ENVIRONMENTAL ENGINEERING, INC
2680 Bishop Drive • Suite 203 • San Ramon, CA 94583
TEL (925) 244-6600 • FAX (925) 244-6601

First Quarter 2003
Groundwater Monitoring Report
Former Glovatorium Facility

3815 Broadway

Oakland, California

April 9, 2003

Project 01-2511

Prepared for

Smiland and Khachigian

601 West Fifth Street, 7th Floor

Los Angeles, California 90071

Prepared by

SOMA Environmental Engineering, Inc.

2680 Bishop Drive, Suite 203

San Ramon, California 94583

ENVIRONMENTAL ENGINEERING, INC
2680 Bishop Drive • Suite 203 • San Ramon, CA 94583
TEL (925) 244-6600 • FAX (925) 244-6601

April 9, 2003

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

Project: 01-2510

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

Dear Mr. Seery:

Enclosed for your review is a copy of SOMA's "First Quarter 2003 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.,P.E.
Principal Hydrogeologist

REGISTERED PROFESSIONAL ENGINEER
MANSOUR SEPEHR
No. C042928
Exp. 3-31-04
CIVIL
STATE OF CALIFORNIA

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, to comply with the Alameda County Department of Environmental Health's requirements for the First Quarter 2003 groundwater monitoring event and to provide information necessary to defend claims brought against the owners by Earl Thompson and Grace Johnson.

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

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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. 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 First Quarter 2003 groundwater monitoring event conducted at the Site on February 18 and 19, 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. This information is needed to defend against the claim Mr. Thompson brought against Glovatorium and the Deppers. This work may also provide data that can help determine when releases occurred, which is also significant in defending against the claims brought by a former owner of the property, Ms. Johnson.

1.1 Site Description

The Site is located between Manila Avenue and Broadway, near the intersection of 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 owned by Earl Thompson, Sr., 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 quarterly basis. Past groundwater monitoring events have indicated the presence of VOCs and petroleum hydrocarbons in the groundwater beneath the Site. The source of the VOCs and Stoddard solvent is believed to be the former USTs, which were used to store Stoddard solvent and VOCs at the Site. There also has been testimony in the on-going litigation concerning the Site that there were releases from the piping on the washer system and from washing the floors with Stoddard solvent. This report includes both the results of the historical groundwater monitoring events and the results of the First Quarter 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 eleven groundwater

monitoring wells were sampled, depths to groundwater and free product were measured 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, depths to groundwater and free product were measured 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, depths to groundwater and free product were measured 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, depths to groundwater and free product were measured 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 residential neighboring property, in order to assess the Site's regulatory status and restore groundwater quality conditions to an acceptable level per RBCA recommendations.

The groundwater flow model, MODFLOW, was used to evaluate groundwater flow conditions beneath the Site. After calibrating the flow model, the chemical transport model was run using the two scenarios. The first scenario uses the BIOPLUME III model, which simulates the chemical transport processes of advection, dispersion, adsorption and the biodegradation processes using electron acceptor methodology. The second scenario uses the transport model of MT3D, which simulates the same advection, dispersion and sorption processes, but instead of using the electron acceptors methodology it uses a generalized *"half life"* concept for each chemical. The chemicals of concern in conducting the chemical transport modeling were PCE, TCE and cis-1,2-DCE.

Results of the BIOPLUME III model indicated that bioattenuation processes would remove the PCE plume in groundwater underneath the Site within about 10 years, TCE in less than about three years and cis-1,2-DCE in less than about four years. SOMA has PCE, TCE and cis-1,2-DCE data dating back to the first quarter of 2000, which confirmed that the concentrations have indeed decreased. However, they have not decreased at the rate predicted by the model. Therefore, the results from BIOPLUME III may be too optimistic.

The MODFLOW and MT3D models only take into account advection, dispersion, sorption, and the decay processes for the chlorinated hydrocarbons. The results from these two models indicated that PCE will be removed in approximately seven years, TCE in approximately nine years, and cis-1,2-DCE in approximately 13 years. These two models do not account for the complex aerobic and anaerobic biodegradation of the contaminants by bacteria. Therefore, the results

of the MODFLOW and MT3D models are more conservative than those of BIOPLUME III.

The most realistic interpretation of the results from these models and the Site's data is that the contamination in groundwater will be removed, but at rates less than predicted by BIOPLUME III. Therefore, contamination would most likely decrease at a rate somewhere between that predicted by BIOPLUME III and the rate predicted by MODFLOW and MT3D.

SOMA's report entitled "Groundwater Flow, Chemical Transport and Bioattenuation Modeling," dated February 28, 2003 describes the details and results of groundwater modeling.

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 (LFR, 2001).

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 ranges between 10.5 and 60.1 ft/year.

2.0 FIELD ACTIVITIES

Field activities were conducted on February 18 and 19, 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 SOMA's site-specific field activities for this groundwater monitoring event.

On February 18, 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.

Nitrate, nitrite, sulfate, total iron, ferrous iron and dissolved manganese were measured colorimetrically 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 February 20, 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 February 19, 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 First Quarter 2003 groundwater monitoring event. 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 6.26 feet in B-2 to 24.91 feet in monitoring well SOMA-5. The corresponding groundwater elevations ranged from 56.59 feet in SOMA-5 to 78.82 feet in MW-8. Table 3 shows the historical water level elevations at different groundwater monitoring wells. Groundwater elevations differ only slightly from measurements recorded during the Fourth Quarter 2002 monitoring event. Groundwater elevations have increased in all wells except for SOMA-5. Water levels site-wide showed an average increase of 1.71 feet since the previous monitoring event. This increase can be attributed to several rain events in the area since the Fourth Quarter of 2002.

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 three 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 was found to flow from the northeast to southwest at an average gradient of 0.031 ft/ft. This is consistent with the findings of previous monitoring events. It should be noted that our knowledge of the groundwater flow direction does not extend beyond LFR-3, the most down-gradient groundwater monitoring well.

The field measurements of some physical and chemical parameters of the groundwater samples are presented in detail in the field notes in Appendix A, and are summarized in Table 4, along with their historical values. Water temperatures ranged from 13.60°C in GW-4 to 19.50°C in MW-11. 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 6.33 in SOMA-1 to 6.87 in

SOMA-3. The EC measurements ranged from 412 µS/cm in GW-3 to 1420 µS/cm in SOMA-2.

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 seven of the eleven wells sampled. Detectable TPH-ss levels ranged from 68 µg/L in GW-3 to 2,500 µg/L in SOMA-3. However, in monitoring wells GW-3, LFR-1 and LFR-4, the groundwater sample exhibited a fuel pattern that does not resemble the standard Stoddard solvent pattern. Also, in monitoring wells GW-3 and LFR-1, the groundwater samples exhibit unknown single peak or peaks. 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 100 µg/L in GW-3 to 3,800 µg/L in SOMA-3. 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. Furthermore, groundwater samples in GW-3 and LFR-1 exhibited unknown single peak or peaks. SOMA-3 was found to have both the highest TPH-g and TPH-ss concentrations. A contour map of TPH-g concentrations in groundwater is shown in Figure 5.

During this groundwater monitoring event, MtBE was only detected in SOMA-1 and SOMA-2 at levels of 150 µg/L and 210 µg/L, respectively. MtBE concentrations in the other nine wells sampled were below the laboratory reporting limit. Figure 6 shows a contour map of MtBE concentrations below the Site.

Benzene was detected in LFR-4 at a level of 55 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. 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 Fourth Quarter 2002 monitoring event. TPH-ss concentrations have increased in GW-4, LFR-1 and LFR-4, decreased in GW-3, LFR-2, SOMA-2 and SOMA-3, and remained non-detectable in all other wells. TPH-g concentrations have increased in GW-4, LFR-1 and LFR-4, decreased in GW-3, LFR-2, SOMA-1, SOMA-2 and SOMA-3, and remained non-detectable in all other wells. MtBE concentrations have increased in SOMA-1, decreased in LFR-4, SOMA-2 and SOMA-3, 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 has increased since the previous quarter.

Free product was reported in SOMA-4 during this monitoring event. Based on the results of a free product investigation recently conducted by SOMA, the extent of free product is limited around SOMA-4. On June 11, 2002, SOMA installed a passive skimmer inside SOMA-4 as an interim measure for removing free product from the groundwater. Table 7 shows the volume of free product removed from SOMA-4 this quarter. Since October 25, 2002, a total of 4.79 gallons of free product has been removed from this well. Based on the July 12th workplan, SOMA drilled six hydropunches to delineate the extent of floating product around SOMA-4. SOMA's report dated November 19, 2002 presents the results of the free product investigation at the Site.

Table 8 shows the concentrations of VOCs in the groundwater during this monitoring event. Tetrachloroethene was detected in GW-2, GW-3, LFR-1 and

SOMA-1. The detectable concentrations of PCE ranged from 9.3 µg/L in monitoring well SOMA-1 to 280 µg/L in LFR-1. A contour map of PCE concentrations in groundwater is shown in Figure 7. Trichloroethene was detected in only two of the eleven wells sampled. TCE levels were found to be 7.2 µg/L in GW-2 and 32 µg/L in LFR-1. A contour map of TCE is not presented due to insufficient contouring points. Cis-1,2-dichloroethene was detected in GW-3, SOMA-1, SOMA-2 and SOMA-3 at concentrations of 5.6 µg/L, 16 µg/L, 790 µg/L and 4,100 µg/L, respectively. Figure 8 shows a contour map of cis-1,2-DCE in groundwater. Trans-1,2-dichloroethene, vinyl chloride, 1,2-dichloropropane and 1,1-dichloroethene were below the laboratory detection limits in all the wells that were sampled.

Table 9 shows the historical concentration of VOCs in the groundwater. Several concentration trends were observed since the Fourth Quarter 2002 monitoring event, PCE concentrations slightly increased in GW-2, GW-3, LFR-1 and SOMA-1, decreased in SOMA-2, and remained non-detectable in all the other wells. TCE concentrations increased in GW-2 and LFR-1, decreased in SOMA-2, and remained non-detectable in all other wells. Cis-1,2-DCE levels increased in SOMA-2, decreased in LFR-2, SOMA-1 and SOMA-3, and remained non-detectable in all other wells. Concentrations of trans-1,2-DCE, vinyl chloride and 1,2-dochloropropane remained below the detection limits in all the monitoring wells sampled.

3.3 Bioattenuation Parameter Analysis Results

This is the eleventh quarterly groundwater monitoring event in which the natural attenuation parameters of groundwater were studied. 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 event, 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 0.18 mg/L in SOMA-3 to 7.76 mg/L in GW-4. Figure 9 presents the DO concentration contour map in the groundwater using in-situ measurements.

This is the sixth 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 the groundwater. DO levels have decreased in SOMA-3, but increased in all other wells 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 LFR-2, LFR-3, LFR-4, SOMA-1 and SOMA-3. Detectable nitrate concentrations ranged from 1.7 mg/L in SOMA-2 to 10.3 mg/L in GW-2. Figure 10 shows the nitrate concentration contour map using the field data. Nitrate levels have increased in GW-3, GW-4 and LFR-1, but decreased in GW-2, MW-11, LFR-2, SOMA-2 and SOMA-3 since the Fourth Quarter 2002 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 was not detected in LFR-1 and SOMA-3. Detectable concentrations ranged from 0.1 mg/L in GW-2 to 9.0 mg/L in LFR-2. As shown in Table 10, dissolved manganese concentrations have increased in GW-3, MW-11, LFR-4, and SOMA-2, but decreased in GW-2, LFR-1, LFR-2, and SOMA-3 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-4, LFR-2, SOMA-2 and SOMA-3. Detectable sulfate levels ranged from 1 mg/L in SOMA-1 to 73 mg/L in MW-11. Figure 11 shows a contour map of sulfate concentrations in the groundwater using the field data. Sulfate concentrations have increased in GW-2, GW-3, MW-11, LFR-1 and LFR-4, but decreased in LFR-3, SOMA-1, SOMA-2 and SOMA-3 since the Fourth Quarter 2002.

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 MW-11, LFR-1 and SOMA-1. The highest ferrous iron concentrations were found in GW-4, LFR-2, LFR-4 and SOMA-3 at a level of 3.3 mg/L in each well. Detectable ferrous iron levels ranged from 0.02 mg/L to 3.3 mg/L. A contour map of ferrous iron concentrations is shown in Figure 12. Ferrous iron concentrations have increased in GW-3, LFR-3, LFR-4 and SOMA-3, but decreased in GW-2, LFR-1 and SOMA-2 since the previous monitoring event.

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 0.00065 mg/L in GW-3 to 9.60 mg/L in LFR-2. The higher concentrations of methane at the source area, SOMA-2 (2.4 mg/L), SOMA-3 (9.0 mg/L) and LFR-2, indicate conditions that are conducive to anaerobic biodegradation. A contour map of methane concentrations in the groundwater is shown in Figure 13. Methane concentrations have increased in GW-2, GW-4, LFR-2, LFR-3, LFR-4, SOMA-2 and SOMA-3, but decreased in MW-11, LFR-1 and SOMA-1 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 -88 mV in SOMA-3 to +304 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 well 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 MW-11 and SOMA-1. Detectable total iron concentrations ranged from 0.08 mg/L in GW-3 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 non-detectable in GW-4, LFR-1, LFR-2, LFR-3, LFR-4 and SOMA-3. Detectable nitrite concentrations ranged from 0.013 mg/L in GW-3 and SOMA-2 to 0.037 mg/L in MW-11. 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 First Quarter 2003 groundwater monitoring event.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following is a summary of the work performed on February 18 and 19, 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 56.59 feet in SOMA-5 to 78.82 feet in MW-8. Groundwater flows from the northeast to southwest at an average gradient of 0.031 ft/ft. This is consistent with the findings of previous monitoring events.

3. TPH-ss was found in seven of the eleven wells sampled. TPH-ss concentrations ranged from 68 µg/L to 2,500 µg/L. TPH-g was found in seven of the eleven wells. TPH-g concentrations were found to range from

100 µg/L to 3,800 µg/L. The maximum concentrations of TPH-ss and TPH-g were detected in SOMA-3. MtBE was only detected in SOMA-1 and SOMA-2 at levels of 150 µg/L and 210 µg/L, respectively. Benzene was detected in LFR-4 at a level of 55 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 detected in monitoring well SOMA-4. Since October 25, 2002, 4.79 gallons of free product have been removed from this well.

5. PCE was detected in four of the eleven wells and had a concentration range of 9.3 µg/L to 280 µg/L. TCE was only detected in GW-2 and LFR-1 at levels of 7.2 µg/L and 32 µg/L, respectively. Cis-1,2-DCE was detected in four wells and has a concentration range of 5.6 µg/L to 4,100 µg/L. Cis-1,2-DCE is one of the breakdown products of PCE, its presence in groundwater indicates that reductive dechlorination may be occurring underneath the Site. Trans-1,2-DCE, vinyl chloride, 1,1-dichloroethene and 1,2-dichloropropane were below the laboratory detection limits in all wells.

6. This is the eleventh quarterly 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 First Quarter 2003 groundwater monitoring event, our conclusions are as follows:

1. 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.

2. 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 LFR-1 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 GW-3 and SOMA-1 is also indicative of biodegradation.

3. 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.

4. 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-2, LFR-4 and SOMA-3. During this quarter, moderate to high levels of DO were found in the apparent source areas, However, results from the

past several monitoring events indicated that conditions in the apparent source areas were conducive to the anaerobic biodegradation processes.

5. 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 concentrations of nitrate occurring near the apparent source area in monitoring wells LFR-2 through LFR-4, SOMA-1 and SOMA-3 indicate conditions that are conducive to anaerobic biodegradation.

6. 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 sulfate concentrations in GW-2, LFR-2, LFR-3, LFR-4, SOMA-1, SOMA-2 and SOMA-3 indicate conditions that are conducive to anaerobic biodegradation.

7. 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.

8. 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 2.3 mg/L to 9.0

mg/L in GW-4, LFR-2, LFR-4, SOMA-2 and SOMA-3 indicate conditions that are conducive to anaerobic biodegradation.

9. 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. The lowest value (-88 mV) was found in and near the apparent source area (SOMA-3). These results indicate that conditions in and near the apparent source area are conducive to anaerobic biodegradation.

4.2 Recommendations

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. Accordingly, SOMA recommends conducting human health risk assessment and continuing groundwater monitoring in order to validate the conclusions of the chemical fate and transport modeling.

Since 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. Based

on SOMA's request, and concurrence from the ACEHS, in the future, SOMA will conduct groundwater monitoring events on a semi-annual basis.

In order to define the Site's regulatory status, SOMA will develop the Site's conceptual model before conducting 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 can be proposed to the ACEHS. Meanwhile SOMA will continue to conduct groundwater monitoring events on a semi-annual basis.

5.0 REFERENCES

Borden, R.C., 1998. "Hand book of Bioremediation" Section 9 Natural Bioremediation of Hydrocarbon-Contaminated Ground Water, pp 177-199.

EPA 1998. Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Groundwater, EPA/600/R-98/128. September.

Helley, E.J., K.R. Lajoie, and D.B. Burke. 1972. Geologic Map of Late Cenozoic Deposits, Alameda County, California.

LFR. 1999. Results of Utility Survey and Work Plan for Soil and Grab Groundwater Investigation. May 6.

LFR. 2000a. Soil and Groundwater Investigation Report. March 20.

LFR. 2000b. Work Plan for Installation of Groundwater Monitoring Wells, Former Glovatorium, 3815 Broadway, Oakland, California. June 14.

LFR. 2000c. Groundwater Monitoring Report, Second Quarter 2000, Former Glovatorium, 3815 Broadway, Oakland, California. July 7.

LFR. 2000d. Groundwater Monitoring Report, Third Quarter 2000, Former Glovatorium, 3815 Broadway, Oakland, California. November 2.

LFR. 2001. Groundwater Monitoring Report, Fourth Quarter 2000, Former Glovatorium, 3815 Broadway, Oakland, California. November 2.

Microseeps. 2000. Monitored Natural Attenuation As a Remedial Alternative In Groundwater Contamination. Lecture at LFR Levine - Fricke (LFR) Emeryville office by Robert J. Pirkle, Ph.D. of Microseeps. May 31.

Sepehr, M. 1999. "Methanogenesis and Anaerobic Biodegradation of Petroleum Hydrocarbons in Soil and Groundwater" a Paper Presented in 4th IAA Annual Conference at Petrochemical, Energy and Environment, September 1999, New York.

SOMA Environmental Engineering, Inc. 2001. First Quarter 2001 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, May 7, 2001.

SOMA Environmental Engineering, Inc. 2001. Second Quarter 2001 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, May 7, 2001.

SOMA Environmental Engineering, Inc. 2001. Third Quarter 2001 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, May 7, 2001.

SOMA Environmental Engineering, Inc. 2001. Workplan to Conduct Additional Investigation at the Former Glovatorium Facility, 3815 Broadway, Oakland, California, June 15, 2001.

SOMA Environmental Engineering, Inc. Fourth Quarter 2001 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, December 11, 2001.

SOMA Environmental Engineering, Inc. First Quarter 2002 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, March 27, 2002.

SOMA Environmental Engineering, Inc. Second Quarter 2002 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, May 16, 2002.

SOMA Environmental Engineering, Inc. Third Quarter 2002 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, September 10, 2002.

SOMA Environmental Engineering, Inc. Fourth Quarter 2002 Groundwater Monitoring Report, Former Glovatorium Facility, 3815 Broadway, Oakland, California, December 3, 2002.

SOMA Environmental Engineering, Inc. Groundwater Flow, Chemical Transport and Bioattenuation Modeling, Former Glovatorium Facility, 3815 Broadway, Oakland, California, February 28, 2003.

U.S. Geological Survey. Quaternary Geology of Alameda Cty, and Parts of Contra Costa, Santa Clara, San Mateo, San Francisco, Stanislaus, and San Joaquin Counties, CA: A Digital Database. U.S. Dept of the Interior.

