzene	ND	20
1,1,1,2-Tetrachloroethane	ND	20
Ethylbenzene	ND	20
m,p-Xylenes	ND	20
o-Xylene	ND	20
Styrene	ND	20
Bromoform	ND	20
Isopropylbenzene	ND	20
1,1,2,2-Tetrachloroethane	ND	20
1,2,3-Trichloropropane	ND	20
Propylbenzene	ND	20
Bromobenzene	ND	20
1,3,5-Trimethylbenzene	ND	20
2-Chlorotoluene	ND	20
4-Chlorotoluene	ND	20
tert-Butylbenzene	ND	20
1,2,4-Trimethylbenzene	ND	20
sec-Butylbenzene	ND	20
para-Isopropyl Toluene	ND	20
1,3-Dichlorobenzene	ND	20
1,4-Dichlorobenzene	ND	20
n-Butylbenzene	ND	20
1,2-Dichlorobenzene	ND	20
1,2-Dibromo-3-Chloropropane	ND	20
1,2,4-Trichlorobenzene	ND	20
Hexachlorobutadiene	ND	20
Naphthalene	ND	20
1,2,3-Trichlorobenzene	ND	20

Surrogate	%REC	Limits
Dibromofluoromethane	92	80-121
1,2-Dichloroethane-d4	86	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	97	80-123

ND = Not Detected
RL = Reporting Limit

13.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Batch#:	83345
Lab ID:	166619-011	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	08/01/03
Diln Fac:	25.00		

Analyte	Result	RL
Freon 12	ND	250
Chloromethane	ND	250
Vinyl Chloride	ND	250
Bromomethane	ND	250
Chloroethane	ND	250
Trichlorofluoromethane	ND	130
Acetone	ND	500
Freon 113	ND	130
1,1-Dichloroethene	ND	130
Methylene Chloride	ND	500
Carbon Disulfide	ND	130
MTBE	ND	130
trans-1,2-Dichloroethene	ND	130
Vinyl Acetate	ND	1,300
1,1-Dichloroethane	ND	130
2-Butanone	ND	250
cis-1,2-Dichloroethene	4,700	130
2,2-Dichloropropane	ND	130
Chloroform	ND	130
Bromochloromethane	ND	250
1,1,1-Trichloroethane	ND	130
1,1-Dichloropropene	ND	130
Carbon Tetrachloride	ND	130
1,2-Dichloroethane	ND	130
Benzene	ND	130
Trichloroethene	220	130
1,2-Dichloropropane	ND	130
Bromodichloromethane	ND	130
Dibromomethane	ND	130
4-Methyl-2-Pentanone	ND	250
cis-1,3-Dichloropropene	ND	130
Toluene	ND	130
trans-1,3-Dichloropropene	ND	130
1,1,2-Trichloroethane	ND	130
2-Hexanone	ND	250
1,3-Dichloropropane	ND	130
Tetrachloroethene	150	130

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Batch#:	83345
Lab ID:	166619-011	Sampled:	07/29/03
Matrix:	Water	Received:	07/30/03
Units:	ug/L	Analyzed:	08/01/03
Diln Fac:	25.00		

Analyte	Result	RL
Dibromochloromethane	ND	130
1,2-Dibromoethane	ND	130
Chlorobenzene	ND	130
1,1,1,2-Tetrachloroethane	ND	130
Ethylbenzene	ND	130
m,p-Xylenes	ND	130
o-Xylene	ND	130
Styrene	ND	130
Bromoform	ND	130
Isopropylbenzene	ND	130
1,1,2,2-Tetrachloroethane	ND	130
1,2,3-Trichloropropane	ND	130
Propylbenzene	ND	130
Bromobenzene	ND	130
1,3,5-Trimethylbenzene	ND	130
2-Chlorotoluene	ND	130
4-Chlorotoluene	ND	130
tert-Butylbenzene	ND	130
1,2,4-Trimethylbenzene	ND	130
sec-Butylbenzene	ND	130
para-Isopropyl Toluene	ND	130
1,3-Dichlorobenzene	ND	130
1,4-Dichlorobenzene	ND	130
n-Butylbenzene	ND	130
1,2-Dichlorobenzene	ND	130
1,2-Dibromo-3-Chloropropane	ND	130
1,2,4-Trichlorobenzene	ND	130
Hexachlorobutadiene	ND	130
Naphthalene	ND	130
1,2,3-Trichlorobenzene	ND	130

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-121
1,2-Dichloroethane-d4	89	77-129
Toluene-d8	98	80-120
Bromofluorobenzene	98	80-123

ND= Not Detected
RL= Reporting Limit

14.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	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:	QC220815	Batch#:	83310
Matrix:	Water	Analyzed:	07/31/03
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

ND= Not Detected
RL= Reporting Limit

15.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	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:	QC220815	Batch#:	83310
Matrix:	Water	Analyzed:	07/31/03
Units:	ug/L		

Analyte	Result	RL
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-121
1,2-Dichloroethane-d4	86	77-129
Toluene-d8	103	80-120
Bromofluorobenzene	98	80-123

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	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:	QC220958	Batch#:	83345
Matrix:	Water	Analyzed:	08/01/03
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0
Dibromochloromethane	ND	5.0

ND = Not Detected
RL = Reporting Limit

16.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	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:	QC220958	Batch#:	83345
Matrix:	Water	Analyzed:	08/01/03
Units:	ug/L		

Analyte	Result	RL
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	95	80-121
1,2-Dichloroethane-d4	91	77-129
Toluene-d8	94	80-120
Bromofluorobenzene	97	80-123

ND= Not Detected
RL= Reporting Limit

16.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83310
Units:	ug/L	Analyzed:	07/31/03
Diln Fac:	1.000		

Type: BS Lab ID: QC220813

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	52.03	104	73-126
Benzene	50.00	51.07	102	80-120
Trichloroethene	50.00	43.24	86	79-125
Toluene	50.00	52.46	105	80-120
Chlorobenzene	50.00	48.75	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-121
1,2-Dichloroethane-d4	85	77-129
Toluene-d8	101	80-120
Bromofluorobenzene	98	80-123

Type: BSD Lab ID: QC220814

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	50.06	100	73-126	4	20
Benzene	50.00	50.55	101	80-120	1	20
Trichloroethene	50.00	41.88	84	79-125	3	20
Toluene	50.00	52.42	105	80-120	0	20
Chlorobenzene	50.00	48.77	98	80-120	0	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-121
1,2-Dichloroethane-d4	86	77-129
Toluene-d8	103	80-120
Bromofluorobenzene	98	80-123

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	166619	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	83345
Units:	ug/L	Analyzed:	08/01/03
Diln Fac:	1.000		

Type: BS Lab ID: QC220956

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	50.46	101	73-126
Benzene	50.00	48.47	97	80-120
Trichloroethene	50.00	48.40	97	79-125
Toluene	50.00	47.79	96	80-120
Chlorobenzene	50.00	47.29	95	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	80-121
1,2-Dichloroethane-d4	92	77-129
Toluene-d8	95	80-120
Bromofluorobenzene	97	80-123

Type: BSD Lab ID: QC220957

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	48.15	96	73-126	5	20
Benzene	50.00	47.09	94	80-120	3	20
Trichloroethene	50.00	46.80	94	79-125	3	20
Toluene	50.00	45.95	92	80-120	4	20
Chlorobenzene	50.00	46.70	93	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	94	80-121
1,2-Dichloroethane-d4	91	77-129
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-123

RPD= Relative Percent Difference