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
February 18, 2003
3815 Broadway, Oakland, California

Well Name	Top of Casing Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)
B-2	82.09	6.26	75.83
B-3	82.57	7.02	75.55
B-7	76.96	7.02	69.94
B-8	81.82	8.81	73.01
B-9	77.37	7.37	70.00
B-10	81.50	7.63	73.87
B-13	84.58	8.81	75.77
GW-1	79.94	dry	NC
GW-2	79.14	10.12	69.02
GW-3	77.92	9.66	68.26
GW-4	82.37	7.62	74.75
GW-5	81.01	10.66	70.35
GW-6A	81.61	13.64	67.97
MW-8	87.44	8.62	78.82
MW-9	86.56	7.97	78.59
MW-11	84.13	9.45	74.68
LFR-1	79.97	9.34	70.63
LFR-2	81.89	8.81	73.08
LFR-3	77.96	10.35	67.61
LFR-4	81.65	12.21	69.44
SOMA-1	81.64	12.87	68.77
SOMA-2	81.39	10.65	70.74
SOMA-3	81.42	7.65	73.77
SOMA-4	81.09	NM	NC
SOMA-5	81.50	24.91	56.59

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	**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***	**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	**70.63**	**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	Temperature (°C)	Electrical Conductivity (µS/cm)
Temporary Sampling Points Installed by Geosalv, LLC												
B-7	11-Aug-00	760	39	202				<0.0005	<0.0005	6.86	17.55	1279
B-7 field	11-Aug-00					-1	0.049					
	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	-1					
	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	0.243				6.39	15.97	1400
	26-Jul-01				15.30	0.024						
B-10 field	10-Aug-00					0.023	0.060					
B-10	31-Oct-00	500	76	120	6.60	<0.1	<2.0			6.21	16.62	1051
	31-Oct-00				8.35	0.001	0.004					
	31-Jan-01	480	81	72	6.10	<0.1	<2.0			6.81	14.66	1117
	31-Jan-01				1.44	0.073				6.65	16.70	1090
	11-Jun-01				1.31					6.38	16.09	1160
	26-Jul-01				6.50	0				6.86	16.80	1130
	10-Aug-01	520	74	145	6.00	<0.05	<0.04	<0.0005	0.00057			
Temporary Sampling Points Installed by LER												
GW-2	01-Nov-00									6.31	18.97	1218
	30-Jan-01			63						6.82	13.75	846
GW-2 field	31-Jan-01									6.80	19.50	874
	26-Apr-01				0.02					6.74	20.30	803
	26-Jul-01				0.03	0.024				6.84	21.30	786
	19-Oct-01	NM	NM	NM	NM	NM	NM	NM	NM	6.70	17.70	797
	31-Jan-02	NM	NM	NM	1.05	0.013	NM	NM	NM	6.38	17.00	707
	16,17-Apr-02	NM	NM	NM	0.65	0.024	NM	NM	NM	6.35	17.75	798
	17,18-Jul-02	NM	NM	NM	1.39	0.000	NM	NM	NM	6.73	19.78	670
	23-Oct-02	NM	NM	NM	0.12	0.036	NM	NM	NM	**6.86**	**18.10**	**607**
	19-Feb-03	**NM**	**NM**	**NM**	**0.10**	**0.020**	**NM**	**NM**	**NM**			
GW-3	11-Aug-00	340	25	54.3				<0.0005	<0.0005	7.05	21.43	860
GW-3 field	11-Aug-00					0.046	-1			6.52	18.83	967
GW-3 field	1-Nov-00											
	1-Feb-01			54						6.89	17.29	602
GW-3 field	29-Jan-01									5.68	16.20	673
	11-Jun-01				0	0.700				6.53	22.25	547
	26-Jul-01				0.14	0.004				6.84	22.56	590
	19-Oct-01	NM	NM	NM	0	NM	NM	NM	NM	6.70	18.40	593
	31-Jan-02	NM	NM	NM	0.14	0.014	NM	NM	NM	6.64	16.61	526
	16,17-Apr-02	NM	NM	NM	0.001	0	NM	NM	NM	6.32	17.10	545
	17,18-Jul-02	NM	NM	NM	1.08	0.008	NM	NM	NM	6.36	19.80	425
	23-Oct-02	NM	NM	NM	0.00	0	NM	NM	NM	**6.77**	**17.80**	**412**
	19-Feb-03	**NM**	**NM**	**NM**	**0.08**	**0.013**	**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	Temperature (°C)	Electrical Conductivity (µS/cm)
GW-4	30-Jan-01									6.60	13.48	479
	26-Jul-01				2.00	0.035				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	0.010	NM	NM	NM	6.50	12.00	414
	16,17-Apr-02	NM	NM	NM	6.40	0.033	NM	NM	NM	6.34	13.98	467
	17,18-Jul-02	NM	NM	NM	>3.3	0.027	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**	**0.000**	**NM**	**NM**	**NM**	**6.67**	**13.60**	**466**
Monitoring Wells Owned by DSCO												
MW-11	10-Aug-00	360	110	216	0.13	<0.05	<0.04	<0.0005	<0.0005	6.47	21.00	1,089
MW-11 field	10-Aug-00					0.036	0.002					
	1-Nov-00	300	120	190	<0.05	<0.1	<2.0					
MW-11 field	1-Nov-00				0.01	0.003	-1			5.83	20.13	1.264
	31-Jan-01	330	130	150	<0.05	<0.1	<2.0					
MW-11 field	31-Jan-01									6.35	13.67	1.098
	26-Apr-01				0.01					5.67	18.00	1210
	26-Jul-01				0	0.021				6.02	19.85	1120
	19-Oct-01	NM	NM	NM	0	NM	NM	NM	NM	6.41	21.25	130
	31-Jan-02	NM	NM	NM	0.05	0.036	NM	NM	NM	6.60	18.50	1090
	16,17-Apr-02	NM	NM	NM	0.00	0.000	NM	NM	NM	5.87	18.70	1150
	17,18-Jul-02	NM	NM	NM	0.00	0.021	NM	NM	NM	6.27	18.37	1180
	23-Oct-02	NM	NM	NM	0.00	0.036	NM	NM	NM	6.62	20.81	1220
	18-Feb-03	**NM**	**NM**	**NM**	**0.00**	**0.037**	**NM**	**NM**	**NM**	**6.49**	**19.50**	**1170**
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			51.1		0.020	-1					
	30-Oct-00	240	100	25	<0.05	<0.1	<2					
LFR-1 field/sp	30-Oct-00				0.01/0.01	0.031/0.036	0.001/0.001			6.38	17.94	697
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					
LFR-1 field	29-Jan-01				0	0.037				6.82	15.00	870
LFR-1 Dup	29-Jan-01	150	75	26	<0.05	<0.1	<2					
	26-Apr-01				0.004					5.76	16.80	980
	26-Jul-01				0.05	0.008				6.48	19.38	772
	26-Jul-01	NM	NM	NM	0.42	NM	NM	NM	NM	6.73	20.83	661
	31-Jan-02	NM	NM	NM	0.03	0.011	NM	NM	NM	6.50	16.50	879
	16,17-Apr-02	NM	NM	NM	0.75	0.023	NM	NM	NM	5.88	16.37	1120
	17,18-Jul-02	NM	NM	NM	0.22	0.006	NM	NM	NM	6.40	17.02	832
	23-Oct-02	NM	NM	NM	0.30	0.000	NM	NM	NM	6.54	20.09	803
	18-Feb-03	**NM**	**NM**	**NM**	**0.40**	**0.000**	**NM**	**NM**	**NM**	**6.47**	**16.90**	**607**

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	Temperature (°C)	Electrical Conductivity (µS/cm)
LFR-2	11-Aug-00	590	33	174				<0.0005	0.0017	6.50	19.87	1088
LFR-2 field	11-Aug-00				2.95	-1	0.005					
	02-Nov-00	550	40	180	6.20	<0.1	<2			6.19	19.67	1306
LFR-2 field	02-Nov-00				7.45	0.007	0.003					
	30-Jan-01	480	21	130	4.60	<0.1	<2			6.60	12.73	945
LFR-2 field	30-Jan-01				1.04	0.007				5.64	16.40	921
	27-Apr-01				2.97					6.31	18.66	970
	26-Jul-01				4.60	0.011				6.78	19.56	109
	18-Oct-01	NM	NM	NM	8.20	NM	NM	NM	NM	6.5	16.60	644
	31-Jan-02	NM	NM	NM	1.97	0.046	NM	NM	NM	6.19	16.43	845
	16,17-Apr- 02	NM	NM	NM	7.60	0.063	NM	NM	NM	6.52	16.24	986
	17,18-Jul-02	NM	NM	NM	8.80	0.000	NM	NM	NM	6.84	18.09	812
	23-Oct-02	NM	NM	NM	3.30	0.057	NM	NM	NM	**6.50**	**16.90**	**617**
	18-Feb-03	**NM**	**NM**	**NM**	**3.30**	**0.000**	**NM**	**NM**	**NM**	6.57	19.92	951
LFR-3	10-Aug-00	310	85	162	<0.1	0.150	0.040	<0.0005	<0.0005			
LFR-3 split	10-Aug-00	300	85	152				<0.0005	<0.0005			
LFR-3 field	10-Aug-00					0.058	-1					
	01-Nov-00	350	66	160	<0.05	<0.1	<2					
LFR-3 field	01-Nov-00				0.01	0.011	0.002			6.16	17.71	1164
	30-Jan-01	250	31	71	<0.05	<0.1	<2			6.64	17.29	541
LFR-3 field	30-Jan-01				0.03					5.43	18.00	613
	11-Jun-01				0.01					6.25	20.50	602
	26-Jul-01				0.70	0.027				6.50	21.39	645
	18-Oct-01	NM	NM	NM	0.12	NM	NM	NM	NM	6.30	19.10	566
	31-Jan-02	NM	NM	NM	0.06	0.024	NM	NM	NM	5.78	18.68	566
	16,17-Apr-02	NM	NM	NM	1.20	0.041	NM	NM	NM	6.17	18.42	585
	17,18-Jul-02	NM	NM	NM	0.08	0.010	NM	NM	NM	6.32	20.65	457
	23-Oct-02	NM	NM	NM	1.35	0.000	NM	NM	NM	**6.34**	**19.30**	**497**
	19-Feb-03	**NM**	**NM**	**NM**	**0.74**	**0.000**	**NM**	**NM**	**NM**	6.90	20.11	1240
LFR-4	11-Aug-00	630	71	161				<0.0005	<0.0005			
LFR-4 field	11-Aug-00				0.22	0.018	0.002					
	31-Oct-00	490	28	130	1.00	<0.1	<2			6.21	18.11	830
LFR-4 field	31-Oct-00				0.67	0.022	0					
B-10 FB	10-Aug-00							<0.0005	<0.0005			
	01-Feb-01	460	25	120	1.30	<0.1	<2			6.55	15.28	916
LFR-4 field	01-Feb-01				1.43	0.017				5.79	18.30	1060
	27-Apr-01				1.44					6.26	19.23	866
	26-Jul-01				0.95	0				6.19	18.04	925
	16,17-Apr-02	NM	NM	NM	5.1	0.027	NM	NM	NM	5.92	17.28	878
	17,18-Jul-02	NM	NM	NM	>3.3	0.008	NM	NM	NM	6.69	19.90	602
	23-Oct-02	NM	NM	NM	3.30	0	NM	NM	NM	**6.38**	**19.10**	**994**
	19-Feb-03	**NM**	**NM**	**NM**	**3.30**	**0**	**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	Temperature (°C)	Electrical Conductivity (µS/cm)
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	0	NM	NM	NM	6.70	17.50	1160
	16,17-Apr-02	NM	NM	NM	0.17	0.032	NM	NM	NM	6.01	17.98	1280
	17,18-Jul-02	NM	NM	NM	0.11	0.013	NM	NM	NM	6.52	16.21	1270
	23-Oct-02	NM	NM	NM	0.24	0.009	NM	NM	NM	6.60	17.77	1270
	19-Feb-03	**NM**	**NM**	**NM**	**0.00**	**0.014**	**NM**	**NM**	**NM**	**6.33**	**17.40**	**1350**
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	0.344	NM	NM	NM	6.90	15.20	1140
	16,17-Apr-02	NM	NM	NM	8.70	0.009	NM	NM	NM	6.30	15.25	1170
	17,18-Jul-02	NM	NM	NM	>3.3	0.000	NM	NM	NM	6.86	14.19	1170
	23-Oct-02	NM	NM	NM	3.30	0.000	NM	NM	NM	6.97	16.47	1380
	19-Feb-03	**NM**	**NM**	**NM**	**2.93**	**0.013**	**NM**	**NM**	**NM**	**6.86**	**15.70**	**1420**
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	0.375	NM	NM	NM	6.50	14.90	1320
	16,17-Apr-02	NM	NM	NM	1.03	0	NM	NM	NM	6.23	15.83	1260
	17,18-Jul-02	NM	NM	NM	>3.3	0.000	NM	NM	NM	6.77	15.03	1290
	23-Oct-02	NM	NM	NM	3.30	0.031	NM	NM	NM	7.02	16.44	970
	19-Feb-03	**NM**	**NM**	**NM**	**3.30**	**0.000**	**NM**	**NM**	**NM**	**6.87**	**15.80**	**1350**
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**

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
February 18-19, 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	68 YZ	100 YZ	<5.0	<5.0	<5.0	<5.0	<5.0
GW-4	580	880 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	76 YZ	110 YZ	<5.0	<5.0	<5.0	<5.0	<5.0
LFR-2	1,500	2,300 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	490 Y	740	<5.0	55	<5.0	<5.0	<5.0
SOMA-1	<50	<50	150	<7.1	<7.1	<7.1	<7.1
SOMA-2	300	460 HY	210	<17	<17	<17	<17
SOMA-3	2,500	3,800 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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
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
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
	26-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**
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**

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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
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**
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
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**
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**

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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
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 [H Y]	<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
	19-Feb-03	**1.50**	**2.300 HY**	**<0.005**	**<0.005**	**<0.005**	**<0.005**	**<0.005**
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**
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]	0.27	0.0065	0.00084	<0.0005	<0.0005	<0.0005
	1-Feb-01	0.16 [Y]	0.22	0.0097	0.00330	<0.0005	<0.0005	<0.0005
	Apr-27-01	0.22 [Y]	0.44	0.0058	0.02700	0.0036	<0.0005	<0.0005
	Jul-27-01	0.091 [Y]	0.19	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]	0.67	< 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	0.17	0.0080	<0.005	<0.005	<0.005	<0.005
	19-Feb-03	**0.490 Y**	**0.74**	**<0.005**	**0.055**	**<0.005**	**<0.005**	**<0.005**
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**
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 [H Y]	<0.063	<0.063	<0.063	<0.063	<0.063
	22,23-Oct-02	0.370	0.600 HY	0.3	<0.0071	<0.0071	<0.0071	<0.0071
	19-Feb-03	**0.300**	**0.460 HY**	**0.21**	**<0.017**	**<0.017**	**<0.017**	**<0.017**
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	0.41	0.69 [H Y]	0.38	<0.017	<0.017	<0.017	<0.017
	22,23-Oct-02	3.00	4.700 HY	<0.170	<0.170	<0.170	<0.170	<0.170
	19-Feb-03	**2.50**	**3.800 HY**	**<0.130**	**<0.130**	**<0.130**	**<0.130**	**<0.130**

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)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
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

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
Volume of Free Product Removed from Monitoring Well SOMA-4
at the Former Glovatorium Site
3815 Broadway, Oakland, California

Date	Volume Removed (gallons)
10/25/2002	0.93
11/1/2002	0.94
11/14/2002	0.97
11/20/2002	0.96
12/16/2002	0.99
Total	***4.79***

Table 8
Anayltical Results of Groundwater Samples Analyzed for Volatile Organic Compounds
February 18-19, 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	57	7.2	<5.0	<5.0	<10	<5.0	<5.0
GW-3	240	<5.0	5.6	<5.0	<10	<5.0	<5.0
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	280	32	<5.0	<5.0	<10	<5.0	<5.0
LFR-2	<5.0	<5.0	<5.0	<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	9.3	<7.1	16	<7.1	<14	<7.1	<7.1
SOMA-2	<17	<17	790	<17	<33	<17	<17
SOMA-3	<130	<130	4100	<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 9
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)
[illegible]							
B-2	24-Jan-00	<0.0013	<0.0013	0.27	0.0014	< 0.0013	< 0.0013
B-3	24-Jan-00	< 0.0020	< 0.002	0.61	< 0.002	< 0.002	< 0.002
B-7	27-Jul-01	0.0098	0.017	0.86	0.005	<0.0031	<0.0031
B-7	27-Apr-01	<0.0031	<0.0031	1.1	0.0069	<0.0031	<0.0031
B-7	31-Jan-01	< 0.0042	< 0.0042	0.92	0.0048	< 0.0042	< 0.0042
B-7	31-Oct-00	< 0.0042	< 0.0042	0.91	0.0042	< 0.0042	< 0.0042
B-7	11-Aug-00	< 0.0031	< 0.0031	0.86	0.0048	< 0.0031	< 0.0031
B-7	24-Jan-00	< 0.0036	< 0.0036	0.92	0.0043	< 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	0.0006	0.0032	< 0.0005	< 0.0005	< 0.0005
B-10	27-Jul-01	1.7000	1.4	7.3	0.043	<0.025	<0.025
B-10	27-Jul-01	0.8700	0.81	6.6	0.041	<0.025	<0.025
B-10	31-Jan-01	2.1000	1.6	6.6	0.044	< 0.025	< 0.025
B-10	31-Oct-00	2.4000	1.9	7.1	0.061	< 0.025	< 0.025
B-10	10-Aug-00	2.9000	1.6	6.5	0.05	< 0.025	< 0.025
B-10	24-Jan-00	1.2000	2.4	14	0.09	< 0.063	< 0.063
B-13	24-Jan-00	0.0200	0.029	0.13	0.0049	< 0.0005	< 0.0005
[illegible]							
GW-2	19-Jul-99	0.0140	0.0014	< 0.0005	< 0.0005	< 0.0005	< 0.0005
	20-Jan-00	0.1300	0.0190	0.0055	< 0.0005	< 0.0005	< 0.0005
	28-Apr-00	0.1200	0.0160	0.0033	< 0.0005	< 0.0005	< 0.0005
	2-Nov-00	0.0078	0.0008	0.0032	< 0.0005	< 0.0005	< 0.0005
	1-Feb-01	0.0077	0.0006	0.0028	< 0.0005	< 0.0005	< 0.0005
	27-Apr-01	0.0096	0.0018	0.0024	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.0330	0.0043	0.0024	<0.0005	<0.0005	<0.0005
	19-Oct-01	0.0190	<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	0.0140	<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**	**0.0072**	**<0.005**	**<0.005**	**<0.010**	**<0.005**
[illegible]							
GW-3	19-Jul-99	0.2200	<0.001	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	20-Jan-00	0.0550	0.0010	0.0200	< 0.0005	< 0.0005	< 0.0005
	27-Apr-00	0.3500	0.0023	0.0056	< 0.0005	< 0.0005	< 0.0005
Split	27-Apr-00	0.2700	0.0015	0.0023	< 0.0013	< 0.0013	< 0.0013
	11-Aug-00	0.0680	0.0028	0.0120	< 0.0005	< 0.0005	< 0.0005
	2-Nov-00	0.0590	0.0008	0.0024	< 0.0005	< 0.0005	< 0.0005
	1-Feb-01	0.0460	0.0006	0.0011	< 0.0005	< 0.0005	< 0.0005
	27-Apr-01	0.0790	0.0007	0.0015	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.0900	0.0009	<0.0005	<0.0005	<0.0005	<0.0005
	19-Oct-01	0.1800	<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	0.1600	<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	**0.24**	**<0.005**	**0.0056**	**<0.005**	**<0.010**	**<0.005**

Table 9
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	0.0035	< 0.0005	< 0.0005	0.0017
	20-Jan-00	0.0008	< 0.0005	0.0036	< 0.0005	< 0.0005	0.0015
Split	20-Jan-00	0.0006	< 0.0005	0.0044	< 0.0005	< 0.0005	0.0021
	27-Apr-00	0.0017	< 0.0005	0.0010	< 0.0005	< 0.0005	0.0006
	30-Jan-01	< 0.0005	< 0.0005	0.0024	< 0.0005	< 0.0005	0.0014
	27-Jul-01	< 0.0005	< 0.0005	0.0030	< 0.0005	0.0006	0.0019
	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**
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	0.00358	< 0.0005	< 0.0005	0.000632
	15-Jul-99	< 0.0020	< 0.0020	0.00398	< 0.0020	< 0.0020	< 0.0020
Split	15-Jul-99	< 0.0020	< 0.0020	0.00383	< 0.0020	< 0.0020	< 0.0020
GW-8	19-Jul-99	0.0240	0.0150	0.0038	0.0017	0.0012	< 0.0005
	20-Jan-00	0.1500	0.1900	0.0530	0.0120	0.0045	< 0.0007
Split	20-Jan-00	0.1500	0.1800	0.0520	0.0110	0.0046	< 0.0005
	28-Apr-00	0.1200	0.1100	0.0290	0.0053	0.0023	< 0.0005
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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	0.0017	0.0010	0.0062	< 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**
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
LFR-1	9-Aug-00	2.80	0.064	0.0410	< 0.0083	< 0.0083	< 0.0083
	30-Oct-00	0.82	0.034	0.0100	< 0.0031	< 0.0031	< 0.0031
Split	30-Oct-00	0.87	0.035	0.0140	< 0.0031	< 0.0031	< 0.0031
	29-Jan-01	0.77	0.026	0.0073	<0.0025	<0.0025	<0.0025
	26-Apr-01	0.44	0.013	0.0050	<0.0013	<0.0013	<0.0013
	27-Jul-01	0.38	0.031	0.0098	<0.0013	<0.0013	<0.0013
	18-Oct-01	0.78	0.093	<0.0310	<0.0310	<0.0630	<0.0310
	31-Jan-02	0.37 [b]	0.035 [b]	<0.0130 [b]	<0.0130 [b]	<0.0250 [b]	<0.0130 [b]
	16,17-Apr-02	0.38	0.040	<0.0130	<0.0130	<0.0250	<0.0130
	17,18-Jul-02	0.36	0.041	<0.013	<0.013	<0.025	<0.013
	22,23-Oct-02	0.18	0.024	0.0067	<0.005	<0.010	<0.005
	18-Feb-03	**0.28**	**0.032**	**<0.005**	**<0.005**	**<0.010**	**<0.005**

Table 9
Historical Analytical Results For Volatile Organic Compound Analyses in Groundwater Samples
at the Former Glovatorium Site
3815 Broadway, Oakland, California

Well Name	Date Sampled	PCE (mg/L)	TCE (mg/L)	cis-1,2-DCE (mg/L)	trans-1,2-DCE (mg/L)	Vinyl Chloride (mg/L)	1,2-DCP (mg/L)
LFR-2	11-Aug-00	< 0.0005	< 0.0005	0.0350	< 0.0005	0.0045	< 0.0005
	2-Nov-00	< 0.0005	< 0.0005	0.1300	0.0010	0.0150	0.0006
	29-Jan-01	<0.0005	<0.0005	0.0056	<0.0005	0.0016	<0.0005
	27-Apr-01	0.0007	<0.0005	0.0056	<0.0005	0.0013	<0.0005
	27-Jul-01	0.0014	0.0007	0.0190	<0.0005	<0.0005	<0.0005
	18-Oct-01	<0.0071	<0.0071	0.1600	<0.0071	<0.0140	<0.0071
	27-Apr-01	0.0007	<0.0005	0.0065	<0.0005	0.0019	<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**
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	0.0019	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.0022	<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**
LFR-4	11-Aug-00	< 0.0005	< 0.0005	0.0012	< 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	0.0006	<0.0005	< 0.0005	< 0.0005
	27-Apr-01	<0.0005	<0.0005	0.0016	<0.0005	<0.0005	<0.0005
	27-Jul-01	0.0005	<0.0005	0.0021	<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**
[illegible] monitoring wells installed by [illegible]							
SOMA-1	19-Oct-01	<0.0050	<0.0050	0.0140	<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	0.0059	<0.0050	0.0066	<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	0.0084	<0.005	0.041	<0.005	<0.010	0.007
	19-Feb-03	**0.0093**	**<0.0071**	**0.016**	**<0.0071**	**<0.014**	**<0.0071**
SOMA-2	19-Oct-01	1.400	0.350	5.0	<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	2.9	<0.130	<0.250	<0.130
	17,18-Jul-02	<0.063	<0.063	1.6	<0.063	<0.13	<0.063
	22,23-Oct-02	0.017	0.0082	0.35	<0.0071	<0.014	<0.0071
	19-Feb-03	**<0.017**	**<0.017**	**0.790**	**<0.017**	**<0.033**	**<0.017**
SOMA-3	19-Oct-01	0.042	0.057	0.44	<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	0.36	<0.017	<0.033	<0.017
	17,18-Jul-02	0.027	<0.017	0.44	<0.017	<0.033	<0.017
	22,23-Oct-02	<0.170	<0.170	5.9	<0.170	<0.330	<0.170
	19-Feb-03	**<0.130**	**<0.130**	**4.1**	**<0.130**	**<0.250**	**<0.130**

Table 9
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)
SOMA-4	19-Oct-01	<0.13	<0.13	2.6	<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

[b] analysis was carried out past hold date, no analytical problems were encountered
FP: Not Analyzed due to Free Product

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				
	31-Oct-00	2.40	1.4	< 0.10	< 1.0	5.90	6.7000		0.81
B-10-field	31-Oct-00	0.44		0.0	0.0	7.60		-22	
	31-Jan-01	6.40	1.3	< 0.10	<2.0	7.70	24		1.3
B-10-field	31-Jan-01	0.46						64	
B-10 Field	11-Jun-01	0.90	0.0	0.0	0.0	1.25	3.9000	-8	NM
B-10 Field	26-Jun-01	1.87	1.3	0.0	3.0	6.20	5.6000	-22	
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**	
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**	
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**	

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

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**	
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**	
SOMA-1	18-Oct-01	4.19	0.3	0.2	33.0	0.52	0.1200	151	NM
	31-Jan-02	0.40	0.0	0.0	18.0	0.00	0.5800	141	NM
	16,17-Apr-02	0.00	0.0	0.6	31.0	0.10	0.8200	213	
	17,18-Jul-02	0.00	0.0	1.8	28.0	0.05	0.4400	149	
	22,23-Oct-02	0.00	0.7	0.0	4.0	0.00	0.6800	131	
	18-Feb-03	**5.12**	**0.4**	**0.0**	**1.0**	**0.00**	**0.4100**	**258**	
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**	
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**	
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.

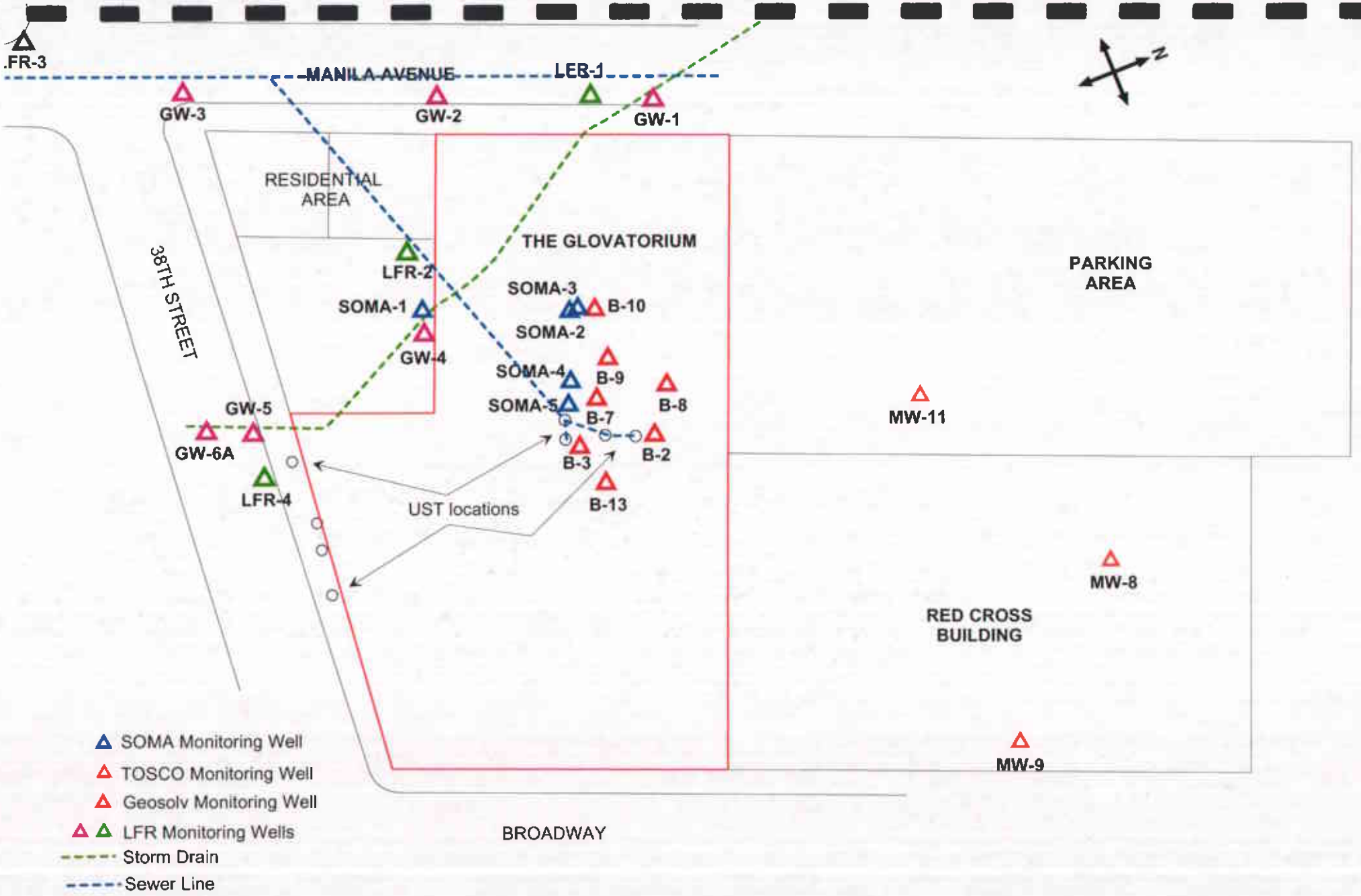


Figure 2: Map showing the locations of groundwater monitoring wells.

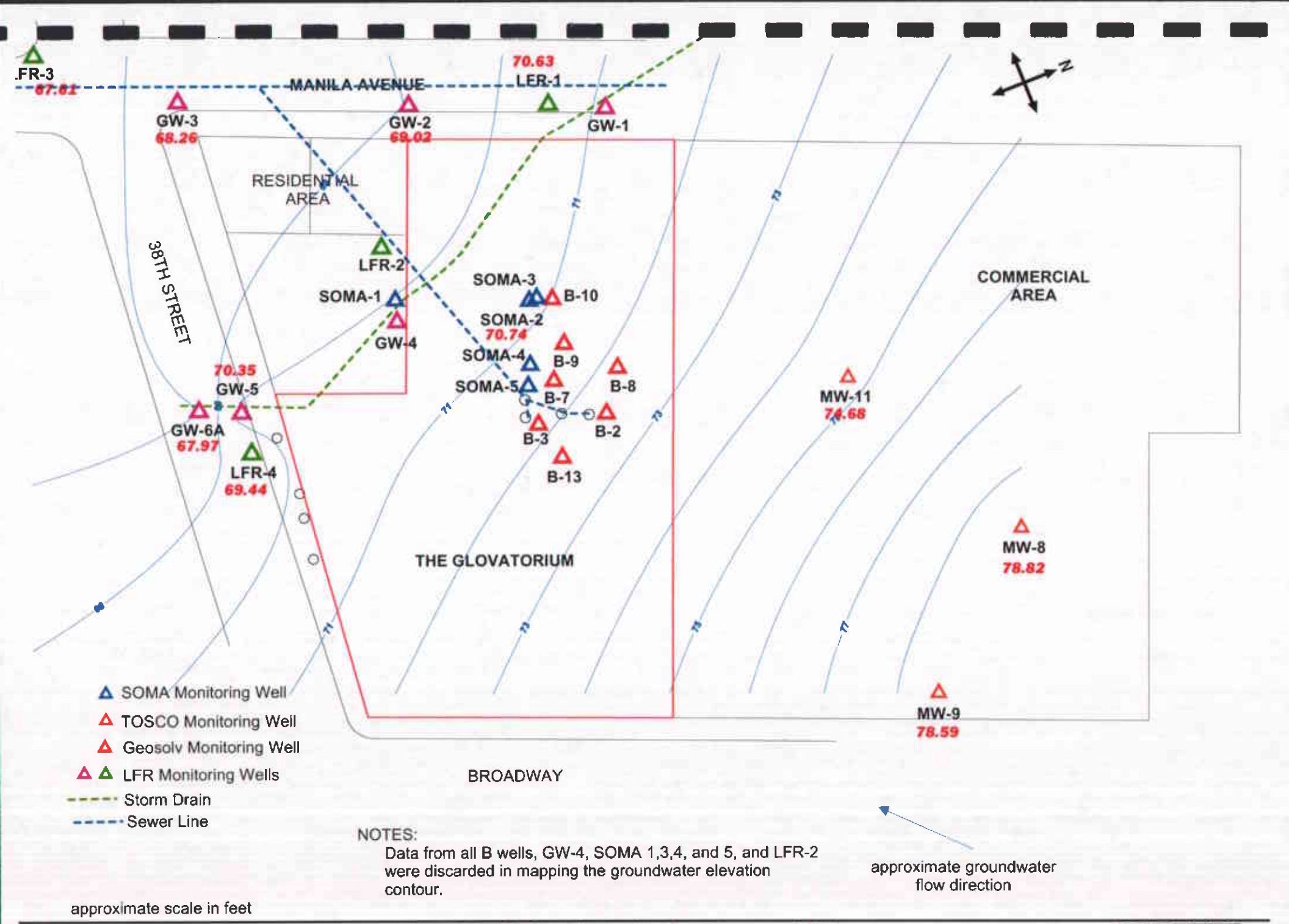


Figure 3: Groundwater elevation contour map in feet.
February 18, 2003

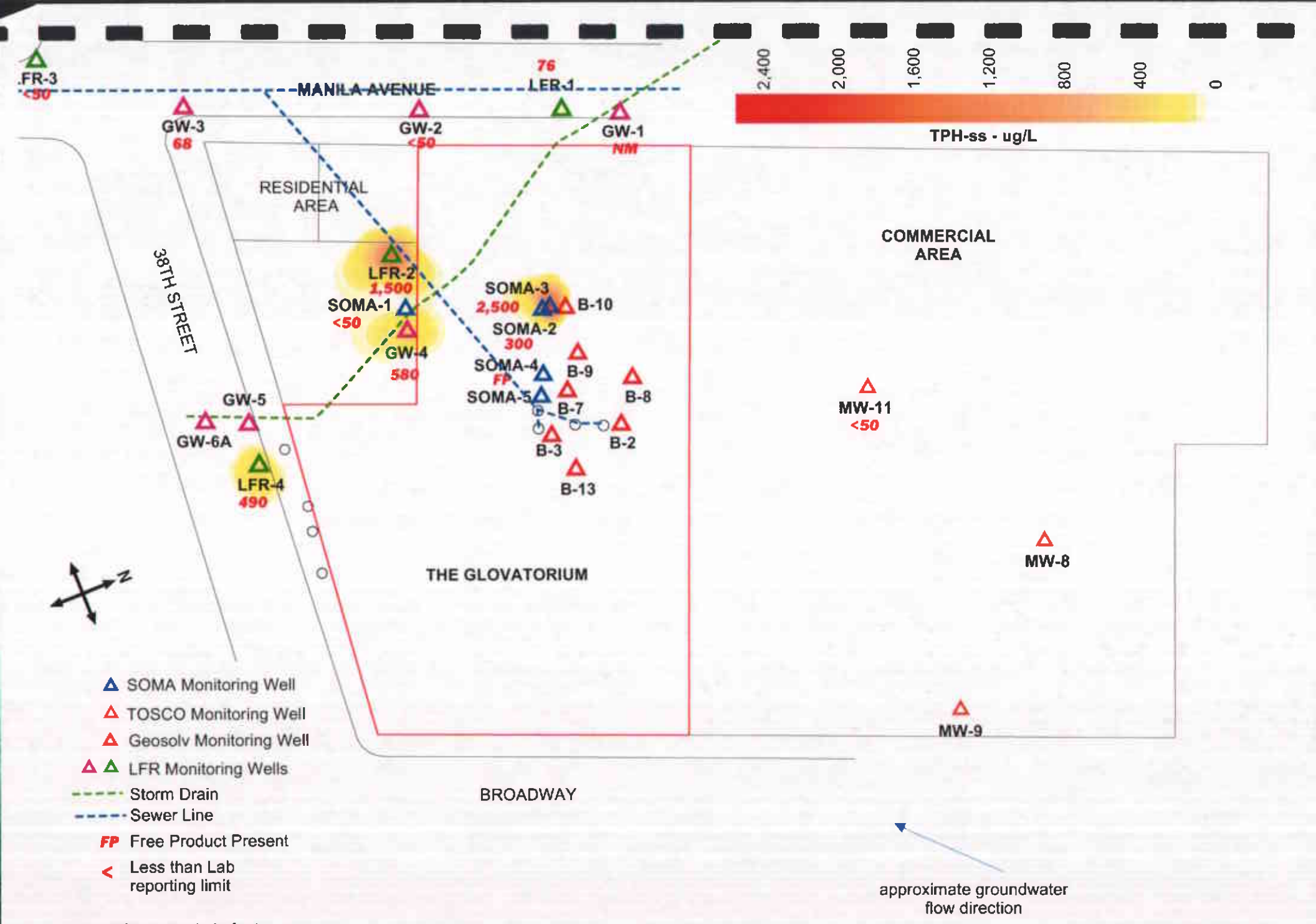


Figure 4: Contour map of TPH-ss concentrations in groundwater.
February 18-19, 2003

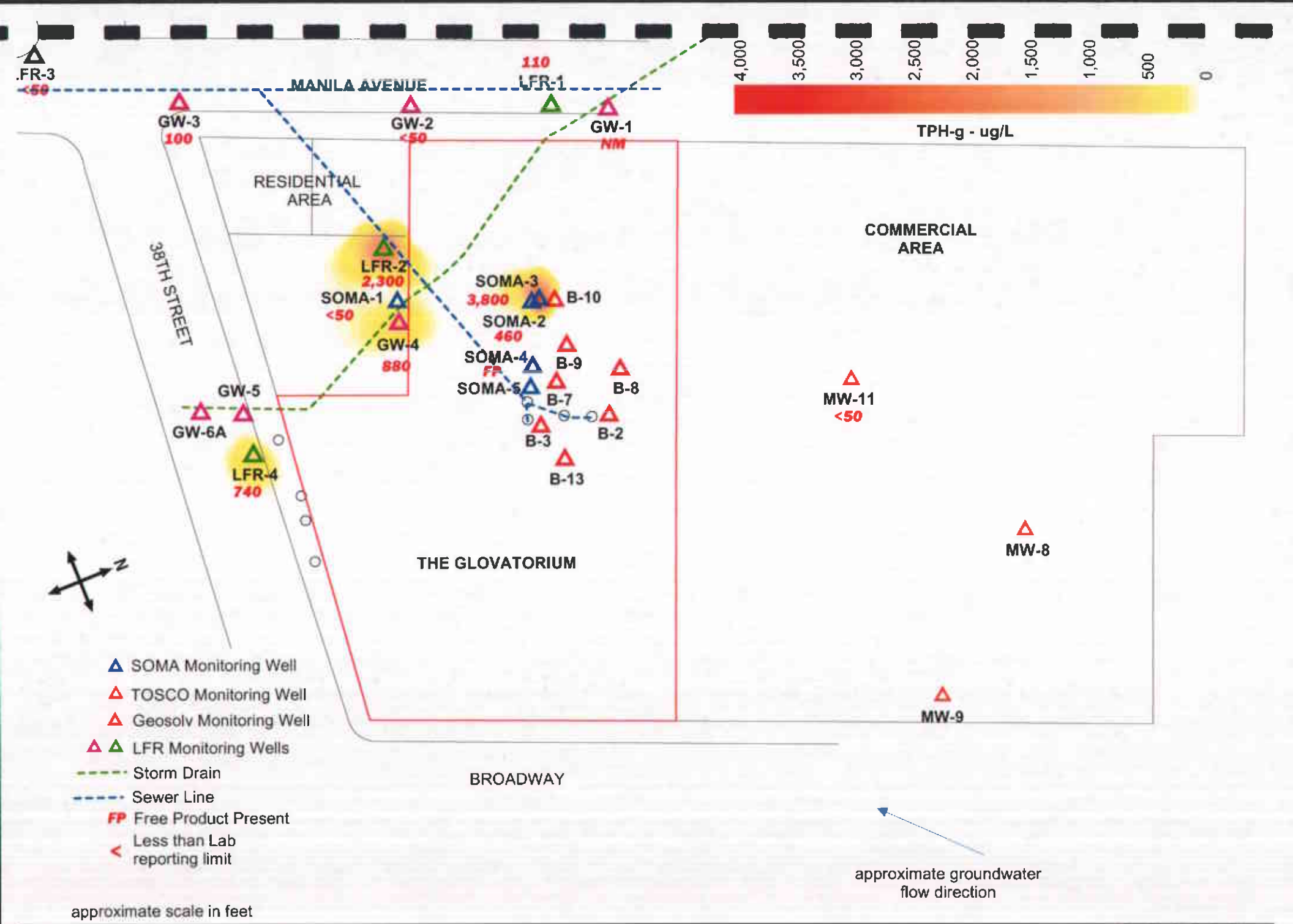


Figure 5: Contour map of TPH-g concentrations in groundwater.
February 18-19, 2003

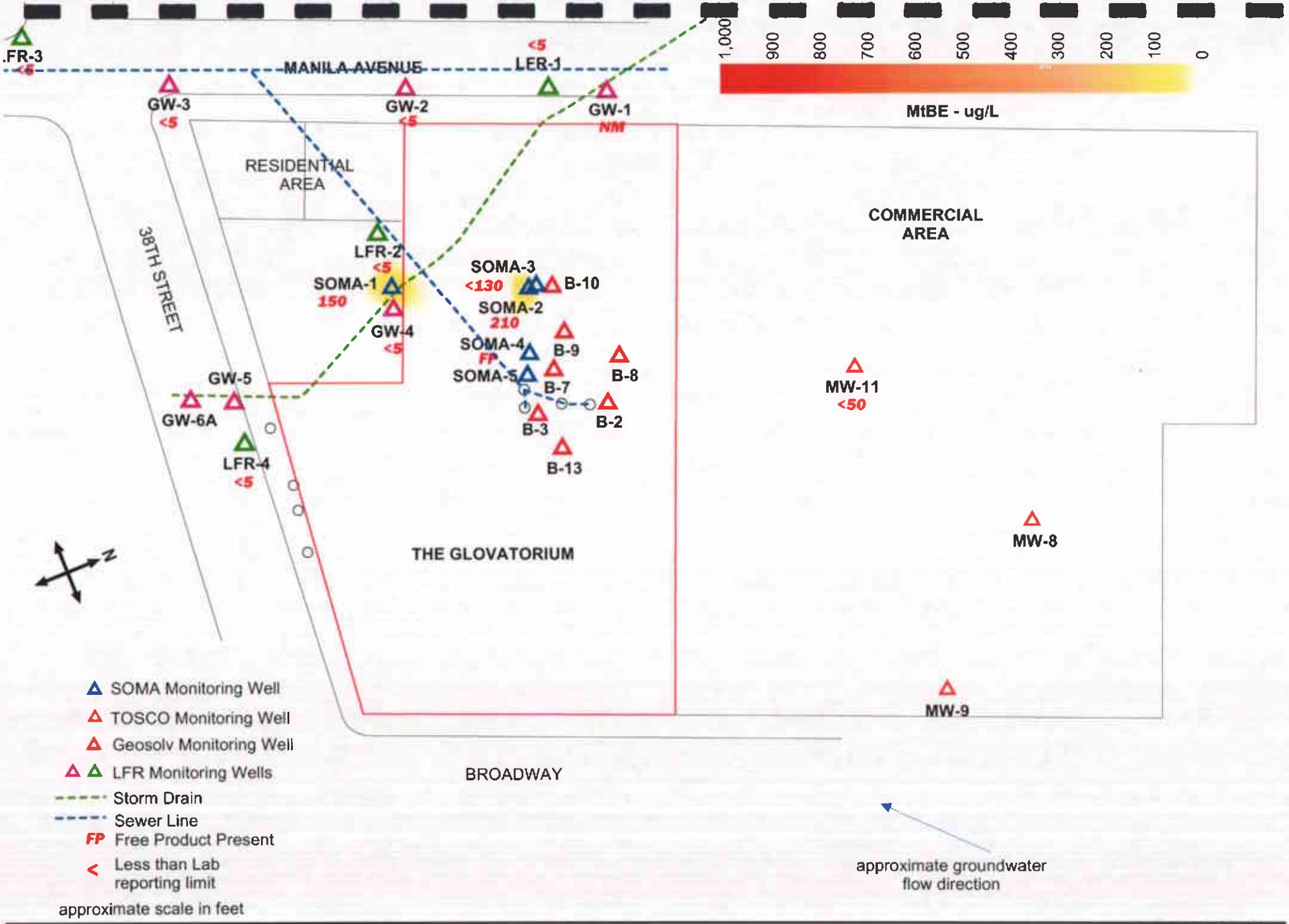


Figure 6: Contour map of MtBE concentrations in groundwater.
February 18-19, 2003

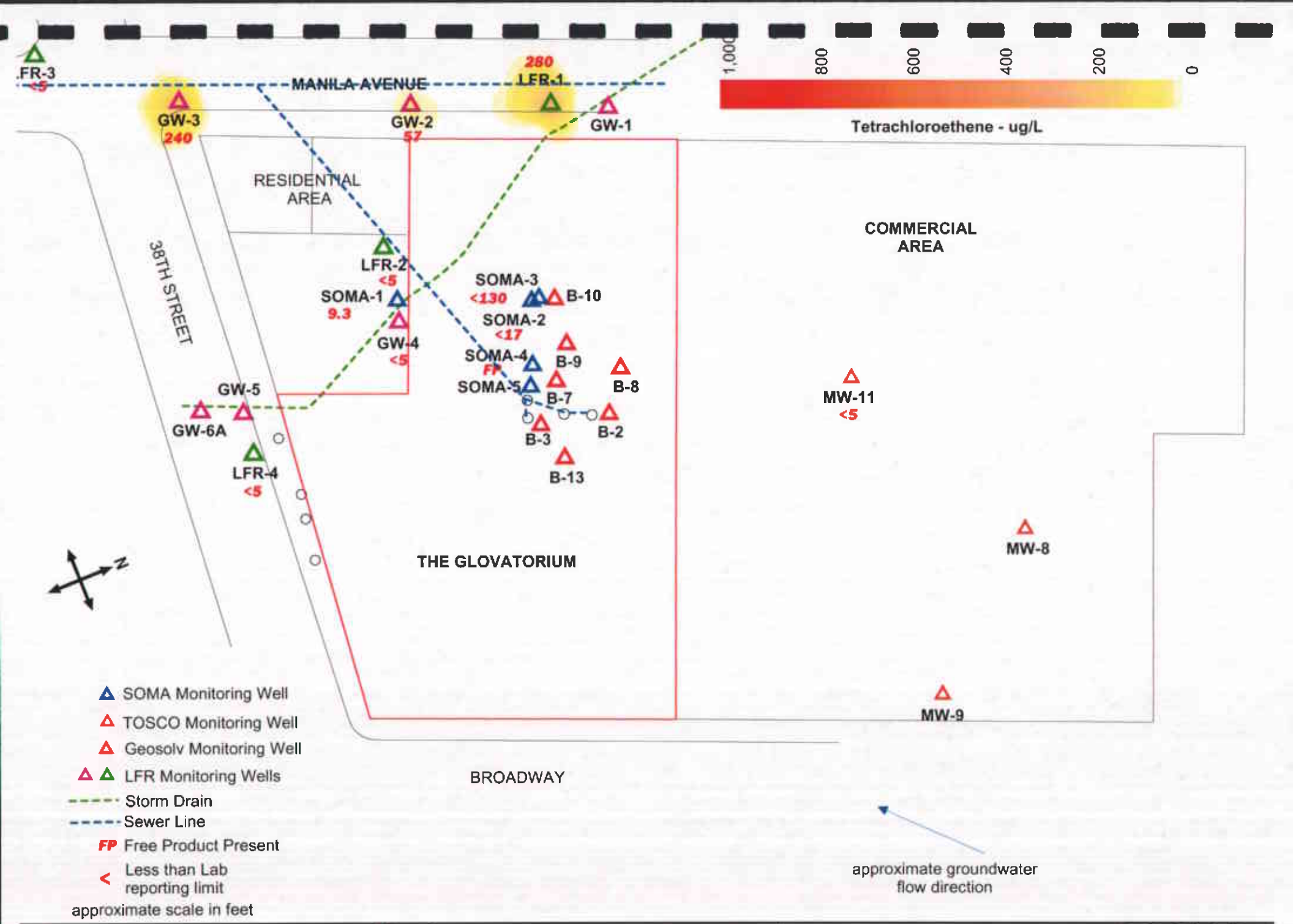


Figure 7: Contour map of tetrachloroethene concentrations in groundwater.
February 18-19, 2003

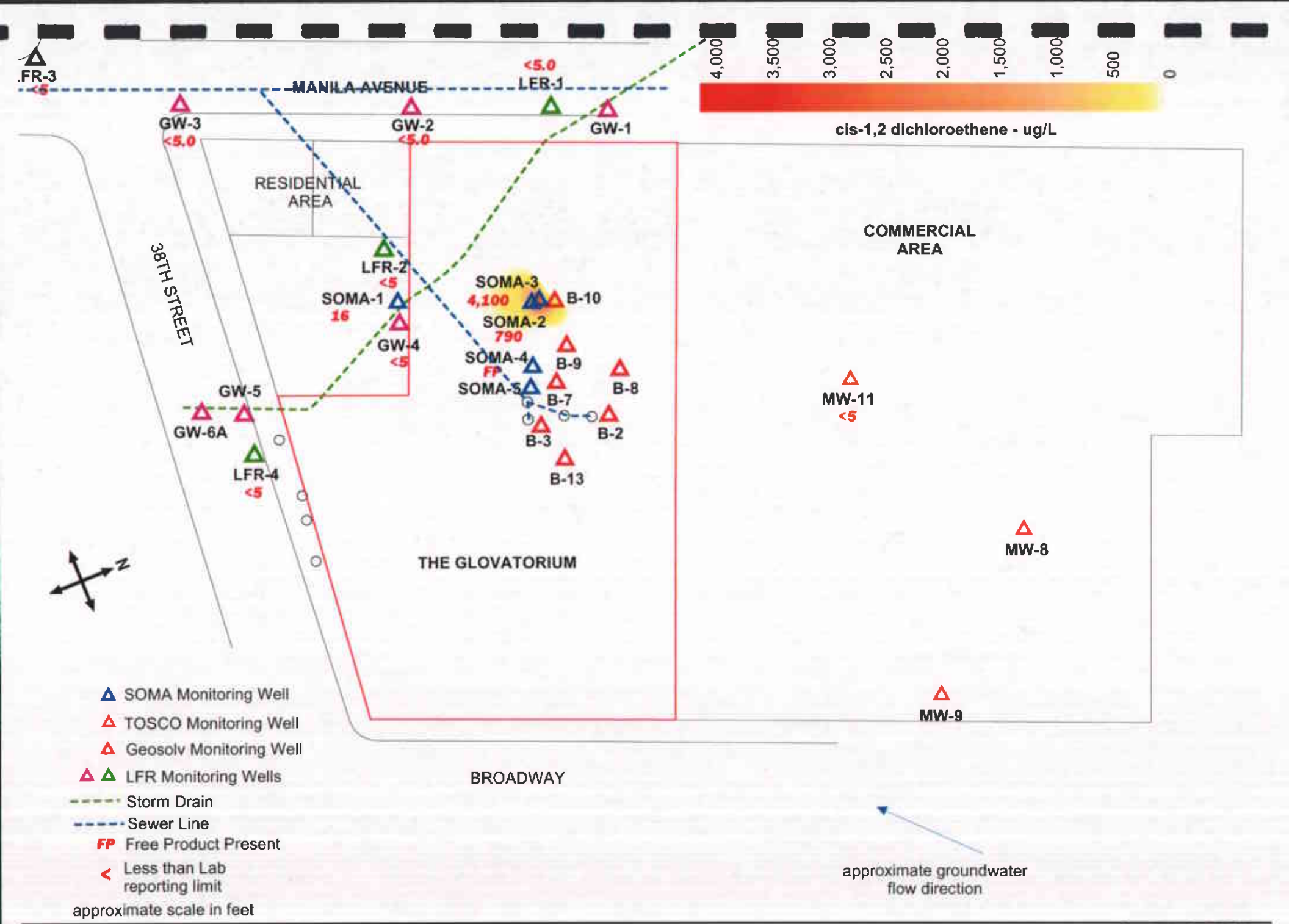


Figure 8: Contour map of cis-1,2 dichloroethene concentrations in groundwater.
February 18-19, 2003

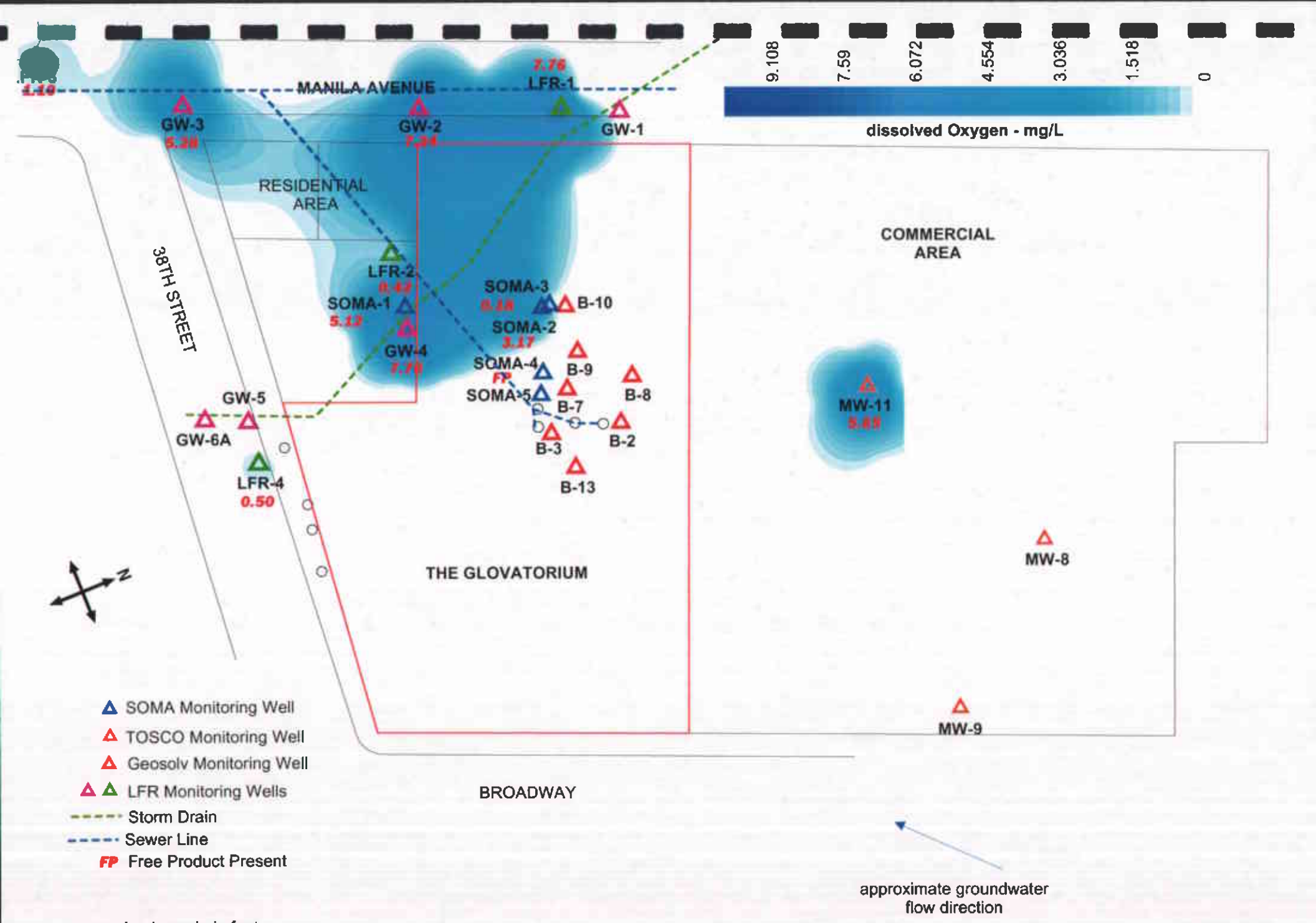


Figure 9: Contour map of dissolved oxygen concentrations in groundwater.
February 18-19, 2003

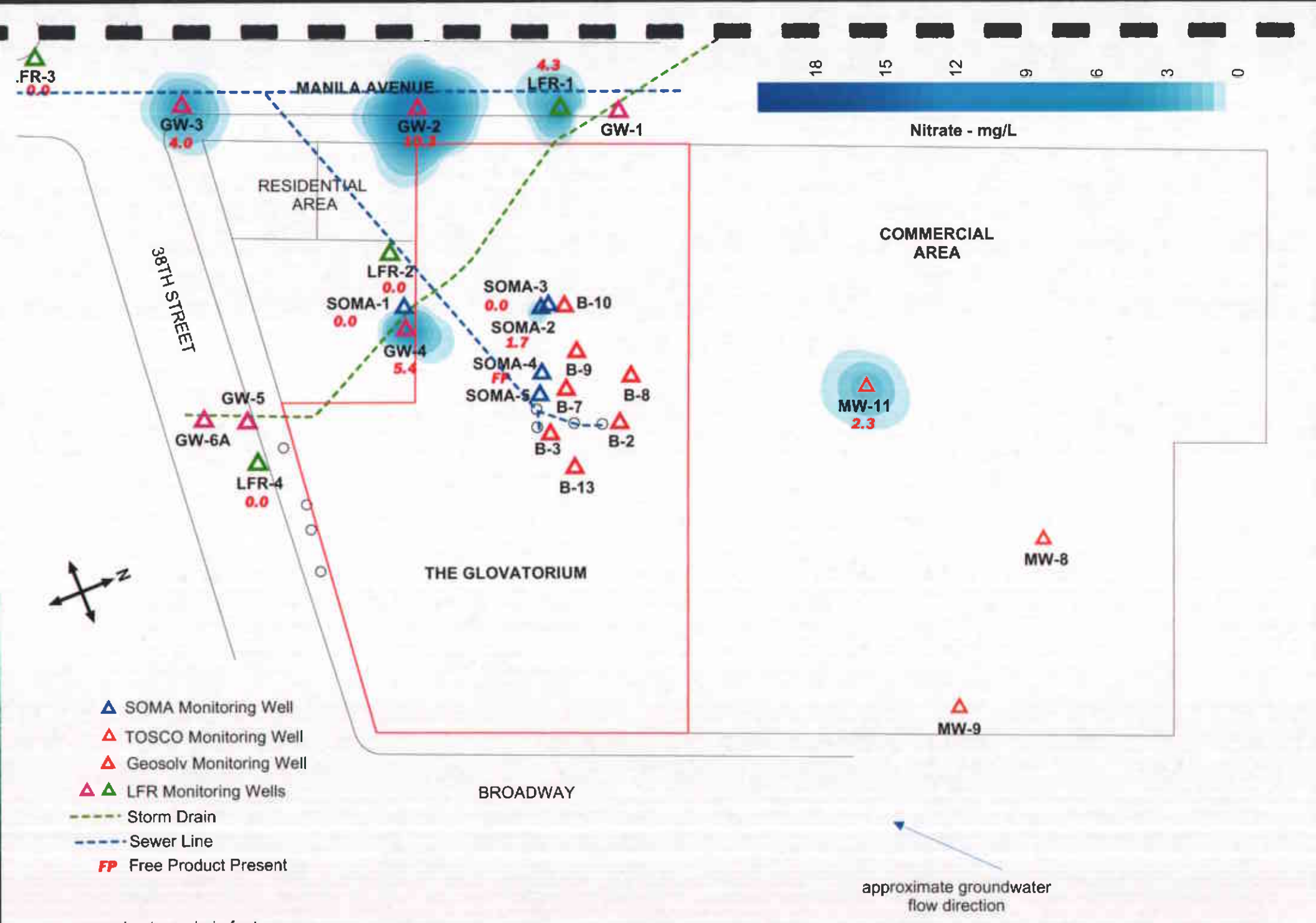


Figure 10: Contour map of nitrate concentrations in groundwater.
February 18-19, 2003

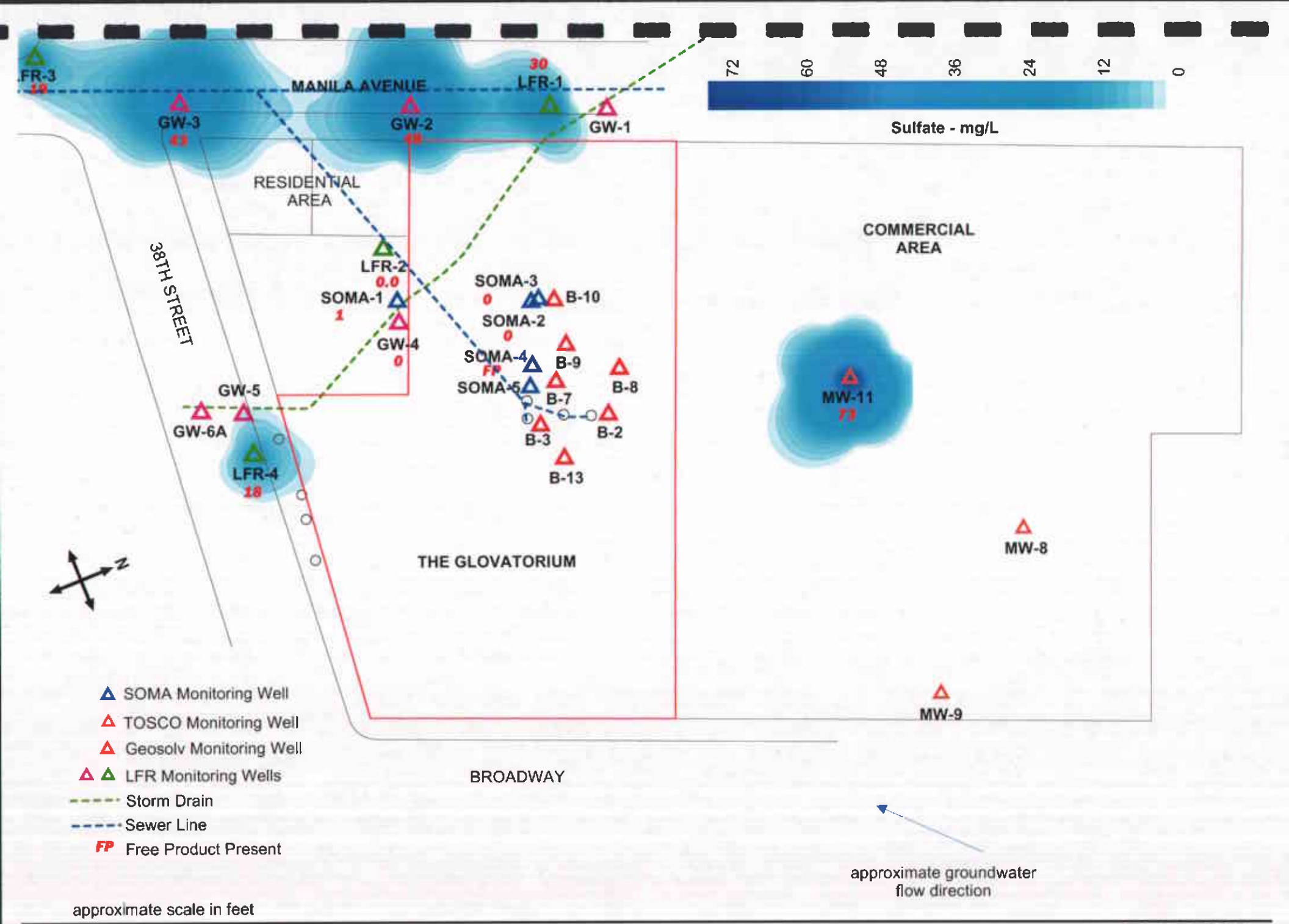


Figure 11: Contour map of sulfate concentrations in groundwater.
February 18-19, 2003

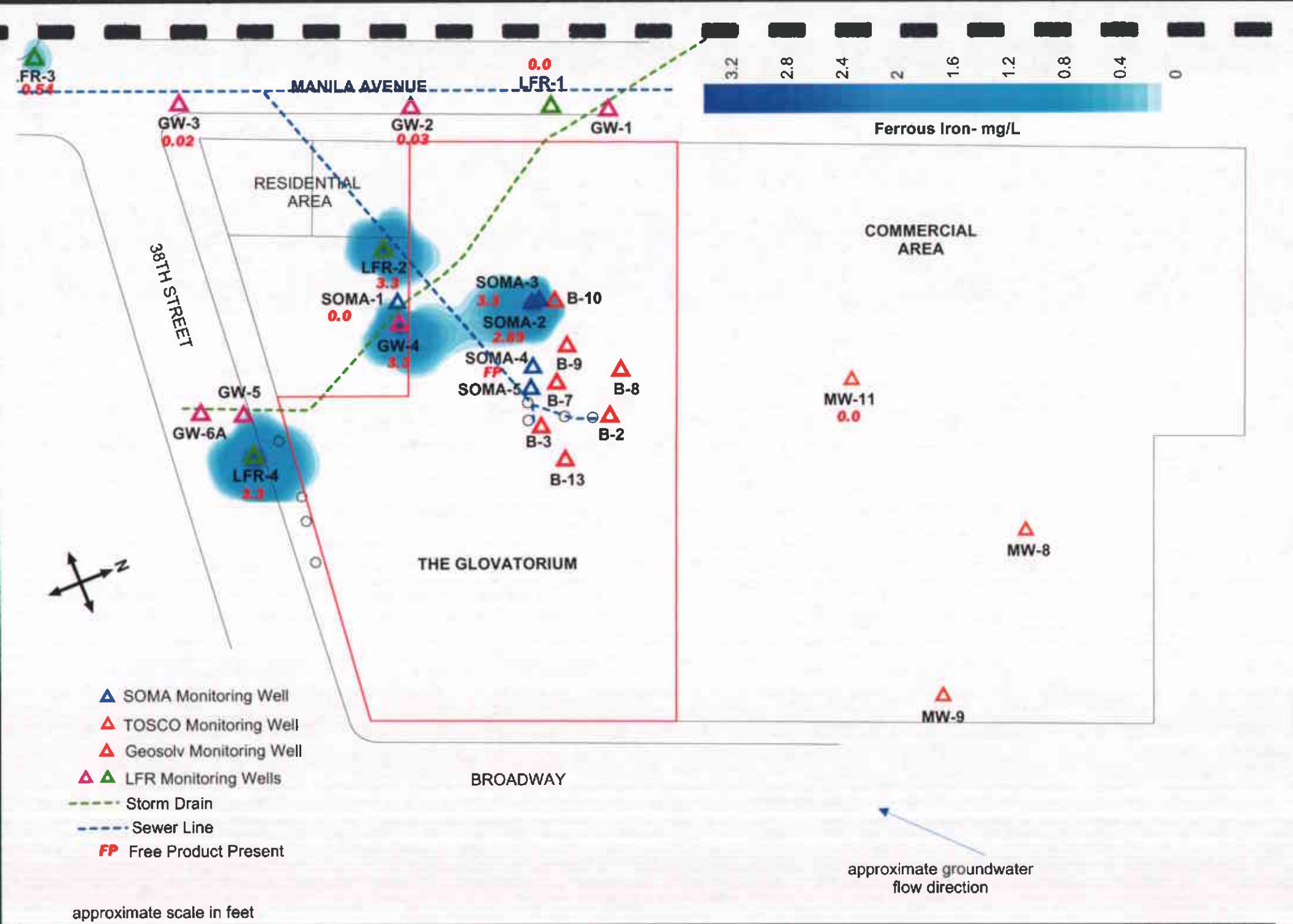


Figure 12: Contour map of ferrous iron concentrations in groundwater.
February 18-19, 2003

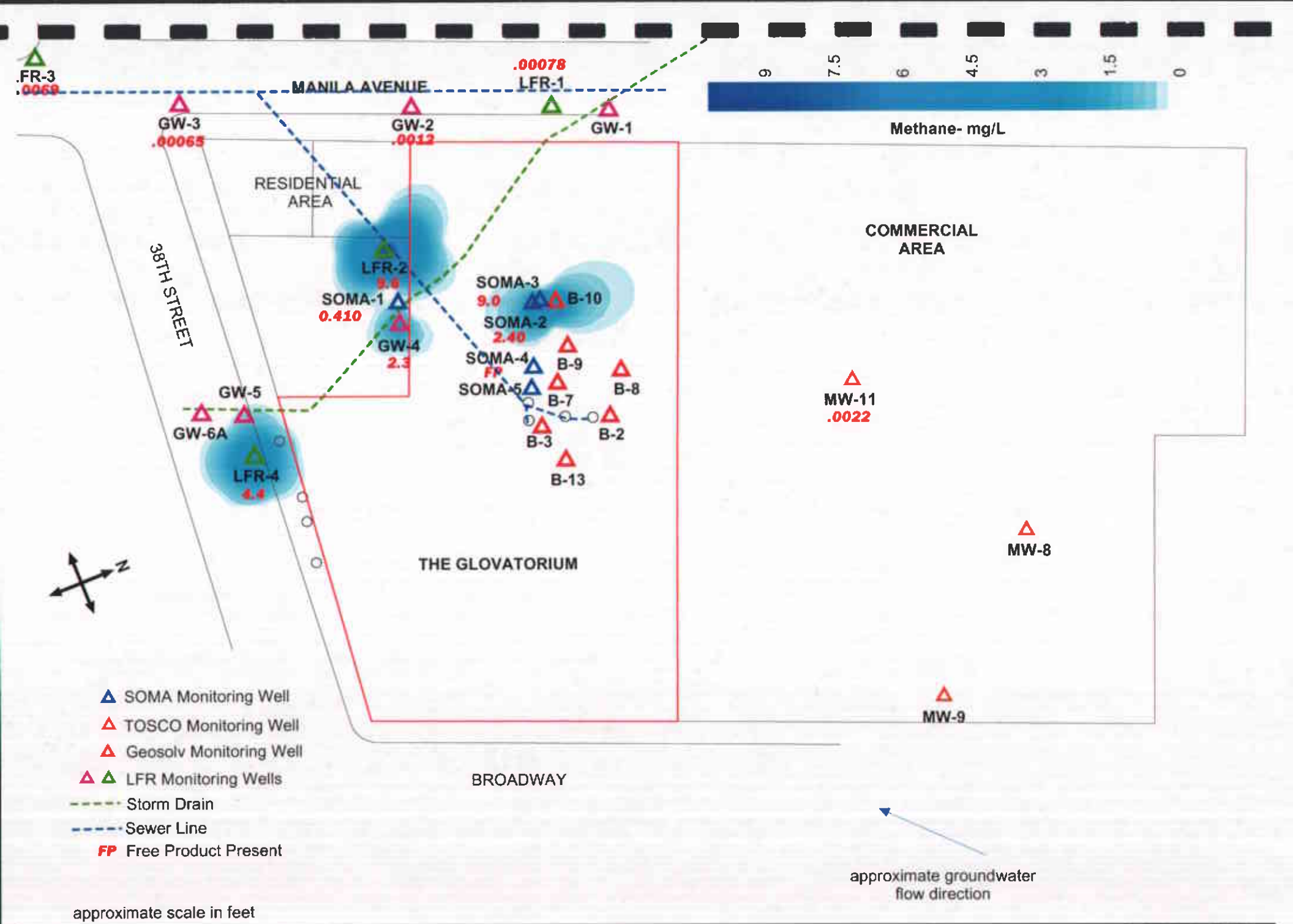


Figure 13: Contour map of methane concentrations in groundwater.
February 18-19, 2003

APPENDIX A

Field Notes, Field Measured Physical and Chemical Parameter Values

Project #:	2511	**Address:**	2815 Broadway	**Date:**	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	**Sampler:**	~~Anna Ku~~ Ramin Bet-Yonan
					Tony Perini

Well/Sample ID:	GW-2			**Purge:**	☒ Pump	☐ Bailer	
Dup:		**Well Depth:**	20.00'	**Sample:**	☐ Pump	☒ Bailer	
Blank:		**DTW:**	10.12'	**Odor:**	☒ No	☐ Yes	**Describe:**
Purge Volume:	0.40 gal	**Water Table Elev.:**	69.02'	**Sheen:**	☐ No	☒ Yes	**Describe:** slight sheen
Well Diameter:	3/4"	**Height of Water:**	9.88'	**Color:**	☒ No	☐ Yes	**Describe:** clear

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly	

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within				+/- 5%	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1%	
2:55 PM		0.20	18.0	66.4 mS/cm	8.86	163	90.5	7.06	
2:56 PM		0.35	17.80	61.9	8.84	165	73.3	6.93	
2:57 PM		0.40	18.10	60.7	7.24	169	71.4	6.86	

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	0.03	0.10	10.30	0.020	49	0.10
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 3:00 pm

Project #:	2511	**Address:**	2815 Broadway	**Date:**	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	**Sampler:**	~~Anna Ku~~ Ramin
					Tony Perini

Well/Sample ID:	GW-3			**Purge:**	☒ Pump	☐ Bailer		
Dup:		**Well Depth:**	20.00'	**Sample:**	☐ Pump	☒ Bailer		
Blank:		**DTW:**	9.66'	**Odor:**	☒ No	☐ Yes	**Describe:**	
Purge Volume:	1 gal	**Water Table Elev.:**	68.26'	**Sheen:**	☒ No	☐ Yes	**Describe:**	
Well Diameter:		**Height of Water:**	10.34'	**Color:**	☒ No	☐ Yes	**Describe:**	

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly	

TIME Stabilization if 3 successive parameters within:	DTW	VOLUME	TEMP (°C)	COND (µS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP (mV) +/- 10 mV	TURBIDITY (NTU) +/- 10%	pH +/- 0.1%	COMMENTS
~~1:37 pm~~	~~0.25~~								
	~~0.50~~								
	~~0.75~~								
1:37 pm	0.75 →		17.7	49.5 ms/m	7.07	107	7.5	7.11	
1:38	0.50 →		17.8	49.3	5.57	119	133.0	6.86	
1:39	0.75 →		17.8	41.2	5.28	123	429.0	6.77	

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	0.02	0.08	4.0	0.013	43	0.40
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 1:55 pm

Project #:	2511	**Address:**	2815 Broadway	**Date:**	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	**Sampler:**	~~Anna Ku~~ Ramin Bet-Yonan
					Tony Perini

Well/Sample ID:	GW-4			**Purge:**	☒ Pump	☐ Bailer		
Dup:		**Well Depth:**	12.00'	**Sample:**	☐ Pump	☒ Bailer		
Blank:		**DTW:**	7.62'	**Odor:**	☒ No	☐ Yes	**Describe:**	
Purge Volume:	0.45 gal	**Water Table Elev.:**	74.75'	**Sheen:**	☒ No	☐ Yes	**Describe:**	
Well Diameter:	3/4"	**Height of Water:**	4.38'	**Color:**	☒ No	☐ Yes	**Describe:**	

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly	

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within				+/- 5%	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1%	
3:59 PM		0.10 gal	14.00	41.5 mS/cm	9.67	-72	38.9	6.74	
4:01 PM		0.30 gal	13.60	48.5	8.44	-64	~~48.6~~ 29.3	6.71	
4:02 PM		0.30 gal	13.60	46.6	7.76	-57	92.10	6.67	
4:03PM		0.45 gal	DRIED						

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	3.30	3.30	5.40	0.0	0.0	0.40
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 4:07 PM

Project #:	2511	**Address:**	2815 Broadway	**Date:**	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	**Sampler:**	Anna Ku, Tony Perini

Well/Sample ID:	MW-11			**Purge:**	☒ Pump	☐ Bailer		
Dup:		**Well Depth:**		**Sample:**	☐ Pump	☐ Bailer		
Blank:		**DTW:**	9.45	**Odor:**	☒ No	☐ Yes	**Describe:**	
Purge Volume:	4.0 gal	**Water Table Elev.:**	74.68	**Sheen:**	☒ No	☐ Yes	**Describe:**	
Well Diameter:	2"	**Height of Water:**		**Color:**	☒ No	☐ Yes	**Describe:**	clear

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE & BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
		Ferrous Iron:	1 HCl Pres. Poly	

s/m

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within:				+/- 3%	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1	
1:28 pm		0.5	19.3	0.118	6.57	308	7.3	6.66	
1:29 pm		2.0	19.0	0.117	~~5.88~~ 6.53 Hz	307	6.8	6.53	
1:31 pm		3.5	19.5	0.117	5.65	304	7.1	6.49	
1:40 pm	Sampled								

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	0.00	0.00	2.30	0.037	73	0.60
Dilution:						
Comments:						

(Results in mg/L)

Project #:	2511	Address:	2815 Broadway	Date:	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	Sampler:	Anna Ku, Tony Perini

Well/Sample ID:	LFR-1			Purge:	☒ Pump	☐ Bailer		
Dup:		Well Depth:		Sample:	☐ Pump	☒ Bailer		
Blank:		DTW:	9.34	Odor:	☒ No	☐ Yes	Describe:	
Purge Volume:	4.0	Water Table Elev.:	70.63	Sheen:	☒ No	☐ Yes	Describe:	
Well Diameter:	2"	Height of Water:		Color:	☒ No	☐ Yes	Describe:	clear

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE & BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
		Ferrous Iron:	1 HCl Pres. Poly	

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within:				+/- 5%	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1%	
2:34 pm		0.5	17.5	95.5 mS/m	8.55	266	70.4	5.87	
2:35		1.5	16.7	68.0	8.25	260	33.8	6.39	
2:36		2.5	16.7	57.9	8.08	259	27.1	6.47	
2:37		3.0	16.9	60.7	7.76	260	15.4	6.47	

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	0.00	0.40	4.30	0.00	30	0
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 2:40 pm

Project #:	2511	**Address:**	2815 Broadway	**Date:**	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	**Sampler:**	~~Anna Ko~~ Ramin Bet-Yonar
					Tony Perini

Well/Sample ID:	LFR-2			**Purge:**	☒ Pump	☐ Bailer		
Dup:		**Well Depth:**		**Sample:**	☐ Pump	☒ Bailer		
Blank:		**DTW:**	8.81	**Odor:**	☑ No	☐ Yes	**Describe:**	
Purge Volume:	5.0 gal.	**Water Table Elev.:**	73.08	**Sheen:**	☑ No	☐ Yes	**Describe:**	
Well Diameter:	2"	**Height of Water:**		**Color:**	☑ No	☐ Yes	**Describe:**	clear

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly	

TIME Stabilization if 3 successive parameters within	DTW	VOLUME	TEMP (°C)	COND (µS/cm) +/- 3%	DO (mg/L) +/- 10%	ORP (mV) +/- 10 mV	TURBIDITY (NTU) +/- 10%	pH +/- 0.1%	COMMENTS
4:09 PM		1.0	17.70	86.2 mS/cm	8.63	-58	29.2	6.50	
4:10 PM		2.0	16.90	49.3	2.16	-8	23.0	6.51	
4:11 PM		3.0	16.80	51.6	0.97	-26	6.4	6.46	
4:12 PM		4.0	16.90	61.7	0.42	-53	5.10	6.50	
4:20 PM		Sampled	LFR-2						

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	3.30	3.30	0.0	0.0	0.0	9.0
Dilution:						
Comments:						

(Results in mg/L)

Project #:	2511	Address:	2815 Broadway	Date:	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	Sampler:	~~Jamie Ko~~ Ramon Bet-Yonas
					Tony Perini

Well/Sample ID:	LFR3			Purge:	☒ Pump	☐ Bailer	
Dup:		Well Depth:		Sample:	☐ Pump	☒ Bailer	
Blank:		DTW:	10.35	Odor:	☑ No	☐ Yes	Describe:
Purge Volume:	8.0 gal	Water Table Elev.:	67.61	Sheen:	☐ No	☑ Yes	Describe:
Well Diameter:	2"	Height of Water:		Color:	☑ No	☐ Yes	Describe: light brown

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly	

TIME Stabilization if 3 successive parameters within	DTW	VOLUME	TEMP (°C)	COND (µS/cm) +/- 5%	DO (mg/L) +/- 10%	ORP (mV) +/- 10 mV	TURBIDITY (NTU) +/- 10%	pH +/- 0.15%	COMMENTS
9:53 AM		1.0	19.00	43.7 mS/cm	5.56	185	7.19	6.95	
9:54 AM		2.0	18.80	44.3	2.31	198	1.38	6.64	
9:55 AM		3.0	18.90	44.3	1.29	207	51.9	6.48	
9:56 AM		4.0	19.10	46.1	1.02	219	59.3	6.40	
9:57 AM		6.0	19.20	48.4	1.16	221	123	6.33	
9:58 AM		8.0	19.30	49.7	1.10	217	80.7	6.34	

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	0.54	0.74	Ø	0.0	19	0.5
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 10:05 am

Project #: 2511 Address: 2815 Broadway Date: 2/18/03 2/19/03
Project Name: Glovatorium Oakland, CA Sampler: ~~Anna Ku~~ Ramin Bat-Yoram
Tony Perini

Well/Sample ID: LFR-4 Purge: ☒ Pump ☐ Bailer
Dup: ____ Well Depth: 19.30 Sample: ☐ Pump ☒ Bailer
Blank: ____ DTW: 12.21 Odor: ☒ No ☐ Yes Describe: ____
Purge Volume: 7.0 gal. Water Table Elev.: 69.44 Sheen: ☒ No ☒ Yes Describe: slight sheen
Well Diameter: ____ Height of Water: 7.09 Color: ☒ No ☐ Yes Describe: clear

Laboratory: ____
Delivery: ____
Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly

Alk, Cl-, Sulfate: 1 unpreserved poly L

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within:				+/- 5% ~~4%~~	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1%	
8:58 am		1.0	15.30	0.185	6.29	-12	48.2	6.85	
9 AM		2.0	18.40	63.5 ms/cm	2.10	15	42.6	6.59	
9:02 AM		3.0	18.80	66.0	1.14	17	5.90	6.48	
9:03 AM		4.0	19.00	67.4	0.70	-22	7.70	6.38	
9:04 AM		6.0	19.10	99.4	0.50	-41	19.90	6.38	
9:05 AM		7.0	DRIED						

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	3.3	3.3	Ø	0.0	18	6.8
Dilution:						
Comments:						

(Results in mg/L)

Sampled
9:15 am

Project #:	2511	**Address:**	2815 Broadway	**Date:**	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	**Sampler:**	~~Anna Ku~~ Ramin Bet-Yonan, Tony Perini

Well/Sample ID:	SOMA-1		**Purge:**	☑ Pump	☐ Bailer		
Dup:		**Well Depth:**	40.00'	**Sample:**	☐ Pump	☑ Bailer	
Blank:		**DTW:**	12.87'	**Odor:**	☑ No	☐ Yes	**Describe:**
Purge Volume:	5 gallons	**Water Table Elev.:**	68.77'	**Sheen:**	☑ No	☐ Yes	**Describe:**
Well Diameter:		**Height of Water:**	27.13'	**Color:**	☑ No	☐ Yes	**Describe:** clear

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs
8260 (8010 list) & MtBE & BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly
		Ferrous Iron:	1 HCl Pres. Poly

Alk, Cl-, Sulfate: 1 unpreserved poly L

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within:				+/- 3%	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1%	
3:22 PM		1.0	17.50	~~0.135~~ 0.135	9.17	280	7.50	6.01	
3:23 PM		2.0	17.40	0.136	7.93	275	12.0	6.33	
3:24 PM		3.0	17.40	0.136	6.54	267	11.7	6.35	
3:25 PM		~~5.0~~ 5.0	17.40	0.135	5.12	258	12.2	6.33	

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	0.0	0.0	0.0	0.014	1.0	0.40
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 3:30 PM

Project #:	2511	Address:	2815 Broadway	Date:	2/18/03-2/19/03
Project Name:	Glovatorium		Oakland, CA	Sampler:	~~Anna Ko~~ Ramin Bet-Yona
					Tony Perini

Well/Sample ID:	SOMA-2			Purge:	☒ Pump	☐ Bailer		
Dup:		Well Depth:	20.00'	Sample:	☐ Pump	☒ Bailer		
Blank:		DTW:	10.65'	Odor:	☒ No	☐ Yes	Describe:	
Purge Volume:	1 gal	Water Table Elev.:	70.74'	Sheen:	☒ No	☐ Yes	Describe:	
Well Diameter:		Height of Water:	9.35'	Color:	☒ No	☐ Yes	Describe:	

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate:	1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs		
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly		
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly		

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within:		9al		+/- 5%	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1	
12:58		0.25	15.00	0.148	5.86	-80	15.7	7.01	
12:59		0.50	15.30	0.146	4.21	-81	43.1	6.88	
1:02		0.75	15.70	0.142	3.17	-72	40.3	6.86	

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	2.89	2.93	1.70	0.013	0	1.90
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 1:07

Project #:	2511	**Address:**	2815 Broadway	**Date:**	2/18/03 2/19/03
Project Name:	Glovatorium		Oakland, CA	**Sampler:**	~~Anne Ku~~ Ramin Bet-Yonan
					Tony Perini

Well/Sample ID:	SOMA-3			**Purge:**	☒ Pump	☐ Bailer		
Dup:		**Well Depth:**	30.00'	**Sample:**	☐ Pump	☒ Bailer		
Blank:		**DTW:**	7.65'	**Odor:**	☐ No	☒ Yes	**Describe:**	slight petro
Purge Volume:	5 gallons	**Water Table Elev.:**	73.77'	**Sheen:**	☒ No	☐ Yes	**Describe:**	
Well Diameter:	2 inch	**Height of Water:**	22.35'	**Color:**	☐ No	☒ Yes	**Describe:**	pale yellow

Laboratory:

Delivery:

Analysis/preservative:

Sulfide:	1 Poly w/ $Zn(C_2H_3O_2)_2$ + NAOH	Disolved H_2:	1 Septum Vial	Alk, Cl-, Sulfate: 1 unpreserved poly L
Total Iron, Manganese:	1 HNO_3 preserved poly	Dissolved Perm Gases:	2 Unpreserved VOAs	
8260 (8010 list) & MtBE &		Cation & Anion w/ Nitrate & Nitrite:	1 Unpres. Poly and 1 H2SO4 Poly	
BTEX & TPH-g & TPH-ss:	6 VOAs w/ HCL	Ferrous Iron:	1 HCl Pres. Poly	

TIME	DTW	VOLUME	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	TURBIDITY (NTU)	pH	COMMENTS
Stabilization if 3 successive parameters within:				+/- 3% ~~5%~~	+/- 10%	+/- 10 mV	+/- 10%	+/- 0.1%	
12:24 PM		1.0	15.90	0.129	6.82	-60	30.4	7.10	
12:25 PM		2.0	15.80	0.130	2.16	-73	19.9	6.92	
12:27 PM		3.0	15.80	0.133	0.33	-84	34.1	6.88	
12:28 PM		4.0	15.80	0.135	0.18	-86	60.6	6.87	

Result	Ferrous Iron	Total Iron	Nitrate	Nitrite	Sulfate	Dissolved Manganese
	3.30	3.30	Ø	Ø	Ø	0.0
Dilution:						
Comments:						

(Results in mg/L)

Sampled @ 12:40 pm

APPENDIX B

Chain of Custody Forms

and

Laboratory Reports

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: 07-MAR-03
Lab Job Number: 163771
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:	**163771**
Client:	**SOMA Environmental Engineering Inc.**
Project Name:	**3815 Broadway, Oakland**
Project #:	**2511**
Receipt Date:	**02/20/2003**

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for eleven water samples received from the above referenced project on February 20, 2003. The samples were received cold and intact.

Total Volatile Hydrocarbons (TVH):

The bromofluorobenzene surrogate recoveries for samples GW-4 (163771-003), LFR-2 (163771-006), and SOMA-3 (163771-011) are above acceptance limits due to the coelution of the surrogate peaks with hydrocarbon peaks. The bromofluorobenzene in sample LFR-2 exceeds calibration limits and is qualified with "b". The associated trifluorotoluene surrogate recoveries are acceptable, and therefore, there is no affect on the quality of the sample results.

No other analytical problems were encountered.

Purgeable Organics:

No analytical problems were encountered.

CHAIN OF CUSTODY FORM

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 # 163771

Project No: 2511
Project Name: 3815 Broadway, Oakland
Project P.O.:
Turnaround Time: Standard

Sampler: R. Bat-Yonan / T. Perini
Report To: T. Perini
Company: SOMA Environmental
Telephone: 925-244-6600
Fax: 925-244-6601

For Laboratory Use	Laboratory Number	Sample ID.	Sampling Date Time	Matrix: Soil	Matrix: Water	Matrix: Waste	# of Containers	Preservative: HCL	Preservative: H_2SO	Preservative: HNO_3	Preservative: ICE	Field Notes	Analyses: TPH-g (including stoddard solvent)-8015	Analyses: BTEX, MTBE 8021 GC	Analyses: 8260 (Full List)
-1		GW-2	2/19/03@ 3:00 pm	X			4 VOAs	X			X		X	X	X
-2		GW-3	2/19/03@1:55 pm	X				X			X		X	X	X
-3		GW-4	2/19/03@4:07 pm	X				X			X		X	X	X
-4		MW-11	2/18/03@1:40 pm	X				X			X		X	X	X
-5		LFR-1	2/18/03@2:40 pm	X				X			X		X	X	X
-6		LFR-2	2/18/03@4:20 pm	X				X			X		X	X	X
-7		LFR-3	2/19/03@10:05 am	X				X			X		X	X	X
-8		LFR-4	2/19/03@9:15 am	X				X			X		X	X	X
-9		SOMA-1	2/18/03@3:30 pm	X				X			X		X	X	X
-10		SOMA-2	2/19/03@1:07 pm	X				X			X		X	X	X
-11		SOMA-3	2/19/03@12:40 pm	X				X			X		X	X	X

Notes: Please provide EDF file

RELINQUISHED BY:	RECEIVED BY:
Anna Ku 2/20/03 8:40 AM DATE/TIME	2/20/03 0840 DATE/TIME
DATE/TIME	DATE/TIME
DATE/TIME	DATE/TIME

Received ☒ On Ice ☒ Cold ☐ Ambient ☒ Intact

Preservation Correct? Yes ☐ No ☐ N/A

Signature

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	02/20/03

Field ID:	GW-2	Batch#:	79375
Type:	SAMPLE	Sampled:	02/19/03
Lab ID:	163771-001	Analyzed:	02/21/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	68-145
Bromofluorobenzene (FID)	105	66-143

Field ID:	GW-3	Batch#:	79414
Type:	SAMPLE	Sampled:	02/19/03
Lab ID:	163771-002	Analyzed:	02/22/03

Analyte	Result	RL
Gasoline C7-C12	100 Y Z	50
Stoddard Solvent C7-C12	68 Y Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	68-145
Bromofluorobenzene (FID)	104	66-143

Field ID:	GW-4	Batch#:	79414
Type:	SAMPLE	Sampled:	02/19/03
Lab ID:	163771-003	Analyzed:	02/22/03

Analyte	Result	RL
Gasoline C7-C12	880 H Y	50
Stoddard Solvent C7-C12	580	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	110	68-145
Bromofluorobenzene (FID)	173 *	66-143

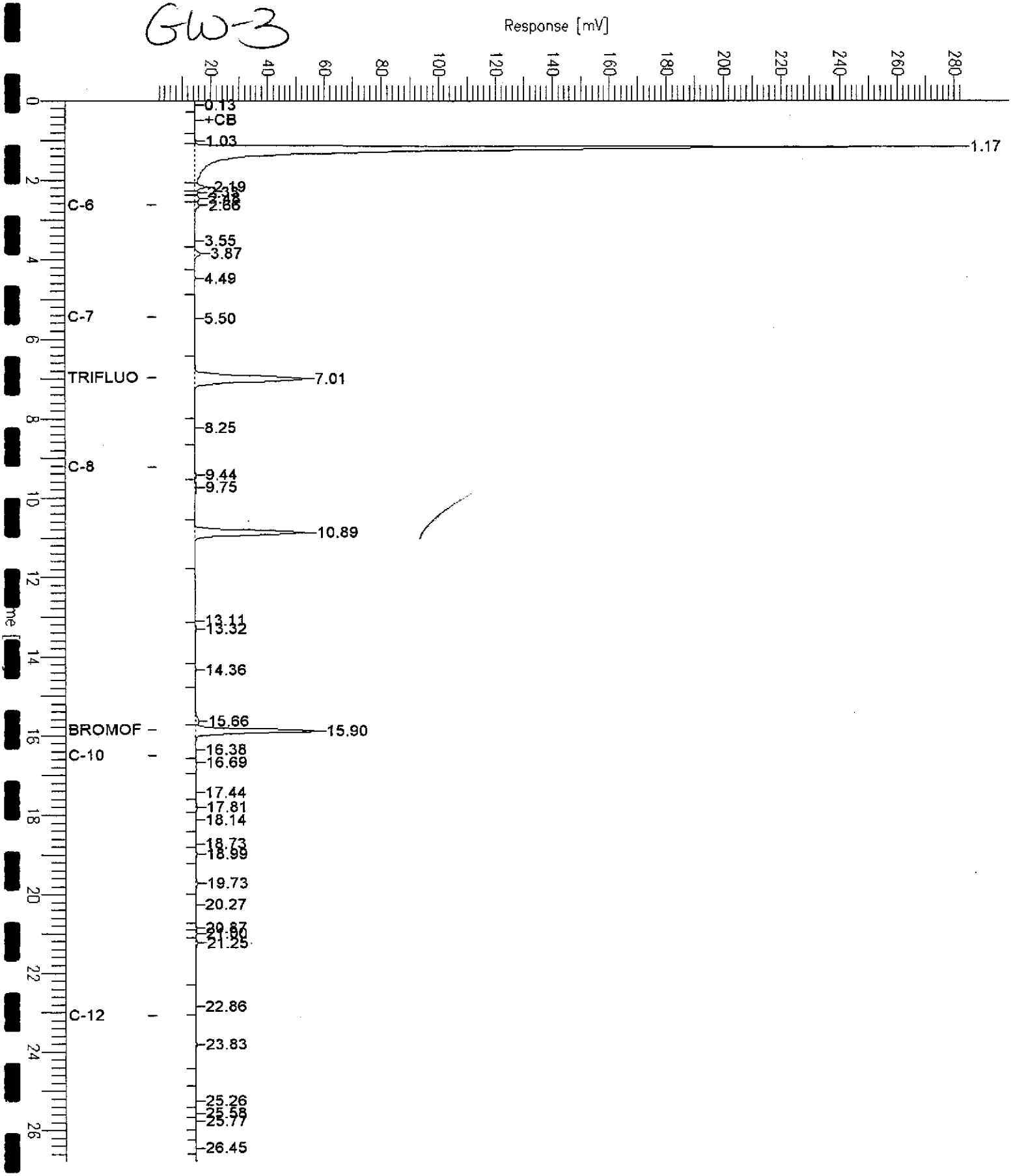
*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
b= See narrative
ND= Not Detected
RL= Reporting Limit
LR= Response exceeds instrument's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

GC19 TVH 'X' Data File (FID)

Sample Name : 163771-002,79414,+stodd
FileName : G:\GC19\DATA\053X006.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: 1.0 Plot Offset: 1 mV

Sample #: c1 Page 1 of 1
Date : 2/22/03 04:58 PM
Time of Injection: 2/22/03 04:31 PM
Low Point : 0.99 mV High Point : 282.19 mV
Plot Scale: 281.2 mV

GW-3

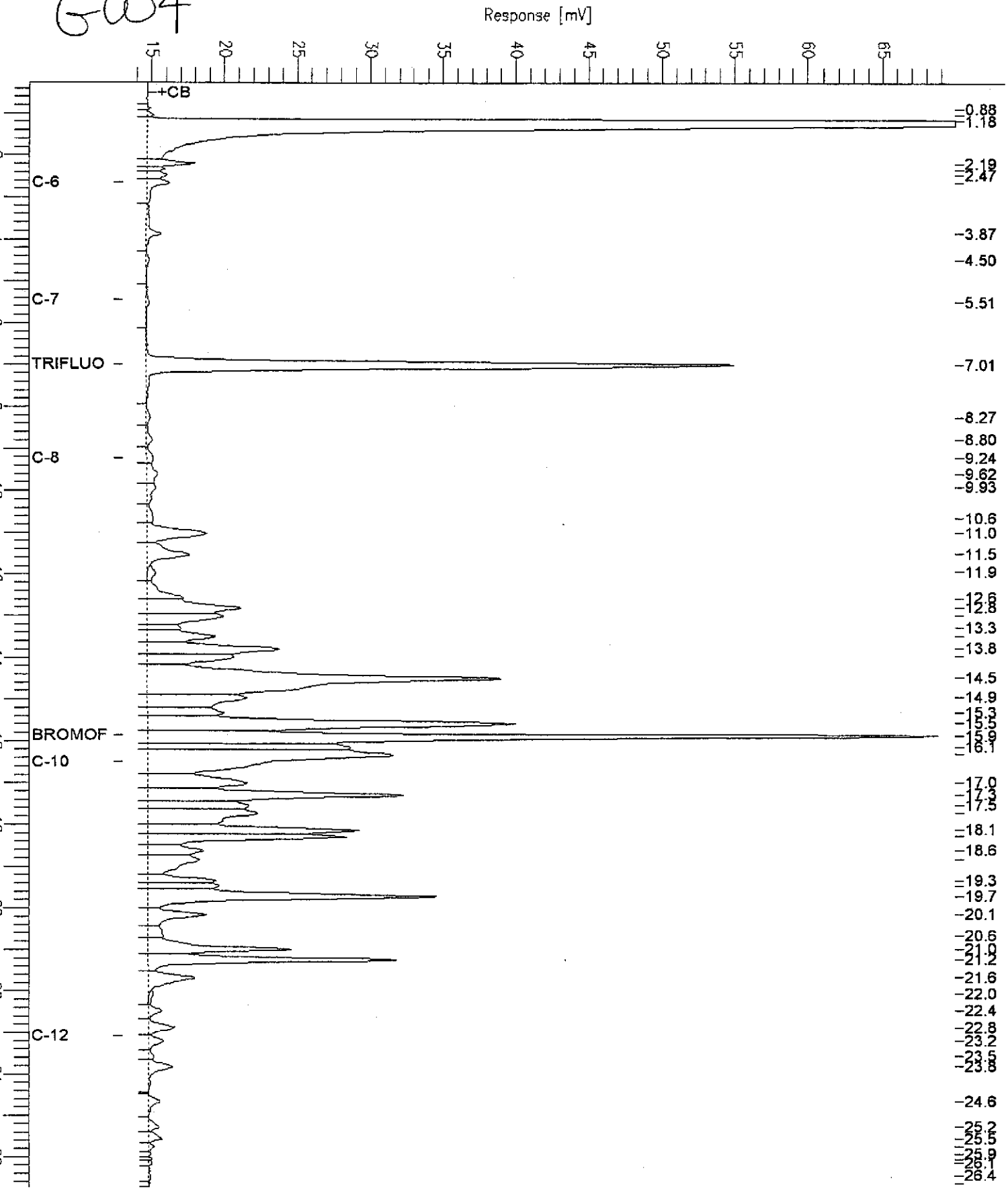


GC19 TVH 'X' Data File (FID)

Sample Name : 163771-003,79414,+stodd
FileName : G:\GC19\DATA\053X010.RAW
Method :
Start Time : 0.27 min End Time : 26.75 min
Scale Factor: 0.0 Plot Offset: 13 mV

Sample #: c1 Page 1 of 1
Date : 2/24/03 10:51 AM
Time of Injection: 2/22/03 06:47 PM
Low Point : 13.04 mV High Point : 69.94 mV
Plot Scale: 56.9 mV

GC04



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	02/20/03

Field ID:	MW-11	Batch#:	79375
Type:	SAMPLE	Sampled:	02/18/03
Lab ID:	163771-004	Analyzed:	02/21/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	106	68-145
Bromofluorobenzene (FID)	106	66-143

Field ID:	LFR-1	Batch#:	79414
Type:	SAMPLE	Sampled:	02/18/03
Lab ID:	163771-005	Analyzed:	02/22/03

Analyte	Result	RL
Gasoline C7-C12	110 Y Z	50
Stoddard Solvent C7-C12	76 Y Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	108	68-145
Bromofluorobenzene (FID)	109	66-143

Field ID:	LFR-2	Batch#:	79414
Type:	SAMPLE	Sampled:	02/18/03
Lab ID:	163771-006	Analyzed:	02/22/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	105	68-145
Bromofluorobenzene (FID)	247 * >LR b	66-143

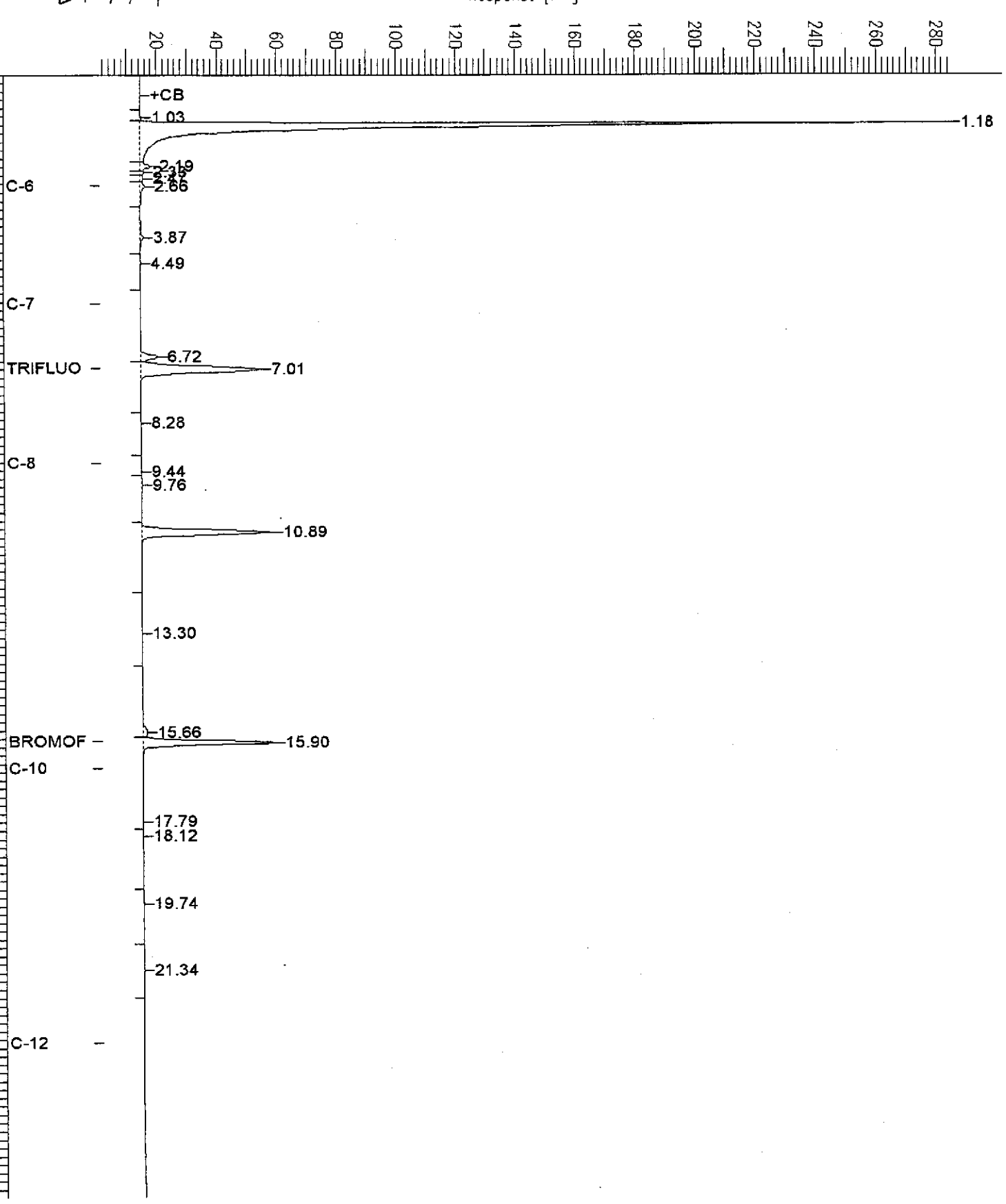
*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
b= See narrative
ND= Not Detected
RL= Reporting Limit
LR= Response exceeds instrument's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

GC19 TVH 'X' Data File (FID)

Sample Name : 163771-005,79414,+stodd
FileName : G:\GC19\DATA\053X009.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: 1.0 Plot Offset: 1 mV

Sample #: cl
Date : 2/22/03 06:39 PM
Time of Injection: 2/22/03 06:13 PM
Low Point : 1.03 mV High Point : 285.08 mV
Plot Scale: 284.0 mV

LFR-1

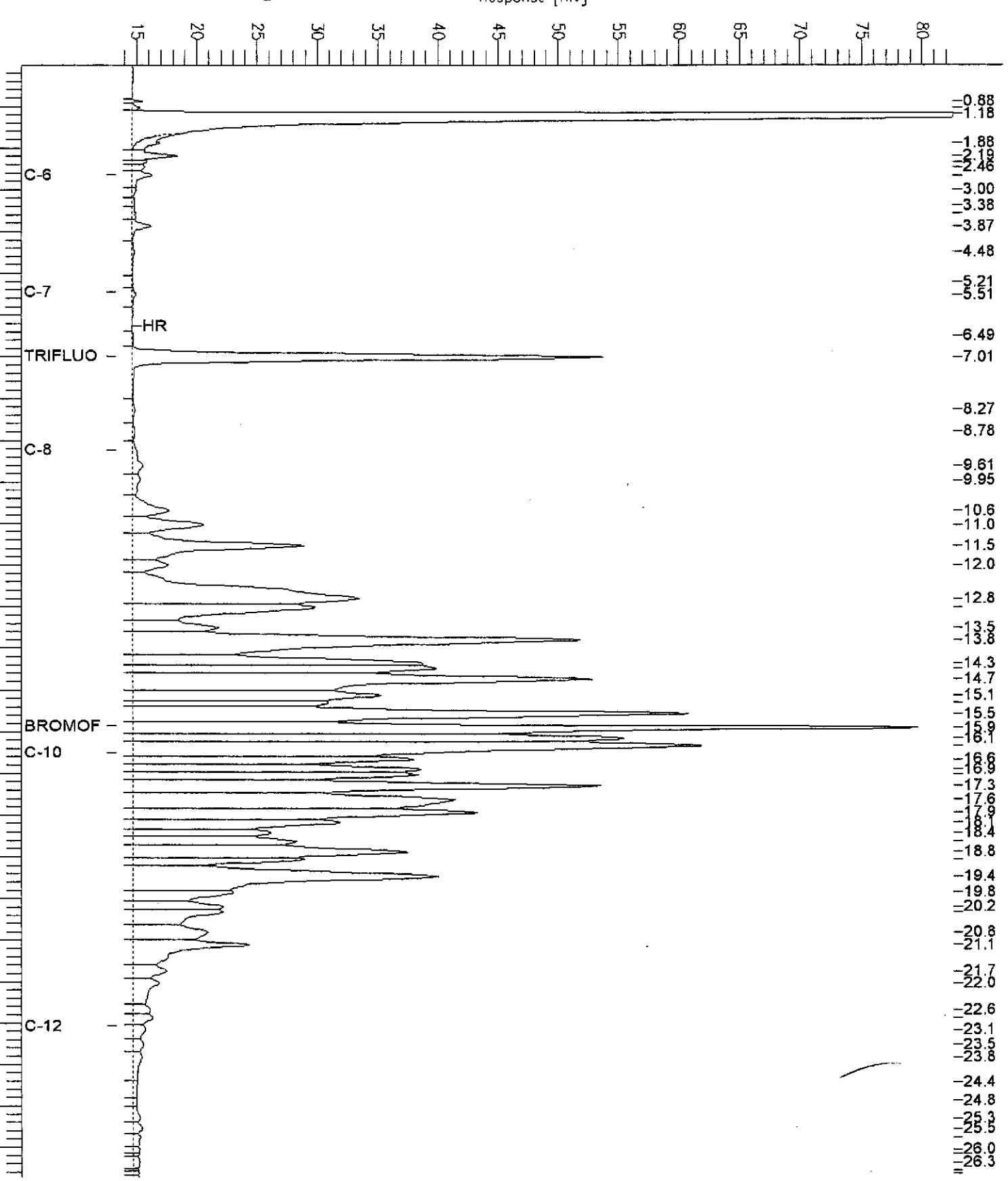


GC19 TVH 'X' Data File (FID)

Sample Name : 163771-006,79414,+stodd
FileName : G:\GC19\DATA\053X012.RAW
Method :
Start Time : 0.02 min End Time : 26.75 min
Scale Factor: 0.0 Plot Offset: 13 mV

Sample #: c1 Page 1 of 1
Date : 2/24/03 10:54 AM
Time of Injection: 2/22/03 07:55 PM
Low Point : 13.28 mV High Point : 82.55 mV
Plot Scale: 69.3 mV

LFR-2



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	02/20/03

Field ID:	LFR-3	Batch#:	79375
Type:	SAMPLE	Sampled:	02/19/03
Lab ID:	163771-007	Analyzed:	02/21/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	107	68-145
Bromofluorobenzene (FID)	108	66-143

Field ID:	LFR-4	Batch#:	79414
Type:	SAMPLE	Sampled:	02/19/03
Lab ID:	163771-008	Analyzed:	02/22/03

Analyte	Result	RL
Gasoline C7-C12	740	50
Stoddard Solvent C7-C12	490 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	130	68-145
Bromofluorobenzene (FID)	117	66-143

Field ID:	SOMA-1	Batch#:	79375
Type:	SAMPLE	Sampled:	02/18/03
Lab ID:	163771-009	Analyzed:	02/21/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	103	68-145
Bromofluorobenzene (FID)	108	66-143

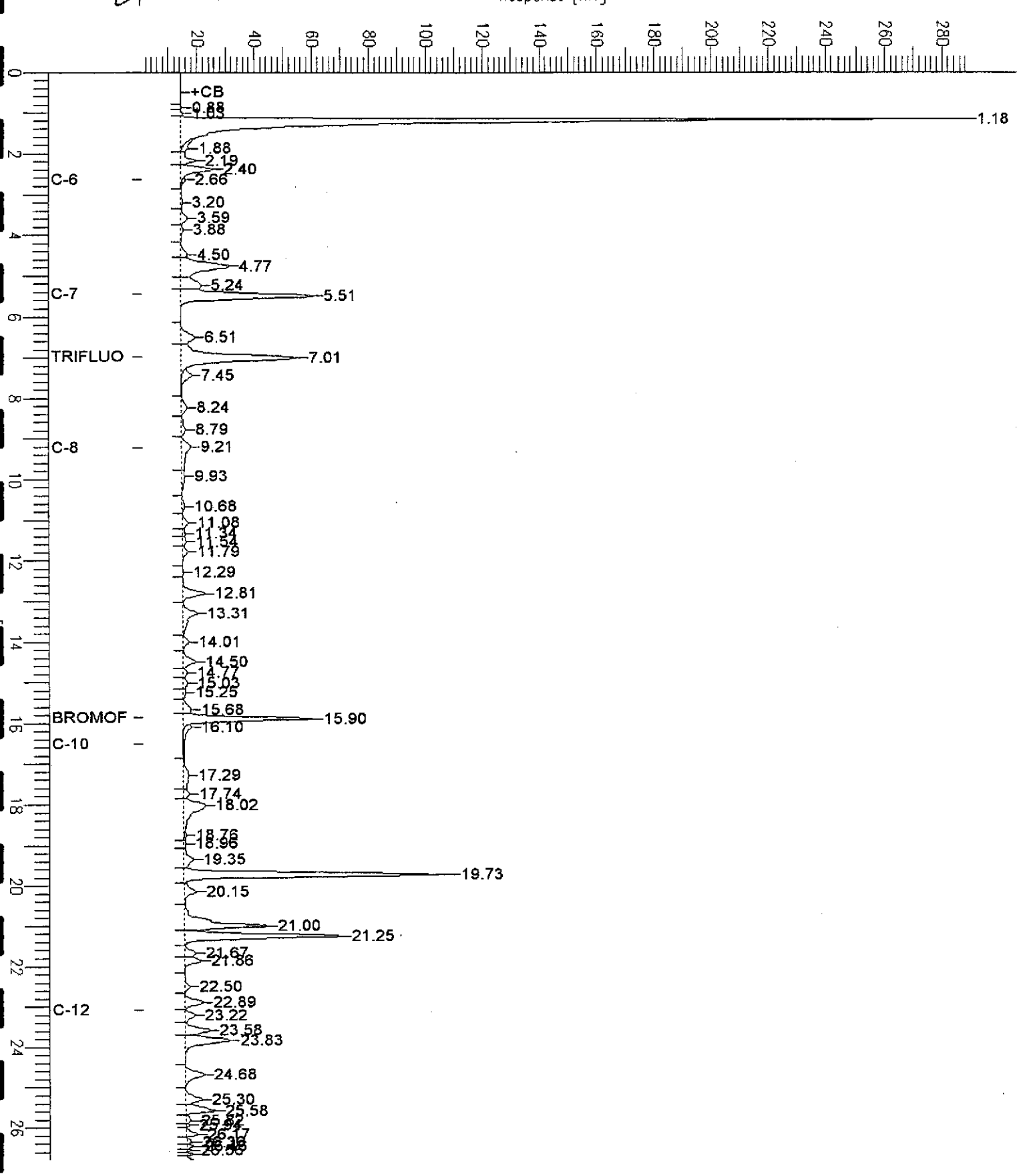
*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
b= See narrative
ND= Not Detected
RL= Reporting Limit
LR= Response exceeds instrument's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

GC19 TVH 'X' Data File (FID)

Sample Name : 163771-008,79414,+stodd
FileName : G:\GC19\DATA\053X008.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: 1.0 Plot Offset: 1 mV

Sample #: c1 Page 1 of 1
Date : 2/22/03 06:05 PM
Time of Injection: 2/22/03 05:39 PM
Low Point : 0.68 mV High Point : 288.71 mV
Plot Scale: 288.0 mV

LPR-4



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Matrix:	Water	Diln Fac:	1.000
Units:	ug/L	Received:	02/20/03

Field ID:	SOMA-2	Batch#:	79414
Type:	SAMPLE	Sampled:	02/19/03
Lab ID:	163771-010	Analyzed:	02/22/03

Analyte	Result	RL
Gasoline C7-C12	460 H Y	50
Stoddard Solvent C7-C12	300	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	68-145
Bromofluorobenzene (FID)	127	66-143

Field ID:	SOMA-3	Batch#:	79414
Type:	SAMPLE	Sampled:	02/19/03
Lab ID:	163771-011	Analyzed:	02/22/03

Analyte	Result	RL
Gasoline C7-C12	3,800 H Y	50
Stoddard Solvent C7-C12	2,500	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	111	68-145
Bromofluorobenzene (FID)	210 *	66-143

Type:	BLANK	Batch#:	79375
Lab ID:	QC205403	Analyzed:	02/21/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	102	68-145
Bromofluorobenzene (FID)	104	66-143

Type:	BLANK	Batch#:	79414
Lab ID:	QC205569	Analyzed:	02/22/03

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

Surrogate	%REC	Limits
Trifluorotoluene (FID)	96	68-145
Bromofluorobenzene (FID)	95	66-143

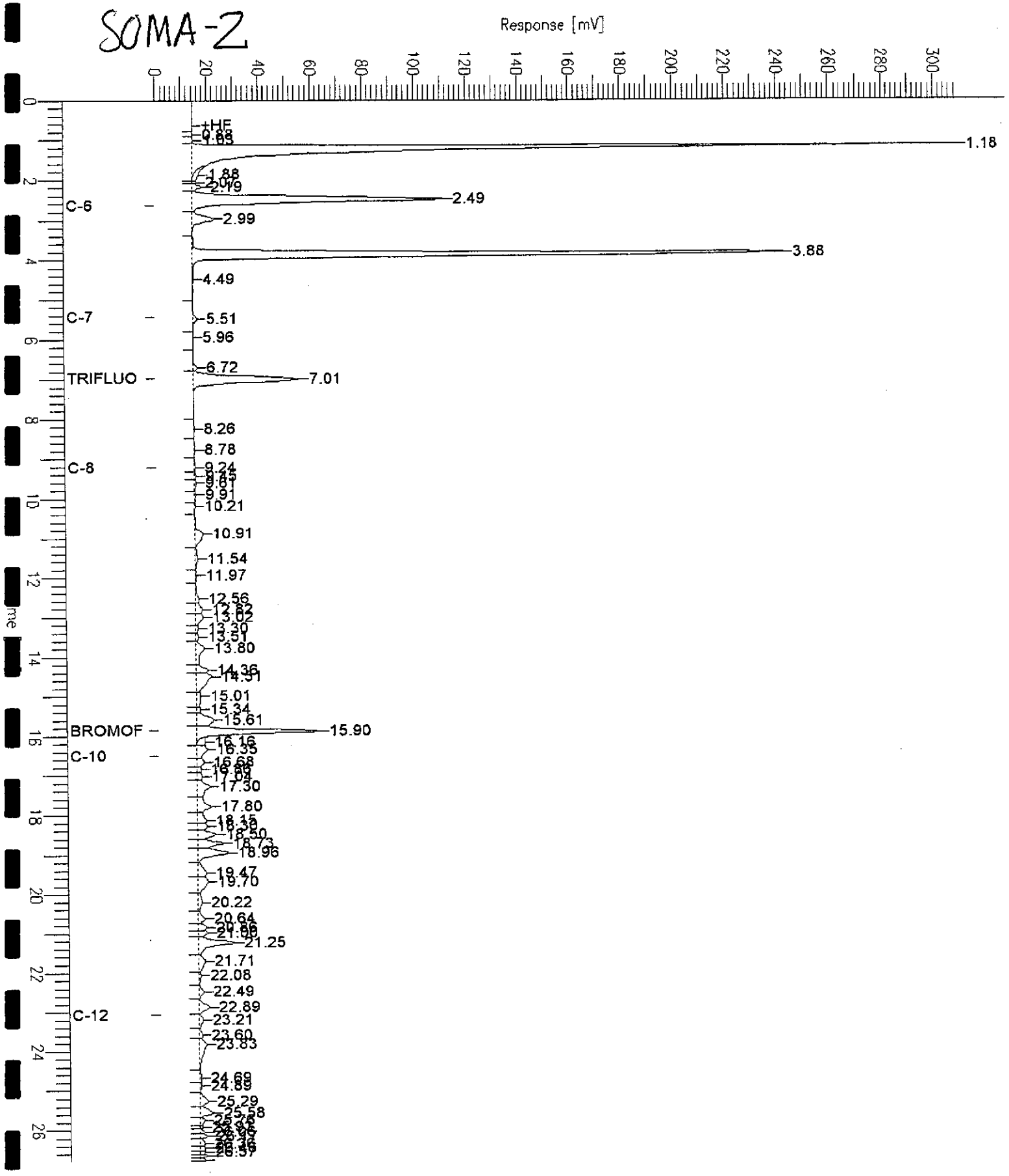
*= Value outside of QC limits; see narrative
H= Heavier hydrocarbons contributed to the quantitation
Y= Sample exhibits fuel pattern which does not resemble standard
Z= Sample exhibits unknown single peak or peaks
b= See narrative
ND= Not Detected
RL= Reporting Limit
LR= Response exceeds instrument's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

GC19 TVH 'X' Data File (FID)

Sample Name : 163771-010,79414,+stodd
FileName : G:\GC19\DATA\053X007.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: 1.0 Plot Offset: -0 mV

Sample #: c1 Page 1 of 1
Date : 2/24/03 10:55 AM
Time of Injection: 2/22/03 05:05 PM
Low Point : -0.35 mV High Point : 309.33 mV
Plot Scale: 309.7 mV

SOMA-2

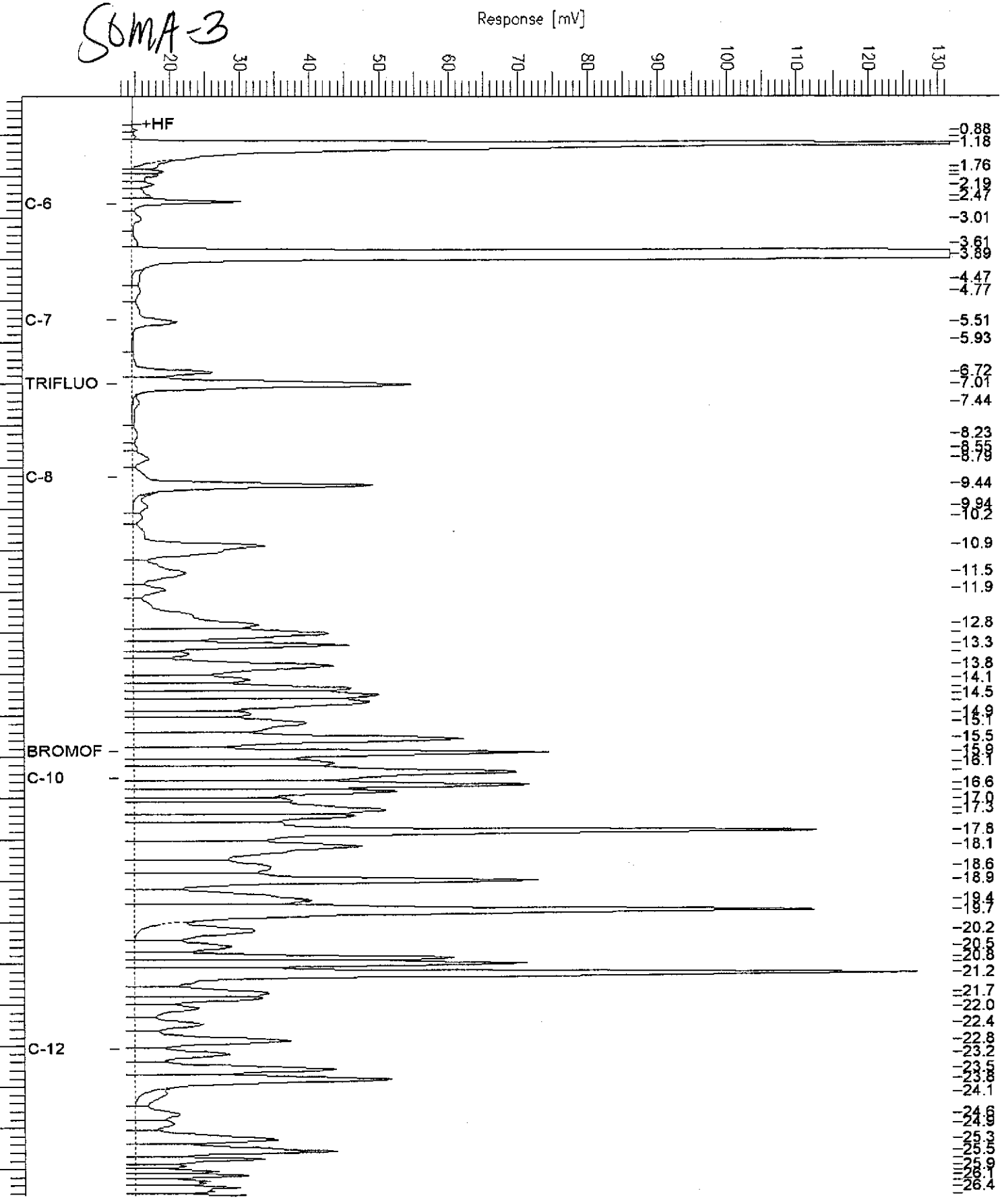


GC19 TVH 'X' Data File (FID)

Sample Name : 163771-011,79414,+stodd
FileName : G:\GC19\DATA\053X011.RAW
Method :
Start Time : 0.07 min End Time : 26.67 min
Scale Factor: 0.0 Plot Offset: 12 mV

Sample #: c1 Page 1 of 1
Date : 2/24/03 10:52 AM
Time of Injection: 2/22/03 07:20 PM
Low Point : 12.33 mV High Point : 131.71 mV
Plot Scale: 119.4 mV

SOMA-3



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC205404	Batch#:	79375
Matrix:	Water	Analyzed:	02/21/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	1,053	105	79-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	68-145
Bromofluorobenzene (FID)	102	66-143

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC205570	Batch#:	79414
Matrix:	Water	Analyzed:	02/22/03
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	977.0	98	79-120

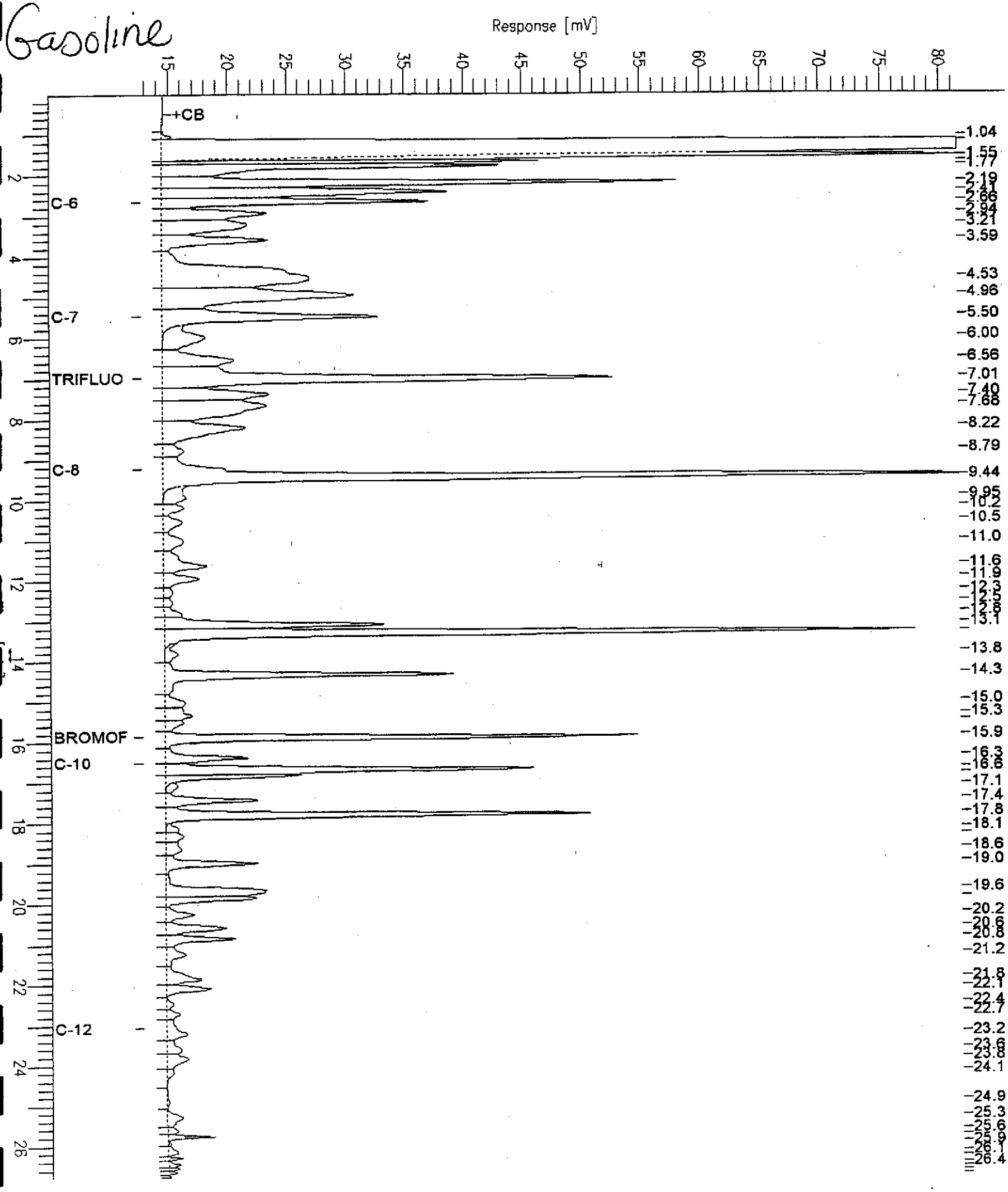
Surrogate	%REC	Limits
Trifluorotoluene (FID)	119	68-145
Bromofluorobenzene (FID)	98	66-143

GC19 TVH 'X' Data File (FID)

Sample Name : ccv/lcs,qc205570,79414,03ws0291,2.5/5000
FileName : G:\GC19\DATA\053X002.RAW
Method :
Start Time : 0.02 min End Time : 26.80 min
Scale Factor: 0.0 Plot Offset: 13 mV

Sample #: Page 1 of 1
Date : 2/24/03 11:45 AM
Time of Injection: 2/22/03 02:03 PM
Low Point : 12.70 mV High Point : 81.50 mV
Plot Scale: 68.8 mV

Gasoline



Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Field ID:	GW-2	Batch#:	79375
MSS Lab ID:	163771-001	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
Diln Fac:	1.000		

Type: MS Lab ID: QC205480

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	39.43	2,000	2,091	103	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	127	68-145
Bromofluorobenzene (FID)	112	66-143

Type: MSD Lab ID: QC205481

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,177	107	67-120	4	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	126	68-145
Bromofluorobenzene (FID)	113	66-143

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Total Volatile Hydrocarbons

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	8015B
Field ID:	ZZZZZZZZZZ	Batch#:	79414
MSS Lab ID:	163781-001	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/23/03
Diln Fac:	1.000		

Type: MS Lab ID: QC205571

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	21.52	2,000	2,016	100	67-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	126	68-145
Bromofluorobenzene (FID)	111	66-143

Type: MSD Lab ID: QC205572

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,034	101	67-120	1	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	127	68-145
Bromofluorobenzene (FID)	115	66-143

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	79377
Lab ID:	163771-001	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	7.2	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	57	5.0

D= Not Detected
L= Reporting Limit

7.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	79377
Lab ID:	163771-001	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	93	77-130
Toluene-d8	87	80-120
Bromofluorobenzene	92	80-120

ND= Not Detected
RL= Reporting Limit

7.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	163771-002	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03

Analyte	Result	RL	Dil Fac	Batch#	Analyzed
Freon 12	ND	10	1.000	79377	02/21/03
Chloromethane	ND	10	1.000	79377	02/21/03
Vinyl Chloride	ND	10	1.000	79377	02/21/03
Bromomethane	ND	10	1.000	79377	02/21/03
Chloroethane	ND	10	1.000	79377	02/21/03
Trichlorofluoromethane	ND	5.0	1.000	79377	02/21/03
Acetone	ND	20	1.000	79377	02/21/03
Freon 113	ND	5.0	1.000	79377	02/21/03
1,1-Dichloroethene	ND	5.0	1.000	79377	02/21/03
Methylene Chloride	ND	20	1.000	79377	02/21/03
Carbon Disulfide	ND	5.0	1.000	79377	02/21/03
MTBE	ND	5.0	1.000	79377	02/21/03
trans-1,2-Dichloroethene	ND	5.0	1.000	79377	02/21/03
Vinyl Acetate	ND	50	1.000	79377	02/21/03
1,1-Dichloroethane	ND	5.0	1.000	79377	02/21/03
2-Butanone	ND	10	1.000	79377	02/21/03
cis-1,2-Dichloroethene	5.6	5.0	1.000	79377	02/21/03
2,2-Dichloropropane	ND	5.0	1.000	79377	02/21/03
Chloroform	ND	5.0	1.000	79377	02/21/03
Bromochloromethane	ND	10	1.000	79377	02/21/03
1,1,1-Trichloroethane	ND	5.0	1.000	79377	02/21/03
1,1-Dichloropropene	ND	5.0	1.000	79377	02/21/03
Carbon Tetrachloride	ND	5.0	1.000	79377	02/21/03
1,2-Dichloroethane	ND	5.0	1.000	79377	02/21/03
Benzene	ND	5.0	1.000	79377	02/21/03
Trichloroethene	ND	5.0	1.000	79377	02/21/03
1,2-Dichloropropane	ND	5.0	1.000	79377	02/21/03
Bromodichloromethane	ND	5.0	1.000	79377	02/21/03
Dibromomethane	ND	5.0	1.000	79377	02/21/03
4-Methyl-2-Pentanone	ND	10	1.000	79377	02/21/03
cis-1,3-Dichloropropene	ND	5.0	1.000	79377	02/21/03
Toluene	ND	5.0	1.000	79377	02/21/03
trans-1,3-Dichloropropene	ND	5.0	1.000	79377	02/21/03
1,1,2-Trichloroethane	ND	5.0	1.000	79377	02/21/03
2-Hexanone	ND	10	1.000	79377	02/21/03
1,3-Dichloropropane	ND	5.0	1.000	79377	02/21/03
Tetrachloroethene	240	10	2.000	79427	02/24/03
Dibromochloromethane	ND	5.0	1.000	79377	02/21/03
1,2-Dibromoethane	ND	5.0	1.000	79377	02/21/03

ND= Not Detected
RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	163771-002	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03

Analyte	Result	RL	Dil'n Fac	Batch#	Analyzed
Chlorobenzene	ND	5.0	1.000	79377	02/21/03
1,1,1,2-Tetrachloroethane	ND	5.0	1.000	79377	02/21/03
Ethylbenzene	ND	5.0	1.000	79377	02/21/03
m,p-Xylenes	ND	5.0	1.000	79377	02/21/03
o-Xylene	ND	5.0	1.000	79377	02/21/03
Styrene	ND	5.0	1.000	79377	02/21/03
Bromoform	ND	5.0	1.000	79377	02/21/03
Isopropylbenzene	ND	5.0	1.000	79377	02/21/03
1,1,2,2-Tetrachloroethane	ND	5.0	1.000	79377	02/21/03
1,2,3-Trichloropropane	ND	5.0	1.000	79377	02/21/03
Propylbenzene	ND	5.0	1.000	79377	02/21/03
Bromobenzene	ND	5.0	1.000	79377	02/21/03
1,3,5-Trimethylbenzene	ND	5.0	1.000	79377	02/21/03
2-Chlorotoluene	ND	5.0	1.000	79377	02/21/03
4-Chlorotoluene	ND	5.0	1.000	79377	02/21/03
tert-Butylbenzene	ND	5.0	1.000	79377	02/21/03
1,2,4-Trimethylbenzene	ND	5.0	1.000	79377	02/21/03
sec-Butylbenzene	ND	5.0	1.000	79377	02/21/03
para-Isopropyl Toluene	ND	5.0	1.000	79377	02/21/03
1,3-Dichlorobenzene	ND	5.0	1.000	79377	02/21/03
1,4-Dichlorobenzene	ND	5.0	1.000	79377	02/21/03
n-Butylbenzene	ND	5.0	1.000	79377	02/21/03
1,2-Dichlorobenzene	ND	5.0	1.000	79377	02/21/03
1,2-Dibromo-3-Chloropropane	ND	5.0	1.000	79377	02/21/03
1,2,4-Trichlorobenzene	ND	5.0	1.000	79377	02/21/03
Hexachlorobutadiene	ND	5.0	1.000	79377	02/21/03
Naphthalene	ND	5.0	1.000	79377	02/21/03
1,2,3-Trichlorobenzene	ND	5.0	1.000	79377	02/21/03

Surrogate	%REC	Limits	Dil'n Fac	Batch#	Analyzed
Dibromofluoromethane	93	80-121	1.000	79377	02/21/03
1,2-Dichloroethane-d4	93	77-130	1.000	79377	02/21/03
Toluene-d8	88	80-120	1.000	79377	02/21/03
Bromofluorobenzene	90	80-120	1.000	79377	02/21/03

ND= Not Detected
RL= Reporting Limit

8.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	79377
Lab ID:	163771-003	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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 #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	79377
Lab ID:	163771-003	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	9.4	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	93	80-121
1,2-Dichloroethane-d4	91	77-130
Toluene-d8	87	80-120
Bromofluorobenzene	91	80-120

D= Not Detected
L= Reporting Limit

9.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	79377
Lab ID:	163771-004	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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 #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	79377
Lab ID:	163771-004	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	93	80-121
1,2-Dichloroethane-d4	91	77-130
Toluene-d8	87	80-120
Bromofluorobenzene	93	80-120

ND= Not Detected
RL= Reporting Limit

10.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Units:	ug/L
Lab ID:	163771-005	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Freon 12	ND	10	1.000	79377	02/22/03
Chloromethane	ND	10	1.000	79377	02/22/03
Vinyl Chloride	ND	10	1.000	79377	02/22/03
Bromomethane	ND	10	1.000	79377	02/22/03
Chloroethane	ND	10	1.000	79377	02/22/03
Trichlorofluoromethane	ND	5.0	1.000	79377	02/22/03
Acetone	ND	20	1.000	79377	02/22/03
Freon 113	ND	5.0	1.000	79377	02/22/03
1,1-Dichloroethene	ND	5.0	1.000	79377	02/22/03
Methylene Chloride	ND	20	1.000	79377	02/22/03
Carbon Disulfide	ND	5.0	1.000	79377	02/22/03
MTBE	ND	5.0	1.000	79377	02/22/03
trans-1,2-Dichloroethene	ND	5.0	1.000	79377	02/22/03
Vinyl Acetate	ND	50	1.000	79377	02/22/03
1,1-Dichloroethane	ND	5.0	1.000	79377	02/22/03
2-Butanone	ND	10	1.000	79377	02/22/03
cis-1,2-Dichloroethene	ND	5.0	1.000	79377	02/22/03
2,2-Dichloropropane	ND	5.0	1.000	79377	02/22/03
Chloroform	ND	5.0	1.000	79377	02/22/03
Bromochloromethane	ND	10	1.000	79377	02/22/03
1,1,1-Trichloroethane	ND	5.0	1.000	79377	02/22/03
1,1-Dichloropropene	ND	5.0	1.000	79377	02/22/03
Carbon Tetrachloride	ND	5.0	1.000	79377	02/22/03
1,2-Dichloroethane	ND	5.0	1.000	79377	02/22/03
Benzene	ND	5.0	1.000	79377	02/22/03
Trichloroethene	32	5.0	1.000	79377	02/22/03
1,2-Dichloropropane	ND	5.0	1.000	79377	02/22/03
Bromodichloromethane	ND	5.0	1.000	79377	02/22/03
Dibromomethane	ND	5.0	1.000	79377	02/22/03
4-Methyl-2-Pentanone	ND	10	1.000	79377	02/22/03
cis-1,3-Dichloropropene	ND	5.0	1.000	79377	02/22/03
Toluene	ND	5.0	1.000	79377	02/22/03
trans-1,3-Dichloropropene	ND	5.0	1.000	79377	02/22/03
1,1,2-Trichloroethane	ND	5.0	1.000	79377	02/22/03
2-Hexanone	ND	10	1.000	79377	02/22/03
1,3-Dichloropropane	ND	5.0	1.000	79377	02/22/03
Tetrachloroethene	280	10	2.000	79427	02/24/03
Dibromochloromethane	ND	5.0	1.000	79377	02/22/03
1,2-Dibromoethane	ND	5.0	1.000	79377	02/22/03

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-1	Units:	ug/L
Lab ID:	163771-005	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	5.0	1.000	79377	02/22/03
1,1,1,2-Tetrachloroethane	ND	5.0	1.000	79377	02/22/03
Ethylbenzene	ND	5.0	1.000	79377	02/22/03
m,p-Xylenes	ND	5.0	1.000	79377	02/22/03
o-Xylene	ND	5.0	1.000	79377	02/22/03
Styrene	ND	5.0	1.000	79377	02/22/03
Bromoform	ND	5.0	1.000	79377	02/22/03
Isopropylbenzene	ND	5.0	1.000	79377	02/22/03
1,1,2,2-Tetrachloroethane	ND	5.0	1.000	79377	02/22/03
1,2,3-Trichloropropane	ND	5.0	1.000	79377	02/22/03
Propylbenzene	ND	5.0	1.000	79377	02/22/03
Bromobenzene	ND	5.0	1.000	79377	02/22/03
1,3,5-Trimethylbenzene	ND	5.0	1.000	79377	02/22/03
2-Chlorotoluene	ND	5.0	1.000	79377	02/22/03
4-Chlorotoluene	ND	5.0	1.000	79377	02/22/03
tert-Butylbenzene	ND	5.0	1.000	79377	02/22/03
1,2,4-Trimethylbenzene	ND	5.0	1.000	79377	02/22/03
sec-Butylbenzene	ND	5.0	1.000	79377	02/22/03
para-Isopropyl Toluene	ND	5.0	1.000	79377	02/22/03
1,3-Dichlorobenzene	ND	5.0	1.000	79377	02/22/03
1,4-Dichlorobenzene	ND	5.0	1.000	79377	02/22/03
n-Butylbenzene	ND	5.0	1.000	79377	02/22/03
1,2-Dichlorobenzene	ND	5.0	1.000	79377	02/22/03
1,2-Dibromo-3-Chloropropane	ND	5.0	1.000	79377	02/22/03
1,2,4-Trichlorobenzene	ND	5.0	1.000	79377	02/22/03
Hexachlorobutadiene	ND	5.0	1.000	79377	02/22/03
Naphthalene	ND	5.0	1.000	79377	02/22/03
1,2,3-Trichlorobenzene	ND	5.0	1.000	79377	02/22/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	93	80-121	1.000	79377	02/22/03
1,2-Dichloroethane-d4	91	77-130	1.000	79377	02/22/03
Toluene-d8	87	80-120	1.000	79377	02/22/03
Bromofluorobenzene	92	80-120	1.000	79377	02/22/03

ND= Not Detected
RL= Reporting Limit

11.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	79377
Lab ID:	163771-006	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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

12.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-2	Batch#:	79377
Lab ID:	163771-006	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	91	77-130
Toluene-d8	87	80-120
Bromofluorobenzene	94	80-120

ND= Not Detected
RL= Reporting Limit

12.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	79377
Lab ID:	163771-007	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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

13.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-3	Batch#:	79377
Lab ID:	163771-007	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	90	77-130
Toluene-d8	87	80-120
Bromofluorobenzene	93	80-120

D= Not Detected
L= Reporting Limit

13.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	79377
Lab ID:	163771-008	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	55	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

14.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	LFR-4	Batch#:	79377
Lab ID:	163771-008	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/21/03
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	89	77-130
Toluene-d8	88	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected
RL= Reporting Limit

14.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	79457
Lab ID:	163771-009	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/25/03
Diln Fac:	1.429		

Analyte	Result	RL
Freon 12	ND	14
Chloromethane	ND	14
Vinyl Chloride	ND	14
Bromomethane	ND	14
Chloroethane	ND	14
Trichlorofluoromethane	ND	7.1
Acetone	ND	29
Freon 113	ND	7.1
1,1-Dichloroethene	ND	7.1
Methylene Chloride	ND	29
Carbon Disulfide	ND	7.1
MTBE	150	7.1
trans-1,2-Dichloroethene	ND	7.1
Vinyl Acetate	ND	71
1,1-Dichloroethane	ND	7.1
2-Butanone	ND	14
cis-1,2-Dichloroethene	16	7.1
2,2-Dichloropropane	ND	7.1
Chloroform	ND	7.1
Bromochloromethane	ND	14
1,1,1-Trichloroethane	ND	7.1
1,1-Dichloropropene	ND	7.1
Carbon Tetrachloride	ND	7.1
1,2-Dichloroethane	ND	7.1
Benzene	ND	7.1
Trichloroethene	ND	7.1
1,2-Dichloropropane	ND	7.1
Bromodichloromethane	ND	7.1
Dibromomethane	ND	7.1
4-Methyl-2-Pentanone	ND	14
cis-1,3-Dichloropropene	ND	7.1
Toluene	ND	7.1
trans-1,3-Dichloropropene	ND	7.1
1,1,2-Trichloroethane	ND	7.1
2-Hexanone	ND	14
1,3-Dichloropropane	ND	7.1
Tetrachloroethene	9.3	7.1

D= Not Detected
L= Reporting Limit

15.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-1	Batch#:	79457
Lab ID:	163771-009	Sampled:	02/18/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/25/03
Diln Fac:	1.429		

Analyte	Result	RL
Dibromochloromethane	ND	7.1
1,2-Dibromoethane	ND	7.1
Chlorobenzene	ND	7.1
1,1,1,2-Tetrachloroethane	ND	7.1
Ethylbenzene	ND	7.1
m,p-Xylenes	ND	7.1
o-Xylene	ND	7.1
Styrene	ND	7.1
Bromoform	ND	7.1
Isopropylbenzene	ND	7.1
1,1,2,2-Tetrachloroethane	ND	7.1
1,2,3-Trichloropropane	ND	7.1
Propylbenzene	ND	7.1
Bromobenzene	ND	7.1
1,3,5-Trimethylbenzene	ND	7.1
2-Chlorotoluene	ND	7.1
4-Chlorotoluene	ND	7.1
tert-Butylbenzene	ND	7.1
1,2,4-Trimethylbenzene	ND	7.1
sec-Butylbenzene	ND	7.1
para-Isopropyl Toluene	ND	7.1
1,3-Dichlorobenzene	ND	7.1
1,4-Dichlorobenzene	ND	7.1
n-Butylbenzene	ND	7.1
1,2-Dichlorobenzene	ND	7.1
1,2-Dibromo-3-Chloropropane	ND	7.1
1,2,4-Trichlorobenzene	ND	7.1
Hexachlorobutadiene	ND	7.1
Naphthalene	ND	7.1
1,2,3-Trichlorobenzene	ND	7.1

Surrogate	%REC	Limits
Dibromofluoromethane	93	80-121
1,2-Dichloroethane-d4	95	77-130
Toluene-d8	97	80-120
Bromofluorobenzene	97	80-120

D= Not Detected
L= Reporting Limit

15.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-2	Units:	ug/L
Lab ID:	163771-010	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03

Analyte	Result	RL	Dil Fac	Batch#	Analyzed
Freon 12	ND	33	3.333	79377	02/22/03
Chloromethane	ND	33	3.333	79377	02/22/03
Vinyl Chloride	ND	33	3.333	79377	02/22/03
Bromomethane	ND	33	3.333	79377	02/22/03
Chloroethane	ND	33	3.333	79377	02/22/03
Trichlorofluoromethane	ND	17	3.333	79377	02/22/03
Acetone	ND	67	3.333	79377	02/22/03
Freon 113	ND	17	3.333	79377	02/22/03
1,1-Dichloroethene	ND	17	3.333	79377	02/22/03
Methylene Chloride	ND	67	3.333	79377	02/22/03
Carbon Disulfide	ND	17	3.333	79377	02/22/03
MTBE	210	17	3.333	79377	02/22/03
trans-1,2-Dichloroethene	ND	17	3.333	79377	02/22/03
Vinyl Acetate	ND	170	3.333	79377	02/22/03
1,1-Dichloroethane	ND	17	3.333	79377	02/22/03
2-Butanone	ND	33	3.333	79377	02/22/03
cis-1,2-Dichloroethene	790	25	5.000	79427	02/24/03
2,2-Dichloropropane	ND	17	3.333	79377	02/22/03
Chloroform	ND	17	3.333	79377	02/22/03
Bromochloromethane	ND	33	3.333	79377	02/22/03
1,1,1-Trichloroethane	ND	17	3.333	79377	02/22/03
1,1-Dichloropropene	ND	17	3.333	79377	02/22/03
Carbon Tetrachloride	ND	17	3.333	79377	02/22/03
1,2-Dichloroethane	ND	17	3.333	79377	02/22/03
Benzene	ND	17	3.333	79377	02/22/03
Trichloroethene	ND	17	3.333	79377	02/22/03
1,2-Dichloropropane	ND	17	3.333	79377	02/22/03
Bromodichloromethane	ND	17	3.333	79377	02/22/03
Dibromomethane	ND	17	3.333	79377	02/22/03
4-Methyl-2-Pentanone	ND	33	3.333	79377	02/22/03
cis-1,3-Dichloropropene	ND	17	3.333	79377	02/22/03
Toluene	ND	17	3.333	79377	02/22/03
trans-1,3-Dichloropropene	ND	17	3.333	79377	02/22/03
1,1,2-Trichloroethane	ND	17	3.333	79377	02/22/03
2-Hexanone	ND	33	3.333	79377	02/22/03
1,3-Dichloropropane	ND	17	3.333	79377	02/22/03
Tetrachloroethene	ND	17	3.333	79377	02/22/03
Dibromochloromethane	ND	17	3.333	79377	02/22/03
1,2-Dibromoethane	ND	17	3.333	79377	02/22/03

D= Not Detected
L= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-2	Units:	ug/L
Lab ID:	163771-010	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03

Analyte	Result	RL	Diln Fac	Batch#	Analyzed
Chlorobenzene	ND	17	3.333	79377	02/22/03
1,1,1,2-Tetrachloroethane	ND	17	3.333	79377	02/22/03
Ethylbenzene	ND	17	3.333	79377	02/22/03
m,p-Xylenes	ND	17	3.333	79377	02/22/03
o-Xylene	ND	17	3.333	79377	02/22/03
Styrene	ND	17	3.333	79377	02/22/03
Bromoform	ND	17	3.333	79377	02/22/03
Isopropylbenzene	ND	17	3.333	79377	02/22/03
1,1,2,2-Tetrachloroethane	ND	17	3.333	79377	02/22/03
1,2,3-Trichloropropane	ND	17	3.333	79377	02/22/03
Propylbenzene	ND	17	3.333	79377	02/22/03
Bromobenzene	ND	17	3.333	79377	02/22/03
1,3,5-Trimethylbenzene	ND	17	3.333	79377	02/22/03
2-Chlorotoluene	ND	17	3.333	79377	02/22/03
4-Chlorotoluene	ND	17	3.333	79377	02/22/03
tert-Butylbenzene	ND	17	3.333	79377	02/22/03
1,2,4-Trimethylbenzene	ND	17	3.333	79377	02/22/03
sec-Butylbenzene	ND	17	3.333	79377	02/22/03
para-Isopropyl Toluene	ND	17	3.333	79377	02/22/03
1,3-Dichlorobenzene	ND	17	3.333	79377	02/22/03
1,4-Dichlorobenzene	ND	17	3.333	79377	02/22/03
n-Butylbenzene	ND	17	3.333	79377	02/22/03
1,2-Dichlorobenzene	ND	17	3.333	79377	02/22/03
1,2-Dibromo-3-Chloropropane	ND	17	3.333	79377	02/22/03
1,2,4-Trichlorobenzene	ND	17	3.333	79377	02/22/03
Hexachlorobutadiene	ND	17	3.333	79377	02/22/03
Naphthalene	ND	17	3.333	79377	02/22/03
1,2,3-Trichlorobenzene	ND	17	3.333	79377	02/22/03

Surrogate	%REC	Limits	Diln Fac	Batch#	Analyzed
Dibromofluoromethane	92	80-121	3.333	79377	02/22/03
1,2-Dichloroethane-d4	92	77-130	3.333	79377	02/22/03
Toluene-d8	87	80-120	3.333	79377	02/22/03
Bromofluorobenzene	90	80-120	3.333	79377	02/22/03

D= Not Detected
L= Reporting Limit

16.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Batch#:	79377
Lab ID:	163771-011	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/22/03
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	4,100	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	ND	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	ND	130

D= Not Detected
L= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Field ID:	SOMA-3	Batch#:	79377
Lab ID:	163771-011	Sampled:	02/19/03
Matrix:	Water	Received:	02/20/03
Units:	ug/L	Analyzed:	02/22/03
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	91	80-121
1,2-Dichloroethane-d4	91	77-130
Toluene-d8	87	80-120
Bromofluorobenzene	90	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	QC205413	Batch#:	79377
Matrix:	Water	Analyzed:	02/21/03
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

18.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	QC205413	Batch#:	79377
Matrix:	Water	Analyzed:	02/21/03
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	93	80-121
1,2-Dichloroethane-d4	92	77-130
Toluene-d8	86	80-120
Bromofluorobenzene	91	80-120

ND= Not Detected
RL= Reporting Limit

18.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	QC205623	Batch#:	79427
Matrix:	Water	Analyzed:	02/24/03
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

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	QC205623	Batch#:	79427
Matrix:	Water	Analyzed:	02/24/03
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	108	80-121
1,2-Dichloroethane-d4	94	77-130
Toluene-d8	90	80-120
Bromofluorobenzene	99	80-120

ND= Not Detected
RL= Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	QC205743	Batch#:	79457
Matrix:	Water	Analyzed:	02/25/03
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

20.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	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:	QC205743	Batch#:	79457
Matrix:	Water	Analyzed:	02/25/03
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	100	77-130
Toluene-d8	101	80-120
Bromofluorobenzene	97	80-120

ND= Not Detected
RL= Reporting Limit

20.0

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	79377
Units:	ug/L	Analyzed:	02/21/03
Diln Fac:	1.000		

Type: BS Lab ID: QC205410

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	48.75	98	71-131
Benzene	50.00	44.82	90	76-120
Trichloroethene	50.00	45.81	92	78-120
Toluene	50.00	46.25	93	79-120
Chlorobenzene	50.00	47.96	96	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	91	80-121
1,2-Dichloroethane-d4	91	77-130
Toluene-d8	86	80-120
Bromofluorobenzene	89	80-120

Type: BSD Lab ID: QC205411

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	48.58	97	71-131	0	20
Benzene	50.00	44.04	88	76-120	2	20
Trichloroethene	50.00	45.82	92	78-120	0	20
Toluene	50.00	46.28	93	79-120	0	20
Chlorobenzene	50.00	48.40	97	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	90	80-121
1,2-Dichloroethane-d4	88	77-130
Toluene-d8	86	80-120
Bromofluorobenzene	91	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	79427
Units:	ug/L	Analyzed:	02/24/03
Diln Fac:	1.000		

Type: BS Lab ID: QC205621

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	53.05	106	71-131
Benzene	50.00	45.07	90	76-120
Trichloroethene	50.00	45.78	92	78-120
Toluene	50.00	48.14	96	79-120
Chlorobenzene	50.00	50.61	101	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	88	80-121
1,2-Dichloroethane-d4	84	77-130
Toluene-d8	94	80-120
Bromofluorobenzene	89	80-120

Type: BSD Lab ID: QC205622

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	49.64	99	71-131	7	20
Benzene	50.00	45.23	90	76-120	0	20
Trichloroethene	50.00	46.96	94	78-120	3	20
Toluene	50.00	48.84	98	79-120	1	20
Chlorobenzene	50.00	50.13	100	80-120	1	20

Surrogate	%REC	Limits
Dibromofluoromethane	89	80-121
1,2-Dichloroethane-d4	86	77-130
Toluene-d8	95	80-120
Bromofluorobenzene	93	80-120

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Organics by GC/MS

Lab #:	163771	Location:	3815 Broadway, Oakland
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2511	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	79457
Units:	ug/L	Analyzed:	02/25/03
Diln Fac:	1.000		

Type: BS Lab ID: QC205741

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	59.71	119	71-131
Benzene	50.00	46.69	93	76-120
Trichloroethene	50.00	47.71	95	78-120
Toluene	50.00	47.94	96	79-120
Chlorobenzene	50.00	48.83	98	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-121
1,2-Dichloroethane-d4	92	77-130
Toluene-d8	100	80-120
Bromofluorobenzene	92	80-120

Type: BSD Lab ID: QC205742

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	62.03	124	71-131	4	20
Benzene	50.00	50.27	101	76-120	7	20
Trichloroethene	50.00	51.82	104	78-120	8	20
Toluene	50.00	48.50	97	79-120	1	20
Chlorobenzene	50.00	51.87	104	80-120	6	20

Surrogate	%REC	Limits
Dibromofluoromethane	99	80-121
1,2-Dichloroethane-d4	96	77-130
Toluene-d8	96	80-120
Bromofluorobenzene	94	80-120

RPD= Relative Percent Difference

P0302291

F-75 F

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 Dr., suite 203, San Ramon, CA. 94583
Proj. Manager: TONY PERINI
Proj. Location: Oakland, CA.
Proj. Number: 2511
Phone #: (925) 244-6600 **Fax #:** (925) 244-6601

Sampler's signature: _____

Results to: T. Perini

Invoice to: Same as above

Cooler ID	Cooler Temp.

	Sample ID	Sample Description	Date	Time	Comp.	Grab	# Cont.	Methane	Remarks
01	GW-2	Grab Samples	2/19/03	3:00 pm		X		X	
02	GW-3		2/19/03	1:55 pm		X		X	
03	GW-4		2/19/03	4:07 pm		X		X	
04	MW-11		2/18/03	1:40 pm		X		X	
05	LFR-1		2/18/03	2:40 pm		X		X	
06	LFR-2		2/18/03	4:20 pm		X		X	
07	LFR-3		2/19/03	10:05 am		X		X	
08	LFR-4		2/19/03	9:15 am		X		X	
09	SOMA-1		2/18/03	3:30 pm		X		X	
10	SOMA-2		2/19/03	1:07 pm		X		X	
11	SOMA-3		2/19/03	12:40 pm		X		X	

Relinquished by:	Company:	Date:	Time:	Received by:	Company:	Date:	Time:
TONY PERINI	SOMA	2/19/03	5:41 PM	[illegible]	Microseeps	2/20/03	10:[illegible]
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

NOTE - Attn. Debbie, ~~please provide EDF file~~

TOTAL P.01

MICROSEEPS

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

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

Laboratory Results

Lab Sample #	Client Sample ID
P0302291-01	GW-2
P0302291-02	GW-3
P0302291-03	GW-4
P0302291-04	MW-11
P0302291-05	LFR-1
P0302291-06	LFR-2
P0302291-07	LFR-3
P0302291-08	LFR-4
P0302291-09	SOMA-1
P0302291-10	SOMA-2
P0302291-11	SOMA-3

Approved By: Debbie Hullo

NOTES:

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-01

Sample Description	Matrix	Sampled Date/Time	Received
GW-2	Water	19 Feb. 03 15:00	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	1.2	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-02

Sample Description	Matrix	Sampled Date/Time	Received
GW-3	Water	19 Feb. 03 13:55	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	0.65	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-03

Sample Description	Matrix	Sampled Date/Time	Received
GW-4	Water	19 Feb. 03 16:07	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	2300	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-04

Sample Description	Matrix	Sampled Date/Time	Received
MW-11	Water	18 Feb. 03 13:40	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	2.2	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-05

Sample Description	Matrix	Sampled Date/Time	Received
LFR-1	Water	18 Feb. 03 14:40	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	0.78	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-06

Sample Description	Matrix	Sampled Date/Time	Received
LFR-2	Water	18 Feb. 03 16:20	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	9600	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-07

Sample Description	Matrix	Sampled Date/Time	Received
LFR-3	Water	19 Feb. 03 10:05	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	6.9	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-08

Sample Description	Matrix	Sampled Date/Time	Received
LFR-4	Water	19 Feb. 03 9:15	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	4400	0.015	ug/L	AM20GAX	ji	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-09

Sample Description	Matrix	Sampled Date/Time	Received
SOMA-1	Water	18 Feb. 03 15:30	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	410	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-10

Sample Description	Matrix	Sampled Date/Time	Received
SOMA-2	Water	18 Feb. 03 13:07	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	2400	0.015	ug/L	AM20GAX	jl	2/24/03

Order #: P0302291
Report Date: 02/25/03
Client Proj Name: Oakland CA 2511
Client Proj #: Oakland CA 2511

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

Lab Sample #: P0302291-11

Sample Description	Matrix	Sampled Date/Time	Received
SOMA-3	Water	18 Feb. 03 12:40	20 Feb. 03

Analyte(s)	Result	PQL	Units	Method #	Analyst	Analysis Date
RiskAnalysis						
Water						
Methane	9000	0.015	ug/L	AM20GAX	jl	2/24/03